CITY COUNCIL MEETING AGENDA
TUESDAY DECEMBER 3, 2024

******SPECIAL MEETING - TRUTH IN TAXATION 6:00 PM******

1. Call to Order

2. Truth in Taxation Hearing.

3. Adjourn.

CITY COUNCIL MEETING TIME: 6:30 PM

1. Call to Order

2. Pledge of Allegiance

3. Roll Call

4. ****Consent Agenda****

All items listed under Consent Agenda are considered to be routine by Council and will be acted on by one motion. There will be no separate discussion of these items. If discussion is desired, that item will be removed from the Consent Agenda and will be considered separately.

   a. Approval of City Council Minutes from the November 19, 2024, Regular City Council Meeting.
   b. Approval of Accounts Payable (Batch # 1; Checks Numbered 23272-23283, Batch # 2; Checks Numbered 23284-23290).
   c. Agriculture Preserve Renewal Application – James and Roberta Meehan
      i. PID No. 20-118-24-43-0004
      ii. PID No. 29-118-24-12-0002

5. Set Agenda – Anyone Not on the Agenda can be Placed Under Open/Misc.

6. Reports of Boards and Committees by Council and Staff.

7. Consider Adoption of the Final 2025 Tax Levy and General Fund Budget and Associated Actions.

   a. **RESOLUTION 24-1203-01 –** Adopting the 2025 General Fund Budget.

   b. **RESOLUTION 24-1203-02 –** Adopting the 2025 General Tax Levy.

c. **RESOLUTION 24-1203-03 –** Adopting the 2025 Pioneer Sarah Creek Watershed Management Commission Tax Levy.

8. Amy Pelowski (Applicant) and Jeremiah Staples (Owner) are requesting the following action for the property located at 25 Game Farm Road (PID No. 33-118-24-44-0005) in the City of Independence, MN.

    a. **RESOLUTION 24-1203-04 –** Considering a conditional use permit to allow a 500 SF ground mounted solar system that meets all applicable requirements of the City's Solar Energy System Ordinance.

9. Jon Dailing/Windsong Farm Golf Club (Applicant) and David Meyer (Owner) are requesting the following action for the properties generally located at 18 Golf Walk and 550 CSAH 92 N. (PID No.s 32-118- 24-13-0001, 32-118-24-42-0001, 32-118-24-24-0001, 32-118-24-31-0002, 32-118-24-42-0030, 32-118-24-43-0002, 32-118-24-42-0031, 32-118-24-42-0029, 32-118-24-42-0025, 32-118-24-42-0036, 32-118-24-34-0001 and 32-118-24-31-0001) in the City of Independence, MN:

    a. **RESOLUTION 24-1203-05 –** Considering a conditional use permit amendment to allow a modification to the vehicle parking area for the out-of-town member guest house and amendment to the approved conditions for use of the house in association with the private golf club.

10. Annual Opportunity for Public Comment on MS4 Permit.

    a. This is an opportunity for interested citizens to comment on the city's Storm Water Pollution Prevention Program (SWPPP) which is a part of the City's MS4 Permit.

11. Discussion Regarding the Ordinary High Water Level (OHWL) for Lake Independence:

    a. Lake Independence Citizens Association (LICA), Pioneer Sarah Creek Watershed Management Commission (PSCWMC) and the Department of Natural Resources (DNR) have been discussing the status of the OHWL for Lake Independence. The city is being asked to support further study and analysis of the OHWL for Lake Independence.

12. Open/Misc.

13. Adjourn.

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      ii. PID No. 29-118-24-12-0002

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   b. **RESOLUTION 24-1203-02 –** Adopting the 2025 General Tax Levy.

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12. Open/Misc.

13. Adjourn.

City of Independence

2025 Final Budget and Levy Discussion

To:	City Council
From:	Mark Kaltsas, City Administrator
Meeting Date:	December 3, 2024

Discussion:

Council adopted a preliminary budget and corresponding tax levy for 2025 at the end of September. Since that time, Council has met with staff and further reviewed the budget and considered making adjustments and changes which support all city operations for 2025. For the past eight years, Council has directed staff to prepare a budget using a flat tax rate of ~40% with no increase in applicable City tax rate. As a result of long-range planning, efficient and responsible budgeting, as well as market value increases realized by most properties in the metropolitan area, Independence is going to be able to again reduce the City's applicable tax rate (from ~31.47% to 31.21%). The preliminary operating levy has an estimated increase of ~6 %. The city estimates anticipated costs related to operations when setting the preliminary levy and will continue to review and refine the final budget prior to adopting a final levy in December. The projected increases in the total levy will accommodate the costs associated with providing emergency/police services, increases in funding for gravel road reconstruction and increased maintenance and general increases to the costs of providing services. The city's financial consultant and staff have prepared a preliminary budget which reflects an overall increase of or $260,893.

Tax Levy Summary

Overall, the tax levy includes levies for general operations, city infrastructure and debt services. The 2025 and 2024 budgeted tax levies are listed below.

	2024 Budget	Proposed Budget	Increase (Decrease)	% Change
General	$ 3,523,646	$ 3,784,539	$ 260,893	7.40%
Debt Service				
2010 GO Improvement Bonds	16,382	13,883	(2,499)	-15.25%
2015 GO Tax Abatement Bonds	175,678	177,148	1,470	0.84%
2020A GO Bonds	124,837	123,577	(1,260)	-1.01%
Total City Operating Levy	$ 3,840,543	$ 4,099,148	$ 258,605	6.73%
Pioneer/Sarah Watershed Taxing District	$ 71,123	$ 72,194	$ 1,071	1.51%

Several highlights of the draft preliminary budget are as follows:

- The city budget includes initial public safety projected budgets which have been prepared by all public safety entities serving the city. The preliminary proposed 2025 public safety and fire contract amounts are as follows:

	2025	2024	2023	2022
Maple Plain Fire:	**$255,624**	$281,458	$243,444	$230,000
Loretto Fire:	**$131,171**	$109,247	$105,783	$93,605
WHPS:	**$1,693,734**	$1,550,160	$1,491,688	$1,314,399

- The City is proposing to maintain the PW capital equipment contribution for 2025 of $75,000. This will allow the City to continue to fund all PW capital purchases with cash.

- The budget reflects a 3% cost of living increase. It should be noted that health insurance costs are estimated to be increasing by ~12%. The City is looking at how the current benefits stipend relates to the increased insurance costs and may recommend an additional adjustment.

- The City has a capital road improvement plan that includes seal coating and gravel road tiling. The city has now finalized a 5-year gravel road improvement plan to improve all gravel roads in the city by 2030. The city has allocated an additional $100,000 per year to realize the capital plan.

The final levy is required to be set prior to December 30, 2024. The City can adopt a final levy that is less than the preliminary but cannot increase the final levy above the preliminary levy amount.

Council Direction:

The City Council is being asked to consider approval of **RESOLUTION 24-1203-01**, **RESOLUTION 24-1203-02** and **RESOLUTION 24-1203-03** approving the final city budget and levies for 2025.

Attachments: **RESOLUTION 24-1203-01**
RESOLUTION 24-1203-02
RESOLUTION 24-1203-03
ABDO Memorandum with Final Budget and Levy Memorandum and Budgets

RESOLUTION OF THE
CITY OF INDEPENDENCE
HENNEPIN COUNTY, MINNESOTA

RESOLUTION NO. 24-1203-01

RESOLUTION APPROVING 2025 GENERAL FUND BUDGET

WHEREAS, it is the practice of the City of Independence to create and adopt a General Fund Budget; and

WHEREAS, the City Council for the City of Independence has determined to create a balanced budget; and

WHEREAS, the City Council has determined that the 2025 General Fund Budget will call for revenues and expenditures of **$3,784,539.00**; and

WHEREAS, the proposed 2025 General Fund Budget meets the criteria of a balanced budget,

NOW, THEREFORE, BE IT RESOLVED, that the Independence City Council hereby adopts the General Fund Budget for 2025.

	2025 Final Budget
General Fund	**$ 3,784,539.00**

This resolution was adopted by the City Council of the City of Independence on this 3rd day of December 2024, by a vote of _____ayes and_____nays.

_____
Marvin Johnson, Mayor

ATTEST:

_____
Mark Kaltsas, City Administrator

RESOLUTION OF THE
CITY OF INDEPENDENCE
HENNEPIN COUNTY, MINNESOTA

RESOLUTION NO. 24-1203-02

RESOLUTION APPROVING 2025 FINAL PROPERTY TAX GENERAL LEVY

WHEREAS, the City of Independence is required by State law to approve a resolution setting forth an annual tax levy to the Hennepin County Auditor; and

WHEREAS, Minnesota Statues require approval of a final property tax levy and final budget on or before the fifth business day following the 20th of December of each year; and

BE IT RESOLVED that the City Council of the City of Independence, Hennepin County, Minnesota, that the following sums of money be levied for collection in 2025 upon the table property in said City of Independence for the following purposes:

	2025 Final Budget
General Fund	$ 3,784,539
Debt Service	
2010 GO Improvement Bond, Lindgren Lane	$ 13,883
2015 GO Tax Abatement Bonds	$ 177,148
2020A GO Bonds	$ 123,577
Total City Operating Levies	**$ 4,099,148**

BE IT FURTHER RESOLVED that the City Administrator is hereby authorized and directed to transmit this information to the County Auditor of Hennepin County, Minnesota and the Minnesota Department of Revenue, if applicable, in the format requested as required by law.

This resolution was adopted by the City Council of the City of Independence on this 3rd day of December 2024, by a vote of _____ayes and_____nays.

_____
Marvin Johnson, Mayor

ATTEST:

_____
Mark Kaltsas, City Administrator

RESOLUTION OF THE
CITY OF INDEPENDENCE
HENNEPIN COUNTY, MINNESOTA

RESOLUTION NO. 24-1203-03

RESOLUTION APPROVING 2025 PIONEER CREEK WATERSHED MANAGEMENT COMMISSION TAX LEVY

WHEREAS, the City of Independence is required by State law to approve a resolution setting forth an annual tax levy to the Hennepin County Auditor; and

WHEREAS, Minnesota Statues require approval of a final property tax levy and final budget on or before the fifth business day following the 20th of December of each year; and

BE IT RESOLVED that the City Council of the City of Independence, Hennepin County, Minnesota, that the following sums of money be levied for collection in 2025 upon the table property in said City of Independence for the following purposes:

Pioneer/Sarah Watershed Commission Taxing District **$. 72,194.00**

BE IT FURTHER RESOLVED that the City Administrator is hereby authorized and directed to transmit this information to the County Auditor of Hennepin County, Minnesota and the Minnesota Department of Revenue, if applicable, in the format requested as required by law.

This resolution was adopted by the City Council of the City of Independence on this 3rd day of December 2024, by a vote of _____ayes and_____nays.

_____
Marvin Johnson, Mayor

ATTEST:

_____
Mark Kaltsas, City Administrator

BUDGET MEMO

TO: CITY ADMINISTRATOR

FROM: ABDO FINANCIAL SOLUTIONS, LLC

SUBJECT: 2025 BUDGET POINTS MEMO

DATE: NOVEMBER 27, 2024

Introduction

Upon your request, we have summarized the 2025 Budget highlights below.

Budget Format

The 2025 Budget included the Council approved priorities for each department. These will continue to be reviewed and updated as needed.

Key Items in this Year's Budget

- The general fund tax levy increased $260,893 or 7.40% over prior year. The tax rate calculates to 31.21%. Prior year's tax rate was 31.47%. Some factors in the change are described below.
- Police protection increased $143,574 or 9.24% from the 2024 budget.
- Fire services were decreased by $12,754 or 3.20% from the 2024 budget.
- Streets increased by $208,685 or 28.55% due to additional funding received from the state.
- Elections decreased by $8,532 or 100% due to no elections being held in 2025.
- Building inspection increased by $25,780 or 17.03% due to increased hours budgeted.

Taxation Notification Summary Chart for Taxes Payable 2024

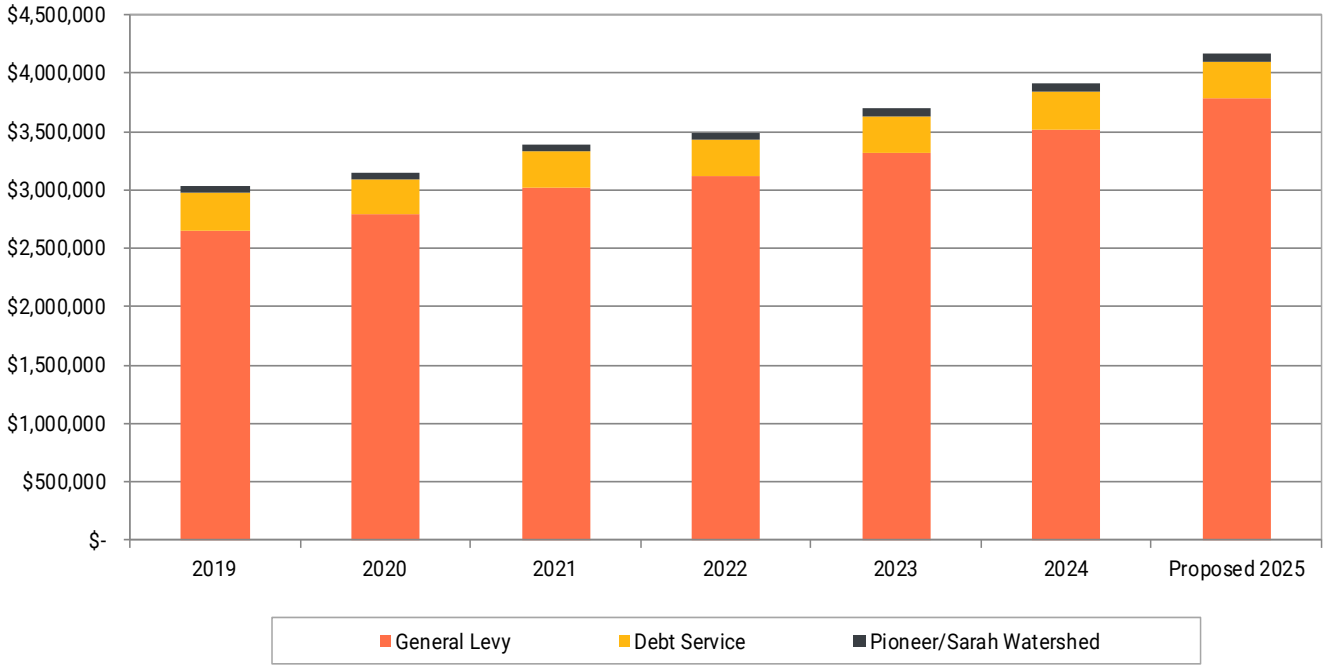
Due Date	EDA and City Levy Process
9/30/2024	The EDA must pass a resolution authorizing the proposed 2025 EDA levy
9/30/2024	The City must pass a resolution and file with the County the exact amount of the proposed 2025 City levy. The due date of the City property tax levy is September 30, 2024.
9/30/2024	At one meeting, the City Council adopts the proposed property tax levy and announces the time and place of a future City Council meeting at which the budget and levy will be discussed and public input allowed, prior to final budget and levy determination. This public input meeting must occur after November 24, 2024 and must start at or after 6:00 PM. The time and place of the public input meeting must be included in the minutes but newspaper publication of the minutes is not required. This information must be filed with the County Auditor.
11/24/24 - 12/30/24	EDA must pass a resolution approving the 2025 EDA levy
11/24/24 - 12/30/24	City must pass a resolution approving the 2025 City levy
11/24/24 - 12/30/24	City Council must hold a meeting to discuss the budget and property tax levy and, before a final determination, all public input.
12/30/24	City must file the certificate of compliance (form TNT-2014) with the Department of Revenue by December 30, 2024.

Tax Levy Summary

Overall, the tax levy includes levies for general operations, city infrastructure and debt services. The 2025 and 2024 budgeted tax levies are listed below.

	2024 Budget	Proposed Budget	Increase (Decrease)	% Change
General	$ 3,523,646	$ 3,784,539	$ 260,893	7.40%
Debt Service				
2010 GO Improvement Bonds	16,382	13,883	(2,499)	-15.25%
2015 GO Tax Abatement Bonds	175,678	177,148	1,470	0.84%
2020A GO Bonds	124,837	123,577	(1,260)	-1.01%
Total City Operating Levy	$ 3,840,543	$ 4,099,148	$ 258,605	6.73%
Pioneer/Sarah Watershed Taxing District	$ 71,123	$ 72,194	$ 1,071	1.51%

Levy Summary 2019 to 2025 Projected



Summary of the City's Tax Capacity

The estimated tax capacity increased 7.44% for 2025.

A comparison of the current year tax capacity compared to the prior three years and the overall percentage change for the county is listed below:

	2021 Pay 2022	2022 Pay 2023	2023 Pay 2024	Estimated 2024 Pay 2025	% Change	% Change (County-wide)
Commercial/Industrial	$ 354,991	$ 392,516	$ 616,176	$ 710,868	15.37%	-0.42%
Residential	7,249,137	8,936,700	9,847,274	10,542,586	7.06%	0.33%
Farm	992,826	1,226,914	1,406,315	1,499,986	6.66%	1.42%
Total	$ 8,596,954	$ 10,556,130	$ 11,869,765	$ 12,753,440	7.44%	-0.44%

The current tax capacity and historical tax capacity rates are summarized below for Independence and three relatively comparable Hennepin County Cities. The major difference between Independence and the three comparable cites is the large commercial tax base.

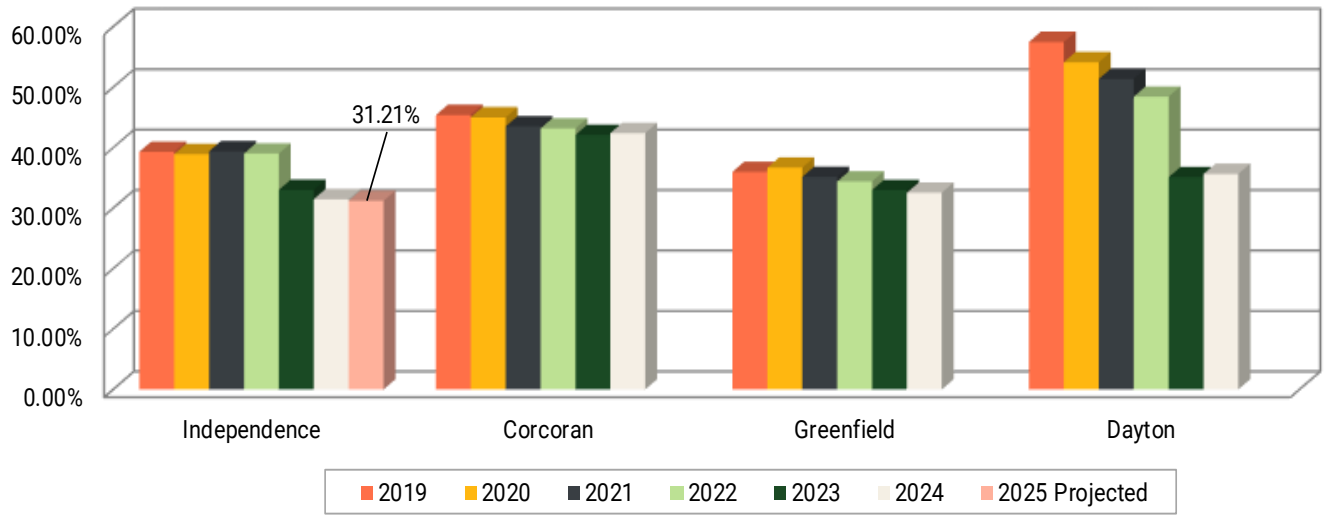
Tax Capacity by Property Type - Estimated 2024 Pay 2025

City of Independence Tax Rate History Compared to other similar sized Hennepin County Cities:

	Independence	Corcoran	Greenfield	Dayton
Commercial/Industrial	$ 710,868	$ 1,834,332	$ 762,581	$ 7,591,184
Apartment	-	160,250	-	48,313
Residential	10,542,586	17,297,583	6,810,553	18,600,501
Farm	1,499,986	1,482,811	631,129	725,054
Total	$ 12,753,440	$ 20,774,976	$ 8,204,263	$ 26,965,052

Tax Capacity Rates

	Independence	Corcoran	Greenfield	Dayton
2018	39.34%	45.99%	34.88%	55.47%
2019	39.31%	45.41%	36.00%	57.49%
2020	38.93%	45.01%	36.69%	54.14%
2021	39.40%	43.52%	35.15%	51.38%
2022	39.03%	43.19%	34.40%	48.44%
2023	33.01%	42.12%	32.99%	35.11%
2024	31.47%	42.41%	32.56%	35.65%
2025 Projected	31.21%			



Staffing

Data related to the number of full-time equivalent positions is noted below:

Summary of FTES by Department	2022	2023	2024	2025
City Council	5.00	5.00	5.00	5.00
Adminstration	2.19	2.69	2.19	2.69
Streets	1.79	1.80	1.79	1.80
Building Inspection	0.93	1.00	0.93	1.00
Subtotal General Fund	9.91	10.50	9.91	10.50
Sewer	1.42	1.70	1.42	1.70
Total	11.33	12.20	11.33	12.20

General Fund Summary

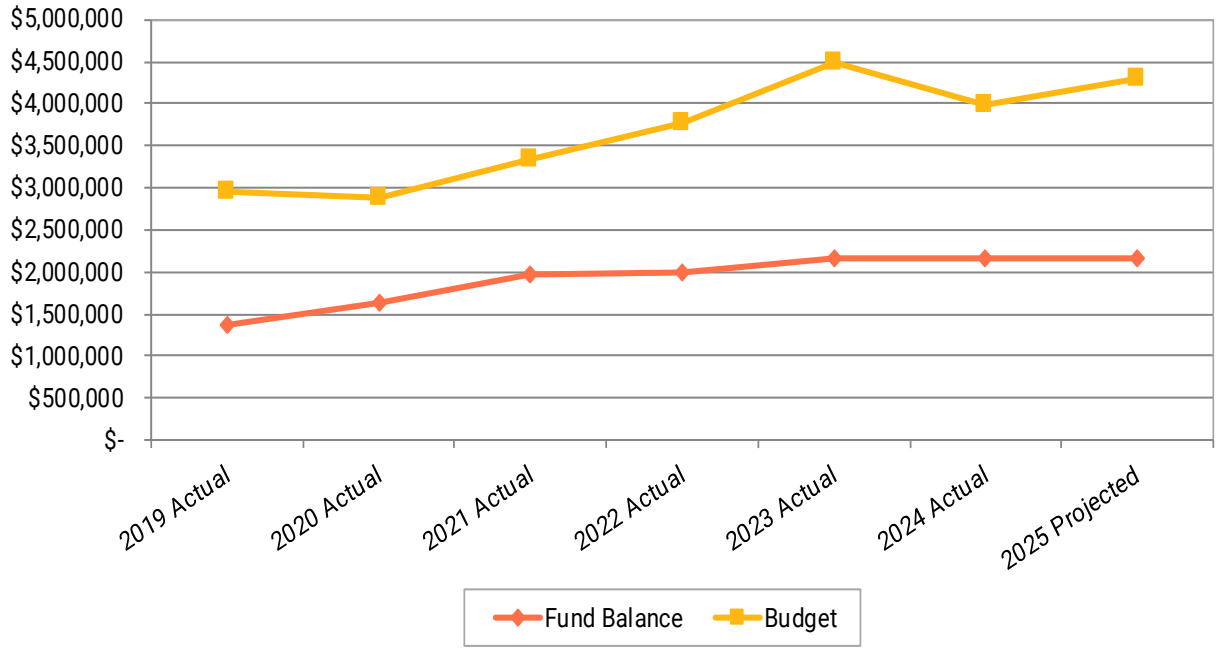
	2025 General Fund Summary Budget				
	Actual 2023	Budget 2024	Budget 2025	Increase/ (Decrease)	Percent Change
Revenues					
Taxes	$ 3,393,472	$ 3,523,646	$ 3,784,539	$ 260,893	7.40%
Licenses and permits	490,911	265,000	265,000	-	0.00%
Intergovernmental	192,090	28,100	103,550	75,450	268.51%
Charges for services	30,255	43,790	43,190	(600)	-1.37%
Fines and forfeitures	29,185	36,900	36,900	-	0.00%
Interest on investments	38,695	25,000	25,000	-	0.00%
Miscellaneous	54,013	22,880	43,309	20,429	89.29%
Transfers in	423,373	30,000	-	(30,000)	-100.00%
Total Revenues	$ 4,651,993	$ 3,975,316	$ 4,301,488	$ 326,172	8.20%

	Actual 2023	Budget 2024	Budget 2025	Increase/ (Decrease)	Percent Change
Expenditures					
Mayor and City Council	$ 19,682	$ 27,918	$ 28,329	$ 411	1.47%
Financial administration	714,934	681,803	680,801	(1,002)	-0.15%
Election	721	8,532	-	(8,532)	-100.00%
Planning and zoning	52,560	45,736	49,631	3,895	8.52%
Water resource	752	3,000	5,000	2,000	66.67%
General government buildings	59,734	50,737	51,457	720	1.42%
Legal services	33,042	50,654	49,500	(1,154)	-2.28%
Police	1,485,438	1,553,237	1,696,811	143,574	9.24%
Fire	412,149	398,055	385,301	(12,754)	-3.20%
Building inspection	148,375	151,403	177,183	25,780	17.03%
Streets	607,476	730,952	939,637	208,685	28.55%
Street lighting	4,888	6,500	6,500	-	0.00%
Recycling	97,841	109,000	111,604	2,604	2.39%
Parks	21,329	29,734	29,734	-	0.00%
Capital outlay - general government	10,914	15,000	15,000	-	0.00%
Capital outlay - public safety	-	-	-	-	0.00%
Capital outlay - public works	195,609	-	-	-	0.00%
Transfer out	621,127	113,055	75,000	(38,055)	-33.66%
Total Expenditures	4,486,571	3,975,316	4,301,488	326,172	8.20%
Net Change	$ 165,422	$ -	$ -	$ -	

General Fund Balance

The City has built a healthy fund balance which can contribute to a positive bond rating and mitigates the potential for needing short-term borrowing. It will be important to continue to maintain reserve levels at 40 to 50 percent. A summary of the general fund balance history and 2024 budget is as follows. It should be noted that the future projections assume a 3% increase in expenses and a breakeven budget which results in the City eroding reserves levels when viewed as a present of expenditures.

Year	Fund Balance December 31	General Fund Budget	Percent of Fund Balance to Budget
2019 Actual	$ 1,378,021	$ 2,961,463	46.5%
2020 Actual	1,630,768	2,871,447	56.8%
2021 Actual	1,982,099	3,326,128	59.6%
2022 Actual	1,996,513	3,770,183	53.0%
2023 Actual	2,161,569	4,486,571	48.2%
2024 Projected	2,161,569	3,975,316	54.4%
2025 Projected	2,161,569	4,301,488	50.3%



General Fund Balance as a Percentage of Expenditures

Pioneer/Sarah Watershed Summary

Account	Description	Actual 2022	Actual 2023	YTD 9/30/2024	Budget 2024	Budget 2025
200-31010	Ad Valorem Taxes	$ 61,085	$ 64,510	$ 35,729	$ 67,639	$ 68,710
200-31040	Fiscal Disparities	2,743	2,381	976	3,484	3,484
200-36210	Interest Earnings	431	1,526	1,220	-	-
200-39200	Transfer In (General Fund)	5,548	-	-	-	-
	Total Revenues	69,807	68,417	37,924	71,123	72,194
200-41920-309	Pioneer-Sarah Watershed Comm.	47,517	47,967	48,368	54,574	48,892
200-41920-310	Other Consulting Fees	-	0	-	1,202	1,202
200-41920-320	Water Resource Staff	13,288	8,766	21,683	2,403	10,000
200-41920-350	Printing&Publications-(Legals)	-	-	-	893	-
200-41920-433	Misc. Dues/Ffes	530	560	-	-	-
200-41920-570	Capital Outlay (Project Cost)	-	-	-	12,051	12,100
	Total Expenses	61,335	57,293	70,051	71,123	72,194
	Change in Fund Balance	$ 8,472	$ 11,124	$ (32,127)	$ -	$ -

Capital Planning

Public Works Equipment Fund (403)

City Staff has reviewed the existing capital needs of the department and determined the following represent anticipated expenditures through 2029.

City of Independence, Minnesota
Capital Improvement Plan - Public Works Equipment Fund 403
Schedule of Planned Capital Outlay 2023 to 2029

Department	Year to Replace	Item	Cost	Cost History	2023 Estimated Amounts	2024 Estimated Amounts	2025 Estimated Amounts	2026 Estimated Amounts	2027 Estimated Amounts	2028 Estimated Amounts	2029 Estimated Amounts
Public works	2023	Road Grader Overhaul	$ 40,000	$ -	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -
Public works	2024	Road Side Mower (Replacement)	57,000	20,000	-	73,000	-	-	-	-	-
Public works	2024	Tractor & Loader	130,000	130,000	-	98,400	-	-	-	-	-
Public works	2024	Lawn Mower	30,000	-	-	8,500	16,000	-	-	-	-
Public works	2025	New Truck Tandem Axel	250,000	-	-	-	326,727	-	-	-	-
Public works	2029	Single Axel	200,000	-	-	-	-	-	-	-	200,000
Public works	2030	(5) 800 MHz Radios	15,000	-	-	-	-	-	-	-	-
Public works	2030	Pickup - 3/4 Ton	65,000	-	-	-	-	-	-	-	-
Public works	2031	Generator	50,000	-	-	-	-	-	-	-	-
Public works	2031	Grader	260,000	-	-	-	-	-	-	-	-
Public works	2033	Crack Sealer	70,000	-	-	-	-	-	-	-	-
Public works	2034	Pay Loader	150,000	-	-	-	-	-	-	-	-
Public works	2035	Tandem	300,000	210,000	-	-	-	-	-	-	-
Public works	NA	Road Packer	-	20,000	-	-	-	-	-	-	-
Public works	NA	Trailer	-	-	-	-	-	-	-	-	-
Public works	2026	Wood Chipper	-	-	-	-	20,000	-	-	-	-
Public works	2027	Aerial Bucket Truck	-	-	-	-	30,000	-	-	-	-
					$ 40,000	$ 179,900	$ 392,727	$ -	$ -	$ -	$ 200,000

City Staff created a cash flow analysis for the Public Works Equipment Fund through 2029.

