PLANNING COMMISSION
PLANNING COMMISSION AGENDA

Tuesday, October 15, 2024 at 6:30 p.m.

SOUTH GATE COUNCIL CHAMBERS
8650 CALIFORNIA AVENUE
SOUTH GATE, CA 90280
VIEW MEETING LIVE ONLINE AT:
HTTPS://YOUTUBE.COM/@SOUTHGATECA90280

Call To Order

Pledge of Allegiance

Roll Call

City Officials

CHAIRPERSON	COMMISSIONERS
Jimmy Ozaeta	Jenny Perez
	Daisy Prieto
VICE CHAIRPERSON	Lizette Ruiz
Jovanna Laborin	

Report On Posting

I, Rebecca Contreras, Contract Planner, certify that a true and correct copy of the foregoing meeting agenda was properly posted on October 10, 2024, seventy-two hours prior to the scheduled meeting, as required by law.

Meeting Compensation Disclosure

Pursuant to Government Code Section 54952.3: Disclosure of compensation for meeting attendance by the Planning Commission is $125.00 per meeting.

Open Session Items

1. Conditional Use Permit (CUP 24-32)

Request for approval of a Conditional Use Permit to allow the installation of a roof-mounted solar photovoltaic (PV) system consisting of 327 panels on an existing multi-tenant commercial building located at 5720 Imperial Hwy.

Documents:

PC Agenda Packet_10.15.24_Final.pdf

2. Planning Commission Minutes
Minutes from August 6, 2024
The Planning Commission will approve the meeting minutes from August 6, 2024.

Documents:

PC Minutes.08.06.24.pdf

Comments

At this time, members of the public and staff may address the City Planning Commission regarding any items within the subject matter jurisdiction of the Planning Commission. No action may be taken on items not listed on the agenda unless authorized by law.

AUDIENCE COMMENTS

CITY STAFF COMMENTS

PLANNING COMMISSION COMMENTS

Adjournment

In compliance with the American with Disabilities Act, if you need special assistance to participate in the Planning Commission Meetings, please contact Community Development Department.

Notification 48 hours prior to the City Council Meeting will enable the City to make reasonable arrangements to assure accessibility. Any final action of the Planning Commission, on this agenda, is appealable to the City Council upon filling the request with the City Clerk prior to 5:00pm on Monday, October 29, 2024.

Materials related to an item on this Agenda submitted to the Planning Commission after distribution of the agenda packet are available for public inspection in the City Clerk's Office, 8650 California Avenue, South Gate, California 90280 (323) 563-9510 * fax (323) 563-5411 * www.cityofsouthgate.org.

City of South Gate

PLANNING COMMISSION

AGENDA BILL

For the Regular Meeting of: ***October 15, 2024***

Senior Planner: *Rebecca Contreras* ***Community Development Director:*** *William Delgadillo for Meredith T. Elgutra*

SUBJECT: Conditional Use Permit (CUP 24-32)

PROJECT PROPOSAL/REQUEST: Request for approval of a Conditional Use Permit to allow the installation of a roof-mounted solar photovoltaic (PV) system consisting of 327 panels on an existing multi-tenant commercial building.

BACKGROUND:

Project Overview

- General Plan Designation: Commercial
- Zoning: Hollydale Village Specific Plan (Hollydale Mixed Use-3)
- Project Location: 5720 Imperial Highway
- Assessor's Parcel Number(s): 6234-005-010 and 6234-005-015
- Site Characteristics: The subject site is a triangularly shaped lot that measures approximately 72,642 square feet (1.67 acres) and is comprised of two separate parcels with two street frontages. The primary frontage is along Garfield Avenue, and the secondary (side) frontage is along Imperial Highway. The site is currently developed with a multi-tenant commercial building, a restaurant pad, and surface-level parking lot: and is occupied with retail, restaurant, and office uses.
- Surroundings: Surrounding properties include the Southern Pacific railroad track directly adjacent to the west, an auto body collision center across Imperial Highway to the north, a "Carl's Jr." restaurant and "SOLA" multi-family residential development to the east and south of the subject site, across Garfield Avenue.
- Project Description: The proposal is for a new installation of a roof-mounted solar photovoltaic (PV) system consisting of 327 panels on an existing multi-tenant commercial building. No additional improvements are proposed as part of the project.
- Property Owner: Southgate Center Associates LLC
- Applicant: Derek Robert, Solirvine LLC

- Municipal Code Requirements for Conditional Use Permit (CUP): Pursuant to the City of South Gate Hollydale Village Specific Plan (HVSP) Section 4.4 Urban Mixed-Use Zone, Table 4-2: Allowed Land Use for Urban Mixed-Use Zones, a CUP is required for building-mounted renewable energy systems.

- Required Findings for a Conditional Use Permit: Pursuant to SGMC Chapter 11.52.030, before a conditional use permit may be granted, the Planning Commission shall make all of the following findings, as applicable to the property:

    a. Approval of the CUP is consistent with and will not adversely affect the intent and purpose of this title or the City's general plan.

    b. The design and development of the land use and conditions of the CUP are compatible with the existing and future land uses of the applicable zone.

    c. Approval of the CUP would not result in detrimental impacts to adjacent properties or to the character or function of the neighborhood.

ANALYSIS:

Description of Site Improvements

The proposed project involves the new installation of a solar photovoltaic (PV) system consisting of 327 panels manufactured by Suzhou Talesun Solar Technologies, to be mounted on the roof of on an existing 17,890 square foot multi-tenant commercial building; and two (2) inverters, 166 optimizers and associated mechanical equipment improvements to be located within an existing ground-level electrical room. Such improvements will consist of an AC disconnect, transformer, and utility meter for energy metering. The project system size consists of a 132.435 kw, Standard Test Conditions (STC) DC rating and 120.388 kw, California Energy Commission (CEC) AC rating.

Pursuant to the HVSP, renewable energy systems shall comply with SGMC Chapter 11.40.180 and the applicable development standards detailed in the table below:

Applicable Development Standards per Section 11.40.180-Renewable Energy Systems

Development Standard	Requirement	Proposed	Project Compliance
Setbacks	10' minimum from street right-of-way; and 0' interior PL per HMU3 zone;	80'+/-: Imperial Hwy 25'+/-: Garfield Ave 5': west interior PL	Yes.
Height	5' from base/mount of unit	Maximum height 4'-6"	Yes.
Size/Coverage	30 % of surface area, Add'l area coverage may be permitted w/CUP	38%	No.

As proposed, the PV system is in compliance with setback and height requirements, however, exceeds the maximum allowable (30 percent) coverage of roof surface. The existing building is set back 15 feet from Garfield Avenue, 80 feet from Imperial Hwy; and 5 feet from the interior property line which abuts the railroad track. Therefore, the PV system complies with all the setback requirements. Additionally, the height requirement has been met. There are three (3) types of panels proposed, which are as follows: the (1)"Tilt Up Portrait" and (2)"Tilt Up Landscape" panels which will have an overall heigh of 10 inches from base to the top of panel; and will be located toward the west side of the building and will not exceed the height of the existing 2'-10" building parapet; and the (3)"6up" panel which will have an overall height of 4'-6" from base to the top of panel all located toward the east side of the building adjacent to the existing 7 feet parapet. Per Los Angeles County Office of the Assessors and City records the existing building measures approximately 17,890 square feet and the PV system will cover 6,736 square feet, equaling approximately 38 percent of the exiting roof area. The proposed PV system propose coverage is 38 percent, which can be permitted with the approval of the CUP.

Compatibility

Overall, the existing site is a highly utilized multi-tenant commercial site that would benefit from the installation of the proposed PV system. The state agencies have already set renewable energy targets, and this project will help to achieve those targets in the set time frame. Additionally, conditions of approval are recommended to ensure that exterior features of the site are well maintained, such as landscaping and re-painting of the west-facing facade along the railroad tracks.

Conditional Use Permit Analysis

In granting approval of a CUP to allow the new installation of a solar panel system consisting of 327 modules on the roof of an existing multi-tenant commercial building, the Planning Commission shall make all of the following findings, as applicable to the property:

A. **Approval of the CUP is consistent with and will not adversely affect the intent and purpose of this title or the City's general plan.** *The proposed project will not create new uses or increase the existing building areas of the site. Therefore, the site will remain unchanged and will be continuing to be utilized as a multi-tenant commercial site. Goal 7 of the Green City Element is to mitigate against and adapt to climate change. The proposed project aligns directly with such goal in that it involves the installation of a renewable energy system. Therefore, the granting of the CUP for the proposed project will not adversely affect the intent and purpose of the Zoning Code or the General Plan.*

B. **The design and development of the land use and conditions of the CUP are compatible with the existing and future land uses of the applicable zone.** *Pursuant to the City of South Gate Hollydale Village Specific Plan (HVSP) Section 4.4 Urban Mixed-Use Zone, Table 4-2: Allowed Land Use for Urban Mixed-Use Zones, a CUP is required for building-mounted Renewable Energy System land use type. As proposed, the project complies with the applicable setbacks and height requirements but exceeds the allowable (30 percent) roof surface coverage. However pursuant to Chapter 11.40.180(B)(3), additional area coverage may be*

permitted through a CUP approval. Staff has determined that with the recommended conditions of approval, the granting of the CUP will be compatible with the existing and future land uses of the HMU3 zone.

C. **Approval of the CUP would not result in detrimental impacts to adjacent properties or to the character or function of the neighborhood.** *The subject site is currently developed with a multi-tenant commercial building occupied with uses such as retail, restaurant, and offices and an existing off-street parking lot. The proposed solar panel system will be mounted on the roof the building and screened from public view. Therefore, the granting of the CUP, as conditioned, would not result in detrimental impacts to adjacent properties or to the character or function of the neighborhood.*

Conclusion

Based on the above analysis, the staff has determined that with the recommended conditions of approval, the proposed project complies with the SGMC, and all the required findings in support of Conditional Use Permit.

ENVIRONMENTAL ANALYSIS:

In accordance with the criteria and authority contained in the California Environmental Quality Act (CEQA), staff has conducted the appropriate environmental analysis and based on that assessment, the City has determined the project to be Categorically Exempt by Article 19 Section 15301 (Class 1 – Existing Facilities), in that the project involves no expansion to an existing commercial building and thereby is exempt from CEQA. No further environmental assessment is required.

COMMENTS FROM OTHER DEPARTMENTS:

Staff routed the project for comments to several City Departments including the Public Works, Code Enforcement, and the Building & Safety Division. The Building & Safety Division and Code Enforcement provided conditions (attached). If the project is approved, the comments received from all departments would be incorporated as conditions of approval.

RECOMMENDATION:

Based on the evidence presented, Staff recommends that the Planning Commission find that the project is categorically exempt from the CEQA under Section 15301, (Class 1) "Existing Facilities", make the required findings and requirements set forth in the South Gate Municipal Code, and **approve the application for Conditional Use Permit (CUP 24-32)** subject to the proposed conditions of approval and/or other conditions that the Planning Commission may wish to impose.

CONDITIONS OF APPROVAL:

Planning Division

1. The Applicant shall agree to defend, indemnify and hold harmless the City of South Gate, its agents, officers, and employees from any claim, action, or proceeding against the City of South Gate or its agents, officers or employees to attach, set aside, void or annul, an approval of the City of South Gate, its legislative body, advisory agencies, or administrative officers concerning the subject Application. The City of South Gate will promptly notify the Applicant of any such claim, action, or proceeding against the City of South Gate and the Applicant will either undertake the defense of the matter and pay the City's associated legal or other consultant costs or will advance funds to pay for the defense of the matter by the City Attorney. If the City of South Gate fails to promptly notify the Applicant of any such claim, action, or proceeding or fails to cooperate fully in the defense, the Applicant shall not, thereafter, be responsible for defending, indemnify or hold harmless the City of South Gate. Notwithstanding the foregoing, the City retains the right to settle or abandon the matter without the Applicant's consent, but should it do so, the City shall waive the indemnification herein, except the City's decision to settle or abandon a matter following an adverse judgment or failure to appeal, shall not cause a waiver of the indemnification rights herein.

2. Except as set forth in subsequent conditions, all-inclusive, and subject to department corrections and conditions, the property shall be developed substantially in accordance with the Applications, environmental assessment, and plans submitted.

3. The proposed project shall comply with all Federal, State, County, and Local laws and ordinances that may apply to this permit, stated herein or not.

4. The Applicant and property owner shall submit plans to the Los Angeles County Fire Department for review for compliance with Fire regulations prior to the issuance of Building Permits. Proof of Fire Department approval (including sprinkler plan approval) is required. If revisions are made to the project plans (i.e. setbacks, building height, building design, driveway width, driveway configuration, landscaping, etc.) as a result of Fire Department requirements, changes to the plans may require Planning Commission review and approval as determined by the Community Development Director.

5. The proposed use shall be conducted, and the property be maintained in a clean, neat, quiet, and orderly manner at all times pursuant to SGMC 5.08.020(A).

6. The approval for Conditional Use Permit shall expire if building permits are not issued within one (1) year from the date of approval by the Planning Commission, unless an extension has been granted by the Planning Commission.

7. Any graffiti placed on any building or structure located on the property shall be removed promptly after its placement.

8. All existing landscaped areas shall be maintained and remain planted at all times.

9. The west elevation along the Southern Pacific Railroad tracks shall be painted to match the rest of the existing building façade. Additionally landscaping along this elevation shall trimmed and maintained.

10. Project Plans shall reflect accurate building square footage.

11. All renewable energy systems shall be operated in such a manner that they do not exceed the City's noise standards, found in Chapter 11.34, Noise Control Program.

12. A structure shall be nonreflective in all areas possible to blend with the surroundings.

13. The Community Development Director is authorized to make minor modifications to the approved preliminary plans or any of the conditions if such modifications achieve substantially the same results, as with strict compliance with said plans and conditions.

14. The Applicant and property owner shall agree in writing to the above conditions.

Building & Safety

15. Must obtain approval from the Los Angeles County Fire Department prior to issuing building permits.

16. A permanent roof access hatch shall be installed and maintained at all times.

17. Must obtain and submit Southern California Edison approvals prior to issuing of building permits.

18. All new utilities must be underground.

Code Enforcement

19. Maintain property clean, free of graffiti, overgrown vegetation, including the maintenance of the sidewalk at all times.

ATTACHMENTS:

1. Resolution No. 2024-06
2. Project Plans (Site plan, elevations, and enlarged details)
3. Public Hearing Notice

RESOLUTION NO. 2024-06

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SOUTH GATE, RECOMMENDING APPROVAL OF A CONDITIONAL USE PERMIT (CUP 24-32), TO ALLOW THE NEW INSTALLATION OF A SOLAR PANEL SYSTEM CONSISTING OF 327 MODULES TO BE MOUNTED ON THE ROOF OF AN EXISTING MULTI-TENANT COMMERCIAL BUILDING ON A PROPERTY ZONED "HMU3" WITHIN THE HOLLYDALE VILLAGE SPECIFIC PLAN, LOCATED AT 5720 IMPERIAL HIGHWAY, SOUTH GATE, CALIFORNIA.

WHEREAS, Derek Robert, Solirine LLC on behalf of Southgate Center Associates LCC ("the Applicant"), filed a complete application requesting the approval of Conditional Use Permit (CUP 24-32) and described herein ("Application"); and

WHEREAS, the Application pertains to a triangularly shaped lot approximately 72,642 square feet (1.67 acres) and is comprised of two separate parcels with two street frontages with Los Angeles County Assessor's Parcel Number 6234-005-010 & 015, more commonly known as 5720 Imperial Hwy, South Gate, California ("Property");

WHEREAS, the Applicant requests approval of a Conditional Use Permit (CUP) to allow the new installation of 327-module roof-mounted solar photovoltaic (PV) system on an existing 17,890 square foot multi-tenant commercial building. Pursuant to Chapter 11.52.030, before a conditional use permit may be granted, the Planning Commission shall make specific findings based on the pertinent evidence of the application and conditions of the property that all the following conditions exist in reference to the property:

a. Approval of the CUP is consistent with and will not adversely affect the intent and purpose of this title or the City's general plan.

b. The design and development of the land use and conditions of the CUP are compatible with the existing and future land uses of the applicable zone.

c. Approval of the CUP would not result in detrimental impacts to adjacent properties or to the character or function of the neighborhood; and

WHEREAS, notice of the Planning Commission regular public hearing of October 15, 2024, was published in compliance with State law in a local newspaper of general circulation. In addition, a public notice was mailed 10 days in advance of the hearing to each property owner, occupants and resident within a 1000-foot radius of the project site, indicating the date and time of the public hearing in accordance with California Government Code 65091; and

WHEREAS, on October 15, 2024, the Planning Commission held a regular public hearing to receive public testimony and other evidence regarding the Application, including without limitation, information provided to the Planning Commission by City staff and public testimony; and

WHEREAS, this Resolution and its findings are made based upon evidence presented to the Commission at its public hearing including, without limitation, the staff report submitted by the Community Development Department; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have been met**.**

NOW, THEREFORE, THE PLANNING COMMISSION DOES HEREBY FIND, DETERMINE AND DECLARE AS FOLLOWS:

SECTION 1. All of the facts set forth in the recitals are true and correct and are incorporated herein by reference.

SECTION 2. Based upon substantial evidence presented to this Planning Commission during the public hearing conducted with regard to the Application, including written staff reports, verbal testimony, site plans, and Conditions of Approval ("Conditions") attached hereto as Exhibit "A," the Planning Commission hereby specifically finds as follows:

A. **Approval of the CUP is consistent with and will not adversely affect the intent and purpose of this title or the City's general plan.** *The proposed project will not create new uses or increase the existing building areas of the site. Therefore, the site will remain unchanged and will be continuing to be utilized as a multi-tenant commercial site. Goal 7 of the Green City Element is to mitigate against and adapt to climate change. The proposed project aligns directly with such goal in that it involves the installation of a renewable energy system. Therefore, the granting of the CUP for the proposed project will not adversely affect the intent and purpose of the Zoning Code or the General Plan.*

B. **The design and development of the land use and conditions of the CUP are compatible with the existing and future land uses of the applicable zone.** *Pursuant to the City of South Gate Hollydale Village Specific Plan (HVSP) Section 4.4 Urban Mixed-Use Zone, Table 4-2: Allowed Land Use for Urban Mixed-Use Zones, a CUP is required for building-mounted Renewable Energy System land use type. As proposed, the project complies with the applicable setbacks and height requirements but exceeds the allowable (30 percent) roof surface coverage. However pursuant to Chapter 11.40.180(B)(3), additional area coverage may be permitted through a CUP approval. Staff has determined that with the*

recommended conditions of approval, the granting of the CUP will be compatible with the existing and future land uses of the HMU3 zone.

C. **Approval of the CUP would not result in detrimental impacts to adjacent properties or to the character or function of the neighborhood.** *The subject site is currently developed with a multi-tenant commercial building occupied with uses such as retail, restaurant, and offices and an existing off-street parking lot. The proposed solar panel system will be mounted on the roof the building and screened from public view. Therefore, the granting of the CUP, as conditioned, would not result in detrimental impacts to adjacent properties or to the character or function of the neighborhood.*

SECTION 3. The Planning Commission reviewed the project's environmental impacts under the California Environmental Quality Act (California Public Resources Code Section 21000, et seq., "CEQA") and the regulations promulgated thereunder (14 California Code of Regulations Section 15000, et seq., the "CEQA Guidelines") and finds the project to be exempt under a Class 1 Categorical Exemption pursuant to section 15301 (Existing Facilities) of the CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations); and

SECTION 4. The Planning Commission hereby approves Conditional Use Permit (CUP 24-32) subject to the execution and fulfillment of Conditions of Approval set forth in Exhibit "A" attached to this Resolution.