City of Independence, Minnesota
Cash Flow - Public Works Equipment Fund 403

	2023	2024	2025	2026	2027	2028	2029
Beginning Balance	$ 314,389	$ 487,896	$ 435,688	$ 169,087	$ 249,160	$ 331,634	$ 416,583
Transfers in	160,728	113,055	113,055	75,000	75,000	75,000	75,000
Interest	12,779	14,637	13,071	5,073	7,475	9,949	12,498
Expenditures	-	179,900	392,727	-	-	-	200,000
Ending Balance	$ 487,896	$ 435,688	$ 169,087	$ 249,160	$ 331,634	$ 416,583	$ 304,081
Transfers in are from:							
100-43100-720	**$ 61,800**	**$ 113,055**	**$ 113,055**	**$ 75,000**	**$ 75,000**	**$ 75,000**	**$ 75,000**
100-49300-720	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	$ 99,855	**$ 113,055**	**$ 113,055**	**$ 75,000**	**$ 75,000**	**$ 75,000**	**$ 75,000**

Capital Planning (Continued)

Administrative Fund

City Staff has reviewed the existing capital needs for improvements to City Hall and determined the following represent the anticipated expenditures. The next scheduled capital outlay item will be in 2031.

City of Independence, Minnesota
Capital Improvement Plan - Administrative Fund 404
Schedule of Planned Capital Outlay 2022 to 2024

Department	Year	Item	Cost	2023 Estimated Amounts	2024 Estimated Amounts
General government	2031	Office Equipment - Furnishing	$ 5,000	$ -	$ -
General government	2031	Mechanical Electric	32,500	-	-
General government	2031	City Hall Parking Lot (original paid by 2015 bond)	67,000	-	-
General government	2031	City Hall Carpet	20,000	-	-
General government	2032	Paint Exterior	27,500	-	-
				$ -	$ -

The cash flow in the fund is anticipated to be the following through 2027.

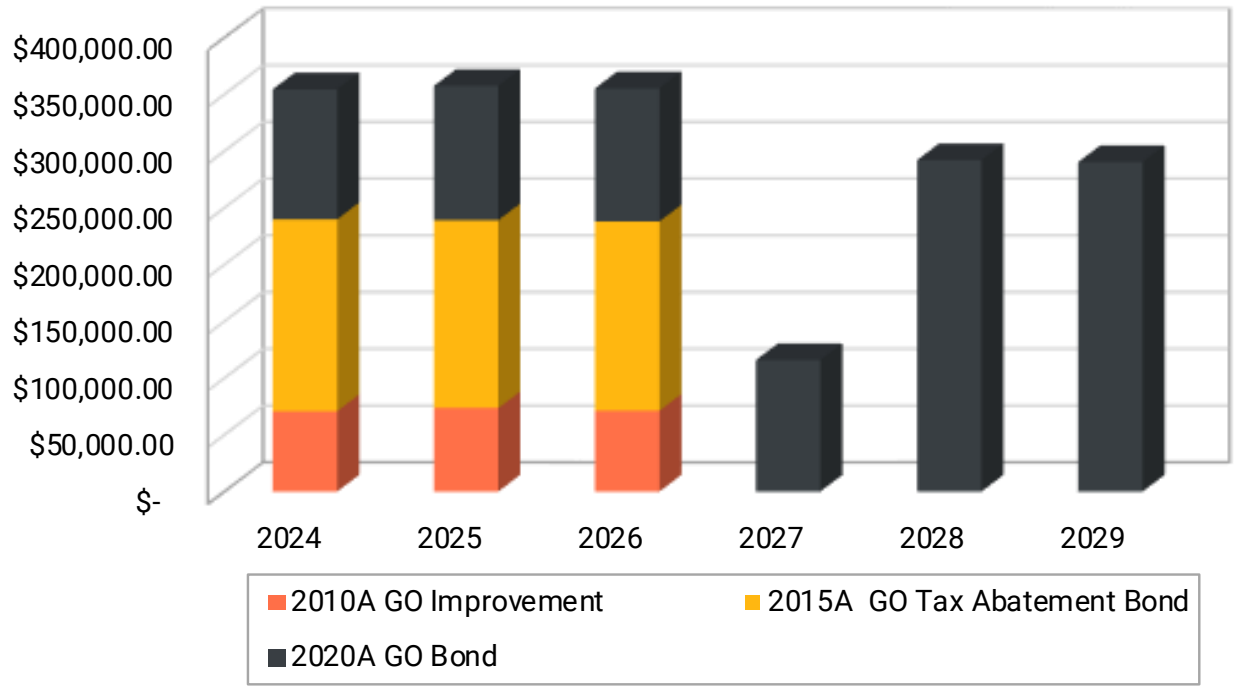
City of Independence, Minnesota
Cash Flow - Administrative Fund 404

	2023	2024	2025	2026	2027
Beginning Balance	$ 84,501	$ 220,034	$ 222,235	$ 224,457	$ 226,701
Transfers in	132,500	-	-	-	-
Other receipts	3,033	2,200	2,222	2,245	2,267
Expenditures	-	-	-	-	-
Ending Balance	$ 220,034	$ 222,235	$ 224,457	$ 226,701	$ 228,968

Debt Schedule

City of Independence
Bond Payment Schedule

Fund	Maturity Date		Total Remaining	2024	2025	2026	2027	2028	2029
602 2010A GO Improvement	2/1/2026	Principal	$ 205,000	$ 65,000	$ 70,000	$ 70,000			
602 2010A GO Improvement	2/1/2026	Interest	10,576	5,816	3,570	1,190			
		Total	430,195	70,816	73,570	71,190			
314 2015A GO Tax Abatement Bond	2/1/2026	Principal	485,000	160,000	160,000	165,000			
314 2015A GO Tax Abatement Bond	2/1/2026	Interest	16,481	9,113	5,513	1,856			
		Total	1,002,969	169,113	165,513	166,856			
315 2020A GO Bond	2/1/2041	Principal	3,690,000	35,000	40,000	40,000	$ 40,000	$ 220,000	$ 225,000
315 2020A GO Bond	2/1/2041	Interest	834,744	79,418	78,293	77,093	75,893	71,993	65,318
		Total	4,850,166	114,418	118,293	117,093	115,893	291,993	290,318



CITY OF INDEPENDENCE
ABDO 2025 Budget Report

Account Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
100 GENERAL FUND						
R 100-31010 AD VALOREM TAXES	$2,964,944.09	$3,135,945.68	$1,770,475.26	$3,404,480.00	$3,665,373.00	7.66%
R 100-31020 DELINQUENT TAXES	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-31040 FISCAL DISPARITIES	$143,537.73	$127,882.74	$53,155.93	$119,166.00	$119,166.00	0.00%
R 100-32100 BUSINESS LICENSES	$18,340.00	$18,040.00	$18,240.00	$18,000.00	$18,000.00	0.00%
R 100-32210 BUILDING PERMIT	$303,483.55	$365,666.00	$240,201.30	$201,232.00	$201,232.00	0.00%
R 100-32211 PLAN REVIEW FEES	$100,328.38	$104,394.91	$79,384.11	$40,018.00	$40,018.00	0.00%
R 100-32240 ANIMAL LICENSES	$82.00	$60.00	$100.00	$500.00	$500.00	0.00%
R 100-32250 MISC. LICENSES & PERMITS	$3,132.00	$2,750.00	$3,025.00	$5,250.00	$5,250.00	0.00%
R 100-33400 STATE GRANT	$0.00	$166,070.00	$63,081.50	$0.00	$92,350.00	0.00%
R 100-33401 LOCAL GOVERNMENT AIDS	$16,895.49	$16,800.35	$10,201.30	$16,900.00	$0.00	-100.00%
R 100-33610 CTY. GRANTS & AID (STREETS)	$0.00	$0.00	$70,144.00	$0.00	$0.00	0.00%
R 100-33620 COUNTY GRANTS & AID (OTHER)	$9,222.74	$9,219.59	$7,176.04	$11,200.00	$11,200.00	0.00%
R 100-33630 C.D.B.G./MISC. CREDIT	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34103 ZONING/SUBDIVISION FEE	$28,800.00	$10,300.00	$10,900.00	$12,915.00	$12,915.00	0.00%
R 100-34104 WATER/RESOURCE FEES	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34105 SALE-MAPS,PUBLICATION,COPIES	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34107 ASSESSMENT SEARCH FEES	$375.00	$150.00	$75.00	$375.00	$375.00	0.00%
R 100-34108 ADMINISTRATIVE CHARGES/REIMB	$10,640.00	$18,805.00	$3,285.00	$29,400.00	$29,400.00	0.00%
R 100-34305 PUBLIC WORKS REIMBURSEMENTS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34306 BUILDING INSPECTIONS REIMBURS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34307 PLANNING/ZONING REIMB. DEVL.	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34308 LEGAL FEE/REIMB. DEV	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34309 ENG. FEE/REIMB. DEV	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-34310 MINNEHAHA WATERSHED REIMB	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-35000 COURT FINES/DOG IMPOUNDING	$42,089.64	$29,185.07	$16,260.40	$36,900.00	$36,900.00	0.00%
R 100-36100 SPECIAL ASSESS/INT (CTY. PYMT)	$0.00	$127,281.02	$0.00	$0.00	$20,429.00	0.00%
R 100-36210 INTEREST EARNINGS	$14,050.88	$38,694.63	$33,187.19	$25,000.00	$25,000.00	0.00%
R 100-36211 ADVALOREM TAXES - WASTEWATER	$217.03	$2,362.33	$0.00	$0.00	$0.00	0.00%
R 100-36220 INSURANCE PREMIUM REFUND	$0.00	$3,387.00	$0.00	$3,860.00	$3,860.00	0.00%
R 100-36230 MISC REVENUE/REFUNDS	$3,572.57	$33,512.43	$9,587.51	$525.00	$525.00	0.00%
R 100-36231 DONATIONS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-36240 COMMUNITY CENTER REVENUES	$1,300.00	$1,000.00	$625.00	$1,100.00	$500.00	-54.55%
R 100-36242 PARK RENTAL FEE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-36250 SALES TAX (COLLECTED)	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-36262 Lease Revenue	$1,423.16	$17,113.09	$15,450.00	$18,495.00	$18,495.00	0.00%

Account Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
R 100-39100 SALE OF EQUIPMENT	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-39101 SALE OF LAND	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-39102 COMPENSATION FOR LOSS OF GEN	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 100-39200 TRANSFERS IN (GENERAL FUND)	$122,161.60	$423,373.04	$0.00	$30,000.00	$0.00	-100.00%
R 100-39900 PROCEEDS FROM LEASE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
	$3,784,595.86	$4,651,992.88	$2,404,554.54	$3,975,316.00	$4,301,488.00	
BUILDING INSPECTOR ADMIN						
E 100-42400-101 WAGES (FULL-TIME)	$92,798.95	$104,989.99	$81,442.44	$103,893.00	$116,622.00	12.25%
E 100-42400-104 WAGES - TEMP HELP	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-42400-121 PERA	$6,989.03	$7,605.28	$6,927.43	$7,792.00	$8,746.00	12.24%
E 100-42400-122 FICA(6.2) MEDICARE (1.45)	$7,039.84	$7,753.07	$7,022.12	$7,948.00	$8,922.00	12.25%
E 100-42400-131 CITY PAID BENEFIT ALLOWANC	$17,785.08	$18,152.47	$22,377.69	$17,573.00	$18,696.00	6.39%
E 100-42400-200 OFFICE SUPPLIES	$327.49	$900.37	$272.15	$756.00	$756.00	0.00%
E 100-42400-212 VEHICLE OPER.SUPPLIES(FUEL,	$204.48	$0.00	$602.23	$861.00	$861.00	0.00%
E 100-42400-310 OTHER CONSULTING EXPENSE	$0.00	$0.00	$0.00	$546.00	$546.00	0.00%
E 100-42400-321 COMMUNICATIONS (TELEPHON	$645.01	$480.05	$406.12	$480.00	$480.00	0.00%
E 100-42400-331 CONFERENCE & TRAVEL	$851.39	$591.63	$2,397.03	$2,709.00	$2,709.00	0.00%
E 100-42400-360 WORKERS COMP INSURANCE	$2,825.44	$5,384.34	$4,479.88	$5,923.00	$5,923.00	0.00%
E 100-42400-361 INSURANCE	$1,729.67	$2,372.70	$2,475.00	$2,491.00	$2,491.00	0.00%
E 100-42400-433 DUES & SUBSCRIPTIONS	$1,098.85	$145.00	$85.00	$431.00	$431.00	0.00%
E 100-42400-570 CAPITAL OUTLAY (EQUIPMENT)	$0.00	$0.00	$0.00	$0.00	$10,000.00	0.00%
BUILDING INSPECTOR ADMIN	$132,295.23	$148,374.90	$128,487.09	$151,403.00	$177,183.00	
CITY CLERK/FINANCE						
E 100-41500-101 WAGES (FULL-TIME)	$175,495.69	$111,662.35	$81,262.62	$91,894.00	$107,809.00	17.32%
E 100-41500-102 WAGES (PART-TIME)	$0.00	$70,805.71	$76,931.80	$75,676.00	$103,962.00	37.38%
E 100-41500-121 PERA	$12,160.77	$13,856.19	$12,454.95	$12,568.00	$15,882.00	26.37%
E 100-41500-122 FICA(6.2) MEDICARE (1.45)	$12,798.91	$13,270.04	$11,448.87	$12,819.00	$16,200.00	26.37%
E 100-41500-131 CITY PAID BENEFIT ALLOWANC	$38,960.51	$49,055.57	$42,308.42	$47,094.00	$53,284.00	13.14%
E 100-41500-200 OFFICE SUPPLIES	$14,035.38	$2,079.08	$3,319.87	$1,627.00	$3,250.00	99.75%
E 100-41500-301 AUDITING FEES	$16,432.50	$29,875.00	$10,000.00	$24,850.00	$25,800.00	3.82%
E 100-41500-302 ADMINISTRATION CONSULTIN	$127,095.00	$141,120.00	$111,462.00	$148,176.00	$155,585.00	5.00%
E 100-41500-305 CPA FEES	$86,322.25	$88,389.52	$79,254.60	$85,000.00	$94,180.00	10.80%
E 100-41500-310 OTHER CONSULTING EXPENSE	$0.00	$38,356.50	$580.00	$20,000.00	$17,500.00	-12.50%
E 100-41500-313 UNCOLLECTED PROJECT EXPEN	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41500-315 ASSESSOR'S FEE	$72,000.00	$76,000.00	$81,000.00	$81,000.00	$0.00	-100.00%
E 100-41500-321 COMMUNICATIONS (TELEPHON	$25,237.75	$856.12	$892.60	$1,000.00	$1,000.00	0.00%
E 100-41500-322 POSTAGE	$2,399.27	$3,811.31	$2,864.21	$2,838.00	$2,838.00	0.00%
E 100-41500-325 IT CONSULTING	$0.00	$20,958.84	$15,087.54	$18,000.00	$22,000.00	22.22%
E 100-41500-331 CONFERENCE & TRAVEL	$410.20	$3,076.25	$415.40	$4,500.00	$4,500.00	0.00%

Account Descr		2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
E 100-41500-350	PRINTING & PUBLICATIONS	$23,751.10	$16,872.90	$11,817.78	$18,000.00	$18,000.00	0.00%
E 100-41500-360	WORKERS COMP INSURANCE	$7,063.60	$11,965.20	$9,829.09	$12,000.00	$12,000.00	0.00%
E 100-41500-361	INSURANCE	$1,876.30	$2,372.70	$2,475.00	$2,491.00	$2,491.00	0.00%
E 100-41500-404	MAINT.&REPAIR EQUIP.(CONTR	$215.00	$265.00	$196.00	$2,100.00	$2,100.00	0.00%
E 100-41500-405	MISCELLANEOUS	$3,593.45	-$654.61	$1,427.28	$1,670.00	$1,670.00	0.00%
E 100-41500-408	DUST CONTROL	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41500-433	DUES & SUBSCRIPTIONS	$15,455.75	$17,593.35	$17,431.82	$15,000.00	$17,250.00	15.00%
E 100-41500-480	COVID 19	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41500-560	CAPITAL OUTLAY (OFFICE EQUI	$1,817.18	$8,270.45	$6,240.96	$15,000.00	$15,000.00	0.00%
E 100-41500-570	CAPITAL OUTLAY (EQUIPMENT)	$0.00	$2,643.94	$0.00	$0.00	$0.00	0.00%
E 100-41500-602	LEASE/PURCHASE (COPIER)	$2,479.00	$3,347.09	$2,717.72	$3,500.00	$3,500.00	0.00%
E 100-41500-720	TRANSFERS OUT	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
CITY CLERK/FINANCE		$639,599.61	$725,848.50	$581,418.53	$696,803.00	$695,801.00	
COMMUNITY SERVICE							
E 100-45200-409	YOUTH GROUPS	$0.00	$0.00	$0.00	$680.00	$680.00	0.00%
COMMUNITY SERVICE		$0.00	$0.00	$0.00	$680.00	$680.00	
ELECTIONS							
E 100-41410-102	WAGES (PART-TIME)	$2,751.00	$0.00	$2,049.00	$5,000.00	$0.00	-100.00%
E 100-41410-210	OPERATING SUPPLIES/MTN EQ	$1,267.10	$721.10	$601.20	$1,082.00	$0.00	-100.00%
E 100-41410-350	PRINTING & PUBLICATIONS	$0.00	$0.00	$61.88	$1,200.00	$0.00	-100.00%
E 100-41410-351	BALLOT PRINTING	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41410-405	MISCELLANEOUS	$1,363.71	$0.00	$920.65	$1,250.00	$0.00	-100.00%
ELECTIONS		$5,381.81	$721.10	$3,632.73	$8,532.00	$0.00	
ENVIRONMENTAL PROTECTION							
E 100-41920-311	WATER RESOURCE STAFF FEE	$0.00	$752.05	$0.00	$3,000.00	$5,000.00	66.67%
E 100-41920-320	WATER RESOURCE STAFF	$1,100.00	$0.00	$0.00	$0.00	$0.00	0.00%
ENVIRONMENTAL PROTECTION		$1,100.00	$752.05	$0.00	$3,000.00	$5,000.00	
GENERAL GOVERNMENT BUILDING							
E 100-41940-321	COMMUNICATIONS (TELEPHON	$9,410.32	$8,155.66	$9,237.72	$10,500.00	$10,500.00	0.00%
E 100-41940-360	WORKERS COMP INSURANCE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41940-361	INSURANCE	$4,526.47	$5,931.75	$6,187.50	$6,228.00	$6,228.00	0.00%
E 100-41940-380	ELECTRIC & GAS UTILITIES	$18,257.89	$22,182.02	$10,516.51	$15,000.00	$15,000.00	0.00%
E 100-41940-384	GARBAGE PICK-UP	$1,415.18	$1,856.61	$2,560.89	$1,376.00	$1,376.00	0.00%
E 100-41940-401	MAINT.&REPAIR BLD CONTRAC	$9,433.65	$18,762.33	$66,282.60	$14,280.00	$15,000.00	5.04%
E 100-41940-402	MUSEUM	$0.00	$0.00	$0.00	$158.00	$158.00	0.00%
E 100-41940-403	GROUND MAINTENANCE CONT	$0.00	$0.00	$0.00	$588.00	$588.00	0.00%
E 100-41940-405	MISCELLANEOUS	$7,416.79	$2,845.53	$1,398.09	$2,607.00	$2,607.00	0.00%
E 100-41940-510	C.O.(LAND & BLD. - 804)	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%

Account Descr		2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
GENERAL GOVERNMENT BUILDING		$50,460.30	$59,733.90	$96,183.31	$50,737.00	$51,457.00	
LEGAL SERVICES							
E 100-41600-304	CIVIL, LEGAL (K&G)	$13,237.88	$9,907.93	$9,670.75	$25,000.00	$20,000.00	-20.00%
E 100-41600-306	PROSECUTION (C&C)	$17,630.93	$18,864.44	$11,432.40	$22,945.00	$25,000.00	8.96%
E 100-41600-312	CODIFICATION OF ORDINANCE	$6,050.48	$4,269.89	$1,385.65	$2,709.00	$4,500.00	66.11%
E 100-41600-405	MISCELLANEOUS	$625.00	$0.00	$0.00	$0.00	$0.00	0.00%
LEGAL SERVICES		$37,544.29	$33,042.26	$22,488.80	$50,654.00	$49,500.00	
LEGISLATIVE							
E 100-41000-100	MAYOR'S SALARY	$0.00	$185.63	$2,639.40	$3,731.00	$3,843.00	3.00%
E 100-41000-103	COUNCIL SALARIES	$11,730.00	$11,730.00	$6,447.54	$8,955.00	$9,224.00	3.00%
E 100-41000-122	FICA(6.2) MEDICARE (1.45)	$897.36	$897.39	$197.97	$970.00	$1,000.00	3.09%
E 100-41000-331	CONFERENCE & TRAVEL	$2,405.09	$3,908.70	$2,962.87	$9,734.00	$9,734.00	0.00%
E 100-41000-360	WORKERS COMP INSURANCE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41000-361	INSURANCE	$1,741.44	$2,372.70	$2,475.00	$2,491.00	$2,491.00	0.00%
E 100-41000-405	MISCELLANEOUS	$289.98	-$241.90	$789.18	$252.00	$252.00	0.00%
E 100-41000-433	DUES & SUBSCRIPTIONS	$1,134.65	$829.25	$847.00	$1,785.00	$1,785.00	0.00%
LEGISLATIVE		$18,198.52	$19,681.77	$16,358.96	$27,918.00	$28,329.00	
PARK MAINTENANCE							
E 100-45300-210	OPERATING SUPPLIES/MTN EQ	$0.00	$0.00	$238.73	$1,176.00	$1,176.00	0.00%
E 100-45300-220	MAINT.&REPAIR SUPPLIES (EQ	$1,223.24	$8,392.62	$5,108.73	$12,500.00	$12,500.00	0.00%
E 100-45300-230	EQUIPMENT PURCHASES	$0.00	$430.00	$0.00	$3,109.00	$3,109.00	0.00%
E 100-45300-310	OTHER CONSULTING EXPENSE	$0.00	$312.00	$0.00	$609.00	$609.00	0.00%
E 100-45300-361	INSURANCE	$4,734.11	$5,931.75	$6,187.50	$6,228.00	$6,228.00	0.00%
E 100-45300-380	ELECTRIC & GAS UTILITIES	$0.00	$0.00	$0.00	$680.00	$680.00	0.00%
E 100-45300-405	MISCELLANEOUS	$0.00	$1,200.00	$600.00	$252.00	$252.00	0.00%
PARK MAINTENANCE		$5,957.35	$16,266.37	$12,134.96	$24,554.00	$24,554.00	
PLANNING AND ZONING							
E 100-41900-303	ENGINEERING	$0.00	$0.00	$7,494.11	$0.00	$0.00	0.00%
E 100-41900-307	PLANNER CONTRACT	$36,356.00	$45,040.80	$28,676.88	$39,803.00	$41,793.00	5.00%
E 100-41900-311	WATER RESOURCE STAFF FEE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41900-360	WORKERS COMP INSURANCE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-41900-361	INSURANCE	$6,047.42	$7,513.55	$7,837.50	$5,933.00	$7,838.00	32.11%
E 100-41900-405	MISCELLANEOUS	$368.00	$6.00	$0.00	$0.00	$0.00	0.00%
PLANNING AND ZONING		$42,771.42	$52,560.35	$44,008.49	$45,736.00	$49,631.00	
PUBLIC SAFETY							
E 100-42000-405	MISCELLANEOUS	$3,706.31	$4,308.01	$131,557.00	$1,292.00	$1,292.00	0.00%
E 100-42000-440	POLICE CONTRACT	$1,314,399.00	$1,479,622.00	$1,436,039.20	$1,550,160.00	$1,693,734.00	9.26%

Account	Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
E 100-42000-442	PRISONER BOOKING	$1,156.06	$1,507.91	$1,785.20	$1,785.00	$1,785.00	0.00%
E 100-42000-450	FIRE PROTECTION	$377,388.37	$412,149.06	$363,821.08	$398,055.00	$385,301.00	-3.20%
E 100-42000-461	BUILDING CODE SURCHARGE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
PUBLIC SAFETY		$1,696,649.74	$1,897,586.98	$1,933,202.48	$1,951,292.00	$2,082,112.00	
PUBLIC WORKS							
E 100-43100-101	WAGES (FULL-TIME)	$181,454.29	$143,755.66	$123,494.42	$138,760.00	$145,956.00	5.19%
E 100-43100-102	WAGES (PART-TIME)	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-43100-121	PERA	$13,914.49	$10,644.78	$9,723.56	$10,407.00	$10,947.00	5.19%
E 100-43100-122	FICA(6.2) MEDICARE (1.45)	$14,727.26	$11,405.45	$10,064.27	$10,615.00	$11,166.00	5.19%
E 100-43100-131	CITY PAID BENEFIT ALLOWANC	$36,112.25	$32,276.68	$30,990.52	$30,752.00	$32,718.00	6.39%
E 100-43100-210	OPERATING SUPPLIES/MTN EQ	$1,413.35	$1,181.93	$822.20	$1,000.00	$1,000.00	0.00%
E 100-43100-212	VEHICLE OPER.SUPPLIES(FUEL,	$36,903.28	$24,633.80	$16,766.41	$25,820.00	$25,820.00	0.00%
E 100-43100-217	SIGNS	$5,428.21	$8,516.43	$5,542.09	$7,035.00	$7,035.00	0.00%
E 100-43100-218	UNIFORMS	$1,570.81	$4,493.75	$3,086.61	$4,200.00	$4,200.00	0.00%
E 100-43100-219	CULVERTS	$5,139.50	$7,483.00	$1,645.02	$5,565.00	$5,565.00	0.00%
E 100-43100-220	MAINT.&REPAIR SUPPLIES (EQ	$20,542.76	$33,153.42	$35,146.40	$30,000.00	$30,000.00	0.00%
E 100-43100-223	MAINT.& REPAIR SUPPLIES(BLD	$8,853.84	$7,632.79	$4,316.33	$5,324.00	$5,324.00	0.00%
E 100-43100-224	ROAD MAINT.MATERIALS(ON-G	$40,442.50	$53,893.88	$103,763.37	$77,994.00	$79,000.00	1.29%
E 100-43100-226	BLACKTOP MAINTENANCE	$19,100.90	$54,779.33	$33,527.90	$50,000.00	$55,000.00	10.00%
E 100-43100-227	EQUIPMENT RENTAL CONTRAC	$590.29	$0.00	$113.36	$2,500.00	$2,000.00	-20.00%
E 100-43100-240	SMALL TOOLS & MINOR EQUIP	$151.43	$131.97	$1,081.83	$368.00	$1,500.00	307.61%
E 100-43100-303	ENGINEERING	$46,128.50	$17,159.86	$18,252.93	$18,000.00	$18,000.00	0.00%
E 100-43100-310	OTHER CONSULTING EXPENSE	$0.00	$0.00	$9,980.00	$0.00	$0.00	0.00%
E 100-43100-321	COMMUNICATIONS (TELEPHON	$6,544.40	$5,658.54	$4,796.02	$7,600.00	$7,600.00	0.00%
E 100-43100-331	CONFERENCE & TRAVEL	$0.00	$615.00	$361.00	$1,176.00	$1,176.00	0.00%
E 100-43100-350	PRINTING & PUBLICATIONS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-43100-360	WORKERS COMP INSURANCE	$7,063.60	$11,366.94	$9,457.52	$12,504.00	$12,504.00	0.00%
E 100-43100-361	INSURANCE	$9,456.45	$11,863.50	$12,375.00	$12,457.00	$12,457.00	0.00%
E 100-43100-380	ELECTRIC & GAS UTILITIES	$5,721.98	$8,485.97	$6,201.91	$11,288.00	$11,288.00	0.00%
E 100-43100-381	STREET LIGHTING	$6,422.47	$4,888.41	$2,483.85	$6,500.00	$6,500.00	0.00%
E 100-43100-384	GARBAGE PICK-UP	$0.00	$0.00	$0.00	$536.00	$536.00	0.00%
E 100-43100-405	MISCELLANEOUS	$560.56	$43.00	$11.37	$294.00	$294.00	0.00%
E 100-43100-407	SNOW REMOVAL-MATERIALS	$21,856.57	$50,165.59	$0.00	$31,343.00	$31,343.00	0.00%
E 100-43100-408	DUST CONTROL	$69,854.30	$84,235.06	$115,467.66	$82,000.00	$98,000.00	19.51%
E 100-43100-412	BRUSH & TREE REMOVAL	$14,025.00	$16,250.00	$12,330.95	$16,706.00	$17,500.00	4.75%
E 100-43100-413	SALES/FUEL TAX & LICENSE	$0.00	$0.00	$0.00	$578.00	$578.00	0.00%
E 100-43100-415	SAC CHARGES	$0.00	$0.00	$0.00	$620.00	$620.00	0.00%
E 100-43100-418	WEED CONTROL	$0.00	$0.00	$2,496.93	$3,339.00	$3,339.00	0.00%
E 100-43100-420	GOPHER STATE ONE-CALL	$1,324.60	$1,187.65	$1,027.40	$2,132.00	$2,132.00	0.00%

Account Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
E 100-43100-421 SEAL COATING	$50,000.00	$0.00	$40,992.60	$60,000.00	$60,000.00	0.00%
E 100-43100-422 ROAD TILING	$0.00	$0.00	$48,998.85	$60,000.00	$60,000.00	0.00%
E 100-43100-423 GRAVEL ROADS	$0.00	$0.00	$0.00	$0.00	$175,000.00	0.00%
E 100-43100-430 SAFETY PROGRAM (AWAIR, ET	$365.00	$6,462.00	$6,655.86	$6,500.00	$6,500.00	0.00%
E 100-43100-433 DUES & SUBSCRIPTIONS	$0.00	$0.00	$0.00	$693.00	$693.00	0.00%
E 100-43100-500 Capital Outlay	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 100-43100-550 C.O. (ROAD IMPROV. - 802)	$0.00	$111,093.93	$0.00	$0.00	$0.00	0.00%
E 100-43100-570 CAPITAL OUTLAY (EQUIPMENT)	$104,518.00	$84,514.84	$11,052.00	$0.00	$0.00	0.00%
E 100-43100-720 TRANSFERS OUT	$60,000.00	$61,800.00	$94,212.50	$113,055.00	$75,000.00	-33.66%
PUBLIC WORKS	$790,186.59	$869,773.16	$777,238.64	$847,661.00	$1,018,291.00	
RECREATION						
E 100-45100-120 COMMUNITY EVENT CONTRIBU	$0.00	$5,062.32	$347.76	$4,500.00	$4,500.00	0.00%
RECREATION	$0.00	$5,062.32	$347.76	$4,500.00	$4,500.00	
SOLID WASTE (LAND & RECYCLING)						
E 100-43200-383 RECYCLING EXPENSES	$71,369.18	$73,428.19	$71,622.54	$94,000.00	$96,604.00	2.77%
E 100-43200-405 MISCELLANEOUS	$600.00	$0.00	$520.00	$0.00	$0.00	0.00%
E 100-43200-410 EQUIPMENT RENTAL	$0.00	$0.00	$315.00	$0.00	$0.00	0.00%
E 100-43200-411 CLEAN-UP DAY	$11,400.00	$24,412.34	$14,641.30	$15,000.00	$15,000.00	0.00%
SOLID WASTE (LAND & RECYCLING)	$83,369.18	$97,840.53	$87,098.84	$109,000.00	$111,604.00	
TRANSFER OUT						
E 100-49300-720 TRANSFERS OUT	$266,669.00	$559,327.04	$0.00	$0.00	$0.00	0.00%
TRANSFER OUT	$266,669.00	$559,327.04	$0.00	$0.00	$0.00	
UNALLOCATED INSURANCE						
E 100-49240-375 CLAIM DEDUCTIBLE	$0.00	$0.00	$0.00	$620.00	$620.00	0.00%
E 100-49240-620 AGENCY FEES	$0.00	$0.00	$0.00	$2,226.00	$2,226.00	0.00%
UNALLOCATED INSURANCE	$0.00	$0.00	$0.00	$2,846.00	$2,846.00	
100 GENERAL FUND	$7,554,778.90	$9,138,564.11	$6,107,155.13	$7,950,632.00	$8,602,976.00	