This recommendation was adopted by the following vote at the Planning Commission meeting of October 15, 2024.

AYES:

NOES:

Approved and ADOPTED this 15th of October 2024.

_____
Meredith T. Elguira
Director
Community Development

APPROVED:

_____
Jimmy Ozaeta
Chairperson
City Planning Commission

Exhibit "A"
CONDITIONS OF APPROVAL (CUP 24-32)

Violation of, or noncompliance with, any of these conditions shall constitute grounds for revocation of this permit:

Planning Division

1. The Applicant shall agree to defend, indemnify and hold harmless the City of South Gate, its agents, officers, and employees from any claim, action, or proceeding against the City of South Gate or its agents, officers or employees to attach, set aside, void or annul, an approval of the City of South Gate, its legislative body, advisory agencies, or administrative officers concerning the subject Application. The City of South Gate will promptly notify the Applicant of any such claim, action, or proceeding against the City of South Gate and the Applicant will either undertake the defense of the matter and pay the City's associated legal or other consultant costs or will advance funds to pay for the defense of the matter by the City Attorney. If the City of South Gate fails to promptly notify the Applicant of any such claim, action, or proceeding or fails to cooperate fully in the defense, the Applicant shall not, thereafter, be responsible for defending, indemnify or hold harmless the City of South Gate. Notwithstanding the foregoing, the City retains the right to settle or abandon the matter without the Applicant's consent, but should it do so, the City shall waive the indemnification herein, except the City's decision to settle or abandon a matter following an adverse judgment or failure to appeal, shall not cause a waiver of the indemnification rights herein.

2. Except as set forth in subsequent conditions, all-inclusive, and subject to department corrections and conditions, the property shall be developed substantially in accordance with the Applications, environmental assessment, and plans submitted.

3. The proposed project shall comply with all Federal, State, County, and Local laws and ordinances that may apply to this permit, stated herein or not.

4. The Applicant and property owner shall submit plans to the Los Angeles County Fire Department for review for compliance with Fire regulations prior to the issuance of Building Permits. Proof of Fire Department approval (including sprinkler plan approval) is required. If revisions are made to the project plans (i.e. setbacks, building height, building design, driveway width, driveway configuration, landscaping, etc.) as a result of Fire Department requirements, changes to the plans may require Planning Commission review and approval as determined by the Community Development Director.

5. The proposed use shall be conducted, and the property be maintained in a clean, neat, quiet, and orderly manner at all times pursuant to SGMC 5.08.020(A).

6. The approval for Conditional Use Permit shall expire if building permits are not issued within

one (1) year from the date of approval by the Planning Commission, unless an extension has been granted by the Planning Commission.

7. Any graffiti placed on any building or structure located on the property shall be removed promptly after its placement.

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    F
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Code Enforcement

19. Maintain property clean, free of graffiti, overgrown vegetation, including the maintenance of the sidewalk at all times.

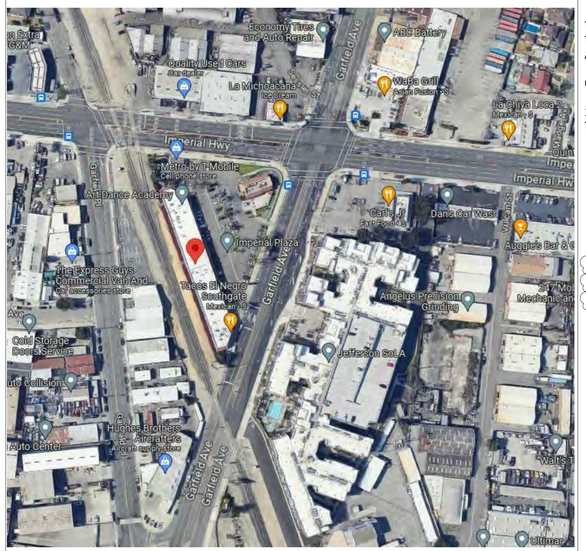
Imperial Plaza Comm

Attachment 2

5720 Imperial Hwy., South Gate, CA 90280

SOLAR ELECTRIC SYSTEM PROJECT - 132.435kW DC STC RATING / 120.388kW AC CEC RATING

VICINITY MAP:



PROJECT SCOPE:

SOLAR ELECTRIC SYSTEM

THIS PROJECT ENTAILS THE INSTALLATION OF A PHOTOVOLTAIC SYSTEM AT Imperial Plaza Comm THE SYSTEM WILL NOT BE A NET ELECTRICITY EXPORTER TO THE UTILITY GRID.

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

THIS SYSTEM WILL BE INTERCONNECTED TO AND WILL BE OPERATED IN PARALLEL WITH THE PG&E 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.

PARCEL # 6234-005-010

PROJECT TOTAL:
SYSTEM SIZE:
132.435 kW STC DC
120.388 kW CEC AC

1

TOTAL ROOF FOOTPRINT: 22,931 SQFT
TOTAL PV FOOTPRINT : 6,736 SQFT
TOTAL PV COVERAGE RATIO: 29.4%

PANEL SPECS:
(327) SUZHOU TALESUN SOLAR TECHNOLOGIES CO., LTD., TP7F54M(H) 405W

INVERTER SPECS:
(2) SMA AMERICA, STP 50-US-41 [480V]

OPTIMIZER / RAPID SHUTDOWN SPECS:
(166) TS4-A-2F OPTIMIZERS

DRAWING INDEX

Sheet #	Sheet Name
T101	Title Sheet
T102	Notes
S101	Site Plan
S102	Array Layout
S201	Structural Details
S202	Elevation
E101	Electrical Layout
E201	SLD
E301	Signage
SP101	Spec Sheets
SP102	Spec Sheets
SP103	Spec Sheets
SP104	Spec Sheets
SP105	Spec Sheets
SP106	Spec Sheets

PERMITTING / PLANNING NOTES:

1. THIS PV SYSTEM INSTALLATION IS SUBJECT TO INSPECTION BY THE AUTHORITY HAVING JURISDICTION AND SOUTHERN CALIFORNIA EDISON

2. THIS PROJECT SHALL CONFORM TO THE FOLLOWING CODE VERSIONS:
2022 CALIFORNIA BUILDING CODE (CBC 2022)
2022 CALIFORNIA ELECTRIC CODE (CEC 2022)
2022 CALIFORNIA FIRE CODE (CFC 2022)
2022 CALIFORNIA ENERGY CODE (CEnC 2022)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBSG 2022)
2022 CALIFORNIA PLUMBING CODE (CPC 2022)
2022 CALIFORNIA MECHANICAL CODE (CMC 2022)
AUTHORITY HAVING JURISDICTION

3. 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.

4. ELECTRICAL EQUIPMENT SHALL BE LISTED OR CERTIFIED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.

5. 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.

6. A COPY OF THE EVALUATION REPORT AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE.

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

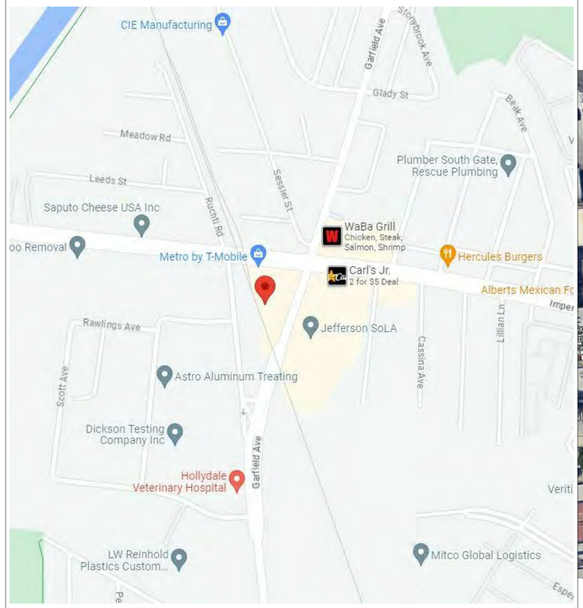
8. THE OUTPUT CHARACTERISTICS OF THE PV SYSTEM SHALL BE COMPATIBLE WITH THE VOLTAGE, WAVE SHAPE, AND FREQUENCY OF THAT OF THE UTILITY OUTPUT. 705.14.

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

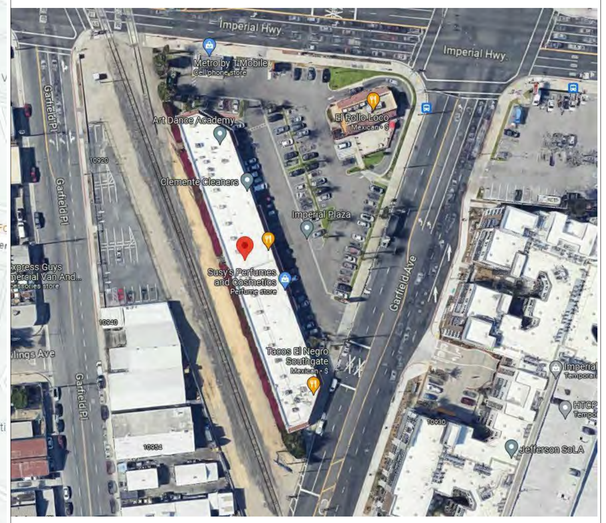
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10. PV PANELS SHALL INSTALLED IN A WAY THAT IS NOT VISIBLE FROM PUBLIC RIGHT-OF-WAY.

PROJECT ADDRESS



AERIAL PHOTO:



PROJECT TEAM:

SITE CONTACT:

IMPERIAL PLAZA COMM

CONTRACTOR:

SOL IRVINE
2913 Tech Center Dr, Santa Ana, CA 92705
TEL: 949 229 5977
LIC # C46 - 1050892

Planning Commission Final Plans
09/09/2024 5:52:47 PM

SOL IRVINE

Confidentiality Statement:
This drawing is the property of SOL IRVINE. This information is confidential and is to be used only in connection with work described by SOL IRVINE. No part is to be disclosed to others without written permission from SOL IRVINE

SOL IRVINE
LIC # C46 - 1050892
EXP: 3/31/2025
x

CLIENT APPROVAL
x
Client Initials

Imperial Plaza Comm
5720 Imperial Hwy,, South Gate, CA 90280

No.	Description	Date
1	AHJ REV	1/10/24

SOL IRVINE

Title Sheet

T101

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To scale on 24x36 paper

SYMBOLS

SECTION . . . . . X / X-XX — SHEET WHERE SECTION IS LOCATED

ELEVATION . . . . . X / X-XX — DETAIL I.D. NUMBER

DETAIL . . . . . X / X-XX — DETAIL I.D. NUMBER; SHEET WHERE SECTION IS LOCATED

DETAIL (ENLARGED PLAN) . . . . . X / X-XX — DETAIL I.D. NUMBER; AREA TO BE ENLARGED; SHEET WHERE SECTION IS LOCATED

KEYED NOTES . . . . . 1 — KEYED NOTE DESIGNATION ON APPLICABLE SHEET

REVISIONS . . . . . 2 — ADDENDUM NUMBER; REVISED AREA CLOUDED

GROUND TERMINAL . . . . . G

GROUNDING POINT/ROD . . .

SOLAR PANEL . . . . . — MODULE FRAME; FRAME GROUND POINT

SERIES INTERCONNECTION — 1 2 3 + — STRING I.D. NUMBER; SOURCE CIRCUIT

STRING I.D. NUMBER . . . . — 1 2 3 + — INVERTER; COMBINER #; CHARGE; STRING #

COMBINER BOX . . . . . CB-0X — COMBINER BOX AND CONDUIT; COMBINER BOX #

DC DISCONNECT . . . . . DCD-X — DC DISCONNECT AND CONDUIT; DC DISCONNECT #

FUSE BOX . . . . . F1 — FUSE BOX #

BLADE DISCONNECT . . . — 10A — DISCONNECTING BLADE; CURRENT RATING

FUSIBLE DISCONNECT . . — 400A — FUSE; DISCONNECTING BLADE; FUSE RATING

OVERCURRENT BREAKER . . — 400A — DISCONNECTING BLADE; BREAKER RATING

DC TO AC INVERTER . . . . . DC / AC

NORTH ARROW . . . . . .

NOTES

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 DIAGRAMTIC & SHOWS DESIGN INTENT. CONTRACTOR SHALL ROUTE AND LOCATE THE CONDUITS TO SUIT SITE CONDITIONS BUT SHALL NOT EXCEED THE MIZIMUM CONDUCTOR LENGTHS INDENTIFIED 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 REQUIRED 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 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.

E8. PROVIDE PULL, JUNCTION OR CHRISTY BOXES 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 DERATING FOR NUMBER OF CONDUCTORS WITH A MINIMUM CONDUIT SIZE BEING 3/4”

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

E12. SAFETY REGULATION (LOCK OUT - TAG OUT, ETC.) IS THE FULL RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION.

E13. THE WIRING SIZE IS BASED ON THE ESTIMATED CONDUIT ROUTING SHOWN IN THIS DRAWING PACKAGE. SHOULD THE CONDUITS LENGTH INCREASE DUE TO LOCATION OF SOURCE AND/OR ROUTING THE CONDUITS AND THE CONDUCTORS MAY NEED BE RESIZED. PLEASE CONTACT THE ENGINEER PRIOR TO MAKING ANY FIELD CHANGES.

E14. ALL WIRING IN CONDUIT SHALL BE THWN-2 FOR 90 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 FASTENER TORQUED 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 QUALITY 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, COMBINERS, DISCONNECTS OR INVERTS. **DO NOT MEGGER THE SOLAR MODULES, AS THIS WILL LIKELY DAMAGE THEIR INTERNAL DIODES. MEGGERING IS INTENDED FOR ALL CONDUCTORS INSTALLED BY THE ELECTRICAL CONTRACTOR.** MEGGER TESTING OF CONDUCTORS BEYOND THE POINT OF COMMON COUPLING (POCC) IS THE SOLE RESPONSIBILITY OF THE UTILITY PROVIDING SERVICE.

E19. ALL UNDERGROUND ELECTRICAL WORK SHALL BE 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 RESPONSIBLE FOR ALL UNDERGROUND WORK PERFORMED.

MODULE INSTALLATION NOTES:

M1. REFER TO THE MODULE MANUAL FOR MORE DETAILS ON RIGGING, UNPACKING HANDLING, PLANNING, AND INSTALLATION.

M2. THE MODULES MAY BE SHIPPED WITH SEVERAL MODULES PER BOX TAKE CARE WHEN OPENING THE BOX TO ENSURE THAT ALL MODULES ARE SECURELY HANDLED.

M3. NEVER LEAVE A MODULE UNSUPPORTED OR UNSECURED. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL HANDLING ON THE JOBSITE.

SOLAR ARRAY COMMISSIONING:

C1. BEFORE CLOSING DISCONNECTS OR ATTEMPTING TO ENERGIZE THE INVERTERS, THE FOLLOWING COMMISSIONING PROCEDURE SHALL BE COMPLETED:

A. CHECK THE OPEN CIRCUIT VOLTAGE (VOC) AND POLARITY (+/-) OF EACH SOURCE CIRCUIT. RECORD THE VALUES ON THE COMMISSIONING RECORD DOCUMENTS

B. CHECK THE SHORT CIRCUIT CURRENT (ISC) FOR EACH SOURCE CIRCUIT RECORD THE VALUES ON COMMISSIONING RECORD DOCUMENTS

C. CHECK THAT ALL FUSES, DISCONNECTS AND OTHER BALANCE OF SYSTEM COMPONENTS ARE RATED FOR6OOVDC AND THE APPROPRIATE CURRENT CAPACITY.

D. COMPLETE A VISUAL INSPECTION OF ALL THE MODULES TO CHECK FOR BROKEN GLASS, FRAYED WIRES, EXPOSED CONDUCTORS AND ANY OTHER PROBLEMS THAT MAY CAUSE A FAULT.

E. PRIOR TO INSTALLATION ALL FUSES SHALL BE 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.

C. CHECK DC INPUT VOLTAGE (VOC) IS WITHIN THE PROPER RANGE IN THE INVERTER CABINET AS 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 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 WORKMANSHIP.

S2. LABEL EQUIPMENT WITH PERMANENT WEATHERPROOF LABELS. COMPLY WITH NEC ART. 690.7, 690.17, AND 690.53 ESPECIALLY. LABEL UTILITY DISCONNECT AND SOLAR METER.

S3. IDENTIFY BOTH ENDS OF WIRES WITH PERMANENT WIRE MARKERS.

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 CALCULATIONS FOR WORST CIRCUIT). PREFERRED IS 2% DC AND 1% AC.

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 EXTERIOR CONDUITS, WITH APPROPRIATE DERATINGS 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.

S11. ALL EXPOSED CABLES, SUCH AS MODULE LEADS, TO BE SECURED WITH UV RATED PLASTIC OR OTHER APPROVED SUNLIGHT RESISTANT MEANS WITH A 25 YEAR LIFE.

S12. ALL FASTENERS TO BE UV RESISTANT PLASTIC AND ASSEMBLED TO ISOLATE COPPER CONDUCTORS FROM DIRECT CONTACT WITH ALUMINUM COMPONENTS.

S13. STRUCTURES AND SYSTEM LAYOUT MUST ACCOMMODATE EASY ACCESS FOR TROUBLESHOOTING AND MAINTENANCE.

S14. NO WIRE NUTS SHALL BE USED IN SYSTEM CONNECTION POINTS.

S15. CONNECTORS TO BE TORQUED PER DEVICE LISTING AFTER TREATING THREADS WITH ANTIOXIDANT OR ANTI SEIZE. CAMMED OUT SET SCREWS SHALL BE REPLACED. HEX OR SQUARE DRIVE SOCKET HEAD SCREWS ARE RECOMMENDED.

S16. SPLIT BOLTS/SPLICES/CONNECTORS SHALL BE INSULATED WITH APPROVED MEANS. UL LISTED ELECTRICAL TAPE ALONE IS NOT SUITABLE AS THE ONLY INSULATION MEANS. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR APPLICATION OF INSULATING PRODUCT.

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.

S18. ANODIZED ALUMINUM. HOT DIPPED GALVANIZED STEEL, AND STAINLESS STEEL ARE ACCEPTABLE MATERIALS. ALL OTHER FINISHES REQUIRE JUSTIFICATION WITH DETAILS ON MAINTENANCE REQUIREMENT DURING THE 25 YEAR LIFE.

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.

S21. ALL ELECTRICAL WORK TO BE COMPLETED BY QUALIFIED ELECTRICIANS OR APPRENTICES WORKING UNDER THE DIRECT SUPERVISION OF A QUALIFIED 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 BURIAL.

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 TIME.

S27. TOP ENTRY CONDUITS WILL BE ROUTED SO WATER BUILDUP DOES NOT FALL ON ELECTRICAL/ELECTRONIC EQUIPMENT.

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 BY CERTIFIED PERSONNEL 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.

ABBREVIATIONS

AC	ALTERNATING CURRENT
APPROX	APPROXIMATE
AWG	AMERICAN WIRE GUAGE
CL	CENTER LINE
CB	COMBINER BOX
DC	DIRECT CURRENT
DI	DROP INLET
DISC	DISCONNECT
EMT	ELECTRICAL METALLIC TUBING
(E)	(EXISTING)
EL	ELEVATION
EQ	EQUAL
ID	INSIDE DIAMETER
JB	JUNCTION BOX
MCB	MAIN COMBINER BOX
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
(N)	(NEW)
OAE	OR APPROVED EQUAL
OC	ON CENTER
OD	OUTSIDE DIAMETER
POCC	POINT OF COMMON COUPLING
PV	PHOTOVOLTAIC
PL	PROPERTY LINE
SD	STORM DRAIN
SF	SQUARE FOOT/FEET
SIM	SIMILAR
TBD	TO BE DETERMINED
TOF	TOP OF FOOTING
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
XFMR	TRANSFORMER

SOLIRVINE

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SOL IRVINE
LIC # C46 - 1050892
EXP: 3/31/2025

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Client Initials

Imperial Plaza Comm

5720 Imperial Hwy., South Gate, CA 90280

No.	Description	Date

SOL IRVINE

Notes

T102

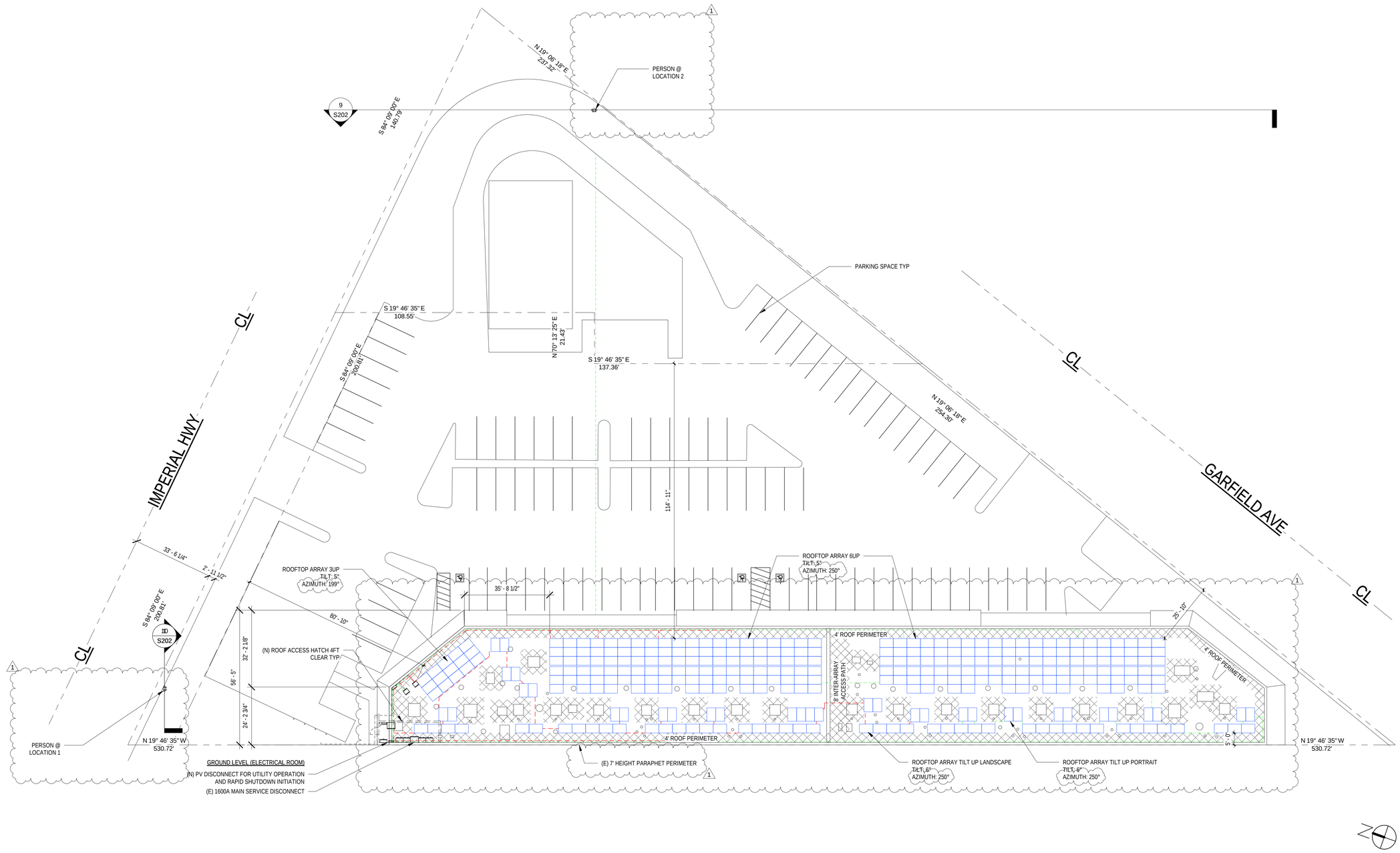
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SOLAR PHOTOVOLTAIC POWER SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS 1205.3.1 THROUGH 1205.3.3., THE CALIFORNIA BUILDING CODE OR CALIFORNIA RESIDENTIAL CODE, AND CALIFORNIA ELECTRICAL CODE. FIRE CODE 1205.3

CONDUIT, WIRING SYSTEMS, AND RACEWAYS FOR PHOTOVOLTAIC CIRCUITS SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE RIDGE OR HIP OR VALLEY AND FROM THE HIP OR VALLEY AS DIRECTLY AS POSSIBLE TO AN OUTSIDE WALL TO REDUCE TRIP HAZARDS AND MAXIMIZE VENTILATION OPPORTUNITIES. CONDUIT RUNS BETWEEN SUB ARRAYS AND TO DC COMBINER BOXES SHALL BE INSTALLED IN A MANNER THAT MINIMIZES THE TOTAL AMOUNT OF CONDUIT ON THE ROOF BY TAKING THE SHORTEST PATH FROM THE ARRAY TO THE DC COMBINER BOX. THE DC COMBINER BOX SHALL BE LOCATED SUCH THAT CONDUIT RUNS ARE MINIMIZED IN THE PATHWAY BETWEEN ARRAYS. DC WIRING SHALL BE INSTALLED IN METALLIC CONDUIT OR RACEWAYS WHEN LOCATED WITHIN ENCLOSED SPACES IN A BUILDING. CONDUIT SHALL RUN ALONG THE BOTTOM OF LOAD BEARING MEMBERS. FIRE CODE 1205.3.4

1

TALESUN SOLAR, 405W			
Array Name	Tilt°	Azimuth	Module Count
5UP/6UP ROOFTOP ARRAY	5°	250°	232
3UP ROOFTOP ARRAY	5°	250°	15
TILT UP (PORTRAIT) ARRAYS	6°	250°	34
TILT UP (LANDSCAPE) ARRAYS	6°	250°	46
TOTAL			327



1 Site Plan
1" = 20'-0"

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X_____

DC CONDUIT (INVERTER 1)

DC CONDUIT (INVERTER 2)

1

No.	Description	Date
1	AHJ REV	1/10/24

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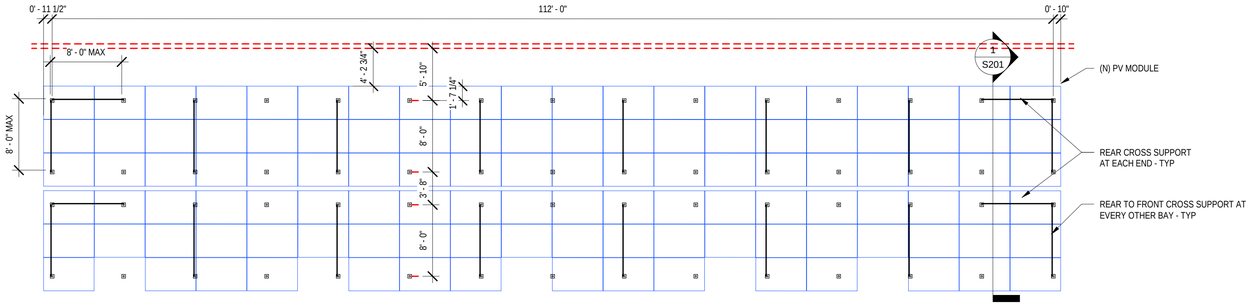
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S101

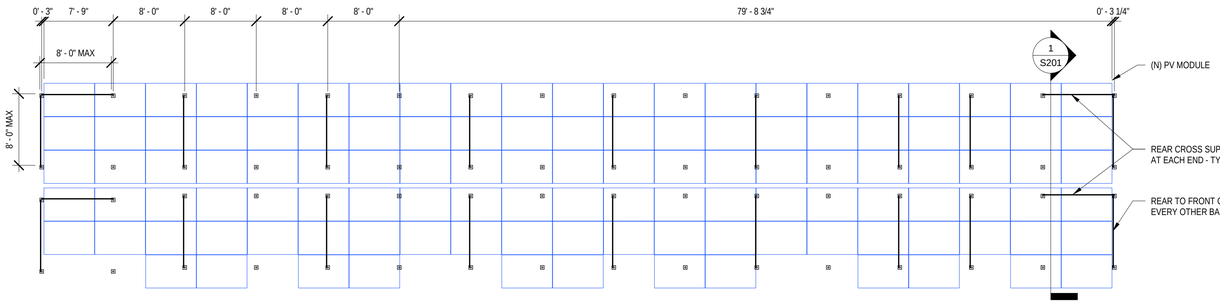
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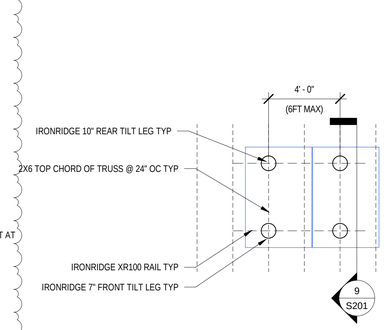
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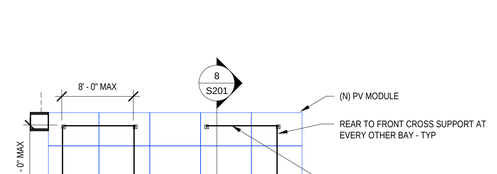
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1/8" = 1'-0"



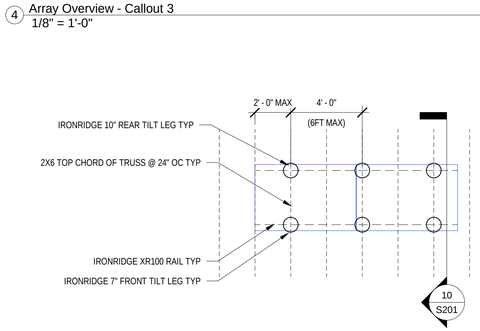
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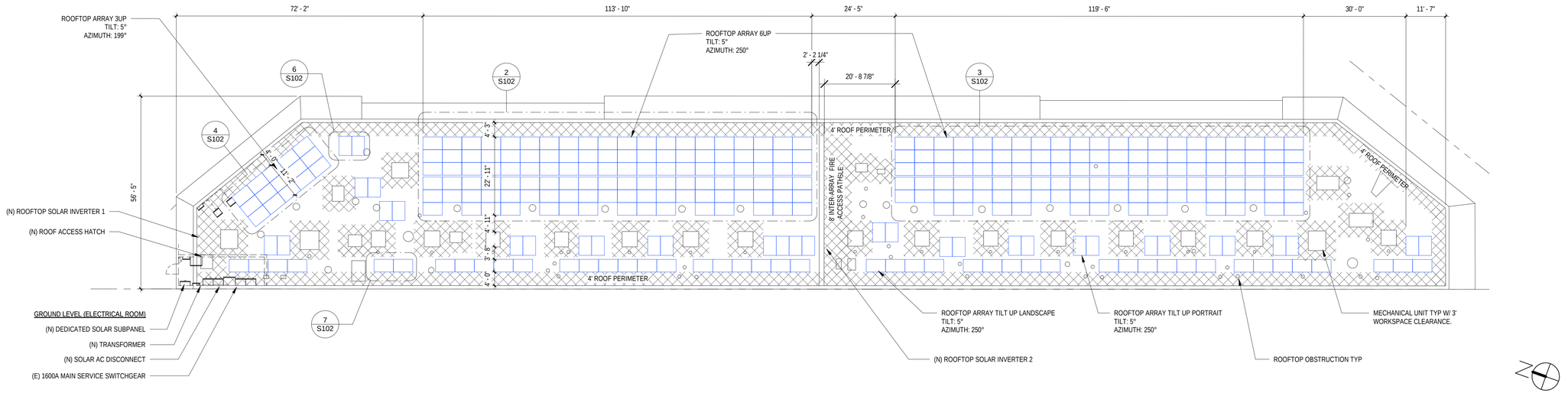
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1/4" = 1'-0"



4 Array Overview - Callout 3
1/8" = 1'-0"



7 Array Overview - Callout 5
1/4" = 1'-0"



1 Array Overview
1/16" = 1'-0"

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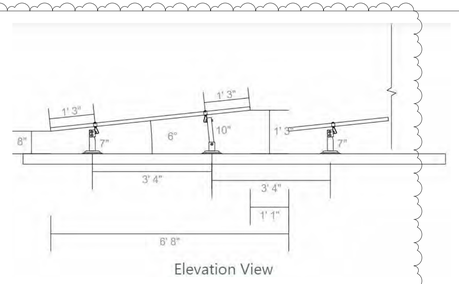
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2	Revision 2	8/30/24

SOL IRVINE

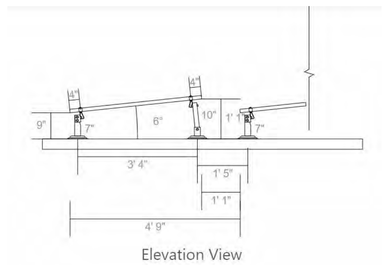
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S102

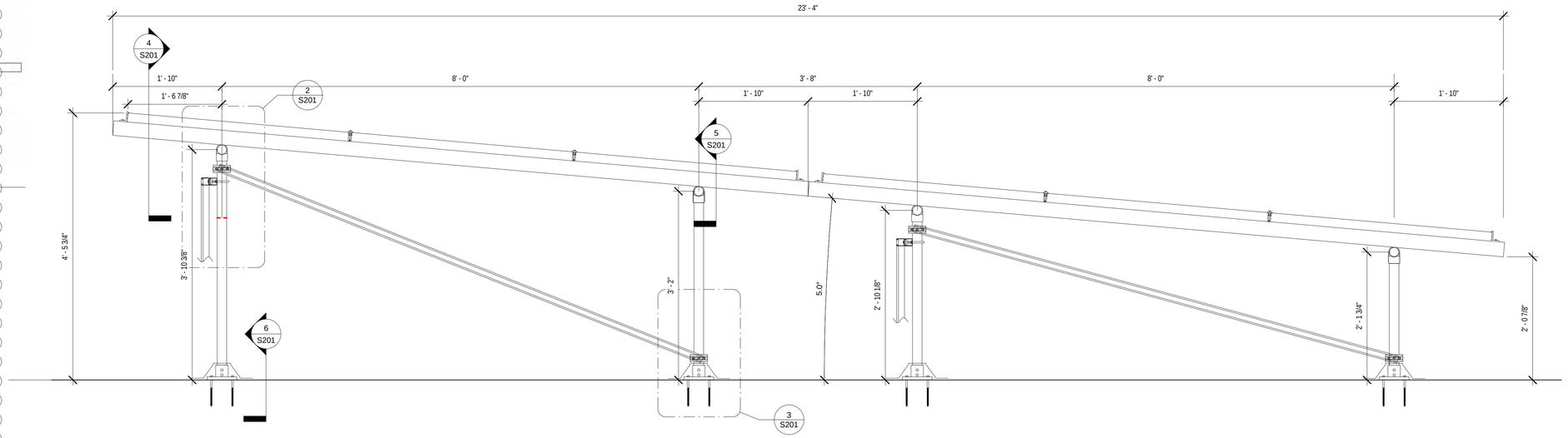
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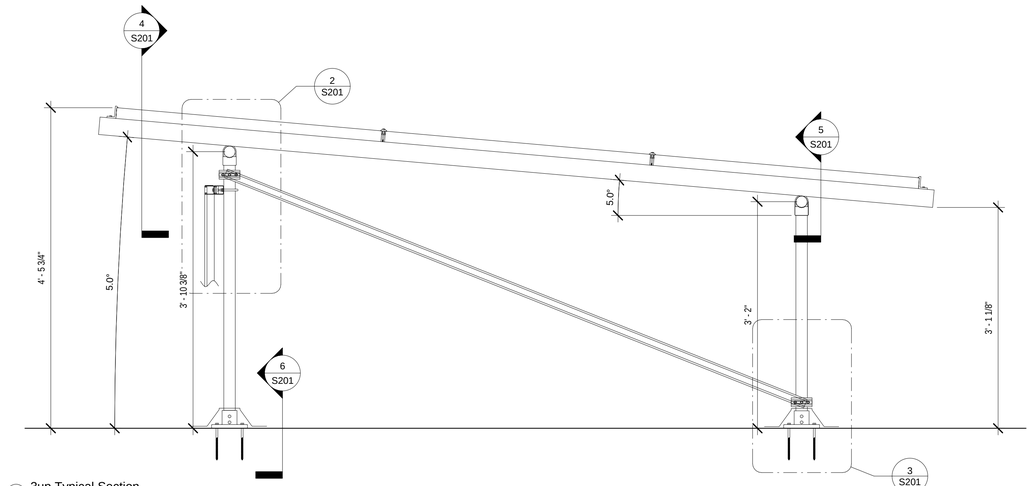
9 Tilt Up Portrait
1/2" = 1'-0"



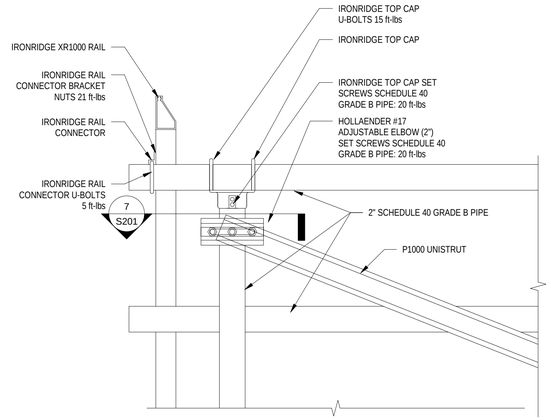
10 Tilt Up Landscape
1/2" = 1'-0"



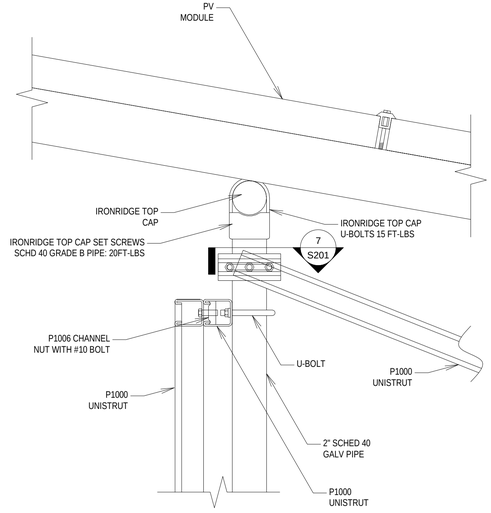
1 6up Typical Section
1" = 1'-0"



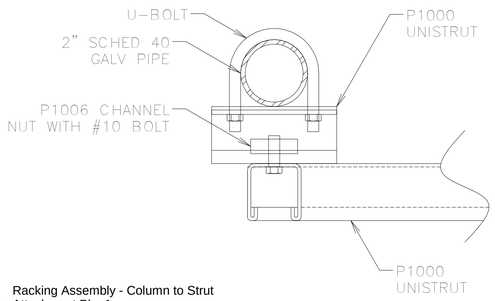
8 3up Typical Section
1" = 1'-0"