Account Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
200 WATER RESOURCE DEVELOPMENT						
R 200-31010 AD VALOREM TAXES	$61,085.25	$64,510.28	$35,728.89	$67,639.00	$68,710.00	1.58%
R 200-31020 DELINQUENT TAXES	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 200-31040 FISCAL DISPARITIES	$2,742.89	$2,380.93	$975.91	$3,484.00	$3,484.00	0.00%
R 200-34103 ZONING/SUBDIVISION FEE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 200-34108 ADMINISTRATIVE CHARGES/REIMB	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 200-36210 INTEREST EARNINGS	$430.99	$1,525.87	$1,592.75	$0.00	$0.00	0.00%
R 200-36230 MISC REVENUE/REFUNDS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 200-36261 EVENT REVENUES	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 200-39200 TRANSFERS IN (GENERAL FUND)	$5,548.29	$0.00	$0.00	$0.00	$0.00	0.00%
	$69,807.42	$68,417.08	$38,297.55	$71,123.00	$72,194.00	
ENVIRONMENTAL PROTECTION						
E 200-41920-303 ENGINEERING	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 200-41920-309 PIONEER-SARAH WATERSHED	$47,516.96	$47,966.67	$48,367.76	$54,574.00	$48,892.12	-10.41%
E 200-41920-310 OTHER CONSULTING EXPENSE	$0.00	$0.37	$0.00	$1,202.00	$1,202.00	0.00%
E 200-41920-320 WATER RESOURCE STAFF	$13,288.30	$8,765.91	$21,497.29	$2,403.00	$10,000.00	316.15%
E 200-41920-350 PRINTING & PUBLICATIONS	$0.00	$0.00	$0.00	$893.00	$0.00	-100.00%
E 200-41920-433 DUES & SUBSCRIPTIONS	$530.00	$560.00	$0.00	$0.00	$0.00	0.00%
E 200-41920-570 CAPITAL OUTLAY (EQUIPMENT)	$0.00	$0.00	$0.00	$12,051.00	$12,100.00	0.41%
ENVIRONMENTAL PROTECTION	$61,335.26	$57,292.95	$69,865.05	$71,123.00	$72,194.12	
200 WATER RESOURCE DEVELOPMENT	$131,142.68	$125,710.03	$108,162.60	$142,246.00	$144,388.12	

Account Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
602 SEWER FUND						
R 602-31010 AD VALOREM TAXES	$15,569.00	$13,351.00	$8,191.00	$16,382.00	$0.00	-100.00%
R 602-31040 FISCAL DISPARITIES	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-34108 ADMINISTRATIVE CHARGES/REIMB	$275.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-34401 SEWER CONNECTION CHARGE	$16,850.56	$2,293.40	$0.00	$14,553.00	$14,553.00	0.00%
R 602-34408 USER AVAIL. CHG.	$21,209.16	$21,627.24	$18,867.60	$0.00	$0.00	0.00%
R 602-34410 SEWER COMPLIANCE CHARGE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-36100 SPECIAL ASSESS/INT (CTY. PYMT)	$26,316.64	$21,587.56	$29,804.59	$0.00	$0.00	0.00%
R 602-36101 PRINCIPLE	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-36210 INTEREST EARNINGS	$4,073.86	$15,646.59	$14,550.78	$10,000.00	$10,000.00	0.00%
R 602-36230 MISC REVENUE/REFUNDS	$0.00	$158,407.00	$0.00	$0.00	$0.00	0.00%
R 602-37200 TRANSFERS IN (GENERAL FUND)	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-37210 COLLECTION & GRAVITY LINE	$229,574.80	$244,068.46	$167,407.95	$229,320.00	$229,320.00	0.00%
R 602-37220 RESIDENTIAL CLUSTER	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-37230 ON-SITE SYSTEMS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-37240 CLUSTER MOUND	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-37250 COMMERCIAL	$17,131.61	$16,132.02	$11,277.35	$18,743.00	$18,743.00	0.00%
R 602-37260 SALE OF FIXED ASSETS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-37270 DEL UTILITIES - CITY PYMT	$998.81	$151.55	$19.62	$0.00	$0.00	0.00%
R 602-37600 STREET TO HOUSE CONNECT	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-39203 TRANSFER IN	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
R 602-39999 Prior Period Adjustment	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
	$331,999.44	$493,264.82	$250,118.89	$288,998.00	$272,616.00	
SEWER						
E 602-49450-101 WAGES (FULL-TIME)	$48,619.91	$112,329.67	$87,975.39	$111,102.00	$132,266.00	19.05%
E 602-49450-121 PERA	-$6,884.38	$51,008.06	$6,977.61	$8,333.00	$9,921.00	19.06%
E 602-49450-122 FICA(6.2) MEDICARE (1.45)	$3,258.47	$8,116.19	$7,116.83	$8,500.00	$10,118.00	19.04%
E 602-49450-131 CITY PAID BENEFIT ALLOWANC	$23,608.34	$23,122.13	$21,715.59	$24,074.00	$26,174.00	8.72%
E 602-49450-210 OPERATING SUPPLIES/MTN EQ	$6,126.13	$5,369.69	$16,013.41	$19,243.00	$19,243.00	0.00%
E 602-49450-301 AUDITING FEES	$0.00	$0.00	$0.00	$1,113.00	$1,113.00	0.00%
E 602-49450-303 ENGINEERING	$0.00	$0.00	$0.00	$0.00	$3,000.00	0.00%
E 602-49450-304 CIVIL, LEGAL (K&G)	$0.00	$475.00	$475.00	$0.00	$0.00	0.00%
E 602-49450-310 OTHER CONSULTING EXPENSE	$2,350.92	$2,156.09	$1,085.14	$3,000.00	$3,000.00	0.00%
E 602-49450-331 CONFERENCE & TRAVEL	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 602-49450-360 WORKERS COMP INSURANCE	$706.36	$1,196.52	$995.51	$1,316.00	$1,316.00	0.00%
E 602-49450-361 INSURANCE	$1,052.14	$1,186.35	$1,237.50	$1,246.00	$1,246.00	0.00%
E 602-49450-375 CLAIM DEDUCTIBLE	$500.00	$0.00	$0.00	$2,264.00	$2,264.00	0.00%

Account Descr		2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
E 602-49450-380	ELECTRIC & GAS UTILITIES	$37,823.60	$28,799.18	$19,731.38	$26,500.00	$29,000.00	9.43%
E 602-49450-401	MAINT.&REPAIR BLD CONTRAC	$1,209.85	$0.00	$0.00	$23,100.00	$23,100.00	0.00%
E 602-49450-404	MAINT.&REPAIR EQUIP.(CONTR	$16,162.50	$39,223.11	$41,359.58	$22,953.00	$22,953.00	0.00%
E 602-49450-405	MISCELLANEOUS	$3,016.40	$4,449.24	$8,692.08	$0.00	$0.00	0.00%
E 602-49450-414	METRO COUNCIL-ENVIRON.(SE	$56,501.78	$46,261.99	$41,992.90	$49,741.00	$49,741.00	0.00%
E 602-49450-415	SAC CHARGES	$14,934.85	$19,880.00	$27,260.45	$44,100.00	$44,100.00	0.00%
E 602-49450-416	DEPRECIATION	$124,522.37	$121,552.69	$109,944.20	$131,932.00	$131,932.00	0.00%
E 602-49450-417	LICENSES & PERMITS	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 602-49450-433	DUES & SUBSCRIPTIONS	$0.00	$840.00	$840.00	$100.00	$100.00	0.00%
E 602-49450-560	CAPITAL OUTLAY (OFFICE EQUI	$0.00	$0.00	$0.00	$835.00	$835.00	0.00%
E 602-49450-570	CAPITAL OUTLAY (EQUIPMENT)	$7,145.00	$22,360.00	$76,272.00	$588.00	$588.00	0.00%
E 602-49450-601	BOND PRINCIPAL	$0.00	$0.00	$65,000.00	$65,000.00	$70,000.00	7.69%
E 602-49450-611	INTEREST EXPENSE (Loan)	$8,365.00	$7,048.75	$5,816.25	$5,816.00	$3,570.00	-38.62%
E 602-49450-620	AGENCY FEES	$575.00	$0.00	$0.00	$0.00	$0.00	0.00%
E 602-49450-999	PRIOR PERIOD ADJ.	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
SEWER		$349,594.24	$495,374.66	$540,500.82	$550,856.00	$585,580.00	
602 SEWER FUND		$681,593.68	$988,639.48	$790,619.71	$839,854.00	$858,196.00	

Account Descr	2022 Amt	2023 Amt	2024 YTD Amt	2024 Budget	2025 Budget	%Diff from Cur Yr 2024
	$8,367,515.26	$10,252,913.62	$7,005,937.44	$8,932,732.00	$9,605,560.12	

City of Independence

Request for a Conditional Use Permit to Allow a Ground Mounted Solar System on the Property Located at 25 Game Farm Rd.

To:	City Council
From:	Mark Kaltsas, City Planner
Meeting Date:	December 3, 2024
Applicant:	Amy Pelowski
Property Owner:	Jeremiah Staples
Location:	7297 County Road 6

Request:

Amy Pelowski (Applicant) and Jeremiah Staples (Owner) are requesting the following action for the property located at 25 Game Farm Road (PID No. 33-118-24-44-0005) in the City of Independence, MN.

a. A conditional use permit to allow a 500 SF ground mounted solar system that meets all applicable requirements of the City's Solar Energy System Ordinance.

Property/Site Information:

The property is located on the west side of Game Farm Road south of CSAH 6. The property has an existing home, a detached garage and detached accessory structure. The property is comprised of open and wooded areas. The property has the following characteristics:

Property Information: **25 Game Farm Road**
Zoning: *Agriculture*
Comprehensive Plan: *Agriculture*
Acreage: *3.83 acres*

25 Game Farm Rd. Aerial Photograph

Discussion:

The applicant would like to add a ground mounted solar energy system to the property. In all zoning districts of the City, ground mounted solar systems are permitted as a conditional use permit (CUP). Ground mounted solar systems have the following requirements:

Subd. 5. Ground-mounted solar energy systems shall conform to the following standards:

(a) Ground-mounted systems shall only be allowed on a parcel with an existing principal structure.

(b) Ground-mounted systems shall be located only in rear or side yards.

(c) Ground-mounted systems shall not be located in the Shoreland Overlay District.

(d) Ground-mounted systems shall be wholly screened from view from the public right-of-way and adjacent residential structures. Methods for screening shall include berming, fencing, landscaping and/or combination thereof.

(e) Ground-mounted systems shall be located on a parcel of at least 2.5 acres.

(f) Ground-mounted systems shall have a maximum area of 500 SF.

(g) Ground mounted systems shall be setback a minimum of 50 feet from all property lines.

(h) The maximum height for any component of the system shall be 15 feet.

(i) Ground-mounted systems shall be in compliance with any applicable local, state and federal regulatory standards, including building, electrical and plumbing codes.

(j) Ground-mounted systems and their support structures shall be designed by a certified professional to meet applicable professional standards for the local soil and climate conditions.

The proposed ground mounted solar system would be located in the northwest corner of the property. The proposed solar energy system would be comprised of two separate ground mounted arrays. The total square footage of the two arrays would be approximately 450 SF (~7.5' x 30' x 2). This would be less than the 500 feet maximum SF permitted. The arrays would be setback 50 feet from the north (side) property line and 89 feet from the west (rear) property line. The required minimum setback from all property lines is 50 feet. The proposed ground mounted system would have a maximum height of 9 ½' feet to the top of the highest portion of the panels.

The City requires systems to be wholly screened from view of the public right of way and adjacent residential structures. There is a residential structure located to the northeast of the proposed location. The proximity of the proposed ground mounted system to that residence is ~200 feet. There is a considerable natural tree/vegetation line along the north property line separating the two properties. The neighboring property owner to the north has provided a letter of support for the proposed system.

The criteria for granting a conditional use permit are clearly delineated in the City's Zoning Ordinance (Section 520.11 subd. 1, a-i) as follows:

1. The conditional use will not adversely affect the health, safety, morals and general welfare of occupants of surrounding lands.
2. The proposed use will not have a detrimental effect on the use and enjoyment of other property in the immediate vicinity for the proposes already permitted or on the normal and orderly development and improvement of surrounding vacant property for uses predominant in the area.
3. Existing roads and proposed access roads will be adequate to accommodate anticipated traffic.
4. Sufficient off-street parking and loading space will be provided to serve the proposed use.
5. The proposed conditional use can be adequately serviced by public utilities or on-site sewage treatment, and sufficient area of suitable soils for on-site sewage treatment is available to protect the city form pollution hazards.
6. The proposal includes adequate provision for protection of natural drainage systems, natural topography, tree growth, water courses, wetlands, historic sites and similar ecological and environmental features.
7. The proposal includes adequate measures to prevent or control offensive odor, fumes, dust, noise, or vibration so that none of these will constitute a nuisance.

8. The proposed condition use is consistent with the comprehensive plan of the City of Independence.
9. The proposed use will not stimulate growth incompatible with prevailing density standards.

The City has discussed the proposed ground mounted solar system with the applicant. The proposed ground mounted solar system appears to meet all applicable standards provided for in the zoning ordinance. The size of the system and its proximity to the surrounding property appears to adequately mitigate potential visual impacts. Given the location of the property on Game Farm Rd., the orientation of the proposed solar arrays and their relationship to the surrounding properties, it appears that the proposed application can be found to meet the requirements for granting a conditional use permit amendment.

Neighbor Comments:

The City received a letter of support from the owners of 66 Game Farm Rd. No other written or oral comments have been provided regarding the proposed conditional use permit.

Planning Commission Discussion:

Commissioners asked questions of staff and the applicant. Commissioners noted that the surrounding property owners were in support of the request. Commissioners discussed the proximity of the surrounding properties and the public road. Commissions found that the request appeared to meet all applicable requirements and recommended approval to the City Council.

Recommendation:

The Planning Commission recommended approval of the request for a conditional use permit with the following findings and conditions:

1. The proposed conditional use permit request meets all applicable conditions and restrictions stated in Chapter V, Section 510, Zoning, in the City of Independence Zoning Ordinance.

2. A conditional use permit will allow a ground mounted solar system to be located on the subject property and in accordance with the approved site plan attached hereto as EXHIBIT B.

    a. The ground mounted solar system shall be constructed in accordance with all applicable zoning code, building code and other applicable standards.

3. The applicant shall pay for all costs associated with the review and recording of the resolution granting approval of the conditional use permit

Attachments:

1. Application
2. Ground Mounted Solar Site Plan (Exhibit B)
3. Ground Mounted Solar Plans
4. Adjacent Property Owner Letter of Support

RESOLUTION OF THE
CITY OF INDEPENDENCE
HENNEPIN COUNTY, MINNESOTA

RESOLUTION NO. 24-1203-04

A RESOLUTION GRANTING APPROVAL OF A CONDITIONAL USE PERMIT TO ALLOW AN APPROXIMATELY 450 SF GROUND MOUNTED SOLAR SYSTEM FOR THE PROPERTY LOCATED AT 25 GAME FARM ROAD

WHEREAS, the City of Independence (the "City) is a municipal corporation under the laws of Minnesota; and

WHEREAS, the City adopted a comprehensive plan in 2020 to guide the development of the community; and

WHEREAS, the City has adopted a zoning ordinance and other official controls to assist in implementing the comprehensive plan; and

WHEREAS, Amy Pelowski, (the "Applicant") and Jeremiah Staples (, (the "Owner") submitted a request for a conditional use permit to allow a ground mounted solar system and on the property located 25 Game Farm Raod (PID No. 33-118-24-44-0005) (the "Property"); and

WHEREAS, the Property is legally described as:

On Attached Exhibit A; and

WHEREAS, the Property is zoned Agriculture; and

WHEREAS the requested Conditional Use Permit meets all requirements, standards and specifications of the City of Independence zoning ordinance for Agriculture lots; and

WHEREAS the Planning Commission held a public hearing on November 19, 2024, and March 16, 2021 to review the application for a conditional use permit and variance, following mailed and published noticed as required by law; and

WHEREAS, the City Council has reviewed all materials submitted by the Applicant; considered the oral and written testimony offered by the applicant and all interested parties; and has now concluded that the application is in compliance with all applicable standards and can be considered for approval; and

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF INDEPENDENCE, MINNESOTA, that it should and hereby does approve the application by Jeremiah Staples for a conditional use permit to allow a ground mounted solar system on the property per the City's zoning regulations and with the findings provided within this resolution.

1. The proposed conditional use permit request meets all applicable conditions and restrictions stated in Chapter V, Section 510, Zoning, in the City of Independence Zoning Ordinance.

2. The conditional use permit will include the following conditions:

    a) The conditional use permit will allow a ~450 SF ground mounted solar system that is installed in accordance with the approved plans attached hereto as **Exhibit B**.

    b) The ground mounted solar system shall be constructed in accordance with all applicable zoning code, building code and other applicable standards.

3. The applicant shall pay for all costs associated with the review and recording of the resolution granting approval of the conditional use permit and variance.

4. The conditional use permit shall be recorded with Hennepin County.

This resolution was adopted by the City Council of the City of Independence on this 3rd day of December 2024, by a vote of ____ayes and ____nays.

_____
Marvin Johnson, Mayor

ATTEST:

_____
Mark Kaltsas, City Administrator

EXHIBIT A

(Legal Description)

EXHIBIT B

(Approved Site Plan)

CITY OF INDEPENDENCE MINNESOTA

Date Submitted: 09-25-2024

Applicant Information

Name:	Amy Pelowski
Address:	7010 US Hwy 61 Minnesota City, Minnesota 55959
Primary Phone:	5073120190
Email:	amy@championsolar.com

Owner Information

Name:	Jeremiah Staples
Address:	25 Game Farm Road North INDEPENDENCE, Minnesota 55359
Primary Phone:	5073120190
Email:	amy@championsolar.com

Property Address:

PID:

Planning Application Type: Conditional Use Permit

Description:

Supporting Documents: Preliminary/Final Plan

Signature:

JEREMIAH STAPLES - 17.080kW DC, 13.600kW AC

SITE PLAN-1

NOTE:
1.NO CLEARANCE ISSUES WITH EXISTING OVERHEAD LINES
2.PV PRODUCTION METER AND PV UTILITY AC DISCONNECTS ARE
- LOCATED WITHIN 10' OF MAIN SERVICE/BILLING METER
- VISIBLE,LOCKABLE,READILY ACCESSIBLE AND 24/7 ACCESS

3.DESIGN COMPLY WITH NEC AND NEC690
4.LABELS SHALL BE WEATHERPROOF,DURABLE,AND PERMANENTLY MOUNTED
5.24/7 UNESCORTED KEYLESS ACCESS TO METERS AND AC DISCONNECTS.
6.SECONDARY INTERCONNECTION.

NOTE:
1.INVERTER IS UL1741 RATED.
2.EACH OPTIMIZER IS RAPID SHUTDOWN COMPLIANT

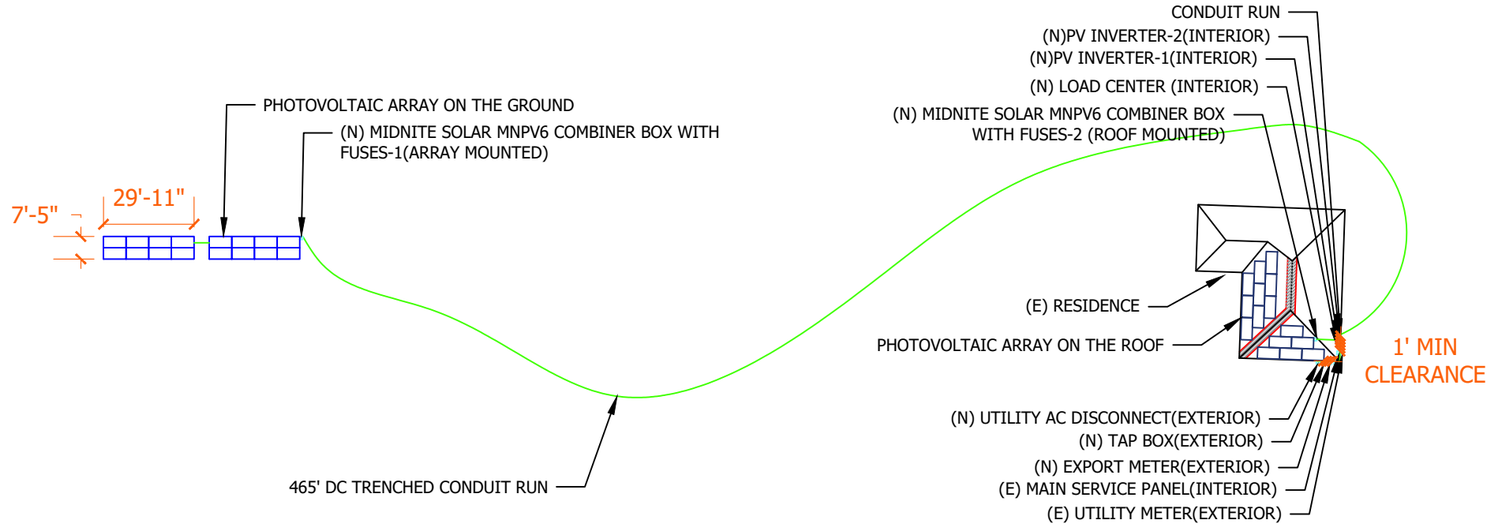
METER NUMBER	342697065

LEGEND:

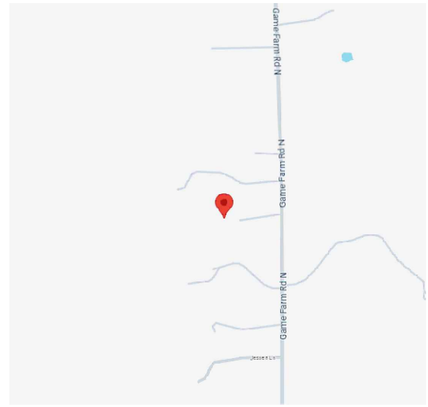
(16) JINKO SOLAR JKM580N-72HL4-BDV

(15) JINKO JKM520M-7TL4-V

DISTANCE BETWEEN EQUIPMENT		
FROM	TO	DISTANCE(FT)
MODULE	MIDNITE SOLAR MNPV6 COMBINER BOX WITH FUSES- 1, 2	5
MIDNITE SOLAR MNPV6 COMBINER BOX- 1	PV INVERTER- 1	465
MIDNITE SOLAR MNPV6 COMBINER BOX-2	PV INVERTER- 2	15
PV INVERTER- 1	LOAD CENTER	1
PV INVERTER- 2	LOAD CENTER	2
LOAD CENTER	UTILITY AC DISCONNECT	10
UTILITY AC DISCONNECT	TAP BOX	1
TAP BOX	EXPORT METER	1
EXPORT METER	UTILTIY METER	3



A | SITE PLAN-1
PV-1.0 | SCALE: 1"=50'-0"



A1 | VICINITY MAP
PV-1.0 | SCALE: NTS

GENERAL INFORMATION

ELECTRIC CODE	NEC 2023
FIRE CODE	MFC 2020
RESIDENTIAL CODE	MRC 2020
BUILDING CODE	MBC 2020
WIND SPEED	115 MPH
SNOW LOAD	60 PSF

INDEX

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
(1)SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)
(1)SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
OPTIMIZER:
(31) S650B POWER OPTIMIZERS

ENGINEER OF RECORD

CHAMPION SOLAR

7010 US-61, MINNESOTA CITY, MN 55959.
TEL:(507)312-0190
LIC:ELE#800248

CUSTOMER INFORMATION

NAME&ADDRESS:
JEREMIAH STAPLES
25 GAME FARM RD N, MAPLE PLAIN, MN 55359.

44°58'42.48"N 93°42'28.15"W
APN:331-182-444-0004

AHJ:MN-CITY OF INDEPENDENCE

UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

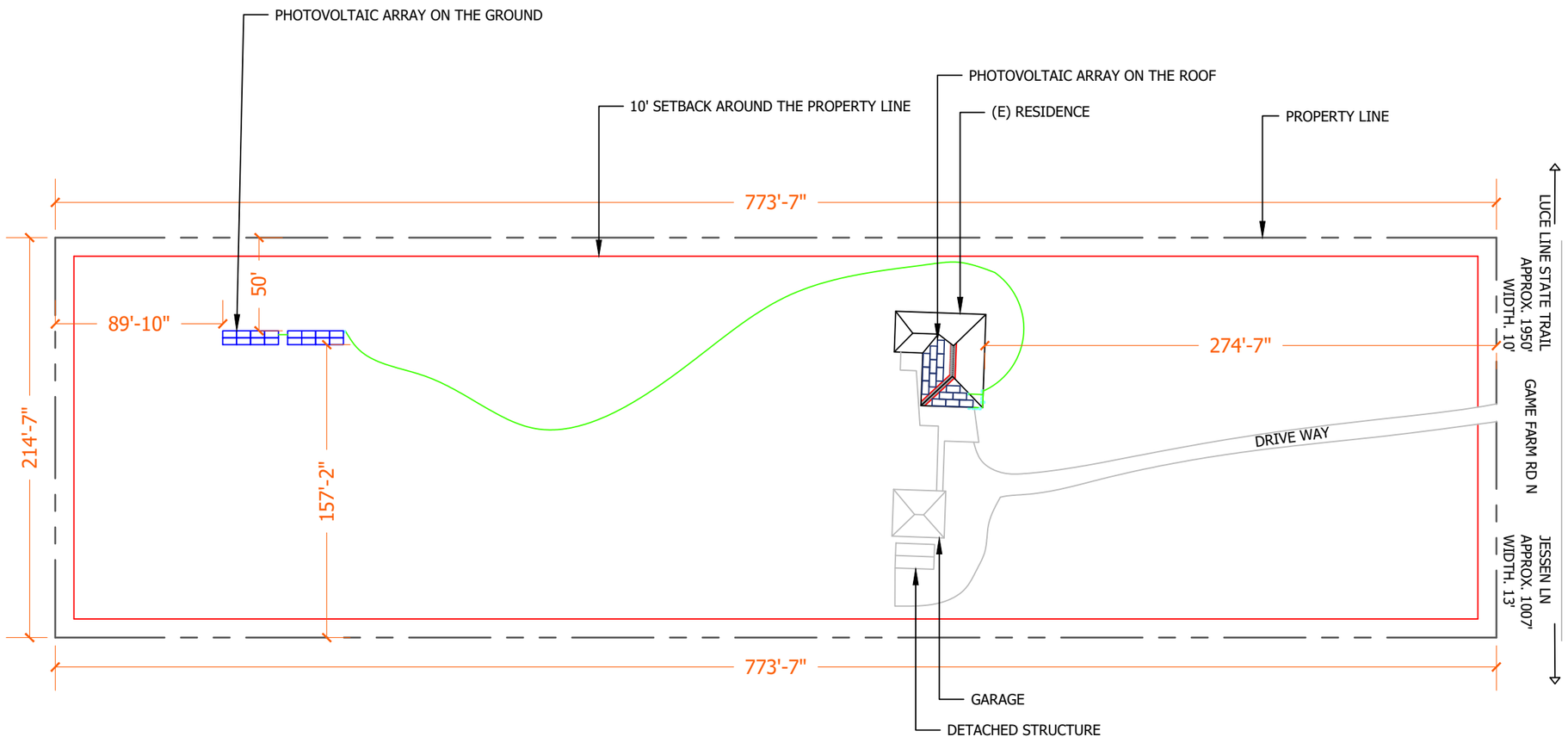
SITE PLAN-1

DESIGNER/CHECKED BY:
MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-1.0

JEREMIAH STAPLES - 17.080kW DC, 13.600kW AC

SITE PLAN-2



A | SITE PLAN-2
PV-1.1 | SCALE: 1"=70'-0"

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
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UTILITY:WH ELECTRIC COOPERATIVE

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SITE PLAN-2

DESIGNER/CHECKED BY:
MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-1.1

GENERAL NOTES

GENERAL NOTES

1. MODULES ARE LISTED UNDER UL 1703 AND CONFORM TO THE STANDARDS.
2. INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
3. DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
4. WORKING CLEARANCES AROUND THE NEW PV ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC CODE.
5. ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/ SERVICE EQUIPMENT.
6. ALL CONDUCTORS SHALL BE 600V, 75°C STANDARD COPPER UNLESS OTHERWISE NOTED.
7. THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
8. PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING

EQUIPMENT LOCATION:

9. ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC CODE.
10. WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC CODE AND NEC TABLES.
11. JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC CODE.
12. ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
13. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
14. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE

.

WIRING & CONDUIT NOTES:

15. ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
16. CONDUCTORS SIZED ACCORDING TO NEC CODE.
17. DC WIRING LIMITED TO MODULE FOOTPRINT. MICRO INVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS.
18. AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE PHASE C OR L3- BLUE, YELLOW, ORANGE**, OR OTHER CONVENTION NEUTRAL- WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC CODE].

INTERCONNECTION NOTES:

24. LOAD-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC CODE]
25. THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS INPUT MAY NOT EXCEED 120% OF BUSBAR RATING [NEC CODE].
26. WHEN SUM OF THE PV SOURCES EQUALS >100% OF BUSBAR RATING, PV DEDICATED BACKFED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD [NEC CODE].
27. AT MULTIPLE PV OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVER CURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE COMBINED OVER CURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC CODE.
28. FEEDER TAP INTER CONNECTION (LOAD SIDE) ACCORDING TO NEC CODE
29. SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC CODE WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC CODE
30. BACK FEEDING BREAKER FOR UTILITY-INTERACTIVE INVERTER OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC CODE].