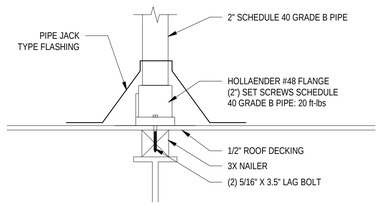
4 Racking Assembly - Upper Rail to Beam1
1 1/2" = 1'-0"



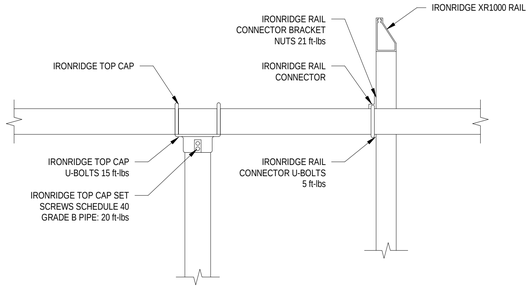
2 Racking Assembly - Upper Cross Support1
1 1/2" = 1'-0"



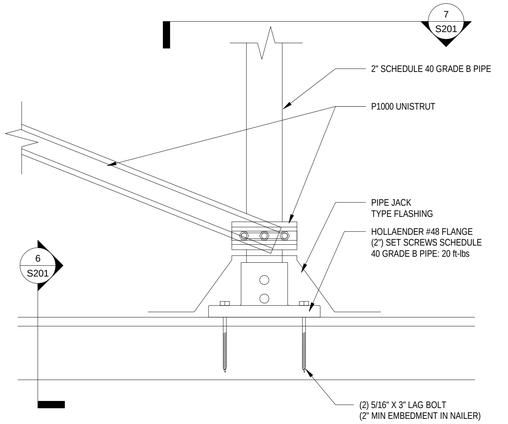
7 Racking Assembly - Column to Strut Attachment Plan1
1 1/2" = 1'-0"



6 Racking Assembly - Attachment1
1 1/2" = 1'-0"



5 Racking Assembly - Lower Rail to Beam1
1 1/2" = 1'-0"



3 Racking Assembly - Lower Cross Support1
3" = 1'-0"

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LIC # C46 - 1050892
EXP: 3/31/2025

X

CLIENT APPROVAL

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Client Initials

Imperial Plaza Comm

5720 Imperial Hwy., South Gate, CA 90280

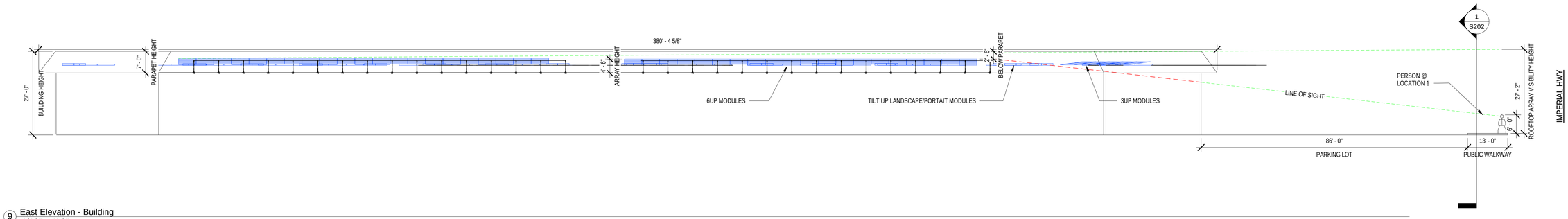
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1	AHJ REV	11/10/24

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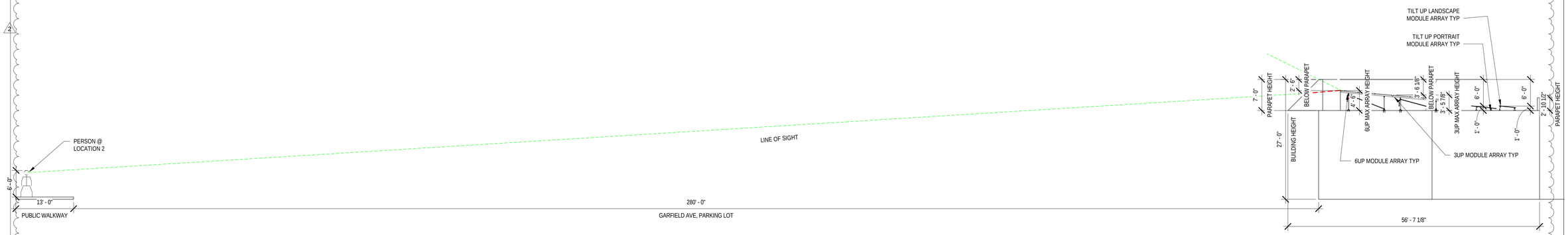
Structural Details

S201

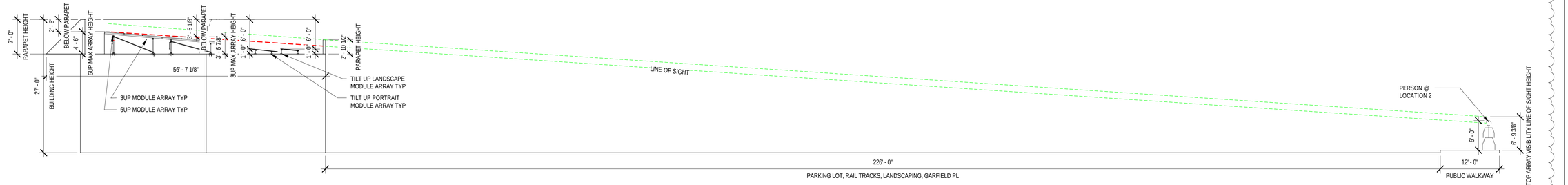
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To scale on 24x36 paper



9 East Elevation - Building
1/16" = 1'-0"



10 North Elevation - Building
3/32" = 1'-0"



1 North Elevation - Building Copy 1
1" = 10'-0"

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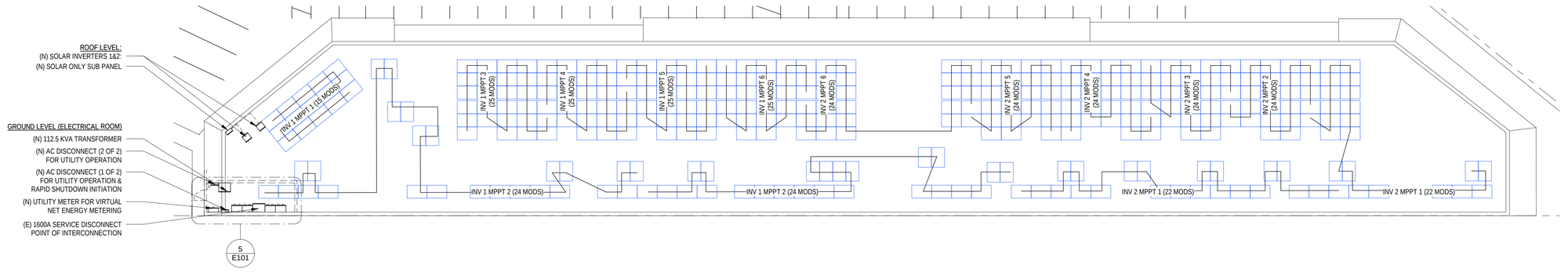
No.	Description	Date
2	Revision 2	9/30/24

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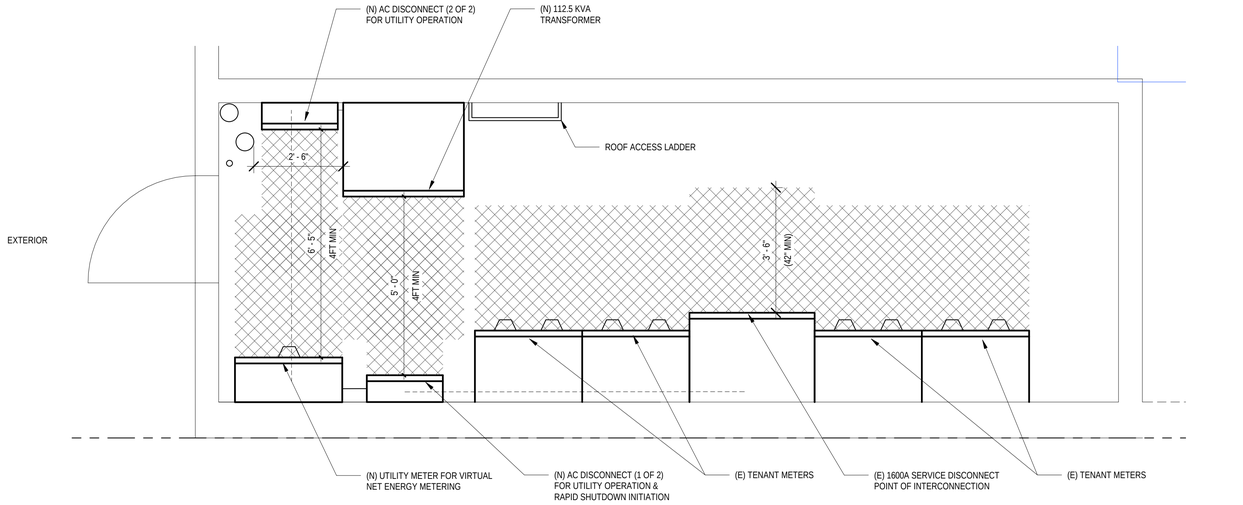
Elevation

S202

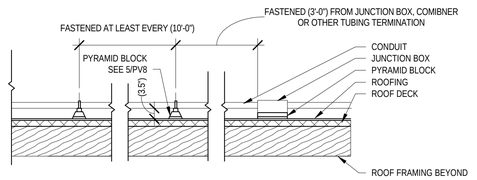
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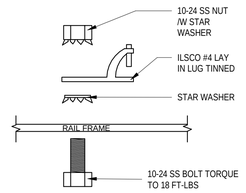
1 Array Wiring
1/16" = 1'-0"



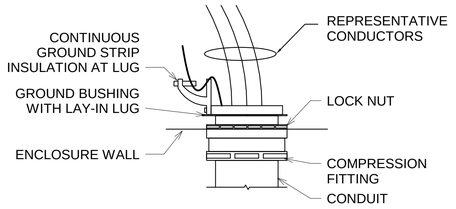
5 Electrical Room Layout
1/2" = 1'-0"



4 Detail For Unattached Conduit Runs on Roof
1/2" = 1'-0"



3 Detail Grounding Lay-in Lug
6" = 1'-0"



2 Detail Grounding Conduit Body
6" = 1'-0"

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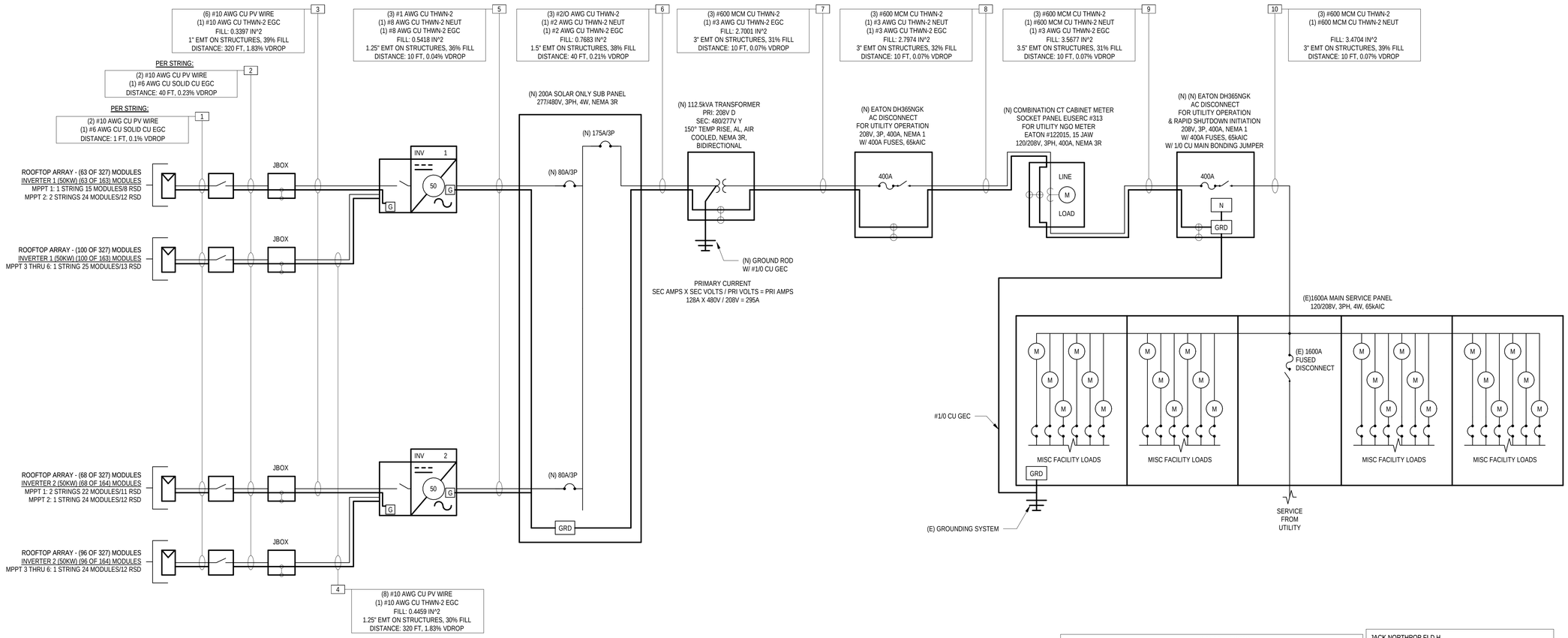
No.	Description	Date

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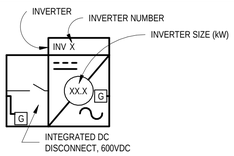
Electrical Layout

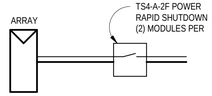
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KEY





GENERAL NOTES:

1. CONTRACTOR SHALL USE UL 2703 LISTED GROUNDING LUGS OR UL 2703 LISTED INTEGRATED GROUNDING SYSTEM FOR GROUND OF ARRAY AND RACKING.
2. THE PV SYSTEM SHALL BE LISTED PER UL 1703 AS REQUIRED
3. NOTIFY SERVING UTILITY PRIOR TO ACTIVATION OF PV SYSTEM
4. ALL PV EQUIPMENT SHALL BE LISTED BY A RECOGNIZED TESTING LABORATORY.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH 2022 CALIFORNIA ELECTRICAL CODE, AND 2017 NATIONAL ELECTRICAL CODE, 2022 CALIFORNIA BUILDING CODE
6. THE MIN TEMPERATURE IS 4°C AND AVERAGE HIGH IS 26°C

SHEET NOTES:

1. PROTECTIVE RELAYING REQUIREMENTS TO BE DETERMINED.
2. SPECIFIC REVENUE METERING REQUIREMENTS AND DEVICES TO BE DETERMINED.
3. CUSTOMER METER TO SHARE CT & PT WITH UTILITY METER.
4. PRIMARY VOLTAGE PENDING INTEGRATION STUDY

NOTES:

1. PROVIDE CONTINUOUS PATH FOR GROUND CONDUCTOR FROM THE INVERTER TO THE EXISTING MAIN SERVICE SWITCHBOARD GROUND BUS. GROUNDING ELECTRODE CONDUCTOR TO SERVE AS EQUIPMENT GROUND. PROVIDE LAY-IN LUGS TO BOND ALL EQUIPMENT ALONG THIS PATH TO THE GROUNDING ELECTRODE CONDUCTOR TO ALLOW FOR CONTINUOUS RUN.

JACK NORTHROP FLD H
EXTREME MIN: 4°C
2% AVG HIGH TEMP: 26°C

PROJECT TOTAL:
SYSTEM SIZE:
132.435 kW STC DC
120.388 kW CEC AC

PANEL SPECS:
(327) SUZHOU TALESUN SOLAR TECHNOLOGIES CO., LTD., TP7F54M(H) 405W
VMP: 31.24V, VOC: 37.25V, IMP: 12.97A, ISC: 13.86A
STC: 405W, PTC: 377.6W

INVERTER SPECS:
(2) SMA AMERICA, STP 62-US-41 [480V]
480/277V, 3PH, 4W, MAX OUTPUT CURRENT = 80A
MAXIMUM CONTINUOUS OUTPUT POWER @ UTILITY POWER FACTOR: 62.5 kW
CEC WEIGHTED EFFICIENCEY: 97.5%

OPTIMIZER / RAPID SHUTDOWN SPECS:
(166) TS4-A-2F MODULE LEVEL RAPID SHUTDOWN

MAX STRING VOLTAGE = 25 MODULES PER STRING X (37.25 Voc + (-0.26%/°C X (4°C COLDEST - 25°C STC) X 37.25Voc) = 982Voc < 1000Vdc OK

WIRING CHART																WIRE RATING CHART					TERMINATION...		VOLTAGE DROP CHART				
Callout #	Amps Isc	NEC Mult	Amps Max	Parallel Runs	Number Conductors	Size Conductor	Conductor Matl	Insulation Conductor	Size Neutral	Size Ground	Conduit Qty	Wire Temp Rating	Wire Amb Temp	Wire Roof Temp	Wire Temp Total	Conductors Current Carrying	Parallel Runs	Wire Amp Rating	Wire Temp Derate	Wire Conductor Derate	Derated Wire Rating >= Amps Max	Term Temp Rating *	Term Amp Rating >=Amps Max	Vdrop Amps Imp	Vdrop Vmp	Vdrop Distance	Vdrop Percent
1	13.86	1.56	22	1	2	#10 AWG	CU	PV WIRE	NA	#6 AWG	1	90	26	0	26	2	1	40	1	1	1 X 40A X 1 X 1 = 40 >= 22	60	30 >=22	12.97	31.24	1	0.1
2	13.86	1.56	22	1	2	#10 AWG	CU	PV WIRE	NA	#6 AWG	1	90	26	0	26	2	1	40	1	1	1 X 40A X 1 X 1 = 40 >= 22	60	30 >=22	12.97	562.32	40	0.23
3	13.86	1.56	22	1	6	#10 AWG	CU	PV WIRE	NA	#10 AWG	1	90	26	0	26	6	1	40	1	0.8	1 X 40A X 1 X 0.8 = 32 >= 22	60	30 >=22	12.97	562.32	320	1.83
4	13.86	1.56	22	1	8	#10 AWG	CU	PV WIRE	NA	#10 AWG	1	90	26	0	26	8	1	40	1	0.7	1 X 40A X 1 X 0.7 = 28 >= 22	60	30 >=22	12.97	562.32	320	1.83
5	64	1.25	80	1	3	#1 AWG	CU	THWN-2	#8 AWG	#8 AWG	1	90	26	0	26	3	1	145	1	1	1 X 145A X 1 X 1 = 145 >= 80	75	130 >=80	64	480	10	0.04
6	128	1.25	160	1	3	#2/O AWG	CU	THWN-2	#2 AWG	#2 AWG	1	90	26	0	26	3	1	195	1	1	1 X 195A X 1 X 1 = 195 >= 160	75	175 >=160	128	480	40	0.21
7	295	1.25	369	1	3	#600 MCM	CU	THWN-2	NA	#3 AWG	1	90	26	0	26	3	1	475	1	1	1 X 475A X 1 X 1 = 475 >= 369	75	420 >=369	295	208	10	0.07
8	295	1.25	369	1	3	#600 MCM	CU	THWN-2	#3 AWG	#3 AWG	1	90	26	0	26	3	1	475	1	1	1 X 475A X 1 X 1 = 475 >= 369	75	420 >=369	295	208	10	0.07
9	295	1.25	369	1	3	#600 MCM	CU	THWN-2	#600 MCM	#3 AWG	1	90	26	0	26	3	1	475	1	1	1 X 475A X 1 X 1 = 475 >= 369	75	420 >=369	295	208	10	0.07
10	295	1.25	369	1	3	#600 MCM	CU	THWN-2	#600 MCM	NA	1	90	26	0	26	3	1	475	1	1	1 X 475A X 1 X 1 = 475 >= 369	75	420 >=369	295	208	10	0.07

*ALL BREAKERS & TERMINATIONS TO BE RATED 75°C MINIMUM

1 SLD
NTS

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LIC # C46 - 1050892
EXP: 3/31/2025

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Client Initials

Imperial Plaza Comm
5720 Imperial Hwy., South Gate, CA 90280

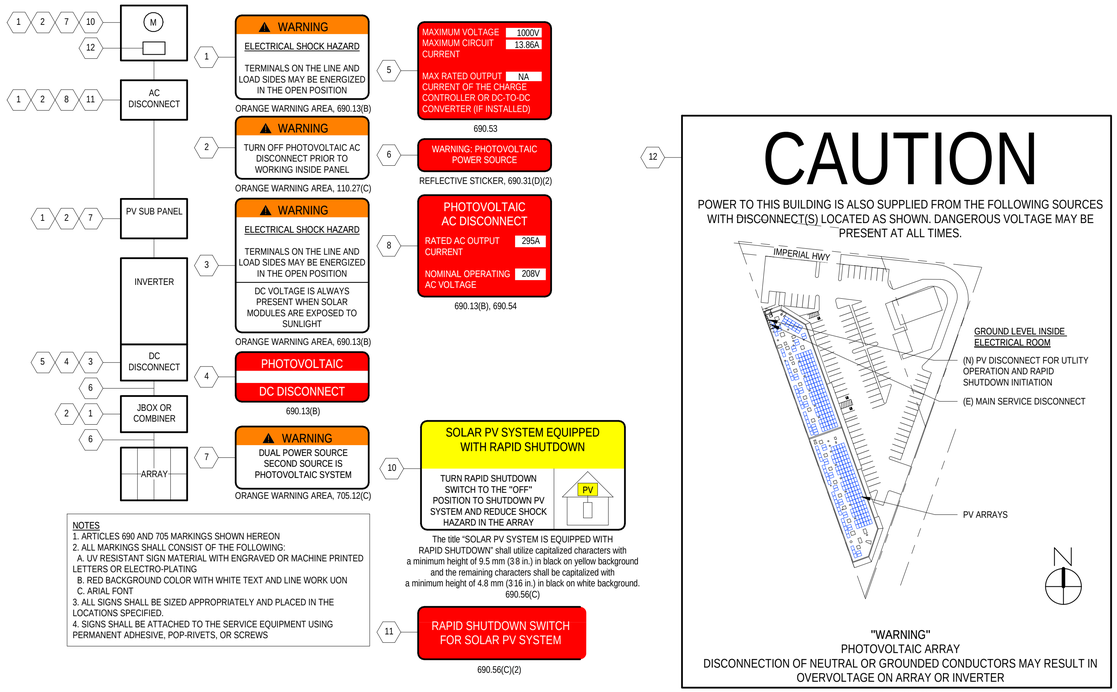
No.	Description	Date

SOL IRVINE

SLD

E201

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To scale on 24x36 paper



6"X8" TYP - CEC 705.10

1 Signage - Central
12" = 1'-0"

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5720 Imperial Hwy., South Gate, CA 90280

No.	Description	Date

SOL IRVINE

Signage

E301

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To scale on 24x36 paper



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0 ~ +3%)

Maximum Power (Pmax/W)	395	400	405	410	415
Operating Voltage (Vmpp/V)	30.85	31.05	31.24	31.43	31.64
Operating Current (Impp/A)	12.81	12.89	12.97	13.05	13.13
Open-Circuit Voltage (Voc/V)	36.75	37.00	37.25	37.50	37.75
Short-Circuit Current (Isc/A)	13.69	13.78	13.86	13.94	14.02
Module Efficiency η m(%)	20.2	20.5	20.7	21.0	21.3

Performance at NMOT

Maximum Power (Pmax/W)	294	298	302	306	310
Operating Voltage (Vmpp/V)	28.8	29.0	29.2	29.3	29.6
Operating Current (Impp/A)	10.23	10.30	10.36	10.42	10.48
Open-Circuit Voltage (Voc/V)	34.6	34.8	35.1	35.3	35.5
Short-Circuit Current (Isc/A)	11.04	11.11	11.17	11.24	11.30

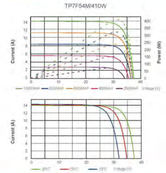
STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	108 (6*18)
Weight	21.5kg (47.4lbs.)
Module Dimensions	1722*1134*30mm (67.80*44.65*1.18inches)
Cable Length	300mm (11.81inches)
Cable Cross Section Size	TUV: 4mm² (0.006inches²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration (1)	36pcs/carton, 936pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

I-V CURVE

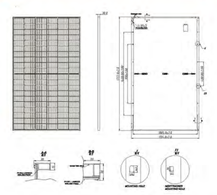
TP7F54M(410W)



OPERATING CONDITIONS

Maximun System Voltage	1000V/1500V/DC(IEC)
Operating Temperature	-40°C ~ +85°C
Maximun Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2

TECHNICAL DRAWINGS



TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.35%/°C
Temperature Coefficient Voc	-0.26%/°C
Temperature Coefficient Isc	+0.048%/°C
NMOT	43±2°C

QETS1F1101 The specifications and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Suzhou Talesun Solar Technologies Co., Ltd. reserves the right to make any adjustments to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

TALESUN

2 Spec Sheet Module
12" = 1'-0"



Tigo

TS4-A-2F

Module-level PV Rapid Shutdown for two modules

The TS4-A-2F (Fire Safety) is the advanced add-on rapid shutdown solution that brings smart module functionality to standard PV modules for higher reliability. Ensure safety by upgrading existing PV systems or by adding safety features to new installations.

The TS4-A-2F complies with NEC 2017 & 2020 690.12 Rapid Shutdown specifications when installed with the Tigo RSS Transmitter or an inverter with built-in Tigo certified transmitter.

Features

- **High input current rating**
  Now rated for 20A Imp/ 25A Isc to better accommodate bifacial and high current modules
- **Simple, Fast Installation**
  Snap to standard PV module frame or remove clips for rack mounting
- **PLC Signaling**
  Rapid shutdown signaling over PV conductors
- **Automatic Shutdown**
  PV array enters rapid shutdown in the event of AC grid loss
- **PVRSS Certified**
  Tested and UL certified with hundreds of top inverter models

Quick Specs

	TS4-A-2F	
Dimensions (W x H x D)	138.4 x 139.7 x 22.9mm (5.4 x 5.5 x 0.9in)	
Weight	590g (1.3lbs)	
Max Current (Imp/Isc)*	15A	20A/25A
Max Wattage	1000W	1400W

*Use local codes/requirements to calculate maximum current.



300 Standard Warranty

NEC Rapid Shutdown Compliant

Tigo

tigoenergy.com

PN: 002-00092-00 | Rev 2.3 2023.04.18

Electrical Data	15A	25A
Maximum input voltage (per input)	80V	
Operating voltage range[1]	16 ~ 80V	
Maximum input current (Isc)	N/A	25A per input
Maximum input current (Imp)	15A per input	20A per input
Maximum wattage (total)	1000W (500W per input)	1400W (700W per input)

[1]Maximum output voltage of the TS4 is dependant on the PV module voltage. Refer to PV modules nameplate.

Connections

Module Conductor lengths[2]	0.12/1.2/1.3m, options available[3]
String Conductor lengths	2.2/2.4m, options available[3]
Connectors[2]	MC4, EVO2, options available[3]

[2]Contact sales for additional connector and conductor length options. MOQ may apply

General Data

Operating temperature range	-30°C to +80°C (-22°F to +176°F)
Storage temperature range	-40°C to +85°C (-40°F to +185°F)
Recommended fuse rating	20A / 30A
Outdoor rating	IP68
Maximum altitude	3000m
Efficiency	99.9%
Communication	PLC
Rapid Shutdown UL Listed (NEC 2017 & 2020 690.12)	Yes
Rapid Shutdown Time Limit	30 secs or less[1]
Conductor AWG Range	10-12 AWG
PVRSE Controlled Conductors	≤30 Vdc, ≤240VA, ≤8A[1]

[1]Limits are based on NEC 690.12 rapid shutdown requirements

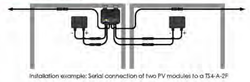
Certifications

UL1741, PVRSS, CSA22.2, IEC 62109

PVRSS certified inverters

For a list of all PVRSS certified inverters, please see: www.tigoenergy.com/pl-pvrss

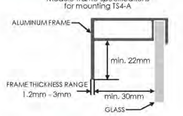
Installation example



Installation example: Serial connection of two PV modules to a TS4-A-2F

Module mounting requirements

Module frame specifications for mounting TS4-A



Ordering Information

484-00252-22	TS4-A-2F, 15A, 1000W, 1500V UL/1000V IEC, 0.12/0.2/2.2m cable, MC4
484-00252-24	TS4-A-2F, 15A, 1000W, 1500V UL/1000V IEC, 1.2/1.3/2.4m cable, MC4
484-00261-22	TS4-A-2F, 15A, 1000W, 1500V UL/IEC, 0.12/0.2/2.2m cable, EVO2
484-00261-24	TS4-A-2F, 15A, 1000W, 1500V UL/IEC, 1.2/1.3/2.4m cable, EVO2
484-01252-22	TS4-A-2F, 15A, 1000W, 1500V UL/1000V IEC, 0.12/0.2/2.2m cable, MC4 (EMEA)
484-01252-24	TS4-A-2F, 15A, 1000W, 1500V UL/1000V IEC, 1.2/1.3/2.4m cable, MC4 (EMEA)
484-01261-22	TS4-A-2F, 15A, 1000W, 1500V UL/IEC, 0.12/0.2/2.2m cable, EVO2 (EMEA)
484-01261-24	TS4-A-2F, 15A, 1000W, 1500V UL/IEC, 1.2/1.3/2.4m cable, EVO2 (EMEA)
485-00252-22	TS4-A-2F, 25A, 1400W, 1500V UL/1000V IEC, 0.12/0.2/2.2m cable, MC4
485-00252-24	TS4-A-2F, 25A, 1400W, 1500V UL/1000V IEC, 1.2/1.3/2.4m cable, MC4
485-00261-22	TS4-A-2F, 25A, 1400W, 1500V UL/IEC, 0.12/0.2/2.2m cable, EVO2
485-00261-24	TS4-A-2F, 25A, 1400W, 1500V UL/IEC, 1.2/1.3/2.4m cable, EVO2
487-00252-22	TS4-A-2F, 25A, 1400W, 1500V IEC, 0.12/0.2/2.2m cable, MC4
487-00252-24	TS4-A-2F, 25A, 1400W, 1500V IEC, 1.2/1.3/2.4m cable, MC4
487-00261-22	TS4-A-2F, 25A, 1400W, 1500V IEC, 0.12/0.2/2.2m cable, EVO2
487-00261-24	TS4-A-2F, 25A, 1400W, 1500V IEC, 1.2/1.3/2.4m cable, EVO2

Additional resources

Tigo TS4-A-2F

Tigo RSS

Support

Community

Tigo

tigoenergy.com

PN: 002-00092-00 | Rev 2.3 2023.04.18

3 Spec Sheet Tigo
12" = 1'-0"

SUNNY TRIPOWER CORE1 33-US / 50-US / 62-US

SMA



Fully integrated
- No additional racking required for rooftop installation
- Integrated DC and AC disconnects and overvoltage protection
- 12 direct string inputs for reduced labor and material costs
- Up to 60% faster commercial PV system installation

Increased power, flexibility
- Six MPP trackers for flexible stringing and maximum power production
- ShadeFix, SMA's proprietary shade management solution, optimizes at the string level
- Intelligent string monitoring to pinpoint array performance issues

Enhanced safety, reliability
- Integrated SunSpec PLC signal for module-level rapid shutdown compliance to 2017 NEC
- Next-gen DC AFCI arc-fault protection certified to new Standard UL 1699B Ed. 1

Smart monitoring, control, service
- I-V curve diagnostic function to visualize and document PV string electrical characteristics
- Increased ROI with SMA ennexOS cross sector energy management platform
- SMA Smart Connected proactive O&M solution reduces time spent diagnosing and servicing in the field

SUNNY TRIPOWER CORE1 33-US / 50-US / 62-US

It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports, ground mount and repowering legacy solar projects. From distribution to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions, and is the most versatile, cost-effective commercial solution available. Integrated SunSpec PLC for rapid shutdown and enhanced DC AFCI arc-fault protection ensure compliance to the latest safety codes and standards. With Sunny Tripower CORE1 and SMA's ennexOS cross sector energy management platform, system integrators can deliver comprehensive commercial energy solutions for increased ROI.

www.SMA-America.com

Technical data	Sunny Tripower CORE1 33-US	Sunny Tripower CORE1 50-US	Sunny Tripower CORE1 62-US
Input (DC)			
Maximum array power	50000 Wp STC	75000 Wp STC	93750 Wp STC
Maximum system voltage		1000 V	
Rated MPP voltage range	330 V ... 800 V	500 V ... 800 V	550 V ... 800 V
MPPT operating voltage range		150 V ... 1000 V	
Minimum DC voltage / start voltage		150 V / 188 V	
MPP trackers / strings per MPP input		6 / 2	
Maximum usable operating input current / per MPP tracker		120 A / 20 A	
Maximum short circuit current per MPPT / per string input		32 A / 30 A	
Output (AC)			
AC nominal power	33300 W	50000 W	62500 W
Maximum apparent power	33300 VA	53000 VA	66000 VA
Output phases / line connections		3 / 3-W; PE	
Nominal AC voltage		480 V / 277 V WYE	
AC voltage range		244 V ... 305 V	
Maximum output current	40 A	64 A	80 A
Rated grid frequency		60 Hz	
Grid frequency / range		50 Hz, 60 Hz / 45 Hz ... 65Hz	
Power factor at rated power / adjustable displacement		1 / 0.0 leading ... 0.0 lagging	
Harmonics THD		<3 %	
Efficiency			
CEC efficiency	97.5%	97.5%	97.5%
Protection and safety features			
Load rated DC disconnect		●	
Load rated AC disconnect		●	
Ground fault monitoring: Riso / Differential current		●/●	
DC AFCI arc-fault protection		●	
SunSpec PLC signal for rapid shutdown		●	
DC reverse polarity protection		●	
AC short circuit protection		●	
DC surge protection: Type 2 / Type 1+2		O / O	
AC surge protection: Type 2 / Type 1+2		O / O	
Protection class / overvoltage category (as per UL 840)		I / IV	
General data			
Device dimensions (W / H / D)		621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)	
Device weight		84 kg (185 lbs)	
Operating temperature range		-25 °C ... +60 °C (-13 °F ... +140 °F)	
Storage temperature range		-40 °C ... +70 °C (-40 °F ... +158 °F)	
Audible noise emissions (full power @ 1m and 25 °C)		65 dB (A)	
Internal consumption at night		5 W	
Topology		Transformerless	
Cooling concept		OptiCool (forced convection, variable speed fans)	
Enclosure protection rating		Type 4X, 3SR (as per UL 50E)	
Maximum permissible relative humidity (non-condensing)		100 %	
Additional information			
Mounting		Free-standing with included mounting feet	
DC connection		Amphenol UTX PV or H4/Plus connectors	
AC connection		Screw terminals : 4 AWG to 4/0 AWG CU/AL	
LED indicators (Status / Fault / Communication)		●	
Network interfaces: Ethernet / WLAN / RS485		● (2 ports) / ▲ / O	
Data protocols: SMA Modbus / SunSpec IEEE 1547 Modbus / Webconnect		●/●/●	
ShadeFix technology for string level optimization		●	
Intelligent string performance monitoring		●	
I-V curve diagnostic function		●	
Integrated Plant Control / Q on Demand 24/7		●/●	
SMA Smart Connected (proactive monitoring and service support)		●	
Certifications			
Certifications and approvals		UL 1741, UL 1699B Ed. 1, UL 1998, CSA 22.2 107.1, PV Rapid Shutdown System Equipment, UL 3741	
FCC compliance		FCC Part 15 Class A	
Grid interconnection standards		IEEE 1547:2018, UL 1741 SA/SB - CA Rule 21, HECO SRD V2.0	
Advanced grid support capabilities		L/HFRT, L/HVRT, Volt-VAr, Volt-Watt, Frequency-Watt, Ramp Rate Control, Fixed Power Factor	
Warranty			
Standard		10 years	
Optional extensions		15 / 20 years	
O Optional features ● Standard features – Not available	▲ Subject to availability	Data at nominal conditions - status: 02/2023	
Type designation	STP 33-US-41	STP 50-US-41	STP 62-US-41
Accessories			



Toll Free +1 888 4 SMA USA
www.SMA-America.com

SMA America, LLC

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1 Spec Sheet Inverter1
12" = 1'-0"

SOLIRVINE

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SOL IRVINE
LIC # C46 - 1050892
EXP: 3/31/2025

X_____

CLIENT APPROVAL

X
Client Initials

Imperial Plaza Comm

5720 Imperial Hwy., South Gate, CA 90280

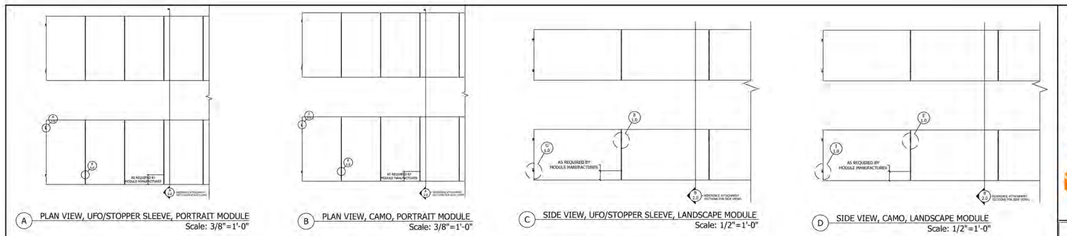
No.	Description	Date

SOL IRVINE

Spec Sheets

SP101

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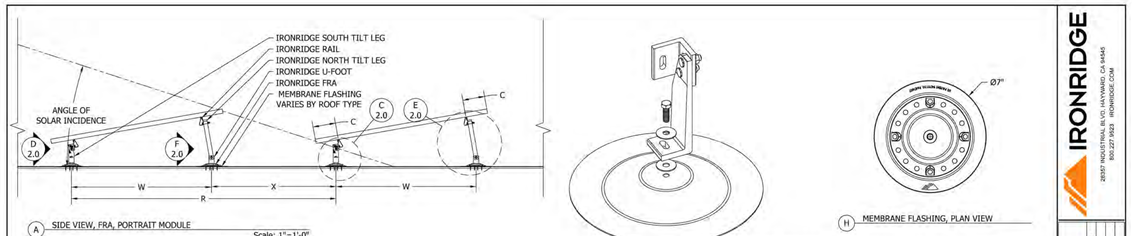
IRONRIDGE | FLAT ROOF MOUNT SYSTEM
CLIENT NAME | PROJECT NAME / ADDRESS | SYSTEM KW DC
WIND SPEED, MPH | SNOW LOAD, PSF | EXPOSURE CAT | RISK CAT | MODULE TYPE | MODULE LENGTH | MODULE QTY
BIG CELL, GENERIC