GROUNDING NOTES:

31. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVISES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
32. PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC CODE AND MINIMUM NEC TABLE.
33. EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC CODE AND MICRO INVERTER MANUFACTURER'S INSTRUCTIONS.
34. THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.
35. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC CODE]
36. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).
37. DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
38. RAPID SHUTDOWN OF ENERGIZED CONDUCTORS BEYOND 10 FT OF PV ARRAY OR 5 FT INSIDE A BUILDING WITHIN 10 SECONDS. CONTROLLED CONDUCTORS ≤30V AND ≤240VA [NEC CODE]. LOCATION OF LABEL ACCORDING TO AHJ.
39. ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC CODE.

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
(1)SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)
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AHJ:MN-CITY OF INDEPENDENCE

UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

GENERAL NOTES

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-2.0

MOUNTING DETAILS

MODULES DATA

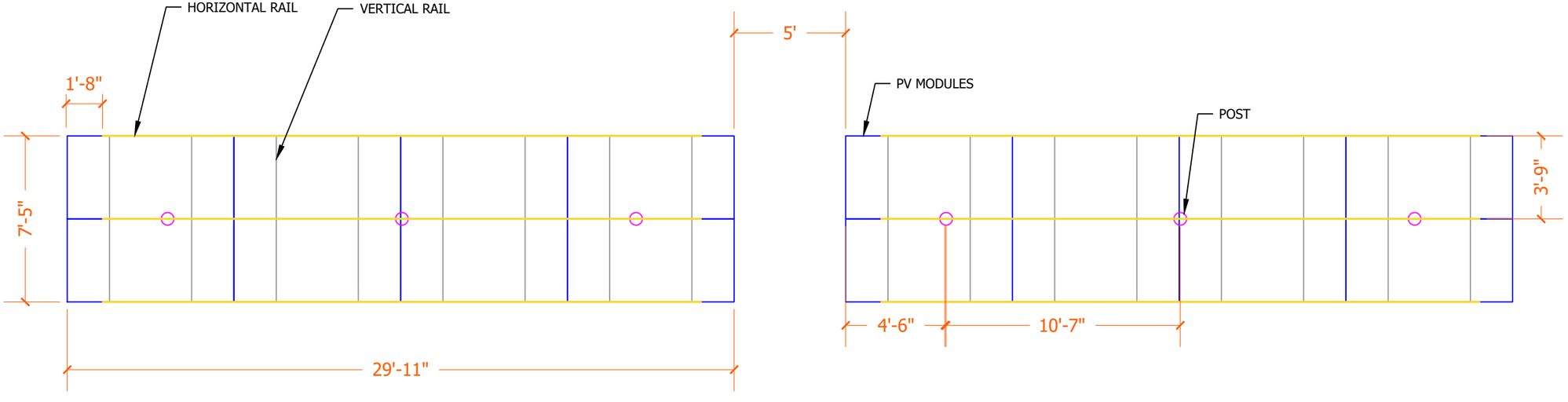
JINKO SOLAR JKM580N-72HL4-BDV	
MODULE DIMS	89.69"x44.65"x1.18"

SITE INFORMATION

AZIMUTH	180°
TILT	35°
NO. OF MODULES	28

B1 | AERIAL VIEW

PV-3.0 | SCALE: NTS



B | MOUNTING DETAILS

PV-3.0 | SCALE:3/16"=1'-0"

RVR ENGINEERING

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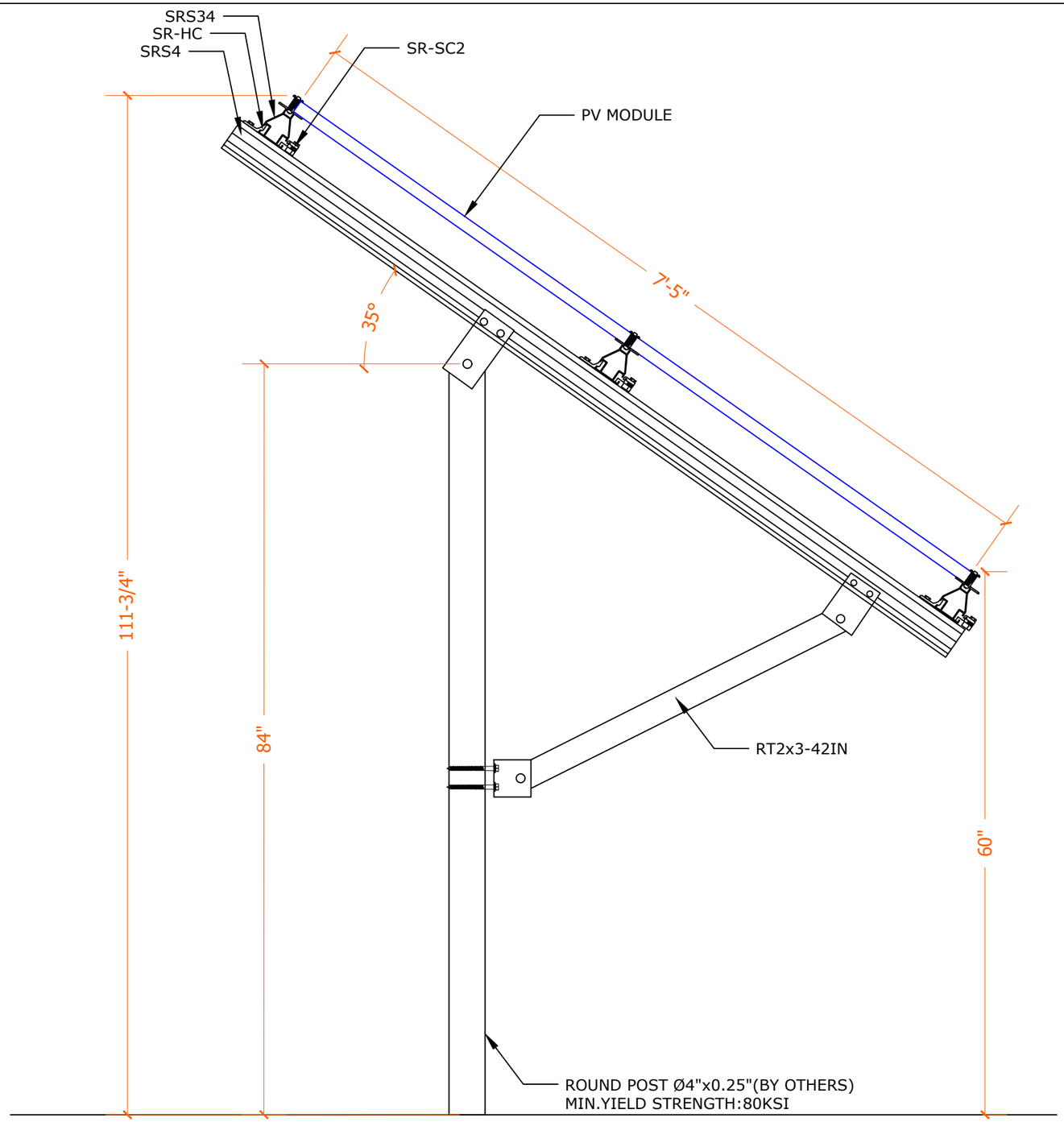
MOUNTING DETAILS-1

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-3.0

GROUNDMOUNT STRUCTURAL DETAILS



SCALE: NTS

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UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

STRUCTURAL DETAILS-1

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-3.1

DEAD LOAD CALCULATIONS

BOM	QUANTITY	LBS/UNIT	TOTAL WEIGHT (LBS)
MODULES	15	63.71	955.65
MID-CLAMP	18	0.050	0.90
END-CLAMP	24	0.050	1.20
RAIL LENGTH	224	0.680	152.32
SPLICE BAR	10	0.360	3.60
QUICKMOUNT HUG	66	1.47	97.02
TOTAL WEIGHT OF THE SYSTEM (LBS)			1210.69
TOTAL ARRAY AREA ON THE ROOF (SQ. FT.)			778.68
WEIGHT PER SQ. FT.(LBS)			1.55
WEIGHT PER PENETRATION (LBS)			18.34

UPLIFT CALCULATIONS

UPLIFT	12250.8	LBS
PULL OUT STRENGTH	40590	LBS
POINT LOADING	14	LBS

MODULES DATA

JINKO JKM520M-7TL4-V	
MODULE DIMS	87.80"x44.65"x1.38"
LAG SCREWS	5/16"x3":2.5"MIN EMBEDMENT

FIRE SETBACK

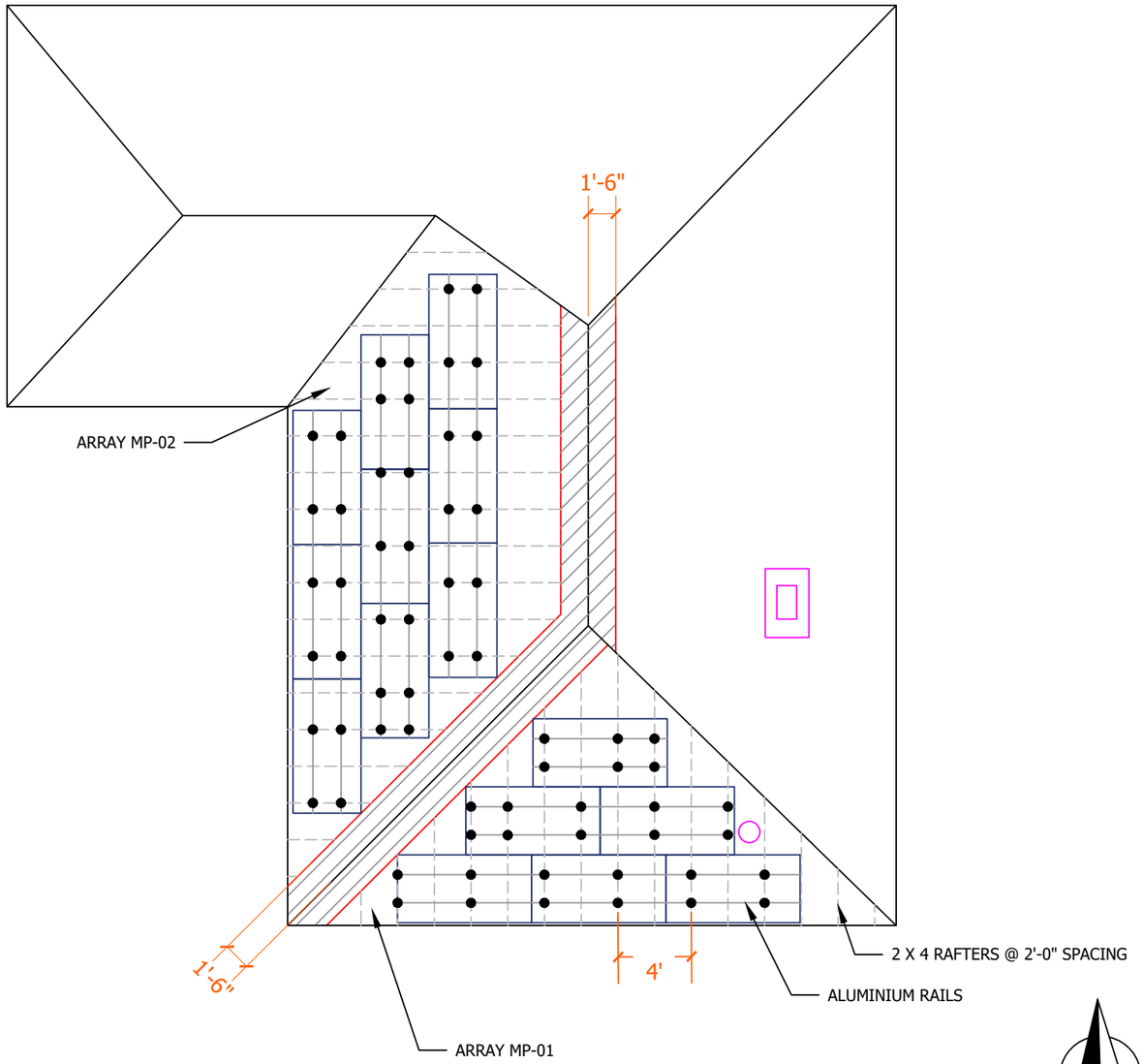
MINIMUM FIRE ACCESS PATHWAYS PER MFC 2020
RIDGE TO ARRAY: 1'-6"
EAVE TO ARRAY : 3'-0"
HIP/VALLEY W/ ADJACENT ARRAY: 1'-6"
EACH SIDE HIP/VALLEY W/O ADJACENT ARRAY: 0'-0"

NOTE: INSTALLER TO VERIFY RAFTER SIZE, SPACING AND SLOPED SPANS, AND NOTIFY ANY DISCREPANCIES BEFORE PROCEEDING.

AERIAL VIEW

SITE INFORMATION

SR.NO	AZIMUTH	PITCH	NO. OF MODULES	ARRAY AREA (SQ. FT.)	ROOF TYPE	ATTACHMENT	ROOF EXPOSURE	FRAME TYPE	FRAME SIZE	FRAME SPACING	MAX RAIL SPAN	OVER HANG
MP-01	178°	22°	6	166.9	COMPOSITION SHINGLE	QUICKMOUNT HUG	ATTIC	RAFTERS	2 X 4	2'-0"	4'-0"	2'-0"
MP-02	268°	22°	9	250.3	COMPOSITION SHINGLE	QUICKMOUNT HUG	ATTIC	RAFTERS	2 X 4	2'-0"	2'-0"	2'-0"



B | MOUNTING DETAILS
PV-3.2 | SCALE: 1/8" = 1'-0"

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
(1)SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)
(1)SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
OPTIMIZER:
(31) S650B POWER OPTIMIZERS

ENGINEER OF RECORD

CHAMPION SOLAR

7010 US-61, MINNESOTA CITY, MN 55959.
TEL:(507)312-0190
LIC:ELE#800248

CUSTOMER INFORMATION

NAME&ADDRESS:

JEREMIAH STAPLES
25 GAME FARM RD N, MAPLE PLAIN, MN 55359.

44°58'42.48"N 93°42'28.15"W
APN:331-182-444-0004

AHJ:MN-CITY OF INDEPENDENCE

UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

STRUCTURAL DETAILS-2

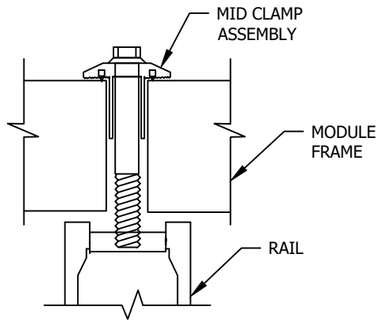
DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-3.2

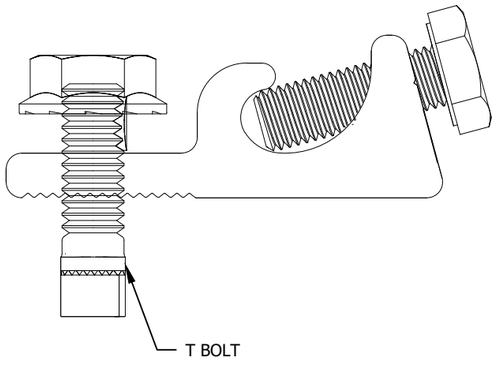
GROUNDING DETAILS

MODULE TO MODULE & MODULE TO RAIL



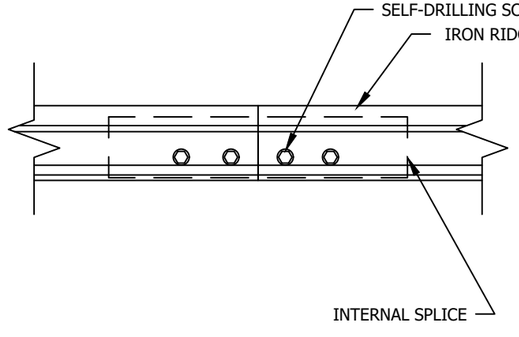
GROUNDING MID-CLAMP
SCALE: NTS

GROUNDING



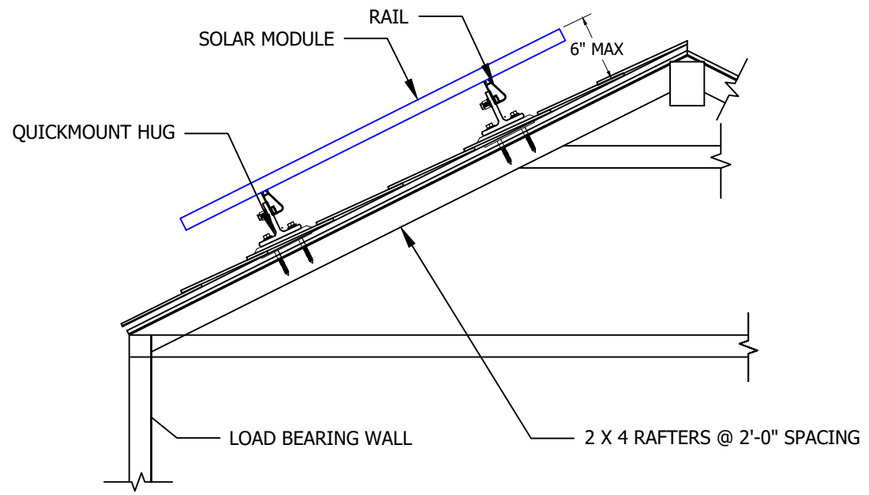
SCALE: NTS

RAIL TO RAIL



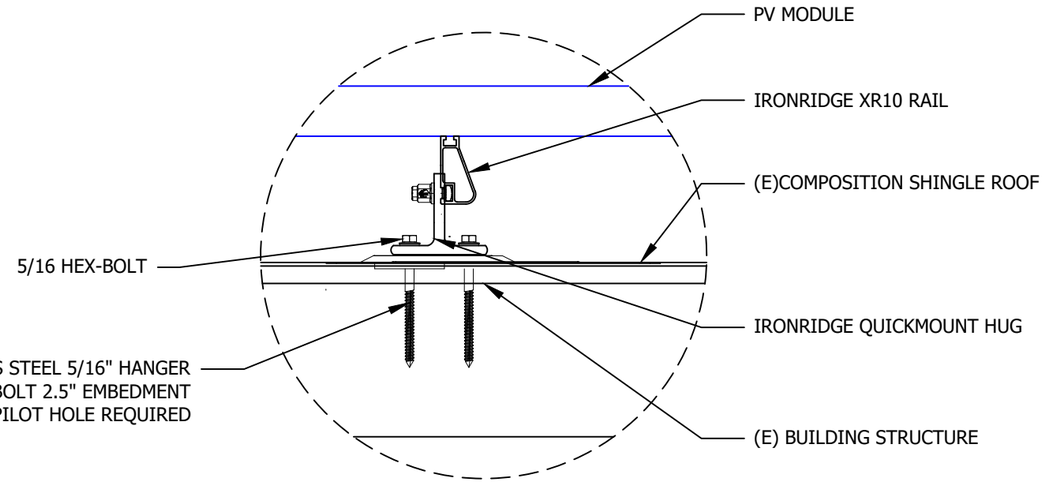
SCALE: NTS

ROOF FRAMING DETAIL



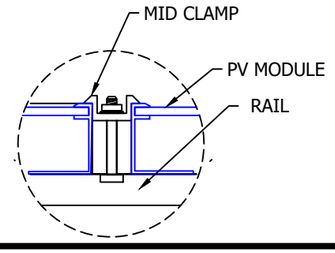
SCALE: NTS

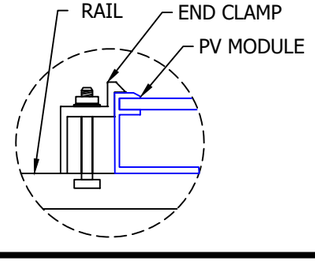
ATTACHMENT DETAIL- QUICKMOUNT HUG



SCALE: NTS

MID-CLAMP & END CLAMP DETAIL





RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
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(15)JINKO JKM520M-7TL4-V
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(240V,1PH)
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DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-3.3

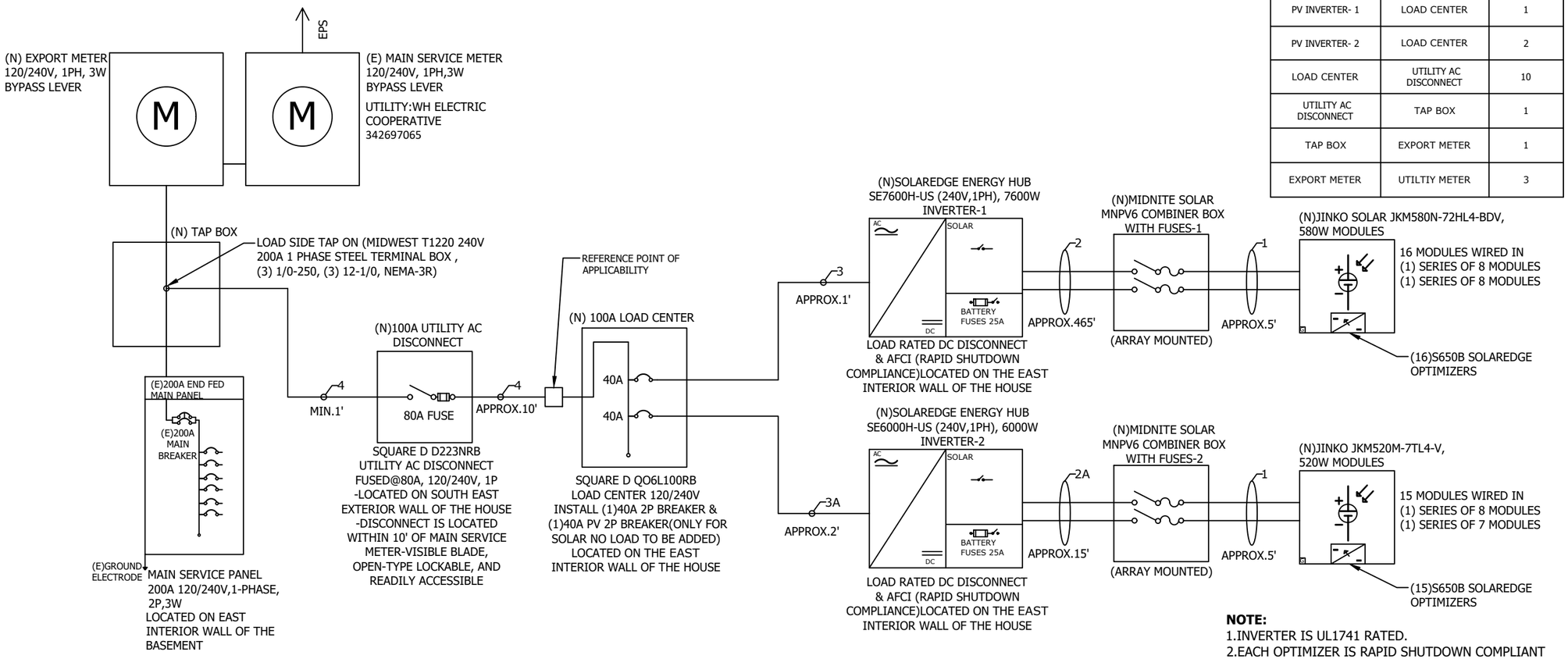
SINGLE LINE DIAGRAM: DC SYSTEM SIZE - 17080W, AC SYSTEM SIZE - 13600W

NOTES:
1.UTILITY AC DISCONNECTS ARE
- LOCATED WITHIN 10' OF MAIN SERVICE/BILLING METER
- VISIBLE,LOCKABLE,READILY ACCESSIBLE AND 24/7 ACCESS

2.SYSTEM PEAK CURRENT 53.00AMPS, 120/240V, 1 PHASE,3-WIRE
3.PV MODULES UL1703
4.INVERTER UL 1741
5.THE SITE HAS 24/7 KEYLESS ACCESS TO METERS AND UTILITY AC DISCONNECTS.
6.NO CLEARANCE CONCERNS EXISTING WITH UNDERGROUND SERVICE ENTRANCE CONDUCTORS.
7.SECONDARY INTERCONNECTION
8.DESIGN SHALL MEET NEC 2023

METER NUMBER	342697065

DISTANCE BETWEEN EQUIPMENT		
FROM	TO	DISTANCE(FT)
MODULE	MIDNITE SOLAR MNPV6 COMBINER BOX WITH FUSES- 1, 2	5
MIDNITE SOLAR MNPV6 COMBINER BOX- 1	PV INVERTER- 1	465
MIDNITE SOLAR MNPV6 COMBINER BOX-2	PV INVERTER- 2	15
PV INVERTER- 1	LOAD CENTER	1
PV INVERTER- 2	LOAD CENTER	2
LOAD CENTER	UTILITY AC DISCONNECT	10
UTILITY AC DISCONNECT	TAP BOX	1
TAP BOX	EXPORT METER	1
EXPORT METER	UTILTIY METER	3



NOTE:
1.INVERTER IS UL1741 RATED.
2.EACH OPTIMIZER IS RAPID SHUTDOWN COMPLIANT

CONDUIT SCHEDULE				
TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND
1,1A	NONE	(4) 10 AWG PV WIRE	NONE	(1) 6 AWG BARE COPPER
2	1" SCH 40 PVC (BELOW GROUND) 1" SCH 80 PVC (ABOVE GROUND)	(4) 8 AWG THHN/THWN-2	NONE	(1) 10 AWG THHN/THWN-2
2A	3/4"EMT OR EQUIV	(4) 10 AWG THHN/THWN-2	NONE	(1) 10 AWG THHN/THWN-2
3	3/4"EMT OR EQUIV	(2) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2
3A	3/4"EMT OR EQUIV	(2) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2
4	1"EMT OR EQUIV	(2) 4 AWG THHN/THWN-2	(1) 4 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2

DC VOLTAGE DROP (TAG-2)	
Select Material	Cu
Select Wire Size	8
Select Conduit Type	PVC
Select Voltage & Phase	400
Enter Distance to Load (ft)	465
Enter Load (Amps)	18.75
OUTPUTS	
Voltage Drop (Volts)	10.95
% Voltage Drop	2.74
VARIABLES	
Phase Factor	1.732
K	12.9
Q-Factor	1
Circular Mils	16510

OCPD CALCULATIONS:

MAIN PANEL RATING:200A,

MAIN BREAKER RATING:200A

LOAD SIDE TAP:

100% ALLOWABLE BACKFEED IS 200A

INVERTER OVERCURRENT PROTECTION=

INVERTER O/P I X CONTINUOUS LOAD(1.25)X

#OF INVERTERS=(32x1.25x1)+(25x1.25x1)=71.25A

=>PV BREAKER SIZE= 80A

RVR ENGINEERING

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PROJECT NUMBER:CHAM-011492

SINGLE LINE DIAGRAM

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-4.0

ELECTRICAL CALCULATION

MODULE SPECIFICATION-1	
MODEL	JINKO SOLAR JKM580N-72HL4-BDV
MODULE POWER @ STC	580W
OPEN CIRCUIT VOLTAGE:**Voc**	51.47V
MAX POWER VOLTAGE:**Vmp**	42.59V
SHORT CIRCUIT CURRENT:**Isc**	14.37A
MAX POWER CURRENT:**Imp**	13.62A

MODULE SPECIFICATION-2	
MODEL	JINKO JKM520M-7TL4-V
MODULE POWER @ STC	520W
OPEN CIRCUIT VOLTAGE:**Voc**	48.99V
MAX POWER VOLTAGE:**Vmp**	40.47V
SHORT CIRCUIT CURRENT:**Isc**	13.53A
MAX POWER CURRENT:**Imp**	12.85A

INVERTER SPECIFICATIONS	INVERTER-1	INVERTER-2
MODEL	SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)	SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
POWER RATING	7600W	6000W
MAX OUTPUT CURRENT	32A	25A
CEC WEIGHTED EFFICIENCY	99%	99%
MAX INPUT CURRENT	20A	16.5A
MAX DC VOLTAGE	480V	480V

SYSTEM CHARACTERISTICS	INVERTER-1	INVERTER-2
DC SYSTEM SIZE	9280 W	7800 W
INVERTER STRING VOLTAGE	380V	380V
MAX INVERTER SYSTEM VOLTAGE	480V	480V
MAX SHORT CIRCUIT CURRENT	30A	30A
OPERATING CURRENT	24.42A	18.32A

OPTIMIZER CHARACTERISTICS	
MODEL	**S650B**
MIN INPUT VOLTAGE	12.5 VDC
MAX INPUT VOLTAGE	85 VDC
MAX SHORT CIRCUIT CURRENT	15 ADC
MAX OUTPUT CURRENT	15 ADC

ELECTRICAL CALCULATION

DC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

TAG ID	REQUIRED CONDUCTOR AMPACITY											CORRECTED AMPACITY CALCULATION							TERMINAL RATING CHECK			DERATED CONDUCTOR AMPACITY CHECK		
1,1A	1	X	15	X	1	=	15.00	X	1.25	=	18.75A	40	X	0.96	X	1	=	38.40A	18.75A	<	35A	18.75A	<	38.40A
2	1	X	15	X	1	=	15.00	X	1.25	=	18.75A	55	X	0.96	X	0.8	=	42.24A	18.75A	<	50A	18.75A	<	42.24A
2A	1	X	16	X	1	=	15.00	X	1.25	=	18.75A	40	X	0.96	X	0.8	=	30.72A	18.75A	<	35A	18.75A	<	30.72A

AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

TAG ID	REQUIRED CONDUCTOR AMPACITY									CORRECTED AMPACITY CALCULATION								TERMINAL RATING CHECK			DERATED CONDUCTOR AMPACITY CHECK		
3	32	X	1	=	32.00	X	1.25	=	40.00A	55	X	0.96	X	1	=	52.80A		40.00A	<	50A	40.00A	<	52.80A
3A	25	X	1	=	25.00	X	1.25	=	31.25A	55	X	0.96	X	1	=	52.80A		31.25A	<	50A	31.25A	<	52.80A
4	57	X	1	=	57.00	X	1.25	=	71.25A	95	X	0.96	X	1	=	91.20A		71.25A	<	85A	71.25A	<	91.20A

ELECTRICAL NOTES:

1. MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
2. BREAKER/FUSE SIZES CONFORMS TO NEC 240.6 CODE SECTION.
3. AC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC 250.66.
4. AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(C).
5. AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2)(C).
6. AX. SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7.7. CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.16.
8. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.0(D).
9. CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.8(C).