NOT FOR CONSTRUCTION

REV	COMMENTS	DATE

FLAT ROOF PV SYSTEM DETAILS: COMPONENT DETAILS

DRAWN BY	3.0 FR
CHECKED BY	JAN 2022
SHEET NO.	IR 1.0
PART/ITEM #	24536



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28507 INDUSTRIAL BLVD, HAYWARD, CA 94545
800.227.9523 IRONRIDGE.COM

IRONRIDGE | FLAT ROOF MOUNT SYSTEM
CLIENT NAME | PROJECT NAME / ADDRESS | SYSTEM KW DC
WIND SPEED, MPH | SNOW LOAD, PSF | EXPOSURE CAT | RISK CAT | MODULE TYPE | MODULE LENGTH | MODULE QTY
BIG CELL, GENERIC

NOT FOR CONSTRUCTION

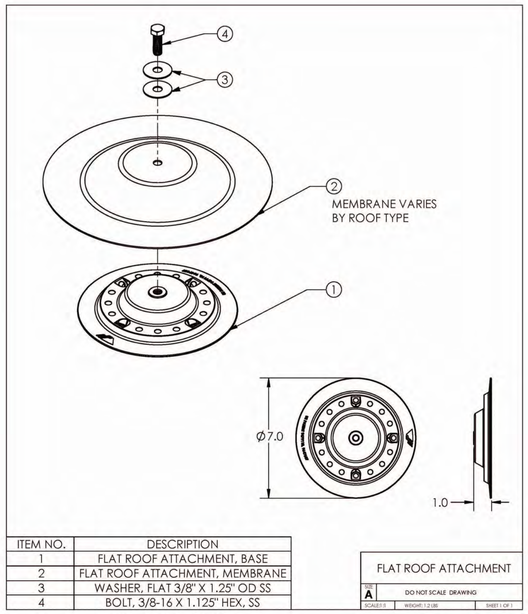
REV	COMMENTS	DATE

FLAT ROOF PV SYSTEM DETAILS: FLAT ROOF ATTACHMENT (FRA)

DRAWN BY	3.0 FR
CHECKED BY	JAN 2022
SHEET NO.	IR 2.0
PART/ITEM #	24536

IRONRIDGE

Flat Roof Attachment



ITEM NO.	DESCRIPTION
1	FLAT ROOF ATTACHMENT, BASE
2	FLAT ROOF ATTACHMENT, MEMBRANE
3	WASHER, FLAT 3/8" X 1.25" OD SS
4	BOLT, 3/8-16 X 1.125" HEX, SS

FLAT ROOF ATTACHMENT
SIZE A | DO NOT SCALE DRAWING
SCALE:1:1 | WEIGHT: 1.2 LBS | SHEET 1 OF 1

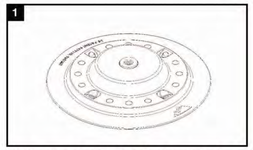
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FRA-01-MAN REV 1.1

Installation

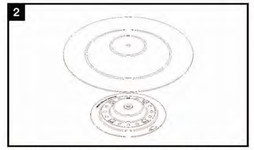
Tools Required: tape measure, chalk, approved sealing materials, roof screws, driver with 9/16" hex socket

1



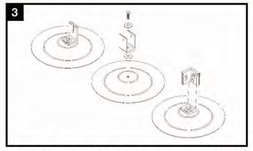
Mark locations for Flat Roof Attachment. Roof screws can be installed before or after racking is installed. Type, size, and quantity of roof screws to be specified by Structural Engineer. Fastener size not to exceed #15. Screws should be installed symmetrically to each other.

2



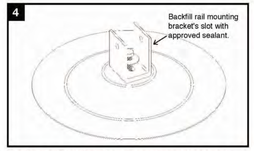
If using a membrane flashing, remove the silicone washer's protective liner prior to attaching the membrane. Thread a bolt into the base to help center the membrane during the welding or adhering process. Ensure membrane flashing is compatible with existing roofing material.

3



Attach rail mounting bracket with washers and 3/8" hardware torqued to 250 in-lbs (21 ft-lbs). Seal attachment and/or membrane per roofing manufacturer's requirements.

4



For freeze/thaw locations, a roof manufacturer's approved sealant should be applied around the 3/8" bolt and in the bracket's slot prior to tightening the bolt.

Structural Certification
Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

UL 2703
Conforms to UL 2703 (2015) Mechanical and Bonding requirements. See Ironridge Tilt or Flush Mount Manuals for full ratings.

LA Research Reports (LARR)
Approved for use in City of Los Angeles per LARR #26185

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FRA-01-MAN REV 1.1

1 Spec Sheet Flashfoot 2
12" = 1'-0"

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LIC # C46 - 1050892
EXP: 3/31/2025

X

CLIENT APPROVAL
X
Client Initials

Imperial Plaza Comm
5720 Imperial Hwy., South Gate, CA 90280

No.	Description	Date

SOL IRVINE

Spec Sheets

SP102

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Tech Brief

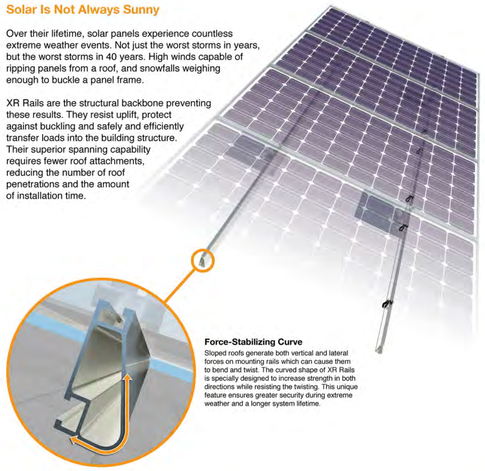
IRONRIDGE

XR Rail Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs

XR Rails are compatible with FlashFoot and other pitched roof attachments.

IronRidge offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails are made of marine-grade aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

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Tech Brief

XR Rail Family

The XR Rail Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail to match.



XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves 6 foot spans, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear anodized finish
- Internal splices available



XR100

XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 8 feet.

- 8' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans 12 feet or more for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The following table was prepared in compliance with applicable engineering codes and standards. Values are based on the following criteria: ASCE 7-10, Roof Zone 1, Exposure B, Roof Slope of 7 to 27 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed span tables and certifications.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	100						
	120						
	140	XR10		XR100		XR1000	
	160						
10-20	100						
	120						
	140						
	160						
30	100						
	160						
40	100						
	160						
50-70	160						
80-90	160						

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Tech Brief

IRONRIDGE

Class A Fire Rating

Background

All roofing products are tested and classified for their ability to resist fire.

Recently, these fire resistance standards were expanded to include solar equipment as part of the roof system. Specifically, this requires the modules, mounting hardware and roof covering to be tested together as a system to ensure they achieve the same fire rating as the original roof covering.

Adoption of these new requirements will begin in California in 2015 and extend to the rest of the country in 2016.

IronRidge Certification

In August 2014, IronRidge was the first company to receive a Class A Fire Rating—the highest possible rating—from Intertek Group plc., a Nationally Recognized Testing Laboratory.

IronRidge Roof Mount products were tested on flat and sloped roofs in accordance with the new UL 1703 & UL 2703 test standards. The testing evaluated the system's ability to resist flame spread, burning material and structural damage to the roof.

Refer to the table below to determine the requirements for achieving a Class A Fire Rating on your next project.

Fire Testing Process

Test Setup

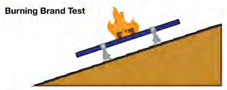
Solar Modules
Solar modules are given a Type classification based on their materials and construction.

Mounting System
Mounting is tested as part of a system that includes type-tested modules and fire-rated roof covering.

Roof Covering
Roof covering products are given a Fire Class Rating of A, B or C based on their tested fire resistance.

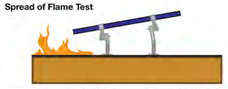


Burning Brand Test



A burning wooden block is placed on module as a fan blows at 12 mph. Flame cannot be seen on underside of roof within 90 minutes.

Spread of Flame Test



Flame at southern edge of roof is aimed up the roof as a fan blows at 12 mph. The flame cannot spread 6 feet or more in 10 minutes.

Roof Slope*	Mount	Module	Fire Rating*
Steep Slope (≥ 9.5 degrees)	Flush	Type 1, 2, & 3	Class A
	Tilt	Type 1 & 2	Class A
Low Slope (< 9.5 degrees)	Flush	Type 1, 2, & 3	Class A
	Tilt	Type 1, 2, & 3	Class A

*Class A rated PV systems can be installed on Class A, B, and C roofs.

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Tech Brief

Frequently Asked Questions

What is a "module type"?

The new UL1703 standard introduces the concept of a PV module type, based on 4 construction parameters and 2 fire performance parameters. The purpose of this classification is to certify mounting systems without needing to test it with every module.

What roofing materials are covered?

All fire rated roofing materials are covered within this certification including composition shingle, clay and cement tile, metal, and membrane roofs.

What if I have a Class C roof, but the jurisdiction now requires Class A or B?

Generally, older roofs will typically be "grandfathered in", and will not require re-roofing. However, if 50% or more of the roofing material is replaced for the solar installation the code requirement will be enforced.

Where is the new fire rating requirement code listed?

2012 IBC: 1509.7.2 Fire classification. Rooftop mounted photovoltaic systems shall have the same fire classification as the roof assembly required by Section 1505.

Where is a Class A Fire Rating required?

The general requirement for roofing systems in the IBC refers to a Class C fire rating. Class A or B is required for areas such as Wildland Urban Interface areas (WUI) and for very high fire severity areas. Many of these areas are found throughout the western United States. California has the most Class A and B roof fire rating requirements, due to wild fire concerns.

Are standard mid clamps covered?

Mid clamps and end clamps are considered part of the PV "system", and are covered in the certification.

What attachments and flashings are deemed compatible with Class A?

Attachments and their respective flashings are not constituents of the rating at this time. All code-compliant flashing methods are acceptable from a fire rating standpoint.

What mounting height is acceptable?

UL fire testing was performed with a gap of 5", which is considered worst case in the standard. Therefore, the rating is applicable to any module to roof gap.

Am I required to install skirting to meet the fire code?

No, IronRidge achieved a Class A fire rating without any additional racking components.

What determines Fire Classification?

Fire Classification refers to a fire-resistance rating system for roof covering materials based on their ability to withstand fire exposure.

Class A - effective against severe fire exposure
Class B - effective against moderate fire exposure
Class C - effective against light fire exposure

What if the roof covering is not Class A rated?

The IronRidge Class A rating will not diminish the fire rating of the roof, whether Class A, B, or C.

What tilts is the tilt mount system fire rated for?

The tilt mount system is rated for 1 degrees and up and any roof to module gap, or mounting height.

More Resources

Installation Manuals
Visit our website for manuals that include UL 2703 Listing and Fire Rating Classification.
Go to IronRidge.com

Engineering Certification Letters
We offer complete engineering resources and pre-stamped certification letters.
Go to IronRidge.com

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Datasheet

XR Rails & Tilt Legs

XR Rails



Attach directly to Tilt Legs. Available in three targeted sizes to support specific wind and snow loads.

- Unique curved profile
- Spanning capabilities up to 12'
- Clear and black finish

Tilt Legs



Tilt assembly to desired angle, up to 30 degrees. Kits include South and North Tilt Leg and all hardware.

- Available in multiple lengths for a wide angle range
- Assembled South Tilt Legs include angle indicators
- Legs are electrically bonded to rails

Clamps & Grounding

UFOs



Universal Fastening Objects secure and bond modules to rails.

- Fully assembled and lubricated
- Single, universal size
- Clear and black finish

Stopper Sleeves



Snap onto the UFO to transform into a bonded end clamp.

- Bonds modules to rails
- Sized to match modules
- Clear and black finish

Grounding Lugs



Connects Tilt Mount system to equipment ground.

- Low profile
- Single tool installation
- Mounts in any direction

Accessories

Bonded Splices



XR Rails use internal splices for seamless connections.

- Self-drilling screws
- Varying versions to match rails
- Forms secure bonding connection

End Caps



Provide a finished look for rails while preventing debris buildup.

- Easy snap-in installation
- Varying versions to match rails
- UV-stabilized polymer

Wire Clips



Organize electrical wires from the rail's top slot.

- Simple snap-in installation
- Holds up to ten 5mm wires
- UV-stabilized polymer

Resources



Design Assistant
Go from rough layout to fully engineered system. For free.
Go to IronRidge.com/design

NABCEP Certified Training
Earn free continuing education credits, while learning more about our systems.
Go to IronRidge.com/training

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MODULE COMPATIBILITY

The Tilt Mount System may be used to ground and/or mount a PV module complying with UL 2703 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions. Unless otherwise noted, "xxx" refers to the module power rating and both black and silver frames are included in the certification.

FRAMED MODULE LIST

MAKE	MODELS
Adani	Adani modules with 35 and 40mm frames ASX-Y-ZZ-xxx Where "X" can be B, M or P, "Y" can be 6 or 7, and "ZZ" can be blank, PERC, B-PERC, or AB-PERC
Amerisolar	Amerisolar modules with 35, 40 and 50 mm frames AS-bYxxxZ Where "b" can be 5 or 6; "Y" can be M, P, M27, P27, M30, or P30; and "Z" can be blank, W or WB
Aptos Solar	Aptos modules with 35 and 40 mm frames DNA-yy-zzaa-xxx Where "yy" can be 120 or 144; "zz" can be MF or BF; and "aa" can be 23 or 26
Astronergy Solar	Astronergy modules with 30, 35, 40, and 45 mm frames aaSMbbyyCJzz-xxx Where "aa" can be CH or A; "bb" can be 60, 66, or 72; "yy" can be blank, 10 or 12; "C" can M, P, M(BL), M-HC, M(BL)-HC, P-HC, M(DG), or M(DGT); and "zz" can be blank, HV, F-B, or F-BH
ASUN	ASUN modules with 35 and 40 mm frames ASUN-xxx-YYZZ-aa Where "YY" can be 60 or 72; "ZZ" can be M,or MH5; and "aa" can be blank or BB
Auxin	Auxin modules with 40 mm frames AXN6y6zAxxx Where "y" can be M or P; "z" can be 08, 09, 10, 11, or 12; and "A" can be F or T
Axitec	Axitec Modules with 30, 35 and 40 mm frames AC-xxxYaaZZb Where "Y" can be M, P, MB or MH; "aa" can be blank, 125- or 156-; "ZZ" can be 54, 60, 72, 120, or 144; "b" can be S, X, V, VB, XV, or MX
Boviet	Boviet modules with 35 and 40mm frames BVM66aaYY-xxxBcc Where "aa" can be 9, 10 or 12; "YY" is M or P; and "B" can be blank, L or S; and "cc" can be blank, H, H-BF, H-BF-DG, H-HC, H-HC-BF, H-HC-BF-DG, HC-BF or HC-BF-DG
BYD	BYD modules with 35 mm frames BYDxxxAY-ZZ Where "A" can be M6, P6, MH or PH; "Y" can be C or K; and "ZZ" can be 30 or 36
Canadian Solar	Canadian Solar modules with 30, 32, 35 and 40 mm frames CSbY-xxxZ Where "b" can be 1, 3 or 6; "Y" can be H, K, L, N, P, U, V, W, X or Y; and "Z" can be M, P, MS, PX , M-SD, P-AG, P-SD, MB-AG, PB-AG, MS-AG, or MS-SD
CertainTeed	CertainTeed modules with 35 and 40 frames CT-xxxYZZ-AA Where "Y" can be M, P, or HC; "ZZ" can be 00, 01, 10, or 11; and "AA" can be 01, 02, 03, or 04
CSUN	Csun modules with 35 and 40 mm frames YYxxx-zzAbb Where "YY" is CSUN or SST; "zz" is blank, 60, or 72; and "A" is blank, P, M or MM; "bb" is blank, BB, 5BB, BW, or ROOF

Intertek

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Test Verification of Conformity

In the basis of the tests undertaken, the sample(s) of the below product have been found to comply with the requirements of the referenced specifications at the time the tests were carried out.

Applicant Name & Address:	IronRidge, Inc. 1495 Zephyr Ave. Hayward, CA 94544 USA
Product Description:	Flush Mount System with XR Rails.
Ratings & Principle Characteristics:	Fire Class Resistance Rating: -Flush Mount (Symmetrical). Class A Fire Rated for Low Slope applications when using Type 1, 2 and 3, listed photovoltaic modules. Class A Fire Rated for Steep Slope applications with Type1, 2 and 3, listed photovoltaic modules. Tested with a 5" gap (distance between the bottom the module frame and the roof covering), per the standard this system can be installed at any gap allowed by the manufacturers installation instructions. No perimeter guarding is required. This rating is applicable with any IronRidge or 3'rd party roof anchor.
Models:	IronRidge Flush Mount with XR Rails
Brand Name:	IronRidge Flush Mount
Relevant Standards:	UL 2703 (Section 15.2 and 15.3) Standard for Safety Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels, First Edition dated Jan. 28, 2015 **Referencing** UL1703 Third Edition dated Nov. 18, 2014, (Section 31.2) Standard for Safety for Flat-Plate Photovoltaic Modules and Panels.
Verification Issuing Office:	Intertek Testing Services NA, inc. 8431 Murphy Drive Middleton, WI 53562
Date of Tests:	08/27/2014 to 03/17/2015
Test Report Number(s):	101769343MID-001r1, 101769343MID-001a, 101915978MID-001 & 101999492MID-001ar1-cr1

This verification is part of the full test report(s) and should be read in conjunction with them. This report does not automatically imply product certification.

Completed by:	Chris Zimbrich	**Reviewed by:**	Chad Naggs
Title:	Technician II, Fire Resistance	**Title:**	Technician I, Fire Resistance
Signature:		**Signature:**	
Date:	05/25/2016	**Date:**	05/25/2016

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GFT-OP-11a (24-MAR-2014)

1 Spec Sheet Iron Ridge Racking1
12" = 1'-0"

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LIC # C46 - 1050892
EXP: 3/31/2025

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Imperial Plaza Comm

5720 Imperial Hwy., South Gate, CA 90280

No.	Description	Date

SOL IRVINE

Spec Sheets

SP103

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Datasheet

IRONRIDGE

Ground Mount System



Mount on all terrains, in no time.

The IronRidge Ground Mount System combines our XR1000 rails with locally-sourced steel pipes, or mechanical tubing, to create a cost-effective structure capable of handling any site or terrain challenge.

Installation is simple with only a few structural components and no drilling, welding, or heavy machinery required. In addition, the system works with a variety of foundation options, including concrete piers and driven piles.

Rugged Construction
Engineered steel and aluminum components ensure durability.

PE Certified
Pre-stamped engineering letters available in most states.

Simple Assembly
Just a few simple components and no heavy equipment.

Design Software
Online tool generates engineering values and bill of materials.

Flexible Architecture
Multiple foundation and array configuration options.

20 Year Warranty
Twice the protection offered by competitors.

Datasheet



360° Product Tour
Visit ironridge.com

Substructure

Top Caps



Connect vertical and cross pipes.

Rail Connectors



Attach Rail Assembly to horizontal pipes.

Diagonal Braces



Optional Brace provides additional support.

Cross Pipe & Piers



Steel pipes or mechanical tubing for substructure.

Rail Assembly

XR1000 Rails



Curved rails increase spanning capabilities.

Top-Down Clamps



Secure modules to rails and substructure.

Under Clamps



Alternative clamps for pre-attaching modules to rails.

Accessories



Wire Clips and End Caps provide a finished look.