RVR ENGINEERING

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MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-4.1

WARNING PLACARDS

WARNING

ELECTRIC SHOCK HAZARD
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

LABEL LOCATION
AC DISCONNECT,POINT OF INTERCONNECTION
[PER CODE: NEC 690.13(B)]

WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION
AC DISCONNECT,POINT OF INTERCONNECTION
[PER CODE: NEC 690.13(B)]

WARNING-Electric Shock Hazard
No User Serviceable Parts inside
Contact authorized service provide for assistance

LABEL LOCATION
INVERTER, JUNCTION BOXES(ROOF),
AC DISCONNECT
[PER CODE: NEC 690.13]

WARNING:PHOTOVOLTAIC POWER SOURCE

LABEL LOCATION
CONDUIT, COMBINER BOX
[PER CODE: NEC690.31(G)(3)]

WARNING
DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

LABEL LOCATION
POINT OF INTERCONNECTION
[PER CODE: NEC705.12(D)(4)]

GENERATION SYSTEM CONNECTED

LABEL LOCATION
POINT OF INTERCONNECTION

UTILITY AC DISCONNECT

LABEL LOCATION
AC DISCONNECT

EXPORT METER

LABEL LOCATION
TO BE LOCATED ON EXPORT METER

PHOTOVOLTAIC SYSTEM AC DISCONNECT SWITCH
RATED AC OPERATING CURRENT 57 AMPS AC
AC NOMINAL OPERATING VOLTAGE 240 VAC

LABEL LOCATION
AC DISCONNECT , POINT OF INTERCONNECTION
[PER CODE: NEC 690.54]

WARNING
INVERTER OUTPUT CONNECTION
DO NOT RELOCATE THIS OVER-CURRENT DEVICE

LABEL LOCATION
POINT OF INTERCONNECTION
(PER CODE: NEC 705.12(2)(b)
[Not Required if Panel board is rated not less than sum of ampere ratings of all overcurrent devices supplying it]

CAUTION: SOLAR CIRCUIT

LABEL LOCATION
MARKINGS PLACED ON ALL INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLES AT LEAST EVERY 10 FT, AT TURNS AND ABOVE/BELOW PENETRATIONS AND ALL COMBINER/JUNCTION BOXES.
(PER CODE: IFC605.11.1.4)

SOLAR DISCONNECT

LABEL LOCATION
DISCONNECT, POINT OF INTERCONNECTION
[PER CODE: NEC 690.13(B)]

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

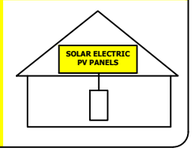
LABEL LOCATION
WEATHER RESISTANT MATERIAL, DURABLE ADHESDIVE, UL969 AS STANDARD TO WEATHER RATING (UL LISTING OF MARKINGS NOT REQUIRED), MIN ⅜" LETTER HEIGHT ARIAL OR SIMILAR FONT NON-BOLD,PLACED WITHIN THE MAIN SERVICE DISCONNECT,PLACED ON THE OUTSIDE OF THE COVER WHEN DISCONNECT IS OPERATED WITH THE SERVICE PANEL CLOSED.
(PWER CODE: NEC690.15 ,690.13(B))

RAPID SHUTDOWN SWITCH FOR SOLAR SYSTEM

LABEL LOCATION
INVERTER,POINT OF INTERCONNECTION
[PER CODE: NEC 690.56(C)(3)]

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY

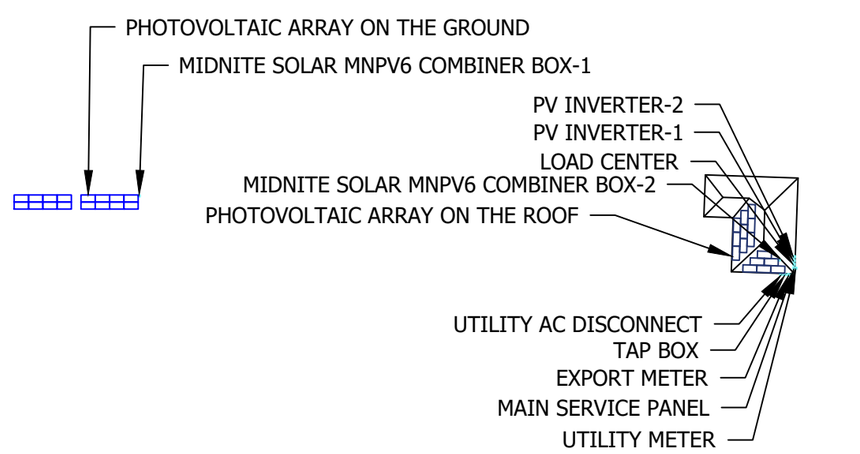


LABEL LOCATION
AC DISCONNECT, DC DISCONNECT, POINT OF INTERCONNECTION
(PER CODE: NEC690.56(C)(1)

ALL PLACARDS SHALL BE OF WEATHER PROOF CONSTRUCTION, BACKGROUND ON ALL PLACARDS SHALL BE RED WITH WHITE LETTERING U.O.N.
PLACARD SHALL BE MOUNTED DIRECTLY ON THE EXISTING UTILITY ELECTRICAL SERVICE.FASTENERS APPROVED BY THE LOCAL JURISDICTION
NOTE:ALL SIGNAGE CANNOT BE HAND WRITTEN NEC 110.21

WARNING: ⚠

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN



25 GAME FARM RD N, MAPLE PLAIN, MN 55359.

PHOTOVOLTAIC SYSTEM DC DISCONNECT
MAXIMUM VOLTAGE 480 VDC
MAXIMUM CIRCUIT CURRENT 30 ADC
MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER(IF INSTALLED) 15 ADC

LABEL LOCATION
DC DISCONNECT SWITCH, INVERTER-1
[PER. CODE: NEC 690.53]

PHOTOVOLTAIC SYSTEM DC DISCONNECT
MAXIMUM VOLTAGE 480 VDC
MAXIMUM CIRCUIT CURRENT 30 ADC
MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER(IF INSTALLED) 15 ADC

LABEL LOCATION
DC DISCONNECT SWITCH, INVERTER-2
[PER. CODE: NEC 690.53]

RVR ENGINEERING

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www.jinkosolar.com

Jinko Solar
Building Your Trust in Solar

Tiger Neo N-type 72HL4-BDV

560-580 Watt

BIFACIAL MODULE WITH DUAL GLASS

N-Type

Positive power tolerance of 0~+3%

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018
Occupational health and safety management systems

Key Features

SMBB Technology
Better light trapping and current collection to improve module power output and reliability.

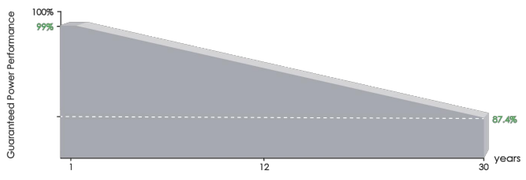
Hot 2.0 Technology
The N-type module with Hot 2.0 technology has better reliability and lower LID/LETID.

PID Resistance
Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.

Enhanced Mechanical Load
Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

Higher Power Output
Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR.

LINEAR PERFORMANCE WARRANTY

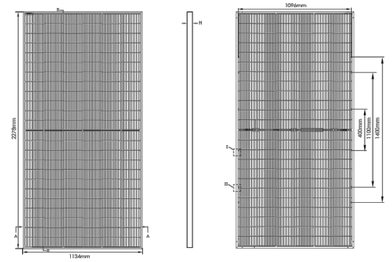


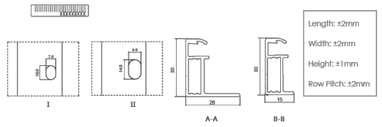
12 Year Product Warranty

30 Year Linear Power Warranty

0.40% Annual Degradation Over 30 years

Engineering Drawings



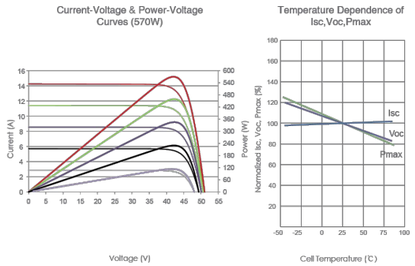


Packaging Configuration

(Two pallets = One stack)

36pcs/pallets, 72pcs/stack, 720pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	N type Mono-crystalline
No. of cells	144 (2×72)
Dimensions	2278×1134×30mm (89.69×44.65×1.18 inch)
Weight	32 kg (70.55 lbs)
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm², (+): 400mm , (-): 200mm or Customized Length

SPECIFICATIONS

Module Type	JKM560N-72HL4-BDV		JKM565N-72HL4-BDV		JKM570N-72HL4-BDV		JKM575N-72HL4-BDV		JKM580N-72HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	560Wp	421Wp	565Wp	425Wp	570Wp	429Wp	575Wp	432Wp	580Wp	436Wp
Maximum Power Voltage (Vmp)	41.95V	39.39V	42.14V	39.52V	42.29V	39.65V	42.44V	39.78V	42.59V	39.87V
Maximum Power Current (Imp)	13.35A	10.69A	13.41A	10.75A	13.48A	10.81A	13.55A	10.87A	13.62A	10.94A
Open-circuit Voltage (Voc)	50.67V	48.13V	50.87V	48.32V	51.07V	48.51V	51.27V	48.70V	51.47V	48.89V
Short-circuit Current (Isc)	14.13A	11.41A	14.19A	11.46A	14.25A	11.50A	14.31A	11.55A	14.37A	11.60A
Module Efficiency STC (%)	21.68%		21.87%		22.07%		22.26%		22.45%	
Operating Temperature(℃)	-40℃~+85℃									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	30A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.30%/℃									
Temperature coefficients of Voc	-0.25%/℃									
Temperature coefficients of Isc	0.046%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									
Refer. Bifacial Factor	80±5%									

BIFACIAL OUTPUT-REARSIDE POWER GAIN

5%	Maximum Power (Pmax)	588Wp	593Wp	599Wp	604Wp	609Wp
	Module Efficiency STC (%)	22.76%	22.97%	23.17%	23.37%	23.57%
15%	Maximum Power (Pmax)	644Wp	650Wp	656Wp	661Wp	667Wp
	Module Efficiency STC (%)	24.93%	25.15%	25.37%	25.60%	25.82%
25%	Maximum Power (Pmax)	700Wp	706Wp	713Wp	719Wp	725Wp
	Module Efficiency STC (%)	27.10%	27.34%	27.58%	27.82%	28.07%

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

JKM560-580N-72HL4-BDV-F3-EN

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
(1)SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)
(1)SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
OPTIMIZER:
(31) S650B POWER OPTIMIZERS

ENGINEER OF RECORD

CHAMPION SOLAR

7010 US-61, MINNESOTA CITY, MN 55959.
TEL:(507)312-0190
LIC:ELE#800248

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UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

MODULE SPECSHEET

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-6.0

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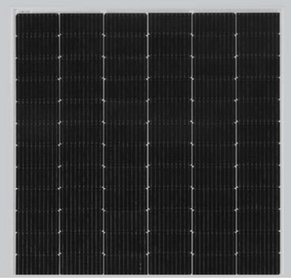
JinKO Solar
Building Your Trust in Solar

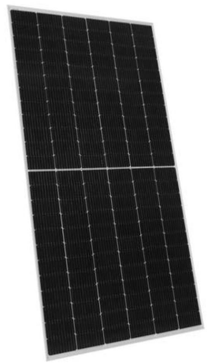
TR 72M
520-540 Watt
Mono-facial

Tiling Ribbon (TR) Technology

Positive power tolerance of 0~+3%

Tiger Pro





KEY FEATURES

TR technology + Half Cell
TR technology with Half cell aims to eliminate the cell gap to increase module efficiency (mono-facial up to 21.35 %)

MBB instead of 5BB
MBB technology decreases the distance between bus bars and finger grid line which is benefit to power increase.

Higher lifetime Power Yield
2.0% first year degradation,
0.55% linear degradation

Best Warranty
12 year product warranty,
25 year linear power warranty

Strengthened Mechanical Support
5400 Pa snow load, 2400 Pa wind load

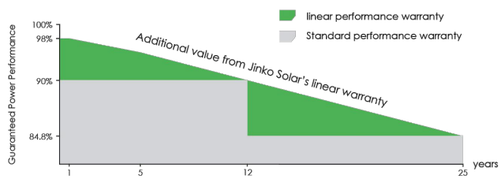
PV CYCLE · TÜVRheinland CERTIFIED · CE · POSITIVE QUALITY™ Continuous Quality Assurance · CLEAN ENERGY COUNCIL MEMBER

ISO9001:2015, ISO14001:2015, ISO45001:2018 certified factory

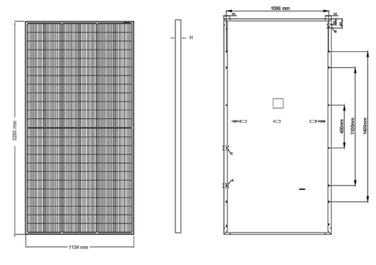
IEC61215, IEC61730 certified product

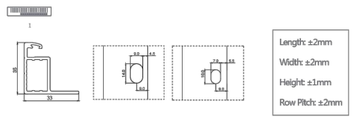
LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty • 25 Year Linear Power Warranty
0.55% Annual Degradation Over 25 years

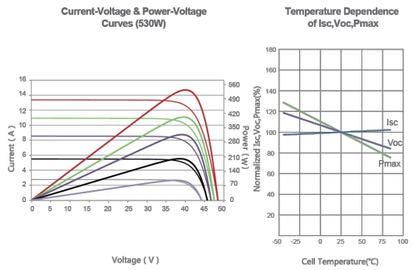


Engineering Drawings





Electrical Performance & Temperature Dependence



Packaging Configuration

(Two pallets = One stack)

31pcs/pallets, 62pcs/stack, 620pcs/ 40'HQ Container

Mechanical Characteristics

Cell Type	P type Mono-crystalline
No.of cells	144 (2×72)
Dimensions	2230×1134×35mm (87.80×44.65×1.38 inch)
Weight	28.9 kg (63.71 lbs)
Front Glass	3.2mm,Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm² (+): 290mm , (-): 145 mm or Customized Length

SPECIFICATIONS

Module Type	JKM520M-7TL4-V		JKM525M-7TL4-V		JKM530M-7TL4-V		JKM535M-7TL4-V		JKM540M-7TL4-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	520Wp	387Wp	525Wp	391Wp	530Wp	394Wp	535Wp	398Wp	540Wp	402Wp
Maximum Power Voltage (Vmp)	40.47V	37.63V	40.61V	37.78V	40.74V	37.92V	40.88V	38.05V	41.01V	38.19V
Maximum Power Current (Imp)	12.85A	10.28A	12.93A	10.34A	13.01A	10.40A	13.09A	10.46A	13.17A	10.52A
Open-circuit Voltage (Voc)	48.99V	46.24V	49.13V	46.37V	49.26V	46.50V	49.40V	46.63V	49.53V	46.75V
Short-circuit Current (Isc)	13.53A	10.93A	13.61A	10.99A	13.69A	11.06A	13.77A	11.12A	13.85A	11.19A
Module Efficiency STC (%)	20.56%		20.76%		20.96%		21.16%		21.35%	
Operating Temperature(℃)	-40℃~+85℃									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.35%/℃									
Temperature coefficients of Voc	-0.28%/℃									
Temperature coefficients of Isc	0.048%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									

*STC: Irradiance 1000W/m² · Cell Temperature 25°C · AM=1.5

NOCT: Irradiance 800W/m² · Ambient Temperature 20°C · AM=1.5 · Wind Speed 1m/s

TR JKM520-540M-7TL4-V-A1-EN

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
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(1)SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
OPTIMIZER:
(31) S650B POWER OPTIMIZERS

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PROJECT NUMBER:CHAM-011492

MODULE SPECSHEET-2

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-6.1

Single Phase Energy Hub Inverter with Prism Technology

For North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US[1]

HOME BACKUP

Optimized battery storage with HD-Wave technology

- Record-breaking 99% weighted efficiency with 200% DC oversizing
- Small, lightweight, and easy to install
- Modular design, future ready with optional upgrades to:
  - DC-coupled storage for full or partial home backup
  - Built-in consumption monitoring
  - Direct connection to the SolarEdge smart EV charger
- Multi-inverter, scalable storage solution
  - With enhanced battery power up to 10kW
- Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020, per article 690.11 and 690.12
- Embedded revenue grade production data, ANSI C12.20 Class 0.5

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Single Phase Energy Hub Inverter with Prism Technology

For North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US[1]

	SE3000H-US	SE3800H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	UNITS
OUTPUT - AC ON GRID							
Rated AC Power	3000	3800 @ 240V 3300 @ 208V	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	W
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	W
AC Frequency Range (min - nom - max)	59.3 - 60 - 60.5[2]						Hz
Maximum Continuous Output Current @ 240V	12.5	16	25	32	42	47.5	A
Maximum Continuous Output Current @ 208V	-	16	24	-	-	48.5	A
GFDI Threshold	1						A
Total Harmonic Distortion (THD)	<3						%
Power Factor	1, adjustable -0.85 to 0.85						
Utility Monitoring,IslandingProtection,Country ConfigurableThresholds	Yes						
Charge Battery from AC (if allowed)	Yes						
Typical Nighttime Power Consumption	<2.5						W
OUTPUT - AC BACKUP[3]							
Rated AC Power in Backup Operation[4]	3000	3800 7600*	6000	7600 10300*	10000	10300	W
AC L-L Output Voltage Range in Backup	211 - 264						Vac
AC L-N Output Voltage Range in Backup	105 - 132						Vac
AC Frequency Range in Backup (min - nom - max)	55 - 60 - 65						Hz
Maximum Continuous Output Current in Backup Operation	12.5	16 32*	25	32 43*	42	43	A
GFDI	1						A
THD	<5						%
OUTPUT - SMART EV CHARGER AC							
Rated AC Power	9600						W
AC Output Voltage Range	211 - 264						Vac
On-Grid AC Frequency Range (min - nom - max)	59.3 - 60 - 60.5						Hz
Maximum Continuous Output Current @240V (grid, PV and battery)	40						Aac
INPUT - DC (PV AND BATTERY)							
Transformer-less, Ungrounded	Yes						
Max Input Voltage	480						Vdc
Nom DC Input Voltage	380						Vdc
Reverse-Polarity Protection	Yes						
Ground-Fault Isolation Detection	600kΩ Sensitivity						
INPUT - DC (PV)							
Maximum DC Power @ 240V	6000	7600 15200*	12000	15200 22800*	22000	22800	W
Maximum DC Power @ 208V	-	6600	10000	-	-	20000	W
Maximum Input Current[5] @ 240V	8.5	10.5 20*	16.5	20 31*	27	31	Adc
Maximum Input Current[5] @ 208V	-	9	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45						Adc
Maximum Inverter Efficiency	99	99.2					%
CEC Weighted Efficiency	99					99 @ 240V 98.5 @ 208V	%
2-pole Disconnection	Yes						

* Supported with PN SExxxxH-USMMxxxxxx or SExxxxH-USMNxxxxxx

(1) These specifications apply to inverters with part numbers SExxxxH-USSMxxxxx or SExxxxH-USSNxxxxxx and connection unit model number DCD-1PH-US-PxH-F-x
(2) For other regional settings please contact SolarEdge support
(3) Not designed for standalone applications and requires AC for commissioning. Backup functionality is only supported for 240V grid
(4) Rated AC power in Backup Operation are valid for installations with multiple inverters. For a single backup inverter operation, rated AC power in Backup is 90% of the value stated
(5) A higher current source may be used; the inverter will limit its input current to the values stated

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
(1)SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)
(1)SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
OPTIMIZER:
(31) S650B POWER OPTIMIZERS

ENGINEER OF RECORD

CHAMPION SOLAR

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APN:331-182-444-0004

AHJ:MN-CITY OF INDEPENDENCE

UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

INVERTER SPECSHEET-1

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-6.2

Single Phase Energy Hub Inverter with Prism Technology

For North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US[1]

	SE3000H-US	SE3800H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	UNITS
INPUT - DC (BATTERY)							
Supported Battery Types	SolarEdge Energy Bank, LG RESU Prime[6]						
Number of Batteries per Inverter	Up to 3 SolarEdge Energy Bank, up to 2 LG RESU Prime						
Continuous Power[7]	6000	7600	10000				W
Peak Power[7]	6000	7600	10000				W
Max Input Current	16	20	26.5				Adc
2-pole Disconnection	Yes						
SMART ENERGY CAPABILITIES							
Consumption Metering	Built - in[8]						
Backup & Battery Storage	With Backup Interface (purchased separately) for service up to 200A; Up to 3 inverters						
EV Charging	Direct connection to Smart EV charger						
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, Cellular[9], Wi-Fi (optional),SolarEdge Energy Net (optional)						
Revenue Grade Metering, ANSI C12.20	Built - in[8]						
Integrated AC, DC and Communication Connection Unit	Yes						
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi Access Point for local connection						
DC Voltage Rapid Shutdown (PV and Battery)	Yes, according to NEC 2014, NEC 2017 and NEC 2020 690.12						
STANDARD COMPLIANCE							
Safety	UL1741, UL1741 SA, UL1741 PCS, UL1699B, UL1998, UL9540, CSA 22.2						
Grid Connection Standards	IEEE1547, Rule 21, Rule 14H						
Emissions	FCC part 15 class B						
INSTALLATION SPECIFICATIONS							
AC Output and EV AC Output Conduit Size / AWG Range	1" maximum / 14-4 AWG						
DC Input (PV and Battery) Conduit Size / AWG Range	1" maximum / 14-6 AWG						
Dimensions with Connection Unit (H x W x D)	17.7 x 14.6 x 6.8 / 450 x 370 x 174			17.7 x 14.6 x 6.8 / 450 x 370 x 174 17.7 x 14.6 x 6.8 / 450 x 370 x 174*	17.7 x 14.6 x 6.8 / 450 x 370 x 174		in / mm
Weight with Connection Unit	26 / 11.8			26 / 11.8 41.7/ 18.9*	41.7 / 18.9		lb / kg
Noise	< 25	< 25 < 50*	< 25	< 50			dBA
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60[10]						°F / °C
Protection Rating	NEMA 4						

(6) The part numbers SExxxxH-USxMxxxxx only support the SolarEdge Energy Bank. The part numbers SExxxxH-USxNxxxxx support both SolarEdge Energy Bank and LG RESU Prime batteries Requires supporting inverter firmware

(7) Discharge power is limited up to the inverter rated AC power for on-grid and backup applications

(8) For consumption metering current transformers should be ordered separately: SECT-SPL-225A-T-20 or SEACT0750-400NA-20 units per box. Revenue grade metering is only for production metering

(9) Information concerning the Data Plan's terms & conditions is available in the following link: https://www.solaredge.com/sites/default/files/se-communication-plan-terms-and-conditions-eng.pdf

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

RoHS

RVR ENGINEERING

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DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-6.3

Power Optimizer

For Residential Installations

S440 / S500 / S500B / S650B

POWER OPTIMIZER

Enabling PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules

* Functionality subject to inverter model and firmware version

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Power Optimizer

For Residential Installations

S440 / S500 / S500B / S650B

	S440	S500	S500B	S650B	UNIT
INPUT					
Rated Input DC Power(1)	440(2)	500(3)		650	W
Absolute Maximum Input Voltage (Voc)	60		125	85	Vdc
MPPT Operating Range	8 – 60		12.5 – 105	12.5 – 85	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5(2)	15			Adc
Maximum Efficiency	99.5				%
Weighted Efficiency	98.6				%
Overvoltage Category	II				
OUTPUT DURING OPERATION					
Maximum Output Current	15				Adc
Maximum Output Voltage	60		80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)					
Safety Output Voltage per Power Optimizer	1 ± 0.1				Vdc
STANDARD COMPLIANCE(4)					
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3, CISPR11, EN-55011				
Safety	IEC62109-1 (class II safety), UL1741				
Material	UL94 V-0, UV Resistant				
RoHS	Yes				
Fire Safety	VDE-AR-E 2100-712:2018-12				
INSTALLATION SPECIFICATIONS					
Maximum Allowed System Voltage	1000				Vdc
Dimensions (W x L x H)	129 x 155 x 30		129 x 165 x 45		mm
Weight	720		790		gr
Input Connector	MC4(5)				
Input Wire Length	0.1				m
Output Connector	MC4				
Output Wire Length	(+) 2.3, (-) 0.10				m
Operating Temperature Range(6)	-40 to +85				˚C
Protection Rating	IP68				
Relative Humidity	0 – 100				%

(1) Rated power of the module at STC will not exceed the Power Optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) For installations after April 1st, 2024, the Rated Input DC Power for S440 is 490W, and the Maximum Isc of Connected PV Module is 15A.
(3) For installations after April 1st, 2024, the Rated Input DC Power for S500 and S500B is 550W.
(4) For details about CE compliance, see Declaration of Conformity – CE.
(5) For other connector types please contact SolarEdge.
(6) Power derating is applied for ambient temperatures above +85°C for S440 and S500, and for ambient temperatures above +75°C for S500B. Refer to the Power Optimizers Temperature Derating technical note for details.

PV System Design Using a SolarEdge Inverter(7)		SolarEdge Home Wave Inverter Single Phase	SolarEdge Home Short String Inverter Three Phase	Three Phase for 230/400V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440, S500	8	9	16	18	
	S500B, S650B	6	8	14		
Maximum String Length (Power Optimizers)		25	20	50		
Maximum Continuous Power per String		5700	5625	11,250	12,750	W
Maximum Allowed Connected Power per String(8) (In multiple string designs, the maximum is permitted only when the difference in connected power between strings is 2,000W or less)		6800(9)	See(8)	13,500	15,000	W
Parallel Strings of Different Lengths or Orientations		Yes				

(7) It is not allowed to mix S-series and P-series Power Optimizers in new installations in the same string.
(8) If the inverter's rated AC power ≤ the maximum continuous power per string, then the maximum connected power per string will be able to reach up to the inverter's maximum input DC power. Refer to the Single String Design Guidelines application note for details.
(9) For inverters with a rated AC power ≥ 8000W that are connected to at least two strings.

CE RoHS

RVR ENGINEERING

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(31) S650B POWER OPTIMIZERS

ENGINEER OF RECORD

CHAMPION SOLAR

7010 US-61, MINNESOTA CITY, MN 55959.
TEL:(507)312-0190
LIC:ELE#800248

CUSTOMER INFORMATION

NAME&ADDRESS:

JEREMIAH STAPLES
25 GAME FARM RD N, MAPLE PLAIN, MN 55359.

44°58'42.48"N 93°42'28.15"W
APN:331-182-444-0004

AHJ:MN-CITY OF INDEPENDENCE

UTILITY:WH ELECTRIC COOPERATIVE

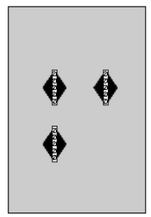
PROJECT NUMBER:CHAM-011492

OPTIMIZER SPECSHEET

DESIGNER/CHECKED BY:

MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-6.4



Representative Image

Catalog No. T1220

Description: TERMINAL BOX 200A 14X21 1PH

UPC No 784567574906

Home > Terminal Boxes > Terminal Boxes

Midwest Electric's Terminal Boxes are for use in converting from overhead to underground services and for multi-circuit wiring. The NEMA 3R enclosure provides protection for all terminations inside and provides a convenient, timesaving means of wire splices and connections. Midwest offers a full line of terminal boxes for 240-volt, single-phase and 600-volt, three-phase ratings. Typical applications, both indoors and outdoors, include inter-building wiring on farms, convenient splicing means for industrial use, and commercial construction.

Descriptors

Category	Terminal Boxes

Specifications

Amps	200
Phase	1
Volts	120/240
AIC	10,000
Cabinet Size	14 in. W X 21 in. H
Hub Provision	Yes
Wire Range	(3) 1/0-250, (3) 12-1/0
Unit Weight	19 lb

Classifications

Standard Package	1
Stock Class Code	Stock

Approvals

Certification	UL/CUL

Publications

Title	Publication No.	Publication Type
Storm Season Brochure This brochure highlights the most popular products sold during storm season.	MET1005	Brochures
Terminal Boxes, 120/240V - 600V 2 pages. MET-021 Rev. C.	MET-021B	Brochures

Additional Documentation: Visit our Publication Library to find technical documentation, time current curves, CSI Specifications and promotional literature.

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
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TAP BOX SPECSHEET

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Tech Brief

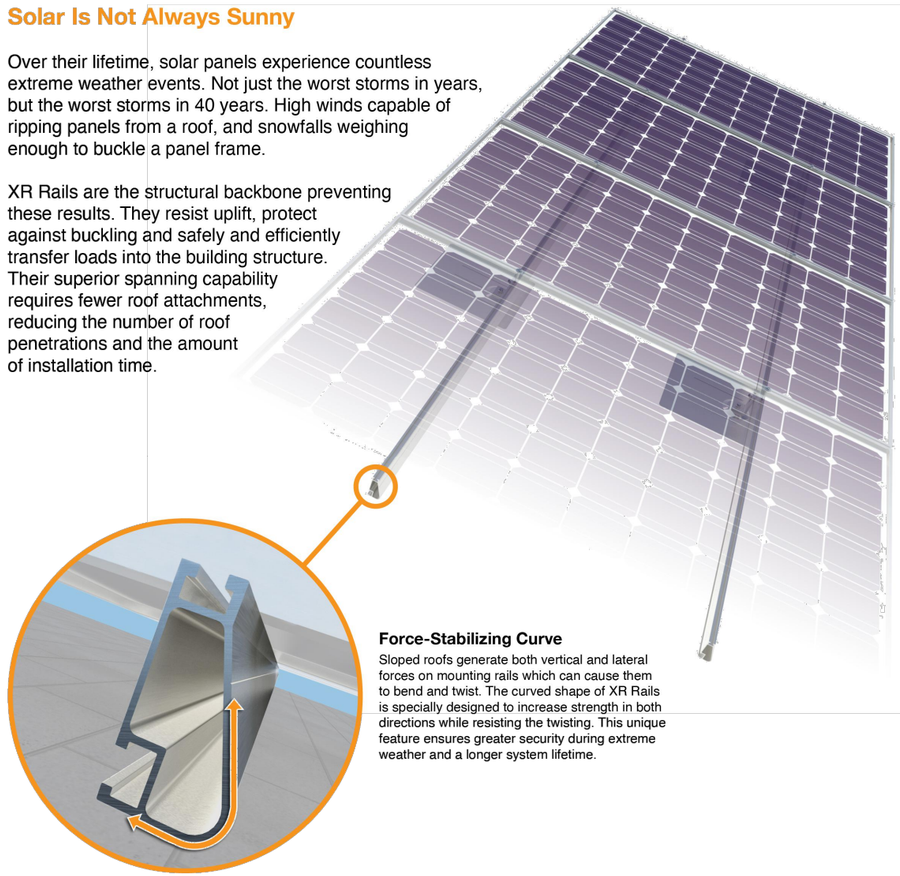
IRONRIDGE

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 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

Tech Brief

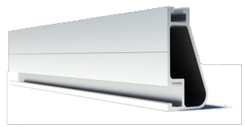
XR Rail Family

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 spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black 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 10 feet.

- 10' 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 up to 12 feet for commercial applications.

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

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

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

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

RVR ENGINEERING

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Tech Brief

IRONRIDGE

QuickMount® HUG

The Respect Your Roof Deserves

When integrating with a home, solar attachments must be dependable for the lifetime of the rooftop. Due to recent innovations, many asphalt shingles have bonded courses. A mount that protects without the need to pry shingles can really speed things up.

Halo UltraGrip®(HUG®) is here to respect the roof. Its Halo is a cast-aluminum barrier that encases the UltraGrip, our industrial-grade, foam-and-mastic seal. This allows HUG to accelerate the installation process and provide the utmost in waterproofing protection. Give your roof a HUG.®

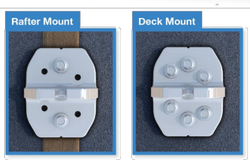
Multi-Tiered Waterproofing
HUG® utilizes a multi-tiered stack of components to provide revolutionary waterproofing protection. The Halo cast-aluminum, raised-perimeter foundation surrounds the UltraGrip base—a foam-backed mastic seal combination that prevents water intrusion by adhering and sealing with the shingle surface.

Halo UltraGrip™ is part of the QuickMount® product line.

UltraGrip® Seal Technology
HUG UltraGrip utilizes a state-of-the-art seal design that uses a unique, foam-and-mastic combination. The foam-backed adhesive provides an entirely new flashing system that conforms and adheres to every nook and cranny of composition shingles, filling gaps and shingle step-downs (up to 1/8" in height).

Intertek

Triple Rated & Certified to Respect the Roof™
UL 2703, 441 (27)
TAS 100(A)-95



Rafter & Deck Mounting Options
Mount HUG® to the roof rafters, the roof deck, or both with our custom-engineered RD (rafter-or-deck) Structural Screw. The RD Structural Screw anchors HUG to the roof with an EPDM sealing washer, completing the stack of waterproofing barriers. See backside for more installation information.

Tech Brief

Adaptive, Rafter-Friendly Installation

Hit the rafter? Good to go!
When you find a rafter, you can move on. Only 2 RD Structural Screws are needed.

Miss the rafter? Try it again.
Place another screw to the left or right. If rafter is found, install 3rd and final screw.

Still no luck? Install the rest.
If more than 3 screws miss the rafter, secure six screws to deck mount it.

Trusted Strength & Less Hassle

25-Year Warranty
Product guaranteed free of impairing defects.

Structural capacities of HUG® were reviewed in many load directions, with racking rail running cross-slope or up-slope in relation to roof pitch.

For further details, see the HUG certification letters for attaching to rafters and decking.

IronRidge designed the HUG, in combination with the RD Structural Screw to streamline installs, which means the following:

- No prying shingles
- No roof nail interference
- No pilot holes necessary
- No sealant (in most cases)
- No butyl shims needed

Attachment Loading
The rafter-mounted HUG has been tested and rated to support 1004 (lbs) of uplift and 368 (lbs) of lateral load.

Structural Design
Parts are designed and certified for compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings
HUG passed both the UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek.

UL 2703 System
Systems conform to UL 2703 mechanical and bonding requirements. See Flush Mount Manual for more info.

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MOUNTING SPECSHEET

DESIGNER/CHECKED BY:

MS/VR

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Tech Brief

IRONRIDGE

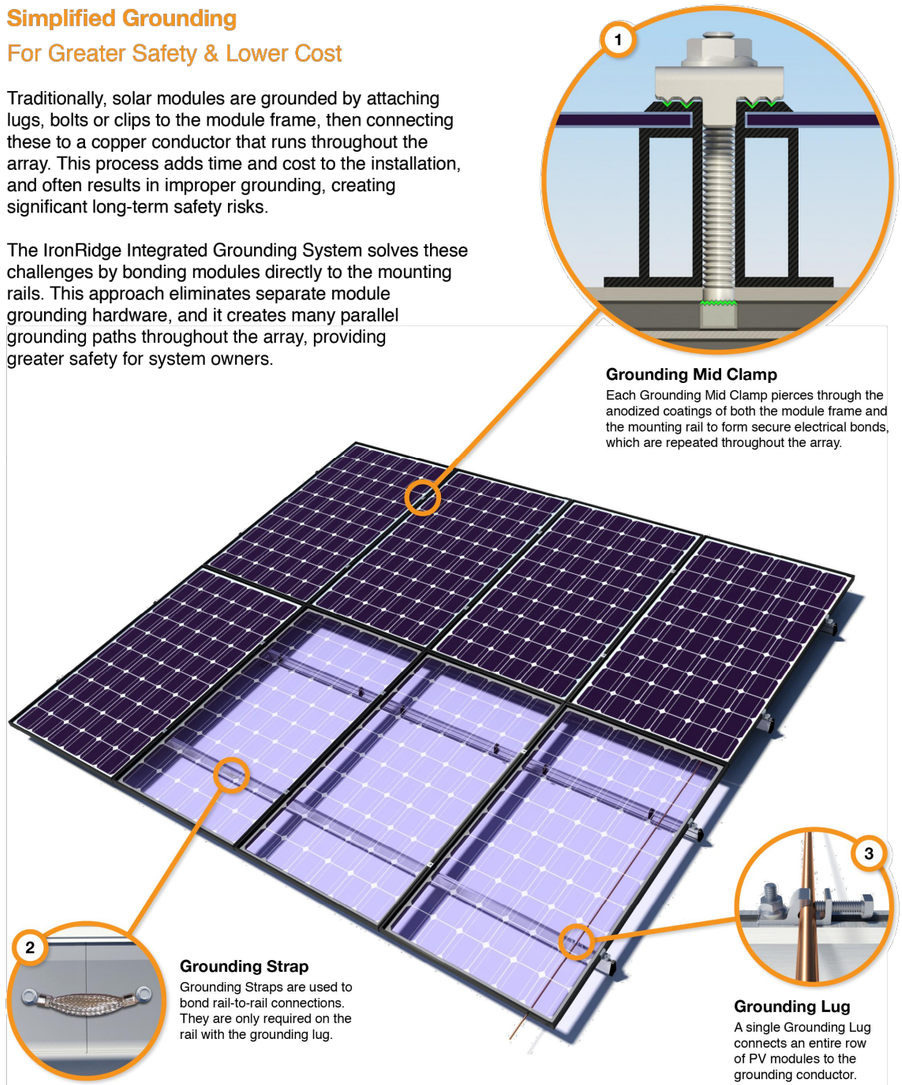
Integrated Grounding System

Simplified Grounding

For Greater Safety & Lower Cost

Traditionally, solar modules are grounded by attaching lugs, bolts or clips to the module frame, then connecting these to a copper conductor that runs throughout the array. This process adds time and cost to the installation, and often results in improper grounding, creating significant long-term safety risks.

The IronRidge Integrated Grounding System solves these challenges by bonding modules directly to the mounting rails. This approach eliminates separate module grounding hardware, and it creates many parallel grounding paths throughout the array, providing greater safety for system owners.



Grounding Mid Clamp
Each Grounding Mid Clamp pierces through the anodized coatings of both the module frame and the mounting rail to form secure electrical bonds, which are repeated throughout the array.

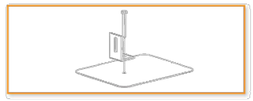
Grounding Strap
Grounding Straps are used to bond rail-to-rail connections. They are only required on the rail with the grounding lug.

Grounding Lug
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

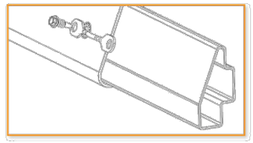
Tech Brief

Installation Overview

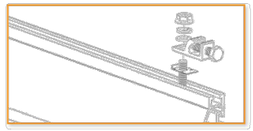
1 Install Roof Attachments
- Install appropriate roof flashing and/or standoff for roof type.
- Attach L-Feet to flashing or standoff.



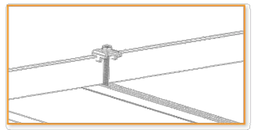
2 Prepare Rail Connections
- Insert splice into first rail, then secure with Grounding Strap and self-drilling screw.
- Slide second rail over splice, then secure with opposite end of Grounding Strap and self-drilling screw.



3 Mount & Ground Rails
- Attach rails to L-Feet and level rails.
- Install one Grounding Lug per row of modules.
- Connect Grounding Lug to grounding conductor.



4 Install Modules & Clamps
- Install first module using End Clamps and Grounding Mid Clamps.
- Install additional modules using Grounding Mid Clamps.
- Finish row with a second pair of End Clamps.



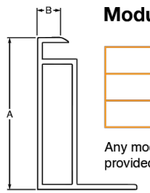
Testing & Certification

The IronRidge Integrated Grounding System has been tested and certified to UL 2703 by Intertek Group plc.

UL 2703 is a proposed UL standard for evaluating solar module mounting and clamping devices. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

The testing process closely mirrors that of UL 1703, the solar module testing standard, including temperature and humidity cycling, electrical and mechanical load testing, and manufacturing quality reviews.

Module Frame Compatibility



Dimension	Range
A	31.0mm - 51.0mm
B	5.08mm (minimum)

Any module frames whose parameters are not listed in the provided table have not been tested for compatibility.

The Grounding Clamp has proven robust in grounding 60-cell and 72-cell solar module frames with box construction and a range of anodization thicknesses.

All solar modules listed to UL 1703 and with frame construction within the parameters stated above are compatible with the IronRidge Integrated Grounding System.

Go to ironridge.com/ig

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INTEGRATED GROUNDING SPECSHEET

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MS/VR

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Tech Brief

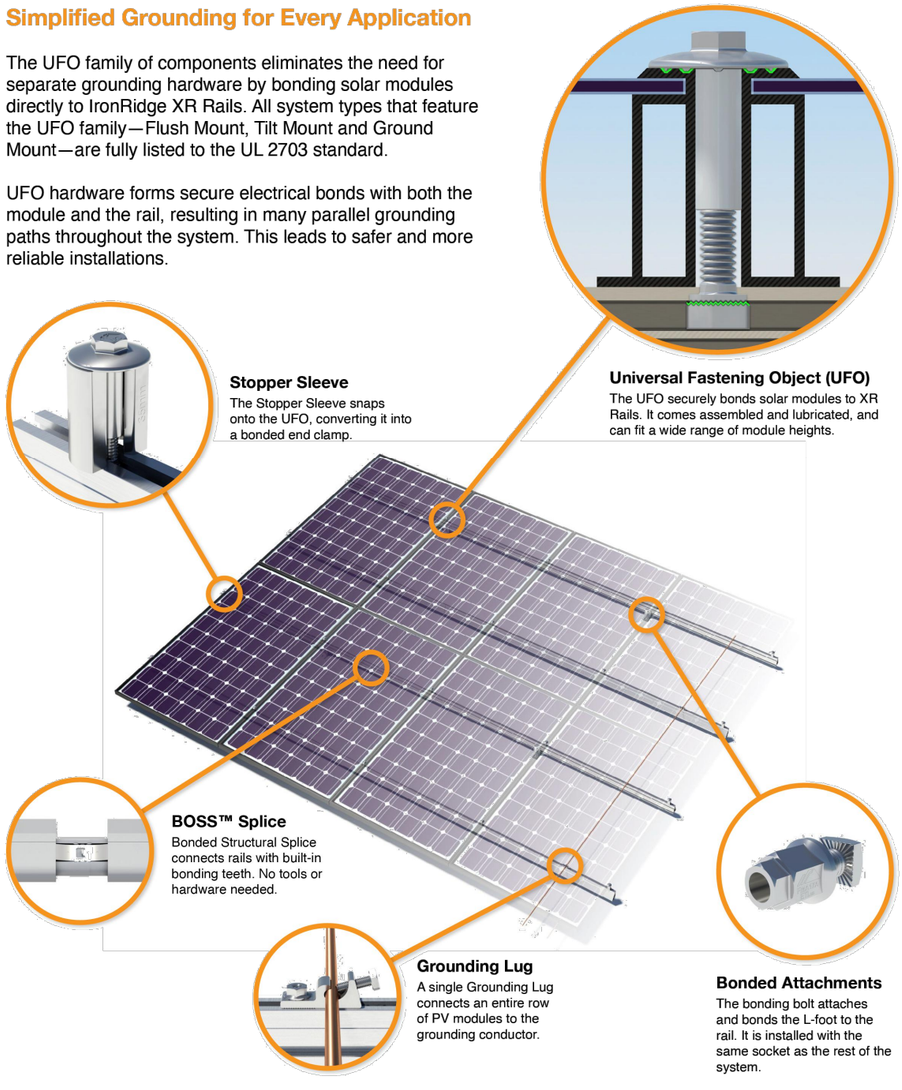
IRONRIDGE

UFO Family of Components

Simplified Grounding for Every Application

The UFO family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge XR Rails. All system types that feature the UFO family—Flush Mount, Tilt Mount and Ground Mount—are fully listed to the UL 2703 standard.

UFO hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.



Stopper Sleeve
The Stopper Sleeve snaps onto the UFO, converting it into a bonded end clamp.

Universal Fastening Object (UFO)
The UFO securely bonds solar modules to XR Rails. It comes assembled and lubricated, and can fit a wide range of module heights.

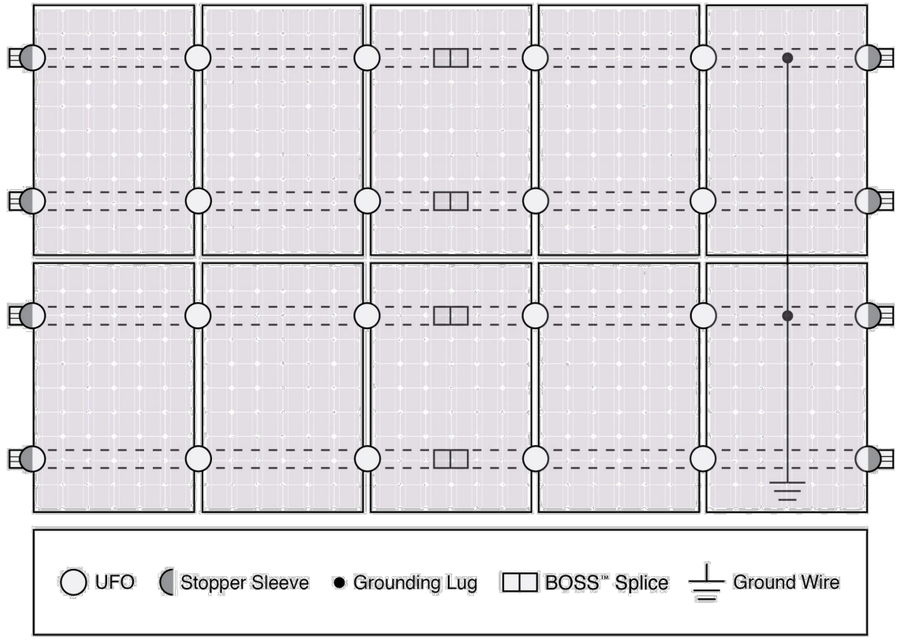
BOSS™ Splice
Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.

Grounding Lug
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments
The bonding bolt attaches and bonds the L-foot to the rail. It is installed with the same socket as the rest of the system.

Tech Brief

System Diagram



Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

The IronRidge Flush Mount, Tilt Mount, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Cross-System Compatibility			
Feature	**Flush Mount**	**Tilt Mount**	**Ground Mount**
XR Rails	✔	✔	XR100 & XR1000
UFO/Stopper	✔	✔	✔
BOSS™ Splice	✔	✔	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules Refer to installation manuals for a detailed list.		

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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.

These new requirements are being adopted throughout the country in 2016.

IronRidge Certification

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 Flush Mount and Tilt Mount Systems were tested on sloped and flat 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.

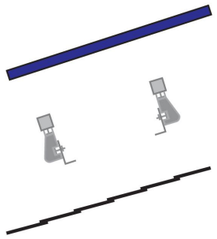
Fire Testing Process

Test Setup

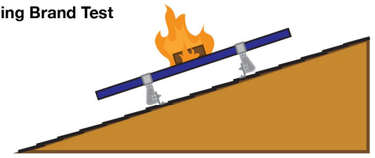
Solar Modules
Solar modules are given a Type classification based on their materials and construction.

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.

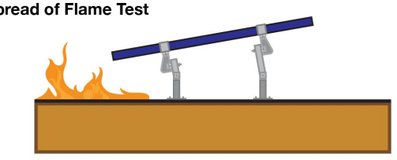


Burning Brand Test



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.

System	Roof Slope	Module	Fire Rating*
Flush Mount	Any Slope	Type 1, 2, & 3	Class A
Tilt Mount	≤ 6 Degrees	Type 1, 2, & 3	Class A

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

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

RVR ENGINEERING

SYSTEM INFORMATION

DC SYSTEM SIZE: 17080W
AC SYSTEM SIZE: 13600W
MODULES:
(16)JINKO SOLAR JKM580N-72HL4-BDV
(15)JINKO JKM520M-7TL4-V
INVERTER:
(1)SOLAREDGE ENERGY HUB SE7600H-US (240V,1PH)
(1)SOLAREDGE ENERGY HUB SE6000H-US (240V,1PH)
OPTIMIZER:
(31) S650B POWER OPTIMIZERS

ENGINEER OF RECORD

CHAMPION SOLAR

7010 US-61, MINNESOTA CITY, MN 55959.
TEL:(507)312-0190
LIC:ELE#800248

CUSTOMER INFORMATION

NAME&ADDRESS:
JEREMIAH STAPLES
25 GAME FARM RD N, MAPLE PLAIN, MN 55359.

44°58'42.48"N 93°42'28.15"W
APN:331-182-444-0004

AHJ:MN-CITY OF INDEPENDENCE

UTILITY:WH ELECTRIC COOPERATIVE

PROJECT NUMBER:CHAM-011492

FIRE RATING SPECSHEET

DESIGNER/CHECKED BY:
MS/VR

SCALE:AS NOTED	PAPER SIZE:17"x11"	
DATE:11/16/2024	REV:A	PV-6.10

1.0 GENERAL NOTES

1.1 THE CONTRACTOR(S) MUST VISIT THE SITES AND BECOME FAMILIARIZED WITH ALL CHARACTERISTICS AFFECTING NEW AND EXISTING CONSTRUCTIONS ON DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY CHANGES, ALTERATIONS, OR REVISIONS MUST BE REPORTED TO THE ENGINEER.

1.2 ENGINEER'S SEAL DOES NOT APPLY TO THE ADEQUACY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE ARRAY AND MOUNTING SYSTEM. EXISTING STRUCTURE ADEQUACY SHALL BE VERIFIED BY OTHERS.

1.3 OPSUN RACKING EXPECTS THAT THE BUILDING WAS PREVIOUSLY APPROVED BY THE MUNICIPAL BUILDING DEPARTMENT, AND THAT IT CONFORMS WITH REQUIREMENTS OF THE RELEVANT BUILDING CODES.

1.4 PROVIDE A MINIMUM SEPARATION BETWEEN THE RACKING SYSTEM AND ROOF EDGE AS NOTED ON THE DRAWING.

1.5 REVIEW OF THE STRUCTURAL CAPACITY OF THE EXISTING ROOF TO SUPPORT THE PV SYSTEM IS TO BE DONE BY OTHERS.

1.6 THE RACKING SYSTEM IS DESIGNED TO RESIST UPLIFT, OVERTURNING, AND SLIDING.

1.7 NOTES ON THIS PAGE APPLY BY DEFAULT. CAN DIFFER WHERE INDICATED IN THIS DOCUMENT

2.0 GENERAL INSTALLATION NOTES

2.1 READ STRUCTURAL DRAWINGS / BUILDING PERMIT DRAWINGS / CONSTRUCTION DRAWINGS IN CONJUNCTION WITH THE PRODUCT INSTALLATION INSTRUCTIONS (WITHIN THIS DOCUMENT AND/OR OTHER PROVIDED DOCUMENTS).

2.2 ON-SITE POSITIONING OF COMPONENTS, SUB ASSEMBLIES AND ASSEMBLIES MUST BE DONE USING DIMENSIONS PROVIDED IN THIS DOCUMENT. IF POSITIONING WITH THE PROVIDED DIMENSIONS IS NOT POSSIBLE, THE INSTALLER SHALL CONTACT AN OPSUN SYSTEMS REPRESENTATIVE.

2.3 ANY PERMANENT DEFORMATION (PLASTIC DEFORMATION) DUE TO OVER-TORQUING, HANDLING, SHIPPING OR ANY OTHER REASONS SHOULD BE BROUGHT TO THE ATTENTION OF AN OPSUN SYSTEMS REPRESENTATIVE.

2.4 THERE MUST BE A MINIMAL 13mm (0.5in) THERMAL BREAK FOR ANY CONTINOUS RAIL LENGTH OF 14.6m (48ft).

2.5 IF THE INSTALLER BREAKS THE BONDING OF THE PROVIDED HEX CAP SCREWS WITH LOCTITE BY TIGHTENING AND UNTIGHTENING THE FASTENER, THE INSTALLER MUST USE NEW FASTENERS, USE LOCTITE 204 OR EQUIVALENT OR USE AND ADEQUATE LOCK WASHER.

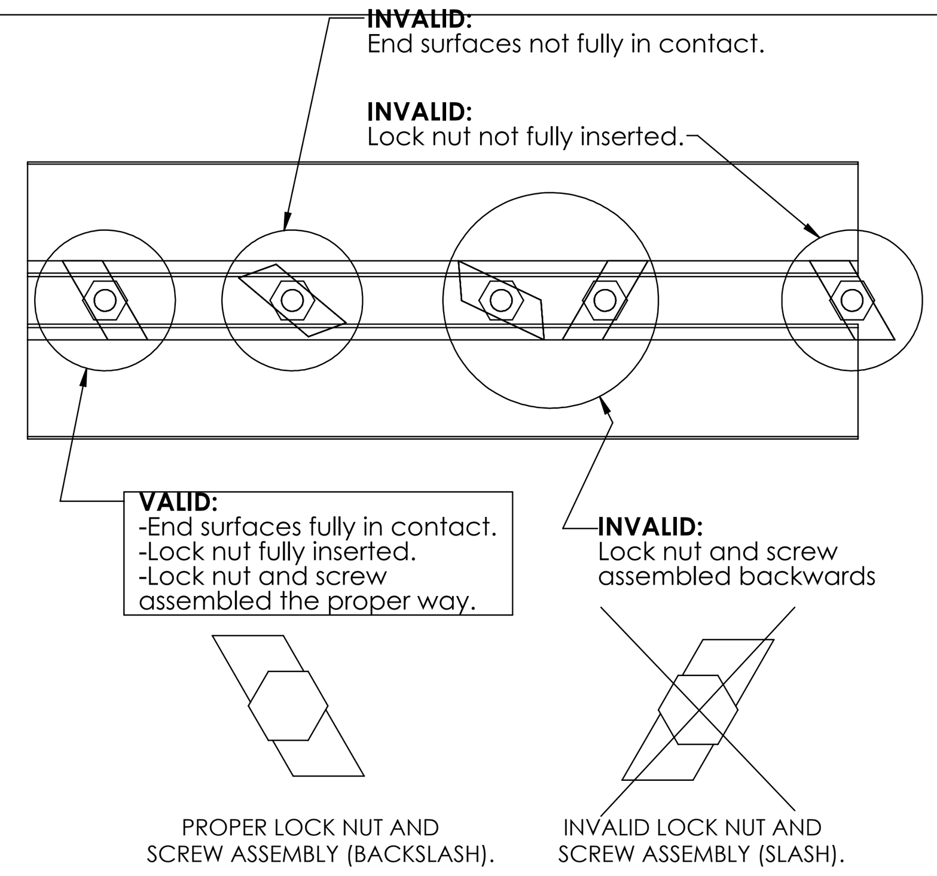
2.6 ALL PV WIRES MUST BE SECURED USING A TIE OR STAINLESS STEEL CABLE CLIP (WILEY / BURNDY OR EQ. BY OTHERS) ATTACHED TO THE RACKING STRUCTURE AT EACH 1m (3.28 ft).

2.7 OPSUN'S LOCK NUT (LN2-AL):

2.7.1 END SURFACES OF THE LOCK NUT MUST BE FULLY IN CONTACT WITH THE INTERIOR SURFACES OF RAILS.

2.7.2 LOCK NUTS MUST BE FULLY INSERTED INTO RAIL SLOTS. LOCK NUTS MUST NOT PROTUDE AT RAIL ENDS.

2.7.3 LOCK NUTS MUST BE ASSEMBLED TO LOOK LIKE A BACKSLASH WHEN LOOKING AT THE FASTERNER'S HEAD.



2.8 REQUIRED FASTENERS TIGHTENING TORQUE

2.8.1 3/8" HEX CAP SCREWS (BL-SS-3/8-XX) COUPLED TO LOCK NUTS (LN2-AL) MUST BE TORQUED AT 16 N·m (12 lbf · ft).

2.8.2 3/8" HEX CAP SCREWS (BL-SS-3/8-XX) COUPLED TO HEX NUTS (N-SS-3/8) OR KEPS NUTS (KN-SS-3/8) MUST BE TORQUED AT 27 N·m (20 lbf · ft).

2.8.3 SOCKET HEAD SCREW 5/16" (USED ON ZBC/UBC) MUST BE TORQUED AT 14 N·m (10 lbf · ft).

2.8.4 M8 SCREWS MUST BE TORQUED AT 8.-9.5 N·m (6-7 lbf · ft).

2.8.5 5/16" HEX CAP SCREWS COUPLED TO FIT NUTS (FN4-AL) MUST BE TORQUED AT 9.0 N·m (80 lbf · in).

2.8.6 1/2"HEX CAP BOLTS (BL-SS-1/2-XX) COUPLED TO HEX NUTS (N-SS-1/2) MUST BE TORQUED AT 58.3 N·m (43 lbf · ft)

2.8.7 1/4"HEX CAP BOLTS (BL-SS-1/4-XX) COUPLED TO HEX NUTS (N-SS-1/4) MUST BE TORQUED AT 13.5 N·m (10 lbf · ft)

2.8.8 10/32"HEX CAP BOLTS (BL-SS-10/32-XX) COUPLED TO HEX NUTS (N-SS-10/32) MUST BE TORQUED AT 3.6 N·m (32 lbf · in)

3.0 MATERIALS

3.1 RAILS ARE MADE OF ALUMINIUM 6005A-T61.

3.2 FIXTURES ARE MADE OF ALLUMINIUM 6005A-T61, 6005-T5 AND 6061-T6.

3.3 ALL FASTENERS ARE MADE OF STAINLESS STEEL 304 AND 316 EXCEPT WHERE INDICATED.

3.4 LOCK NUTS (LN2) AND FIT NUTS (FN4) ARE MADE OF ALUMINIUM 6061-T6.

4.0 DESIGN/CODES COMPL[illegible]CE AND REFERENCES

4.1 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER [illegible]CT[illegible]S[ASCE 7-16]

4.2 ALUMINUM DESIGN MANUAL 2020

4.3 AISC DESIGN GUIDE 27 - STRUCTURAL STA[illegible]SS STE[illegible]

4.4 WIND LOAD ON OPSUN PV MOUNTING [illegible]STEMS, BLWT-[illegible]-2010, ALA[illegible]G. DAVENPORT WIND ENGINEERING GROUP, S. FARQUHAR, G.A KOPP

4.5 OPSUN LARGE ROOF PV ARRA[illegible]UDY [illegible]WT-SS6-2020_V[illegible]

4.6 OPSUN LARGE ROOF PV ARRAY [illegible]ORTRA[illegible]ORIENTATIO[illegible]LWT-P101-IR1-2022

4.7 THE ADDITION OF T[illegible]LAR PANEL[illegible] NOT [illegible]O RESULT IN SIGNIFICANT CHANGES TO OVERALL ROOF SNOW LOADS AND PATTERNS. [illegible] PAN[illegible] IN PLACE SNOW LOADS TEND TO CONCENTRATE IN THE SPACES BETWEEN ROWS AND IN THE GAPS BETWE[illegible]MOD[illegible]SIGN SNOW LOADS FOR THE PV PANEL SURFACES THEMSELVES ARE USUALLY EQUIVALENT TO THE WORS[illegible]NOW FA[illegible]IN 50 YEARS.

NOT

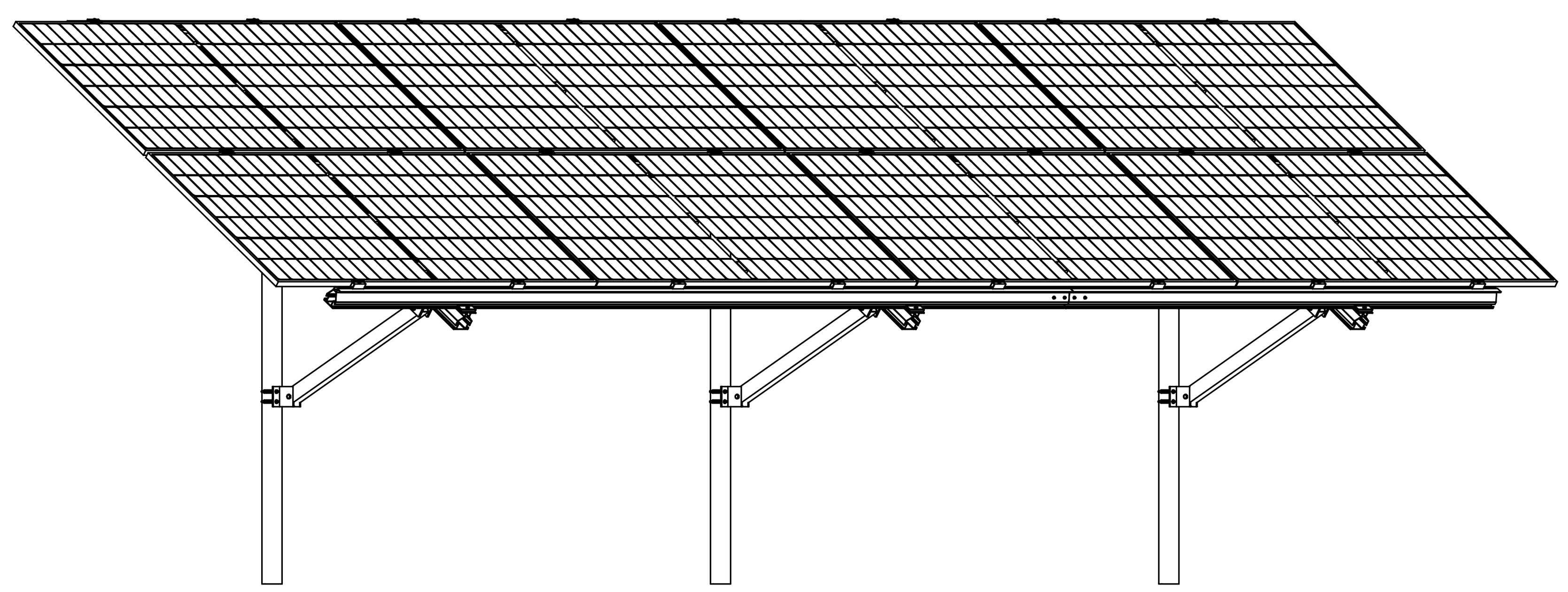
5.0 SPECIFIED COMPONENT CERTIFICATION

5.1 FATH CLICLOC (SOLAR MODULE END AND MID CLAMPS) SHOULD BE IN ACCORDANCE WITH : CSA C22.2#41 GROUNDING AND BONDING EQUIPMENT; AND ANSI-UL 467 ED.9 STANDARD FOR SAFETY FOR GROUNDING AND BONDING EQUIPMENT.