Resources



Design Assistant
Go from rough layout to fully engineered system. For free.
Go to ironridge.com/gm

NABCEP Certified Training
Earn free continuing education credits, while learning more about our systems.
Go to ironridge.com/training

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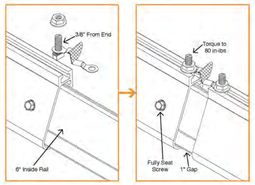
EXPANSION JOINTS

GROUNDING STRAP EXPANSION JOINT

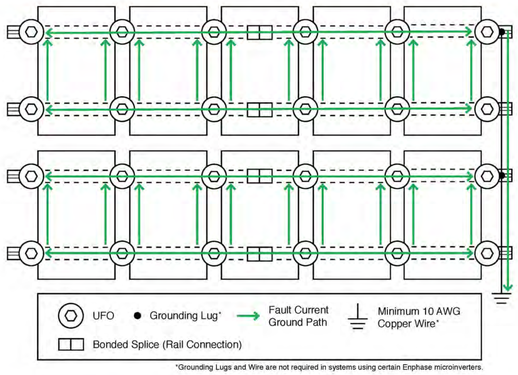
Grounding Strap Expansion Joints are required for thermal expansion of rows exceeding 100 feet of rail.

Insert Internal Splice into first rail and secure with screw. Assemble and secure Grounding Strap 3/8" from rail end. Slide second rail over Internal Splice leaving 1" gap between rails. Attach other end of Grounding Strap with hardware, and torque hex nuts to **80 in-lbs**.

- **Second Bonded Splice screw is not used with Expansion Joints.**
- **Do not install module over top of expansion joint location.**



ELECTRICAL DIAGRAM



*Grounding Lugs and Wire are not required in systems using certain Enphase microinverters.

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1 Spec Sheet IronRidge
12" = 1'-0"

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Applicant Name & Address:	IronRidge, Inc. 1495 Zephyr Ave. Hayward, CA 94544 USA
Product Description:	Flush Mount System with XR Rails.
Ratings & Principle Characteristics:	Fire Class Resistance Rating: -Flush Mount (Symmetrical). Class A Fire Rated for Low Slope applications when using Type 1, 2 and 3, listed photovoltaic modules. Class A Fire Rated for Steep Slope applications with Type1, 2 and 3, listed photovoltaic modules. Tested with a 5" gap (distance between the bottom the module frame and the roof covering), per the standard this system can be installed at any gap allowed by the manufacturers installation instructions. No perimeter guarding is required. This rating is applicable with any IronRidge or 3'rd party roof anchor.
Models:	IronRidge Flush Mount with XR Rails
Brand Name:	IronRidge Flush Mount
Relevant Standards:	UL 2703 (Section 15.2 and 15.3) Standard for Safety Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels, First Edition dated Jan. 28, 2015 **Referencing** UL1703 Third Edition dated Nov. 18, 2014, (Section 31.2) Standard for Safety for Flat-Plate Photovoltaic Modules and Panels.
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This verification is part of the full test report(s) and should be read in conjunction with them. This report does not automatically imply product certification.

Completed by:	Chris Zimbrich	**Reviewed by:**	Chad Naggs
Title:	Technician II, Fire Resistance	**Title:**	Technician I, Fire Resistance
Signature:		**Signature:**	
Date:	05/25/2016	**Date:**	05/25/2016

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Certificate of Compliance

The Hollaender Mfg. Co. hereby certifies that the products listed below meet or exceed all requirements of the following specifications:

Product: 2" I.P.S. Schedule 40 or 80, 6063-T6 or 6061-T6 Aluminum Pipe, 215-R1 Finish.

Metal: ASTM B429 Standard Specification for Aluminum-Alloy Structural Pipe and Tube.

Finish: Aluminum Association Standard 1 – *Aluminum Standards and Data*. Specification M10C22A41, clear-satin anodize 0.7 mils thick.

Call Toll Free: 800-772-8800 www.hollaender.com *"The Fitting with the Rib"®*

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2 Spec Sheet Hollaender
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X_____

CLIENT APPROVAL

X_____
Client Initials

Imperial Plaza Comm

5720 Imperial Hwy., South Gate, CA 90280

No.	Description	Date

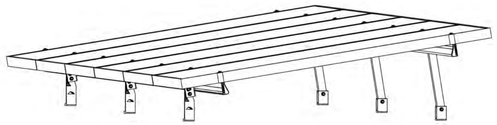
SOL IRVINE

Spec Sheets

SP104

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TILT MOUNT



INSTALLATION MANUAL

IRONRIDGE

CONTENTS

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DISCLAIMER

This manual describes proper installation procedures and provides necessary standards required for product reliability. Warranty details are available on website. All installers must thoroughly read this manual and have a clear understanding of the installation procedures prior to installation. Failure to follow these guidelines may result in property damage, bodily injury or even death.

IT IS THE INSTALLER'S RESPONSIBILITY TO:

- Ensure safe installation of all electrical aspects of the array. All electrical installation and procedures should be conducted by a licensed and bonded electrician or solar contractor. Routine maintenance of a module or panel shall not involve breaking or disturbing the bonding path of the system. All work must comply with national, state and local installation procedures, product and safety standards.
- Comply with all applicable local or national building and fire codes, including any that may supersede this manual.
- Ensure all products are appropriate for the installation, environment, and array under the site's loading conditions.
- Use only IronRidge parts or parts recommended by IronRidge; substituting parts may void any applicable warranty.
- Review the Design Assistant and Certification Letters to confirm design specifications.
- Ensure provided information is accurate. Issues resulting from inaccurate information are the installer's responsibility.
- Ensure bare copper grounding wire does not contact aluminum and zinc-plated steel components, to prevent risk of galvanic corrosion.
- If loose components or loose fasteners are found during periodic inspection, re-tighten immediately. Any components showing signs of corrosion or damage that compromise safety shall be replaced immediately.
- Provide an appropriate method of direct-to-earth grounding according to the latest edition of the National Electrical Code, including NEC 250: Grounding and Bonding, and NEC 690: Solar Photovoltaic Systems.
- Disconnect AC power before servicing or removing modules, AC modules, microinverters and power optimizers.
- Review module manufacturer's documentation for compatibility and compliance with warranty terms and conditions.

RATINGS

UL 2703 LISTED

#5003339

Intertek

Conforms to STD UL 2703 Standard for Safety First Edition: Mounting Systems, Mounting Devices, Clamping/ Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels
- Scope of Evaluation includes bonding, grounding, mechanical loading, and fire classification
- Max Overcurrent Protective Device (OCPD) Rating: 40A
- Max Module Size: 30.5 ft²
- Module Orientation: Portrait or Landscape
- System Design Load Rating: 10 PSF downward, 5 PSF upward, 5 PSF lateral
- Actual system structural capacity including spans and cantilevers is are defined by PE stamped certification letters
- CAMO Specific Ratings Load Rating: 50 PSF downward, 50 PSF upward, 15 PSF lateral

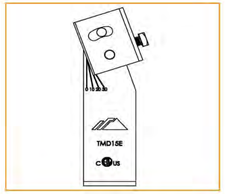
Certified to CSA TIL No. A-40 Photovoltaic Module Racking Systems
- Load Rating: 2400 PA [50 PSF]

Class A System Fire Rating Per UL 2703
- Any System Tilt with Modules Types 1, 2, 3, 13, 19, 25 & 29 on Low Slope Roofs (≤ 9.5 degrees)
- Any System Tilt with Module Types 1 & 2 on Steep Slope Roofs (> 9.5 degrees)
- Any module-to-roof gap is permitted, with no perimeter guarding required. This rating is applicable with any third-party attachment
- Class A rated PV systems can be installed on Class A, B, and C roofs without affecting the roof fire rating

Structural Certification
- Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7

MARKINGS

Product markings are located on the South Tilt Leg.



CHECKLIST

PRE-INSTALLATION

❒ Verify module compatibility. See Page 13 for info.

TOOLS REQUIRED

❒ Cordless Drill (non-impact)

❒ Impact Driver (for lag bolts)

❒ Torque Wrench (0-250 in-lbs)

❒ 5/16" Socket

❒ 7/16" Socket

❒ 9/16" Socket (deep)

❒ String Line

TORQUE VALUES

❒ Tilt Leg Nuts (9/16" Socket): 250 in-lbs

❒ Module Grounding Lug

- ❒ Grounding Nut (7/16" Socket): 60 in-lbs
- ❒ Grounding Lug Terminal Screws (7/16" Socket): 20 in-lbs

❒ Module Grounding Lug

- ❒ Grounding Nut (7/16" Socket): 60 in-lbs
- ❒ Grounding Lug Terminal Screws (7/16" Socket): 20 in-lbs

❒ Universal Fastening Objects (7/16" Socket): 80 in-lbs

❒ Microinverter Kit Nuts (7/16" Socket): 80 in-lbs

❒ Frameless Module Kit Nuts (7/16" Socket): 80 in-lbs

IRONRIDGE COMPONENTS


XR Rail


Tilt Leg Kit


Wire Clip


BOSS


UFO (30-46mm)


CAMO


Rail Grounding Lug


Module Grounding Lug


Microinverter Kit


End Cap


Stopper Sleeve


Frameless Module Kit


Frameless End/Mid Clamp


Flat Roof Attachment

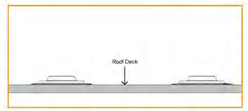

Membrane Flashing

➢ **If using previous version of: Integrated Grounding Mid Clamps, End Clamps, and Expansion Joints please refer to Alternate Components Addendum (Version 1.9)**

➢ **Unless otherwise noted, all components have been evaluated for multiple use. They can be uninstalled and reinstalled in the same or new location.**

1. ATTACH BASES

Mark locations for Flat Roof Attachment. Type, size, and quantity of roof screws to be specified by Structural Engineer. Fastener size not to exceed #15. Screws should be installed symmetrically to each other. If using a membrane flashing, remove the silicone washer's protective liner prior to attaching the membrane. Ensure membrane flashing is compatible with existing roofing material.

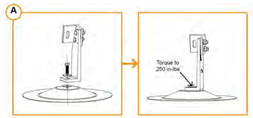


Additional tested or evaluated third-party roof attachments:
- S-5! Standing Seam Metal Roof Clamps - **Certification of metal roof clamps includes bonding to both painted and galvalume metal roofs. Tighten S-5! and S-5! Mini set screws to 130-150 in-lbs (≥ 24 gauge) or 160-180 in-lbs (22 gauge) roofs. Tighten S-5! M10 bolt to 240 in-lbs or S-5! Mini M8 bolt to 160 in-lbs. Use the following fastening guidelines for other S-5! roof clamps: ProteaBracket™ - firmly seat roof screws and tighten hinge bolt to 226 in-lbs; RibBracket™ - firmly seat roof screws and tighten M8 bolt (M8-1.25 x 22mm sold separately) to 160 in-lbs; and SolarFoot™ - firmly seat roof screws and tighten M8 flange nut to 160 in-lbs.**
- QuickMount PV Tilt Standoffs - **Qbase Mount, formerly referenced as QMLSH, and QMNC; Tighten 5/16" bolt on top of standoff to a minimum of 174 in-lbs.**

2. ADD TILT LEGS

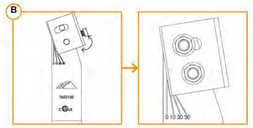
A. ASSEMBLE SOUTH LEGS

Mount South Tilt Leg Assembly to southern row of roof attachments. The IronRidge logo should face east to ensure proper South Leg orientation. Tighten Flat Roof Attachment hardware to **250 in-lbs**. If using a third-party roof attachment refer to manufacturer's instructions for proper tightening torque.



B. SET ANGLE

Set top pivot bracket of South Tilt Leg to the desired angle using the angle indicator on the face of the leg. Finger tighten bolts to allow for adjustment if necessary.



C. ASSEMBLE NORTH LEGS

Mount U-foot to northern row of roof attachments. Tighten Flat Roof Attachment hardware to **250 in-lbs**. If using a third-party roof attachment refer to manufacturer's instructions for proper tightening torque.Mount North Tilt Leg to northern row of U-feet and loosely secure hardware.



3. PLACE RAILS

A. CONNECT SPLICES

Use BOSS(Bonded Structural Splice), as needed, to join multiple sections of Rail.

BOSS - Bonded Structual Splice
Insert BOSS into first Rail up until the Alignment Tab. Slide second Rail fully into place.

➢ **Rows using BOSS and exceeding 100 feet of Rail must use Expansion Joints.**
➢ **Boss Splices may be installed any location within a span.**
➢ **UFO and Bonding Hardware must be installed 1" away from the point where two Rails join together.**



B. ATTACH SOUTH RAILS

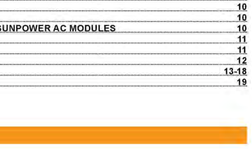
Slide 1" long bonding bolt into side-facing rail slot. Mount rail to pivot bracket of South Legs and loosely tighten nuts.

C. ATTACH NORTH RAILS

Slide 2.25" bonding bolt into side-facing rail slot. Mount rail to top of North Legs. Tighten all 3/8" hardware to **250 in-lbs** once rails are square.

➢ **Use a straight edge to ensure South and North rails are on the same plane. An extra section of rail works well.**

➢ **Rails can mount on either north or south side of North Tilt Leg.**



4. SECURE LUGS

Grounding Lugs

Only one Grounding Lug (Rail or Module) required per continuous subarray, regardless of subarray size (Unless frameless modules are used, see Page 12).

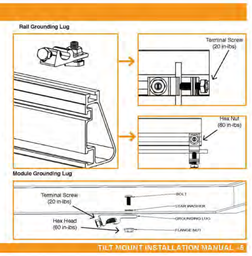
➢ **Grounding Lugs are intended to for use with one solid or stranded copper wire, conductor size 10-4 AWG.**

Rail Grounding Lug
Insert T-bolt in Top Rail slot and torque Hex Nut to **80 in-lbs**. Install a minimum 10 AWG solid copper or stranded grounding wire. Torque terminal screw to **20 in-lbs**.

➢ **Rail Grounding Lugs can be installed anywhere along the Rail and in either orientation shown.**

Module Grounding Lug
Insert Bolt through Module Manufacturer approved grounding location and torque Hex nut to **60 in-lbs.** One Module Grounding Lug may be installed to one module per continious array. Install a minimum 10 AWG solid cooper or stranded grounding wire. Torque terminal screw to **20 in-lbs**.

➢ **If using Enphase microinverters or Sunpower AC modules, Grounding Lugs may not be needed. See Page 11 for more info.**
➢ **Refer to module manufacturer manual for grounding instructions.**



5. SECURE MODULES

A. SECURE FIRST END

Place first module in position on rails, a minimum of 1" from rail ends. Snap Stopper Sleeves onto UFO. Fasten the module to the rail with the UFO, ensuring that the UFO is hooked over the top of the module. Torque to **80 in-lbs**.

➢ **Ensure rails are square before placing modules.**

➢ **Hold Stopper Sleeves on end while torquing to prevent rotation.**

➢ **If using CAMO instead of UFO + Stopper Sleeve, refer to Page 7 for CAMO installation procedure.**

➢ **UFO can be installed on modules 30 to 46mm.**

B. SECURE NEXT MODULES

Place UFO into each rail, placing them flush against first module. Slide second module against the UFO. Torque to **80 in-lbs**. Repeat for each following module.

➢ **When reinstalling UFO, move modules a minimum of 1/16" so UFOs are in contact with a new section of module frame.**

➢ **When UFOs are loosened and re-tightened, ensure UFO T-bolt bottoms out in rail channel before re-torquing UFO to achieve full engagement between T-bolt and rail.**

➢ **If using Wire Clips, refer to Page 10.**

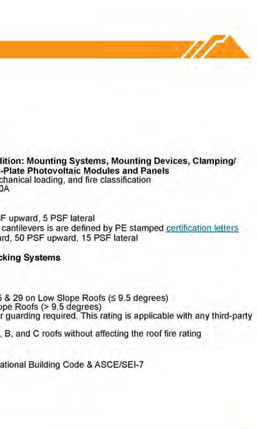
C. SECURE LAST END

Place last module in position on rails, a minimum of 1" from rail ends. Snap Stopper Sleeves onto UFO. Secure UFO on rail, ensuring it is hooked over the top of the module. Torque to **80 in-lbs**.

➢ **Hold Stopper Sleeves on end while torquing to prevent rotation.**

➢ **Repeat all steps for each following row of modules, leaving a minimum 3/8" gap between rows.**

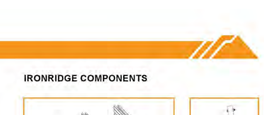
➢ **If using CAMO instead of UFO + Stopper Sleeve, refer to Page 7 for CAMO installation procedure.**



CAMO

A. SLIDE INTO RAIL

Slide CAMO into rail channel far enough to clear the module frame. CAMO requires 6" of clearance from end of rail.



B. PLACE MODULE

Place module on rails (module cells not shown for clarity). When installing CAMO the module can overhang the rail no more than 1/4".

C. PULL TOWARDS END

Pull CAMO towards rail ends, at 45 degree angle, so the bonding bolt contacts the module flange edge.

D. SECURE TO FRAME

Rotate handle with an upwards motion until CAMO snaps into rail channel. Ensure CAMO bonding pins are fully seated on top of module frame.

FRAME COMPATIBILITY

CAMO has been tested or evaluated with all modules listed in the Module Compatibility section having frames within the referenced dimensions. Be sure the specific module being used meets the dimension requirements.

➢ **For installations with Hanwha Q CELLS modules with 32 mm frame heights, the maximum ground snow is 45 PSF (33 PSF module pressure).**

➢ **CAMO is only compatible with Canadian Solar modules CS1YxxxMS, CS3N-xxxMS, CS6R-xxxMS-HL and CS6W-xxxxMB-AG. "xxx" refers to the module power rating.**

SOLIRVINE

Confidentiality Statement:
This drawing is the property of SOL IRVINE. This information is confidential and is to be used only in connection with work described by SOL IRVINE. No part is to be disclosed to others without written permission from SOL IRVINE

SOL IRVINE
LIC # C46 - 1050892
EXP: 3/31/2025

X _____

Imperial Plaza Comm

5720 Imperial Hwy,, South Gate, CA 90280

No.	Description	Date

CLIENT APPROVAL

X _____
Client Initials

SOL IRVINE

Spec Sheets

SP105

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To scale on 24x36 paper

EXPANSION JOINTS

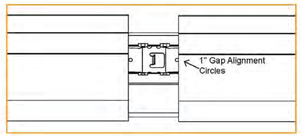
Expansion Joints are required every 100' of continuous rail to allow for thermal expansion and contraction of the system.

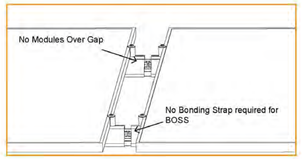
- Do not install modules over expansion joints.

BOSS

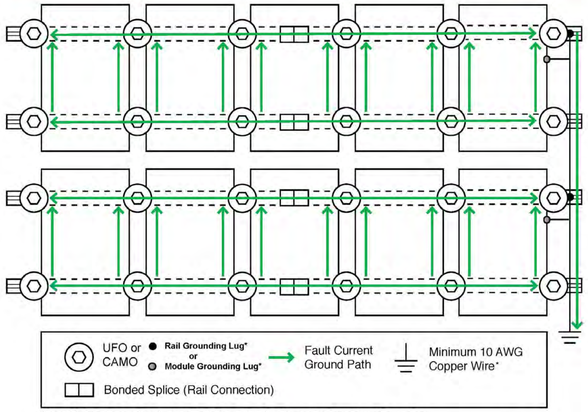
Insert BOSS into first Rail up to the Alignment Circle, Slide second Rail over BOSS to the second Alignment Circle, leaving a 1" gap between the Rails.