5.2 PV MODULES (BY OTHERS) SHOULD BE IN ACCORDANCE WITH UL-1703.

5.3 GROUND LUGS (BY OTHERS) SHOULD BE IN ACCORDANCE WITH ANSIUL 467 ED.9 STANDARD FOR SAFETY FOR GROUNDING AND BONDING EQUIPMENT

GM-S-BS-VT-L-JSO11-SRS34-10.5FT-2x4-3F-D4.0



LATITUDE, LONGITUDE	(44.978350, -93.708140)
DESIGN CRITERIA	
CODE(S)	ASCE 7-16
CITY REFERENCE	INDEPENDANCE, MN
RISK CATEGORY	II
WIND	
BASIC WIND SPEED, V	109 MPH
EXPOSURE CATEGORY	C
ROOF HEIGHT	12 ft
EXPOSURE COEFFICIENT, K_z	0.85
DIRECTIONALITY FACTOR, K_d	1.0
TOPOGRAPHIC FACTOR, K_{zt}	1.0
Ground Elevation Factor, K_e	0.96
SNOW	
GROUND SNOW LOAD, P_g	50 PSF
IMPORTANCE FACTOR, I_s	1.0
SLOPE FACTOR, C_s	35° : 0.54 / 55° : 0.23
THERMAL FACTOR, C_t	1.0
EXPOSURE FACTOR, C_e	1.0
PV MODULE	
MANUFACTURER	Jinko Solar
MODEL	JKM580N-72HL4-BDV
DIMENSIONS	2278x1134x30mm(89.7x44.6x1.18in)
MASS	32 kg (70.55 lb)

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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-23

Customer Info

CHAMPION SOLAR

Phone:

Email: amy@championsolar.com

Project Info

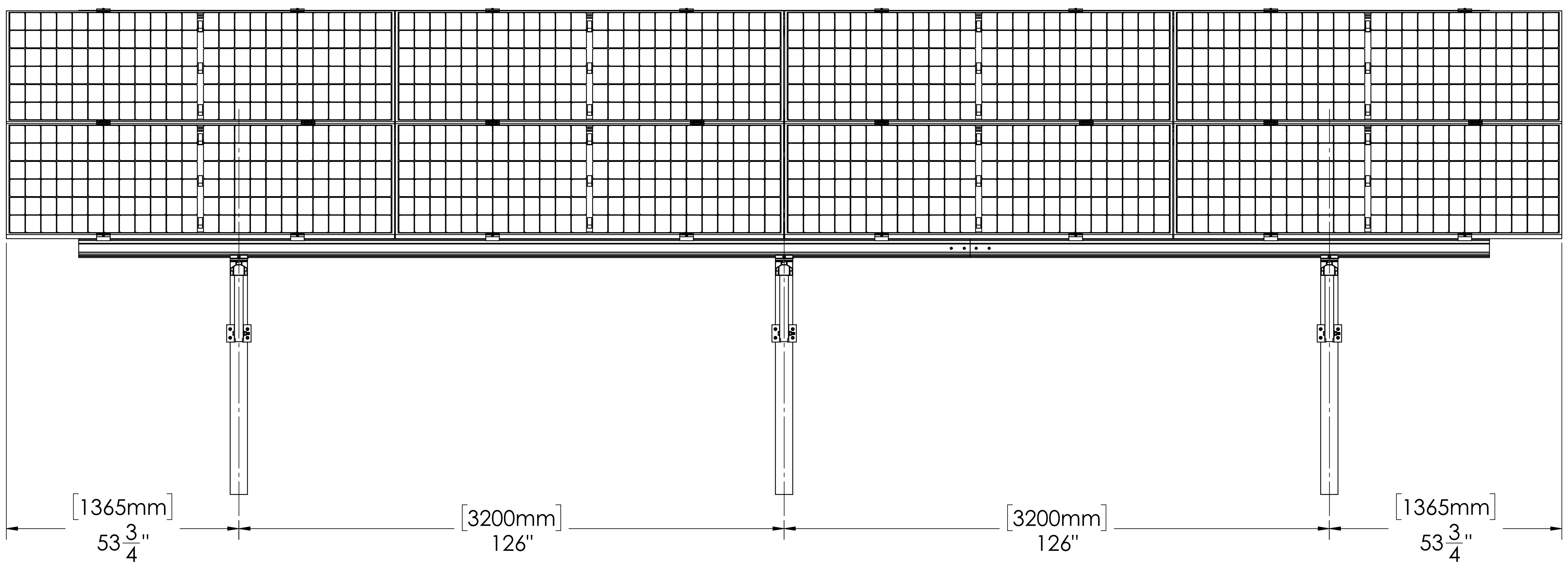
Project Name: GAME FARM RD

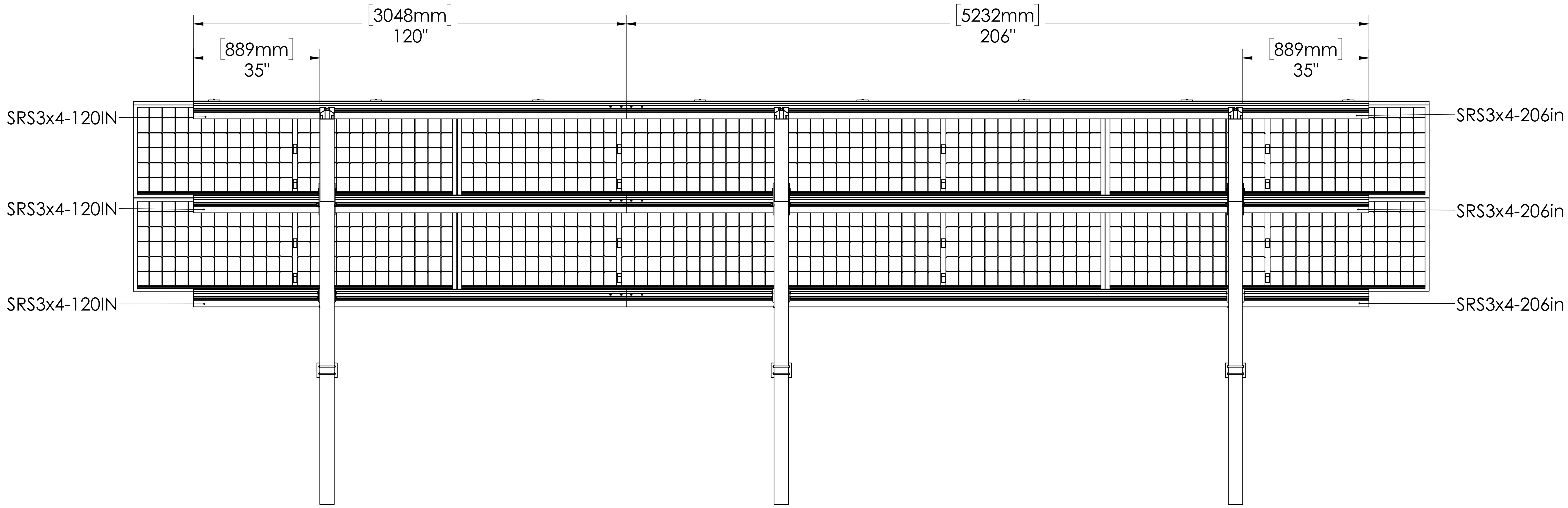
Project Number: cmn-24080505

Project Address: 25 GAME FARM RD INDEPENDENCE, Minnesota, 55359

Title: NOTES

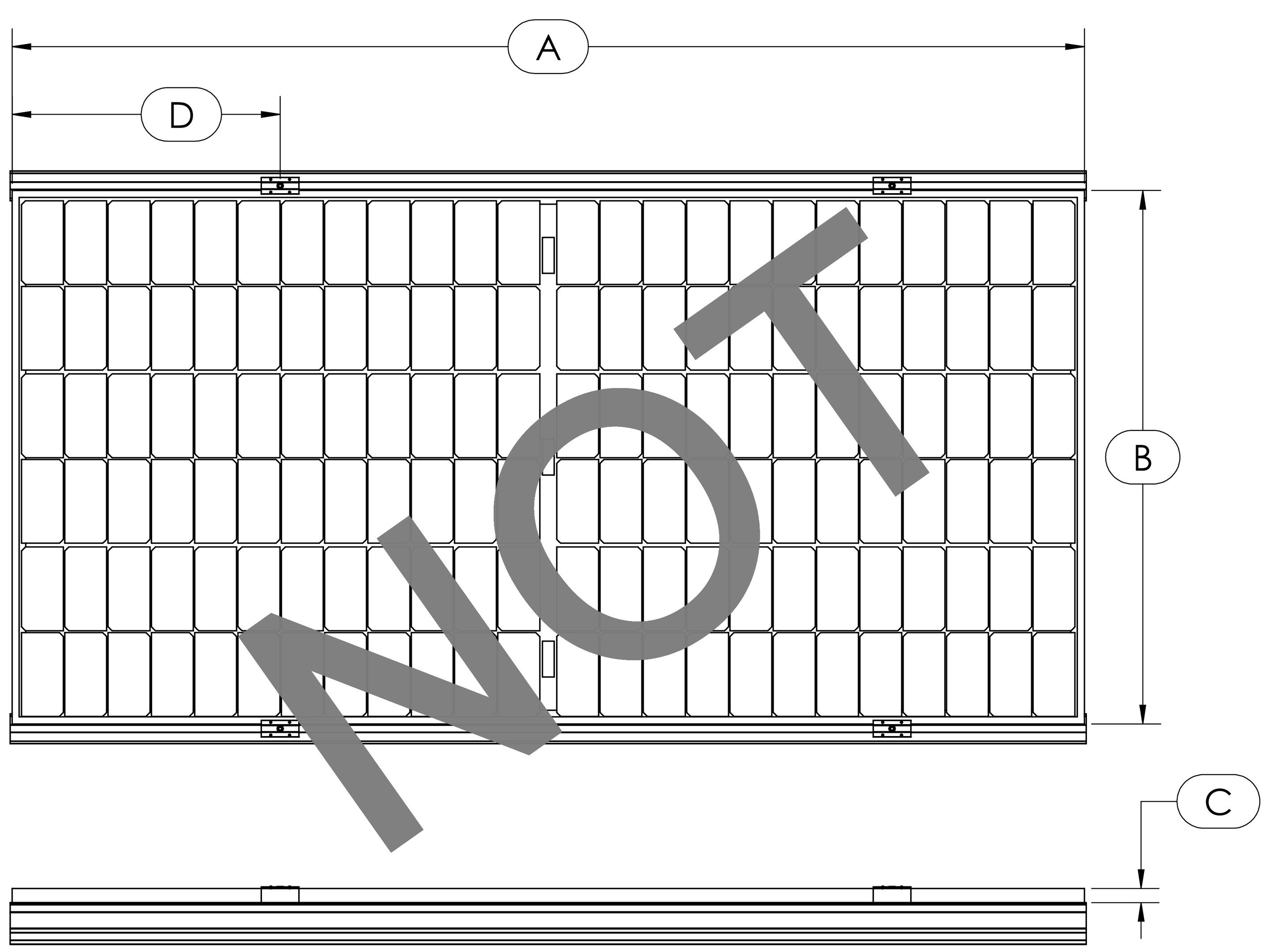
Drawn By: NL	Check By: FM
Drawn Date: 2024-08-23	Rev: 01
Scale: 1:24	Page: PV0.101

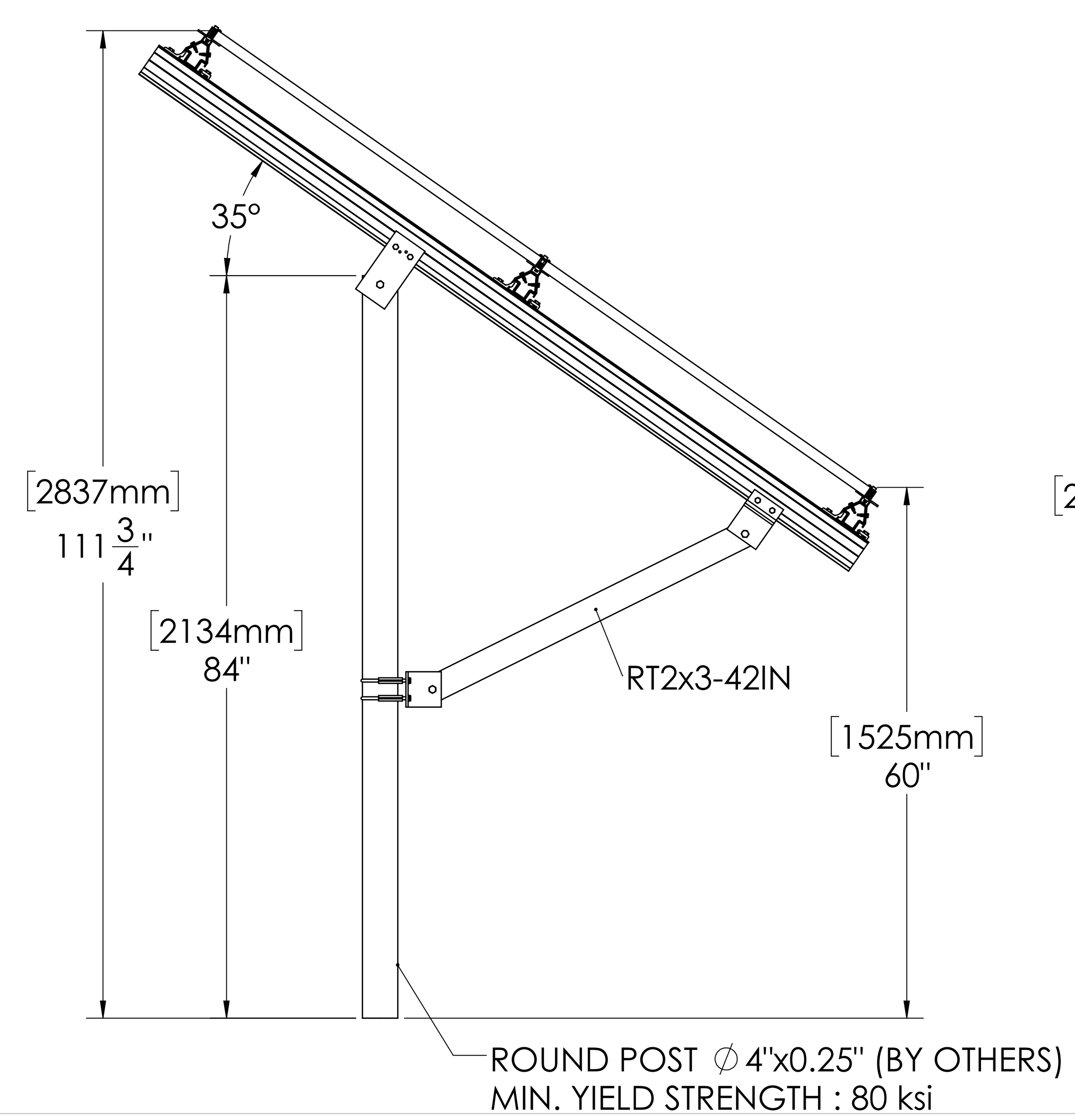


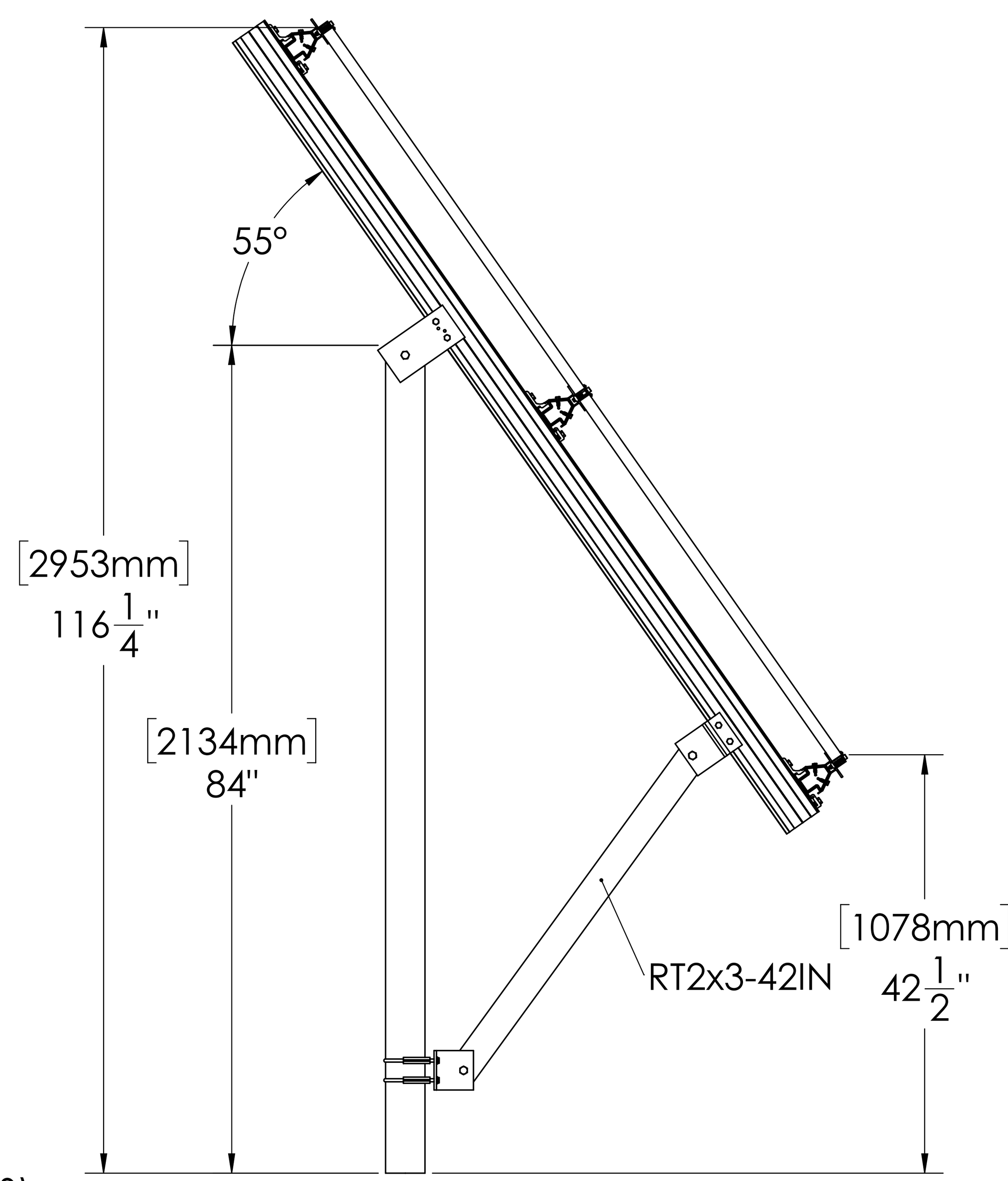


PV PANEL DIMENSION

SEE PAGE PV1.501







GM-S-BS-VT-L-JSO11-SRS34-10.5FT-2x4-3F-D4.0

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Note

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01	For Coordination	2024-08-22

Customer Info

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Phone:

Email: amy@championsolar.com

Project Info

Project Name: GAME FARM RD

Project Number: cmn-24080505

Project Address: 25 GAME FARM RD

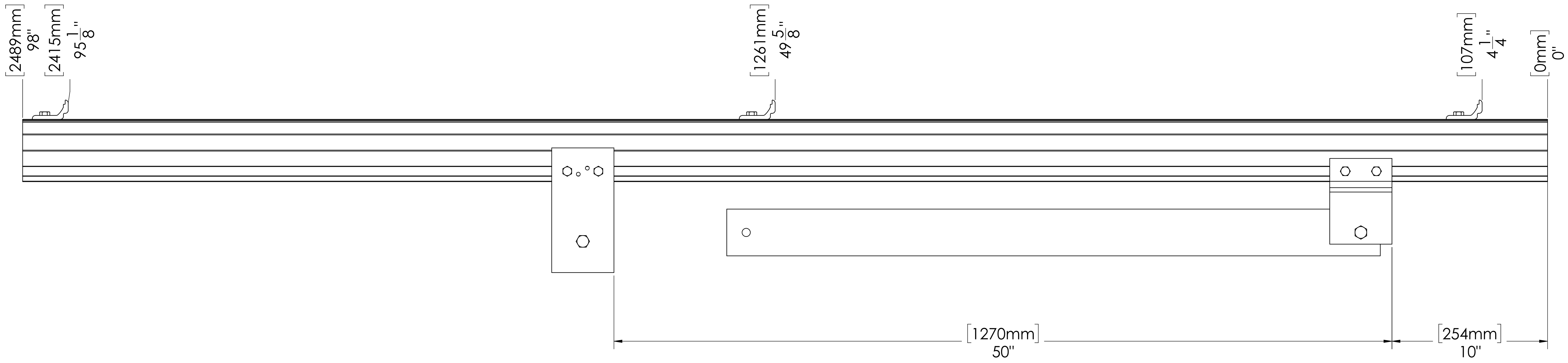
INDEPENDENCE, Minnesota, 55359

Title: SYSTEM DETAILS

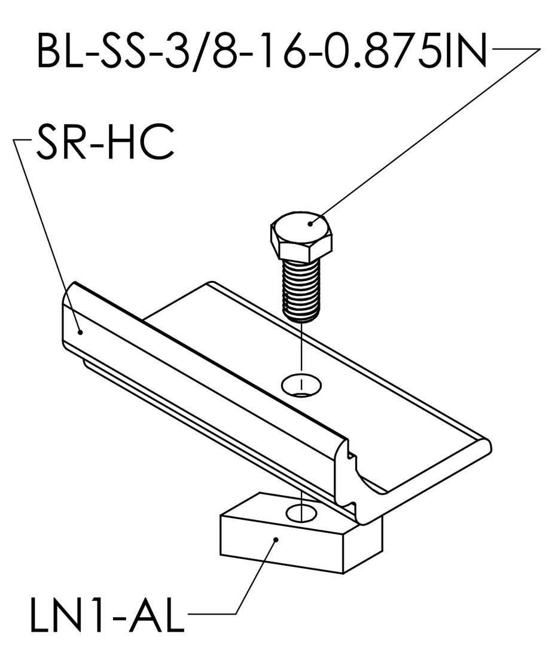
Drawn By: NL	Check By: FM
Drawn Date: 2024-08-22	Rev: 01
Scale: 1:20	Page: PV1.301

SRS4 PREASSEMBLY

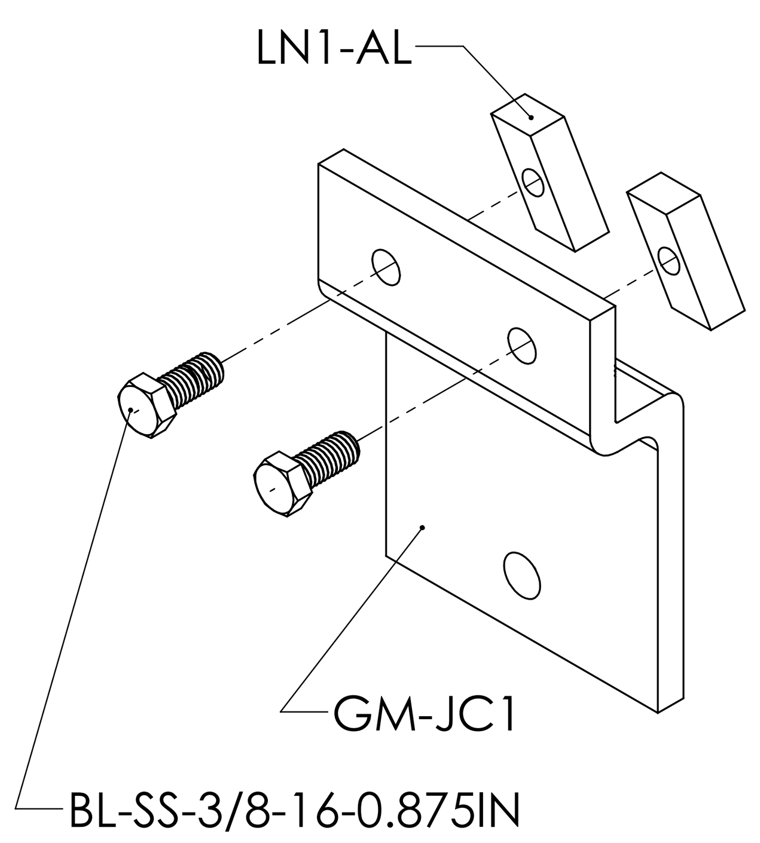
PANEL BRANDS	SOLAR PANEL MODELS	PV PANEL DIMENSION					RAIL LENGHT	HOOK CLAMP POSITION			POST
		WEIGHT	A	B	C	D	L1	H1	H2	H3	DIAMETER
Jinko Solar	JKMxxxN-72HL4-BDV	32kg (70.5lb)	2278mm (89.69in)	1134mm (44.65in)	30mm (1.18in)	570mm (22.4in)	2489mm (98in)	107mm (4.25in)	1261mm (49.63in)	2415mm (95.13in)	102mm (4.0in)