There must be a 1" of space between the edge of the Rail and the edge of the panel to allow proper installation of the UFO and Stopper Sleeve.

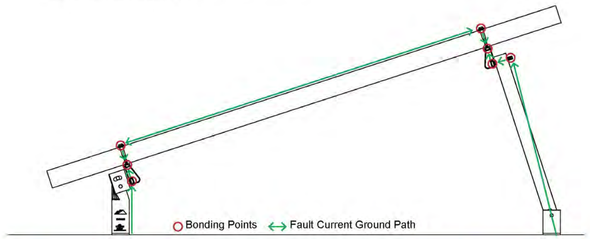




ELECTRICAL DIAGRAM



*One Module Grounding Lug or Rail Grounding lug is required per row of a system.
Grounding Lugs and wire are not required in systems using certain Enphase microinverters or certain Sunpower modules. Equipment grounding is achieved with the Engage cable for Enphase or the AC module cable system for Sunpower via their integrated EGC.

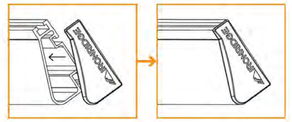


END CAPS

End Caps add a completed look and keep debris and pests from collecting inside rail.

Firmly press End Cap onto rail end.

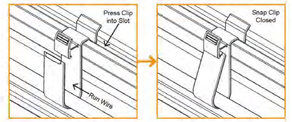
- **End Caps come in sets of left and right. Check that the proper amount of each has been provided.**
- **For open-structure installations, you can use adhesive to secure the End Caps.**



WIRE CLIPS

Wire Clips offer a simple wire management solution.

Firmly press Wire Clip into top rail slot. Run electrical wire through open clip. Snap closed once all wires have been placed.



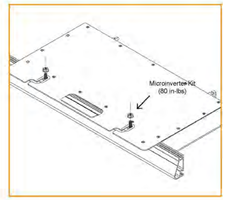
SYSTEMS USING MICROSTORAGE PRODUCTS

Use IronRidge's Microinverter Kit to bond compatible microstroage devices to the racking system. Insert Microinverter Kit T-bolt into top rail slot. Place compatible microstorage into position and tighten hex nut to **80 in-lbs**.

COMPATIBLE PRODUCTS

PHAZR
PHAZR Devices PHAZR-X, where X is 6-12.

- **Running a separate equipment grounding conductor to the PHAZRs is not required.**
- **If installing in areas with ground snow loads greater than 40 psf and underneath a module, install PHAZR devices as close as possible to module frame edge.**
- **Use the number of IronRidge Microinverter kits allowed by the MLPE mounting flange. Some will require 1 kit and others 2 kits.**



MICROINVERTER KITS

Use IronRidge's Microinverter Kit to bond compatible microinverters and power optimizers to the racking system.

Insert Microinverter Kit T-bolt into top rail slot. Place compatible microinverter or power optimizer into position and tighten hex nut to **80 in-lbs**.

- **If installing in areas with ground snow loads greater than 40 psf, install MLPE devices directly next to module frame edge**

COMPATIBLE PRODUCTS

Enphase
M250-72, 250-60, M215-60, C250-72, S230, S280, IQ 6, IQ 6+, IQ IQ7, IQ 7A, IQ 7+, IQ7 PD, IQ 7X, Q Aggregator; IQ8-60, IQ8PLUS-72, IQ8A-72, IQ8H-208-72, IQ8H-240-72, IQ8M-72, may be followed by -2-US

Darfon
MIG240, MIG300, G320, G640

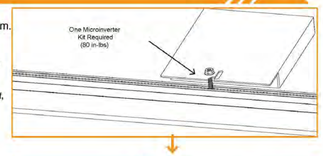
Solar Edge
M1600, P300, P320, P340, P370, P400, P401, P405, P485, P505, P600, P700, P730, P800p, P800s, P801, P850, P860, P950, P960, P1100, P1101, S440, S500

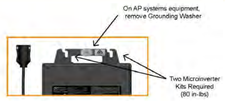
SMA
RoofCommKit-P2-US, TS4-R Module Retrofit Kits (TS4-R-S, TS4-R-O, TS4-R-F)

Tigo
Tigo Access Point (TAP)
TS4-R-X (where X can be F, M, O, or S)
TS4-R-X-DUO (where X can be M, O, or S)
TS4-A-X (where X can be F, 2F, O, O-DUO, or S)

Generac
S2502

AP Systems
QS1, YC600





- **Remove Grounding Washer on AP Systems QS1 and YC600 inverters before installing to XR rails.**
- **Remove the Stainless Steel Clip on Tigo-"A" MLPE Devices before attaching to XR rails.**
- **Use the number of IronRidge Microinverter kits allowed by the MLPE mounting flange. Some will require 1 kit and others 2 kits.**

SYSTEMS USING ENPHASE MICROINVERTERS OR SUNPOWER AC MOD-

IronRidge systems using approved Enphase products or SunPower modules eliminate the need for lay-in lugs and field installed equipment grounding conductors (EGC). This solution meets the requirements of UL 2703 for bonding and grounding and is included in this listing.

COMPATIBLE PRODUCTS

Sunpower
Modules with model identifier Ab-xxx-YY and InvisiMount (G5) 46mm frame; where "A" is either E, or X; "b" can be 17, 18, 19, 20, 21, or 22; and "YY" can be C-AC, D-AC, BLK-C-AC, or BLK-D-AC.

Enphase
Microinverters M250-72, M250-60, M215-60, C250-72, and Engage cables ETXX-240, ETXX-208, ETXX-277.

- **A minimum of two inverters mounted to the same rail and connected to the same Engage cable are required.**
- **The microinverters or Sunpower AC modules must be used with a maximum 20 A branch rated overcurrent protection device (OCPD).**
- **If an AC module is removed from a circuit for maintenance, you must first disconnect AC power and then install a temporary EGC to bridge the gap by inserting an AC extension cable (or via other NEC-compliant means), in order to maintain effective ground continuity to subsequent modules.**

FRAMELESS MODULE KITS

Insert Frameless Kit T-bolt in top rail slot. Place star washer over T-bolt, allowing it to rest on top of rail. Secure module clamps with a hex nut and torque to **80 in-lbs**.

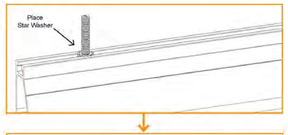
COMPATIBLE PRODUCTS

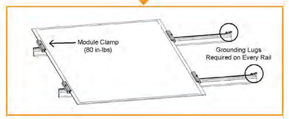
Sunforson
Sunforson silver or black SFS-UTMC-200(B) mid and SFS-UTEC-200(B) end clamps.

Sunpreme
Sunpreme silver or black mid and end clamps with part numbers 7500105X where "X" is 1, 5, 6 or 7.

Ironridge
IronRidge silver or black mid and end clamps with part numbers FMLS-XC-001-Y where "X" is E or M and "Y" is B or blank.

- **Follow module manufacturer's installation instructions to install the module clamps.**
- **Frameless modules require using a Grounding Lug on every rail.**
- **For Sunpreme Modules Only: If required to use slide prevention hardware, see Module Slide Prevention Addendum (Version 1.10).**





MODULE COMPATIBILITY

Sunpower	Sunpower standard (G3 or G4) or InvisiMount (G5) 35 and 40mm frames SPR-Zb-xxx-YY Where "Z" can be A, E, M, P or X; "b" can be blank, 17, 18, 19, 20, 21, or 22; and "YY" can be blank, BLK, COM, C-AC, D-AC, E-AC, BLK-E-AC, G-AC, BLK-G-AC, H-AC, BLK-H-AC, BLK-C-AC, or BLK-D-AC
Sunspark	Sunspark modules with 40 mm frames SYY-xxxZ-A Where "YY" can be MX or ST; and "Z" can be M, MB, M3, M3B, P or W, and "A" can be 60 or 72
Suntech	Suntech modules with 35 and 40mm frames STPxxxy-zz/aa Where "y" is blank or S; and "zz" can be 20, 24, A60, A72U, B60 or B72; and "aa" can be Vd, Vem, Vfw, Vfh, Vnh, Wdb, Wde, Wd, Wfhb or Wnhb
Talesun	Talesun modules with 30, 35 and 40mm frames TAByZZaa-xxx-b Where "A" can be D or P; "B" can be 6 or 7; "y" can be blank, F, G, H, I or L; "ZZ" can be 54, 60, 66, 72 or 78; "aa" can be M, M(H), or P; and "b" can be blank, B, T, or (H)
Tesla	Tesla modules with 40 mm frames TxxxY Where "Y" can be H or S
Trina	Trina modules with 30, 35 and 40mm frames TSM-xxxYYZZ Where "YY" can be DD05, DD06, DD14, DE14, DE15, DE15V, DEG15, DEG15VC, DE18M, DEG18MC, DE09, DE19, DEG19C.20, DE06X, PA05, PC05, PD05, PD06, PA14, PC14, PD14, PE14, or PE15 ; and "ZZ" can be blank, .05, .05(II), .08, .08(II), .10, .18, .08D, 18D, 0.82, .002, .00S, 05S, 08S, .20(II), A, A.05, A.08, A.10, A.18, (II), A(II), A.05(II), A.08(II), A.082(II), A.10(II), A.18(II), C.05, C.07, C.05(II), C.07(II), H, H(II), H.05(II), H.08(II), HC.20(II), HC.20(II), M, M(II), M.05(II), MC.20(II)
Universal	Universal Solar modules with 35mm frames UNI-xxx-yyyZZZ-aa Where "yyy" can be 108, 120 or 144; "ZZZ" can be M, MH, BMH; and "aa" can be blank, BB or DG
URE	URE modules with 35 mm frames DyZxxxaa Where "D" can be D or F, "y" can be A, B, 6 or 7; "Z" can be K or M; and "aa" can be C8G, H3A, H4A, H8A, E7G-BB, E8G, E8G-BB or MFG-BB
Vikram	Vikram solar modules with 35 and 40 mm frames XVSyy ZZ.AAA.bb Where "X" can be blank, Paradea, Prexos or Somera; "yy" can be M, P. MBB, MDH, MDHT, MH, MS, MHBB, or PBB; "ZZ" can be 60 or 72; "AAA" is the module power rating; and "bb" can be 03, 04 or 05
VSUN	VSUN modules with 30, 35 and 40 mm frames VSUNxxx-YYz-aa Where "YY" can be 60, 72, 108, 120, 132 or 144; "z" can be M, P, MH, PH, or BMH; and "aa" can be blank, BB, BW, or DG
Waaree	Waaree modules with 35 and 40mm frames AAyy-xxx Where "AA" canbe WS or Bi; and "yy" can be blank, M, MB, 55 or 66
Winaico	Winaico modules with 35 and 40 mm frames Wsy-xxxZa Where "y" can be either P or T; "Z" can be either M, P, or MX; and "a" can be blank or 6
Yingli	Yingli modules with 35 and 40 mm frames YLxxxZ-yy Where "Z" can be D or P; "yy" can be 29b, 30b, 34d, 35b, 36b or 40d
Yotta	Yotta modules with 30 and 35mm frames YSM-Bxxx-ZZ-72-1 Where "ZZ" can be 06 or 10
Zeus	Zeus Solar Modules with 40mm frames ZxxxM-HB
ZN Shine	ZN Shine modules with 35mm frames ZXMY-AAA-xxx/M Where "Y" can be 6, 7 or 8; "AAA" can be 72, NH120, NH144, NHDB144, NHLDD144, SH144, SHDB144, SHLDD144 or TP120

SOLIRVINE

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SOL IRVINE
LIC # C46 - 1050892
EXP: 3/31/2025

X_____

CLIENT APPROVAL

X_____
Client Initials

Imperial Plaza Comm

5720 Imperial Hwy., South Gate, CA 90280

No.	Description	Date

SOL IRVINE

Spec Sheets

SP106

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To scale on 24x36 paper

SOUTH GATE PRESS

1007 N SEPULVEDA BLVD STE 1357, MANHATTAN BEACH, CA 90266
Telephone (323) 556-5720 / Fax (213) 834-0584

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Office of the
South Gate City Clerk

OCT - 7 2024

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Yodit Glaze, City Clerk
CITY OF SOUTH GATE /CITY CLERK
8650 CALIFORNIA AVE
SOUTH GATE, CA - 90280

WWA#: 3858058

PROOF OF PUBLICATION

(2015.5 C.C.P.)

State of California)
County of LOS ANGELES) ss

Notice Type: HRG - NOTICE OF HEARING

Ad Description:
CUP 24-32: New Installation of solar panel system

I am a citizen of the United States and a resident of the State of California; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer and publisher of the SOUTH GATE PRESS, a newspaper published in the English language in the city of SOUTH GATE, county of LOS ANGELES, and adjudged a newspaper of general circulation as defined by the laws of the State of California by the Superior Court of the County of LOS ANGELES, State of California, under date 04/19/1929, Case No. 273415. That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

10/03/2024

Executed on: 10/03/2024
At Los Angeles, California

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Signature

* A 0 0 0 0 0 6 8 8 2 8 6 8 *

Email

NOTICE OF PUBLIC HEARING
PLANNING COMMISSION
OF THE CITY OF SOUTH GATE, CALIFORNIA
(REGULAR MEETING)

NOTICE IS HEREBY GIVEN that the Planning Commission of the City of South Gate will hold a Public Hearing at **6:30 PM on Tuesday, October 15, 2024**, in the Council Chamber at South Gate City Hall, 8650 California Avenue, South Gate, California.

Members of the public wishing to observe this meeting may attend in-person or view meeting live at HTTPS://YOUTUBE.COM/@SOUTHGATECA90280. For updated information regarding the October 15, 2024, Planning Commission meeting please visit the City's website at www.cityofsouthgate.org/AgendaCenter regarding the following items:

1. Conditional Use Permit (CUP 24-32): New installation of a solar panel system (327 modules) to be mounted on the roof of an existing multi-tenant commercial building located at 5720 Imperial Highway, in Hollydale Village Specific Plan Hollydale Mixed Use-3 (HMU3) zone.

All parties wishing to speak for or against the matter should attend the public hearing and express their thoughts on the proposed project. Any person desiring to provide written comments on this matter must do so prior to or at the public hearing. Written comments can be sent via U.S. Mail, or by hand delivery, to the Planning Division, 8650 California Avenue, South Gate, CA 90280, prior to said public hearing. For further details, contact Rebecca Contreras, Contract Planner, at rcontreras@sogate.org.

NOTICE IS FURTHER GIVEN that in accordance with the California Environmental Quality Act (CEQA), The City of South Gate Determine that this project qualifies for a Categorical Exemption under CEQA Guidelines Section 15301, (Class 1) "Existing Facilities", in that the project involves no expansion to an existing commercial building, and thereby is exempt from CEQA.

Pursuant to Government Code Section 65009, if you challenge the items listed above in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Planning Commission at or prior to the public hearing.

THE PLANNING COMMISSION
Jimmy Ozaeta, Chairperson
Posted:
October 3, 2024
South Gate City Hall
Información en español acerca de esta junta puede ser obtenida llamando al 323-563-9564.
10/3/24
WWA-3858058#
SOUTH GATE PRESS

Office of the
South Gate City Clerk

SEP 30 2024

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THE PLANNING COMMISSION
Jimmy Ozaeta, Chairperson

Posted: **October 3, 2024**
South Gate City Hall

Información en español acerca de esta junta puede ser obtenida llamando al 323-563-9564.

ACTION MINUTES OF THE REGULAR MEETING
OF THE SOUTH GATE CITY PLANNING COMMISSION
TUESDAY, AUGUST 6, 2024

CALL TO ORDER
The Planning Commission of the City of South Gate met in-person and live at:
HTTPS://YOUTUBE.COM/@SOUTHGATECA90280 on August 6, 2024, at 6:33 PM, Chairperson Ozaeta presiding.

PLEDGE OF ALLEGIANCE

ROLL CALL

Commissioners Present:	Chairperson Ozaeta, Vice Chairperson Jovanna Laborin, Commissioners Delgado, Prieto and Perez
Staff Present:	Meredith T. Elguira, Director of Community Development Craig Hardwick, City Attorney Rebecca Contreras, Contract Planner Rodrigo Pelayo, Senior Planner Jose Montano, Acting Administrative Services Coordinator

REPORT ON POSTING AND MEETING COMPENSATION DISCLOSURE

OPEN SESSION ITEMS

1. **Planning Commission Minutes**
   Minutes from April 16, 2024

ACTION: Approved 5-0. Motion by Commissioner Perez. Seconded by Vice Chair Laborin.

COMMISSIONER	VOTE
Jimmy Ozaeta	Yes
Jovanna Laborin	Yes
Lizette Ruiz	Yes
Daisy Prieto	Yes
Jenny Perez	Yes

2. **THE PLANNING COMMISSION WILL REVIEW AND SELECT 10 HOMES THAT WERE NOMINATED FOR THE CITY'S HOME RECOGNITION PROGRAM.**

Director Meredith Elguira provided an overview of the program and introduced the presenter.
Presentation by Jose Montano, Administrative Services Coordinator
Planning Commissioners provided their 10 recommendations to staff to be

presented to the City Council.

3. THE PLANNING COMMISSION WILL CONSIDER FOR A REQUEST FOR AFTER THE FACT APPROVAL OF A SIGN PERMIT TO ALLOW A MURAL PAINTING ON A PROPERTY LOCATED AT 3801 TWEEDY BOULEVARD.

Rebecca Contreras, Contract Planner presented the project mural.
Maria Madrigal Liscua, spoke in support of the artist and the mural.
Olga Carillo, mother of Vincent Nava, the deceased subject painted in the mural, spoke in support of the mural.
Leobardo Traviso Jr., the artist behind the mural spoke in support of the mural and provided his background.
Mario Dominguez Jr., a resident of South Gate asked about the process of approving murals and suggested that an oversight and a formal process be established.
Adrian Little, a resident of South Gate spoke in support of the mural and in support of having community engagement in the process.
Director Elguira stated that two emails were received from Mr. Dominguez Jr., but he preferred to speak to the Planning Commissioners. She also explained the regulations on murals and signs.
Assistant City Attorney, Craig Hardwick, stated that there are constitutional restrictions on content regulations of murals and explained that the mural met the requirements of the City's Municipal Code.
Discussion ensued.

ACTION: Approved to Receive and File 5-0.
Motion by Commissioner, Perez. Seconded by Commissioner Prieto.

COMMISSIONER	VOTE
Jimmy Ozaeta	Yes
Jovanna Laborin	Yes
Jose Delgado	Yes
Daisy Prieto	Yes
Jenny Perez	Yes

AUDIENCE COMMENTS

Mario Dominguez Jr. requested to meet with Commissioner Perez to discuss Metro's Long Beach East LA Corridor Mobility Investment Plan. He also stated that he would like to have the call-in feature and requested for the Planning Commissioner's support.
Maria Madrigal Liscua stated that she would volunteer to receive applications involving art projects.

CITY STAFF COMMENTS

Director Elguira welcomed Commissioner Ruiz. She also announced the Special City Council Meeting to be held on August 21, 2024, regarding the study that was conducted after the removal of the 15,000 SF cap on warehouse use.

PLANNING COMMISSION COMMENTS

Vice Chair Laborin explained that calls during the public meetings are difficult to understand and encouraged the public to attend the meetings in person.

ADJOURNMENT

The meeting was adjourned at 7:51 PM.

Respectfully submitted by:

_____

Meredith T. Elguira, Director of Community Development

APPROVED:

_____

Jimmy Ozaeta, Chairperson