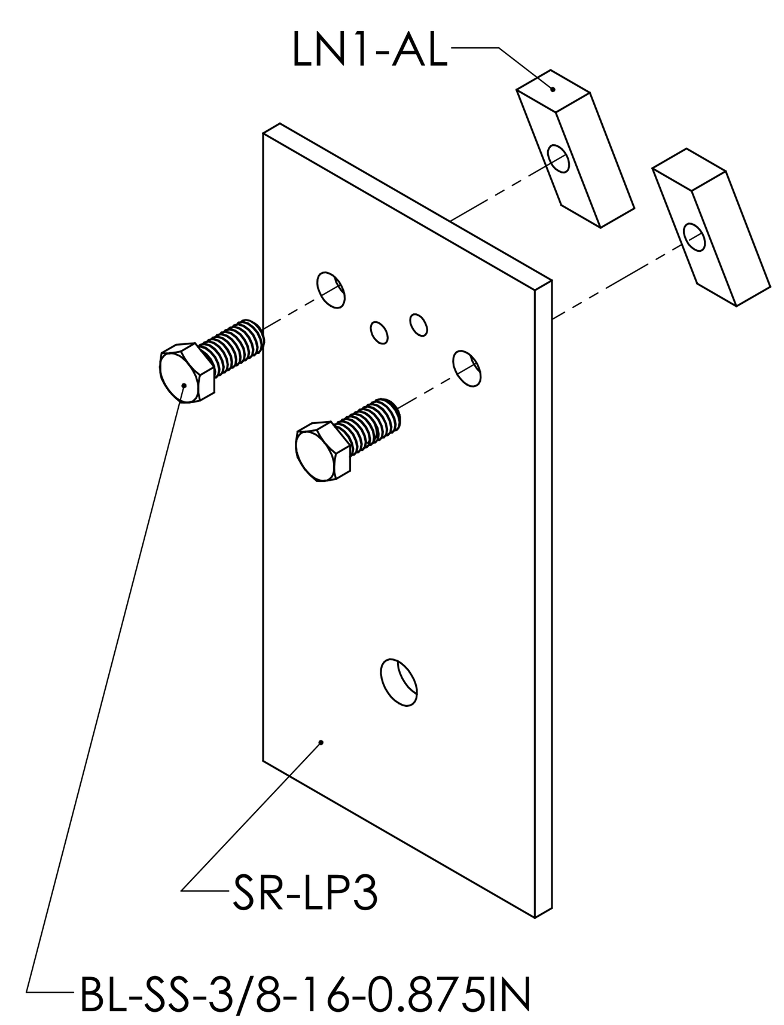
HC PREASSEMBLY



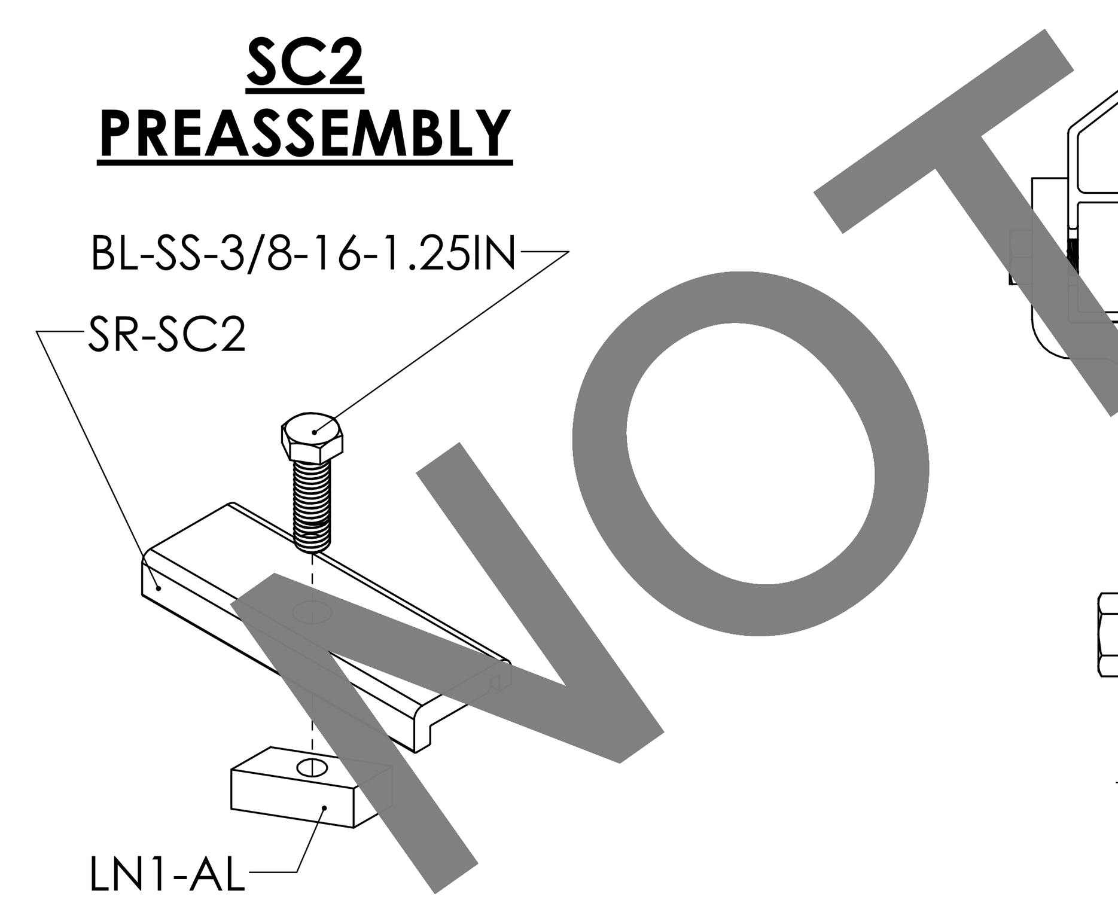
JC01 REVERSE PREASSEMBLY

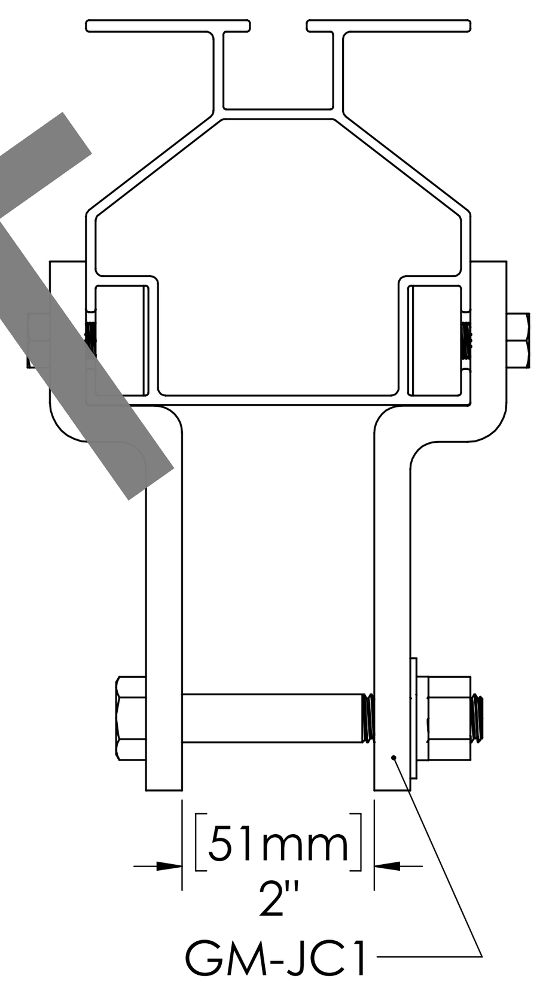


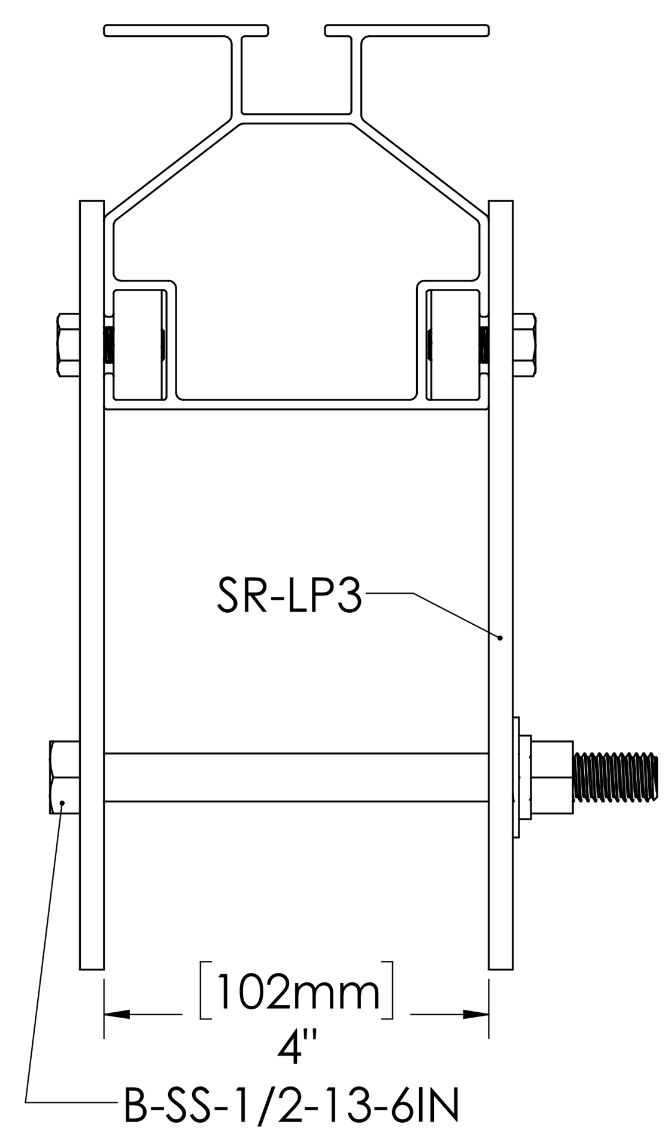
LP3 PREASSEMBLY



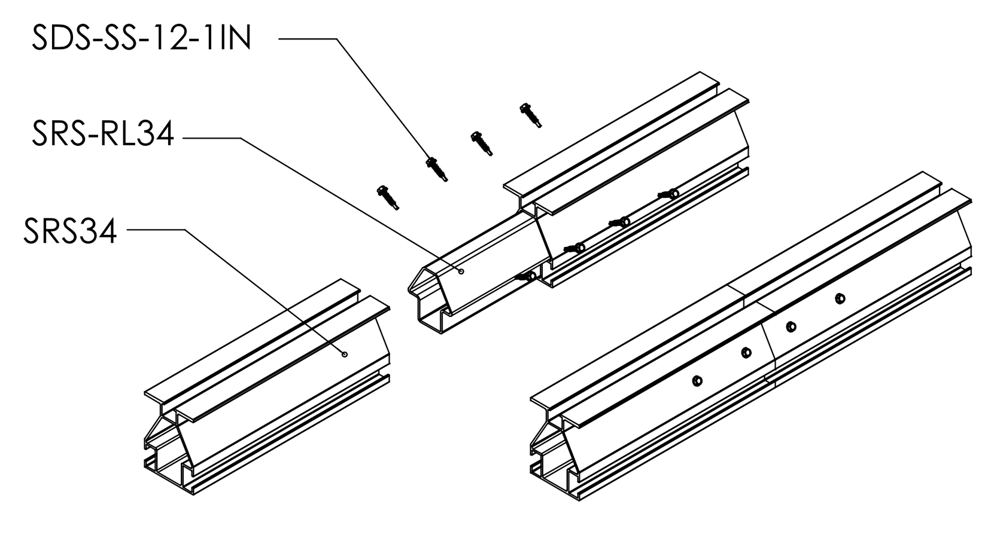
SC2 PREASSEMBLY

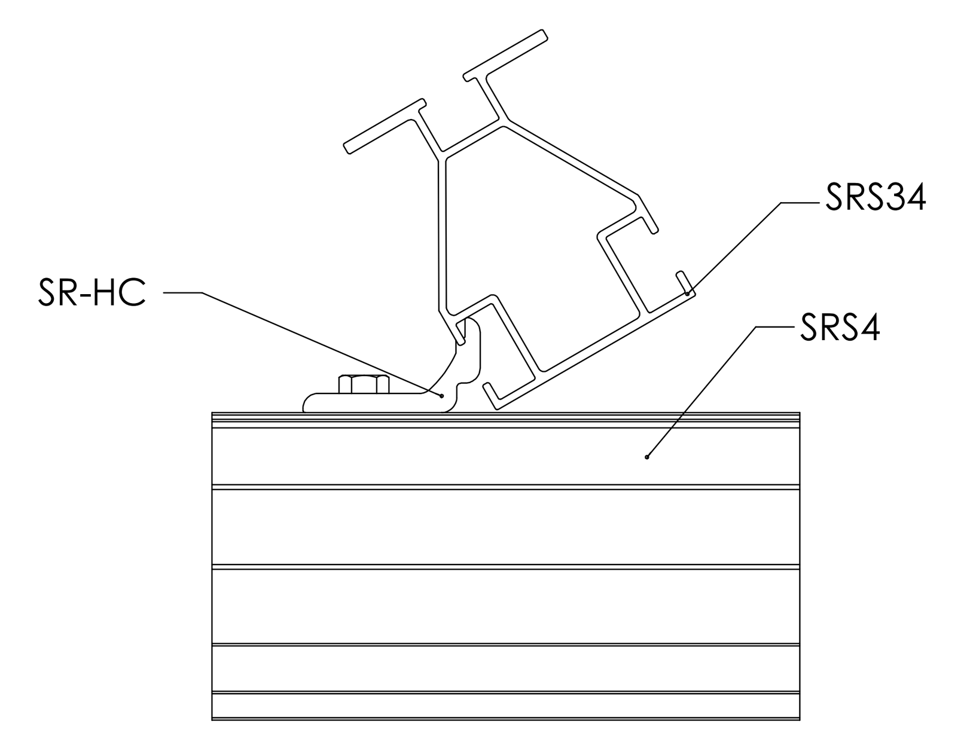




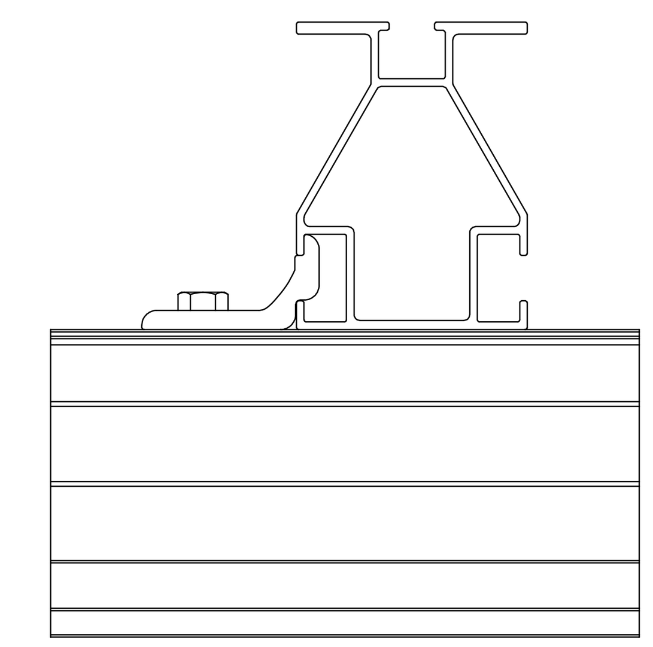


SRS-RL34 INSTALLATION
NORMAL JOINT (K)
PLACE ONE (1) SRS-RL34 AT EACH SRS34 RAIL JUNCTION.
SCREW ON THE SRS-RL34 ON EACH RAILS WITH THE SDS-SS

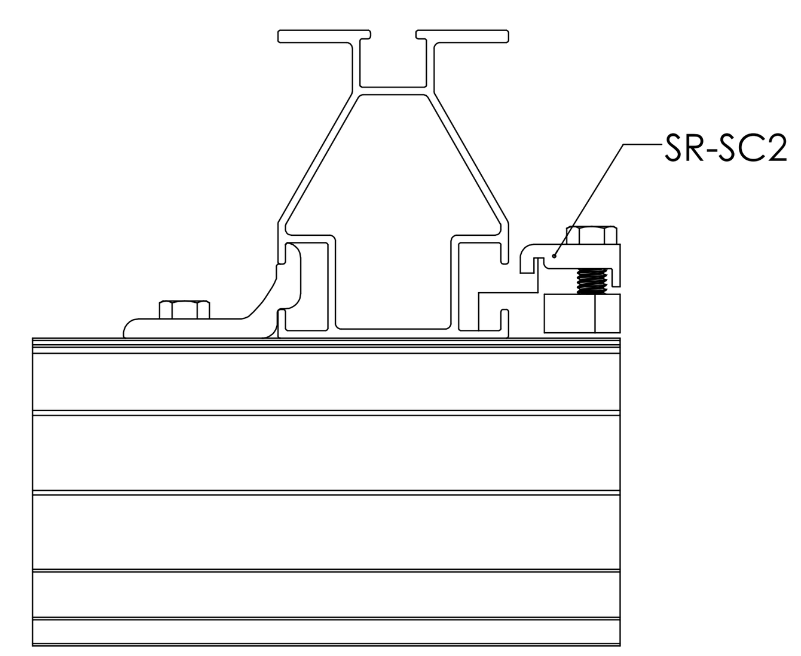




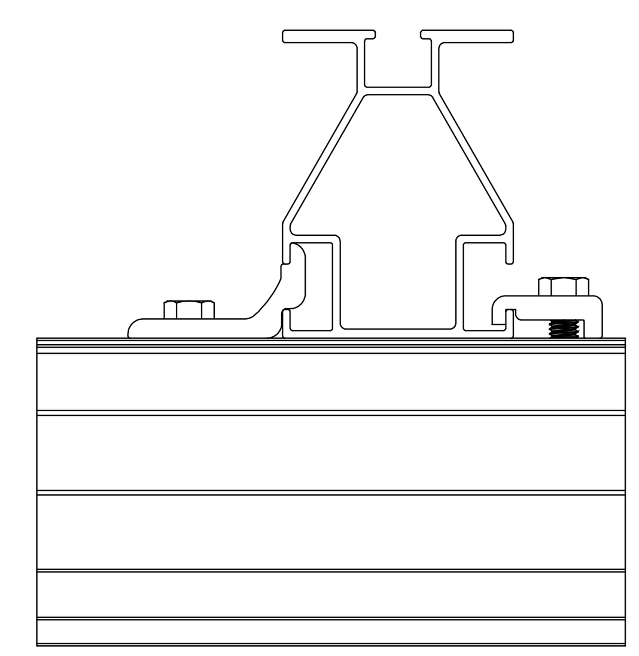
1- TILT THE SRS34 RAIL TO INSERT THE RAIL SIDE SLOT INTO THE SR-HC.



2- ALIGN THE SRS34 AS PER THE BELOW PLAN.



3- INSERT THE SR-SC2 INTO THE OTHER SIDE OF THE RAIL.



4- TIGHTEN THE SR-SC2, TO FIT THE SRS3 IN PLACE.

SEE NOTE 2.8 PAGE PV01-1 FOR TIGHTENING TORQUES

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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

CHAMPION SOLAR

Phone:
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amy@championsolar.com

Project Info

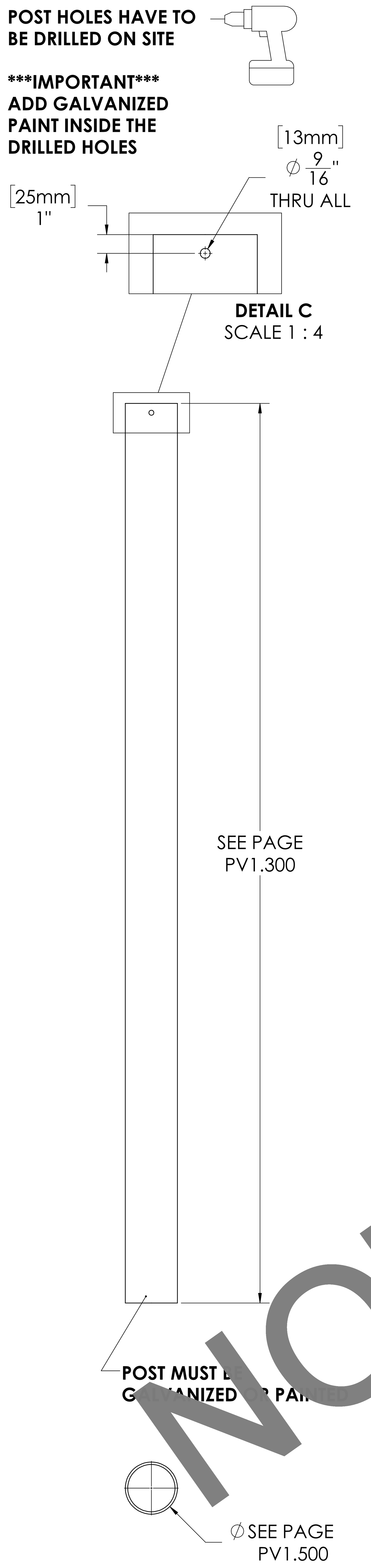
Project Name: GAME FARM RD
Project Number: CMN-24080505
Project Address: 25 Game Farm rd. Independence, MN, 55359
Title: SRS4 PREASSEMBLY

Drawn By: NL	Check By: FM
Drawn Date: 2024-08-23	Rev: 01
Scale: 1:4	Page: PV1.501

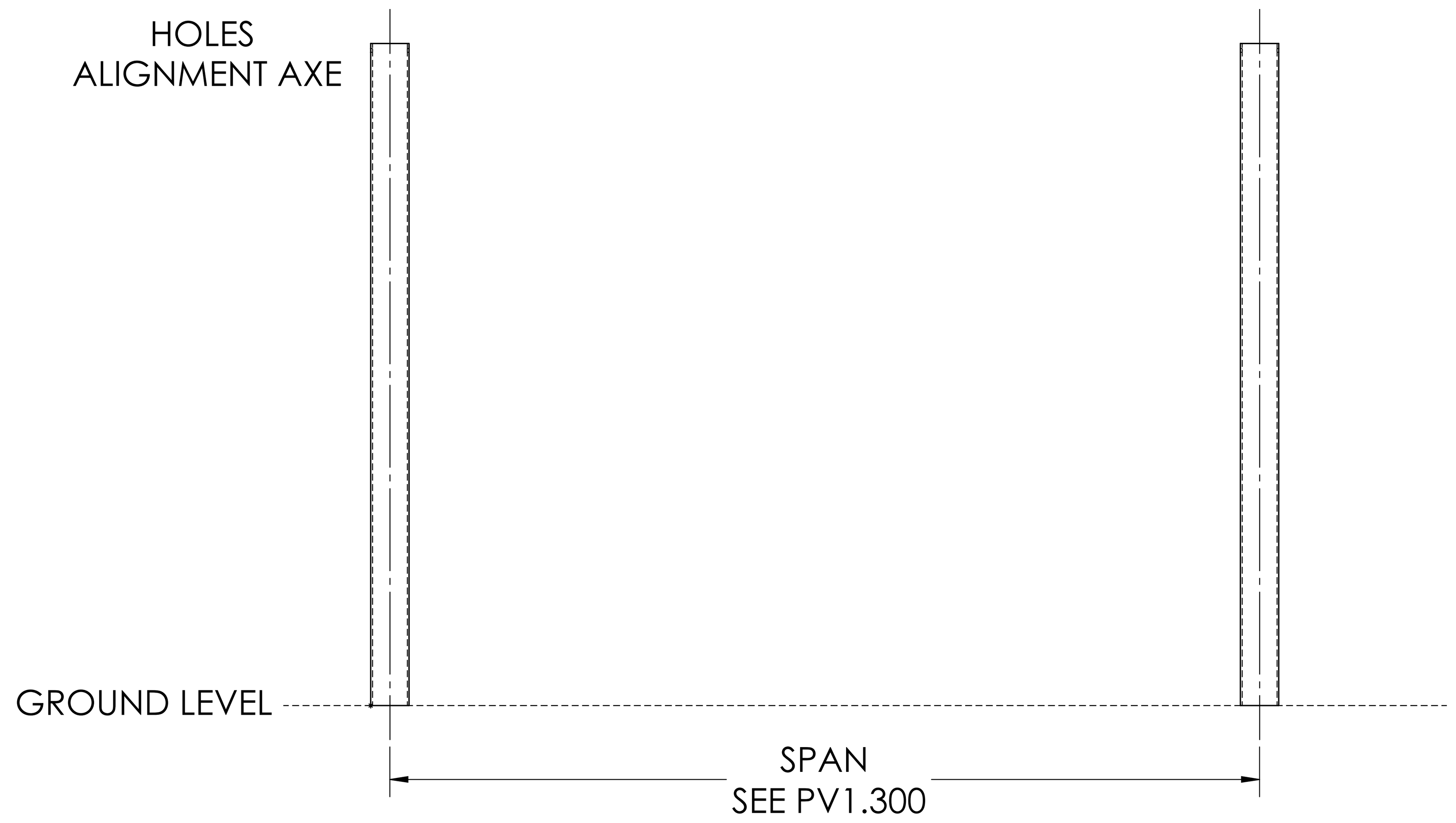
SRS4-GM-VT-136IN-JC01-W-RT23

POSTS INSTALLATION

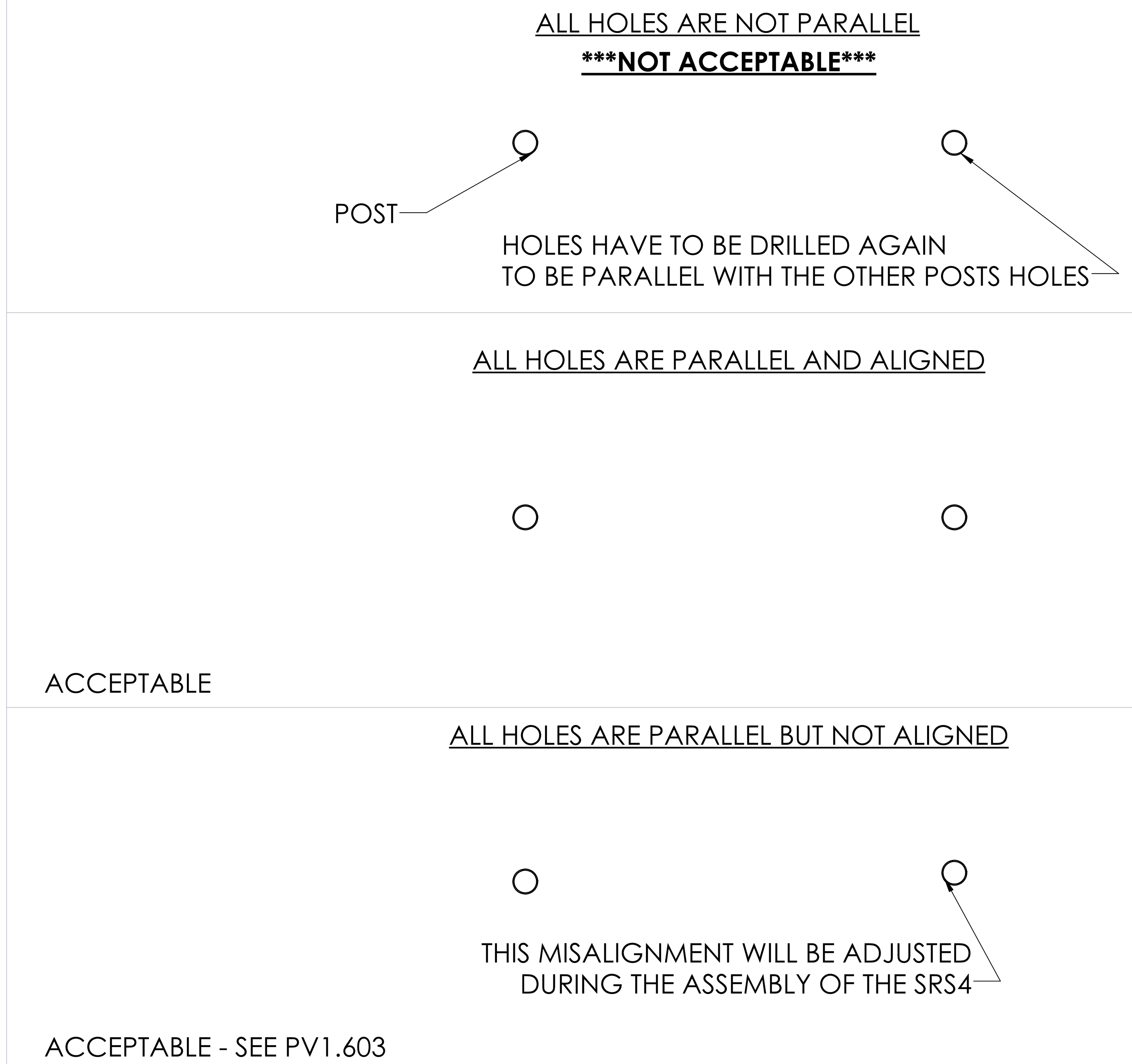
POST DETAIL



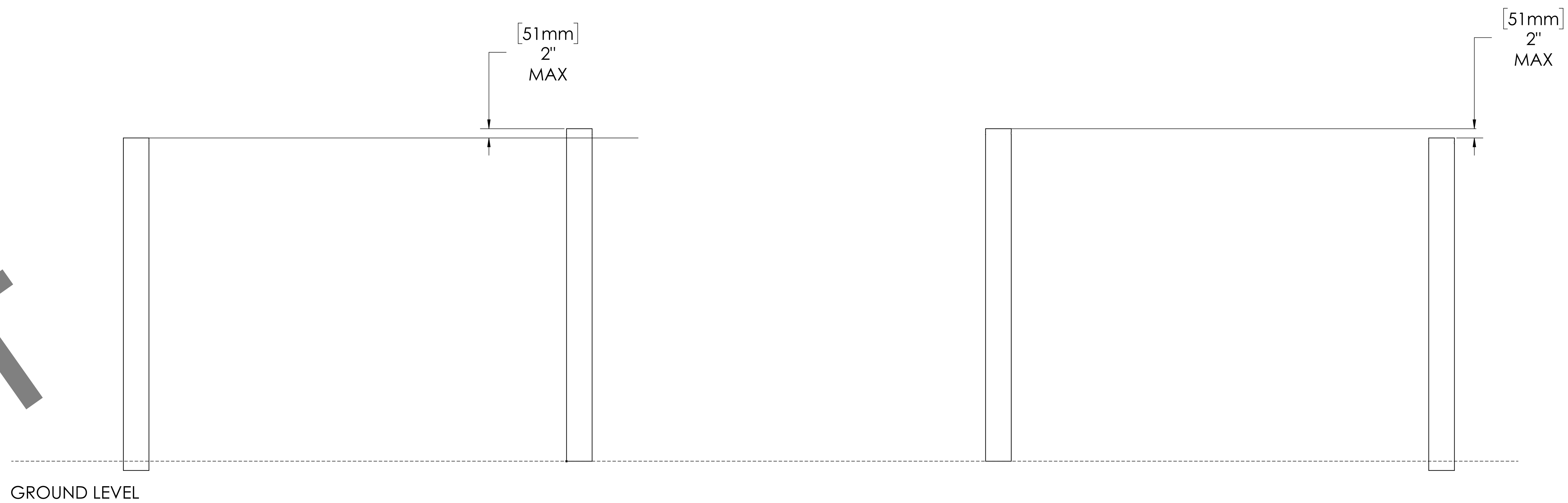
POSTS POSITION



HOLES ALIGNMENT TOP ELEVATION



POSTS HEIGHT



IF POST HEIGHT IS OUT OF TOLERANCE (± 2"), THE POST MUST BE CUT, ON SITE, TO BE WITHIN TOLERANCE (± 2") AND THE MAXIMAL HEIGHT OF THE SYSTEM.

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Note

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Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

Phone:
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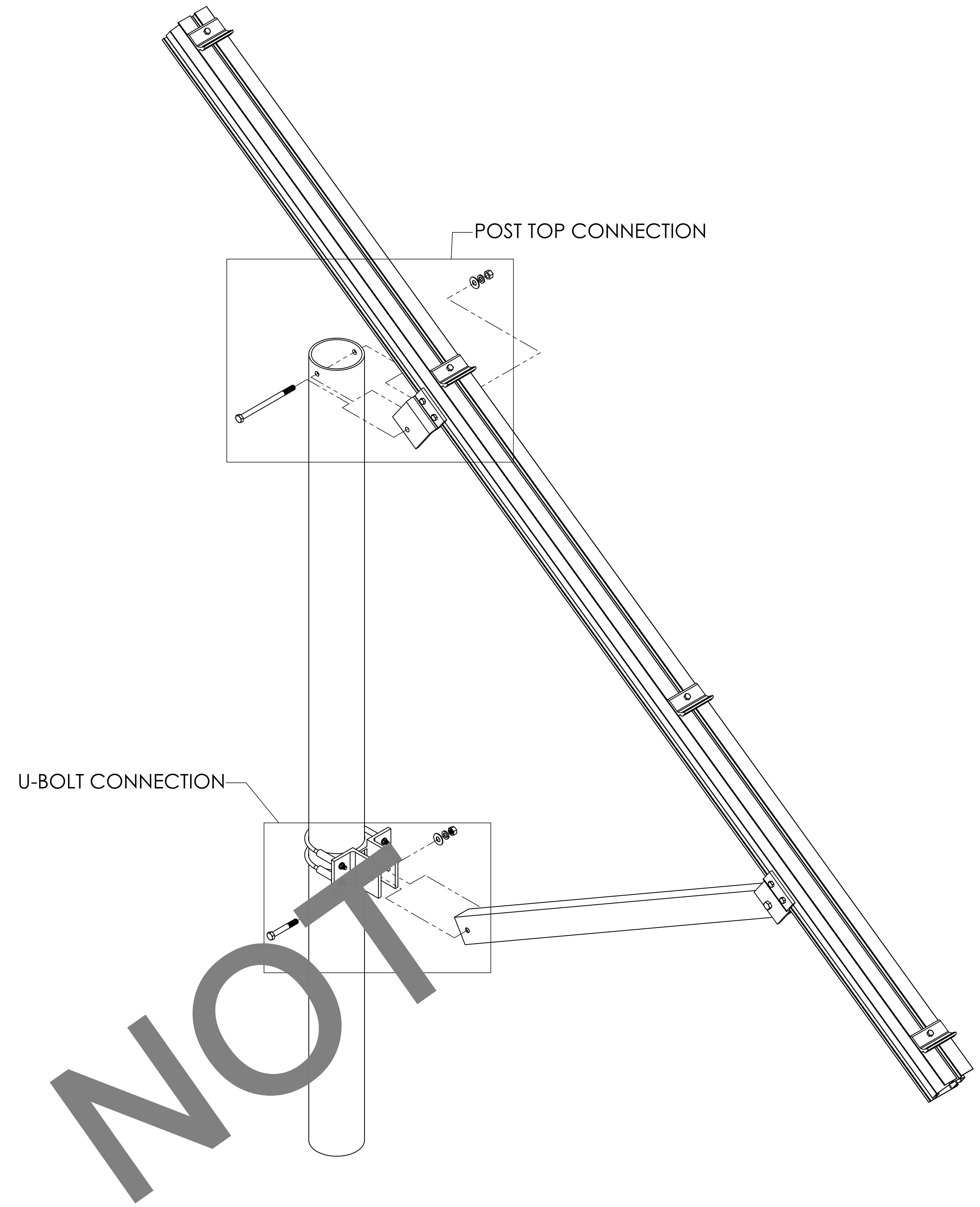
amy@championsolar.com

Project Info

Project Name: GAME FARM RD
Project Number: CMN-24080505
Project Address: 25 Game Farm rd, Independence, MN, 55359
Title: POST INSTALLATION

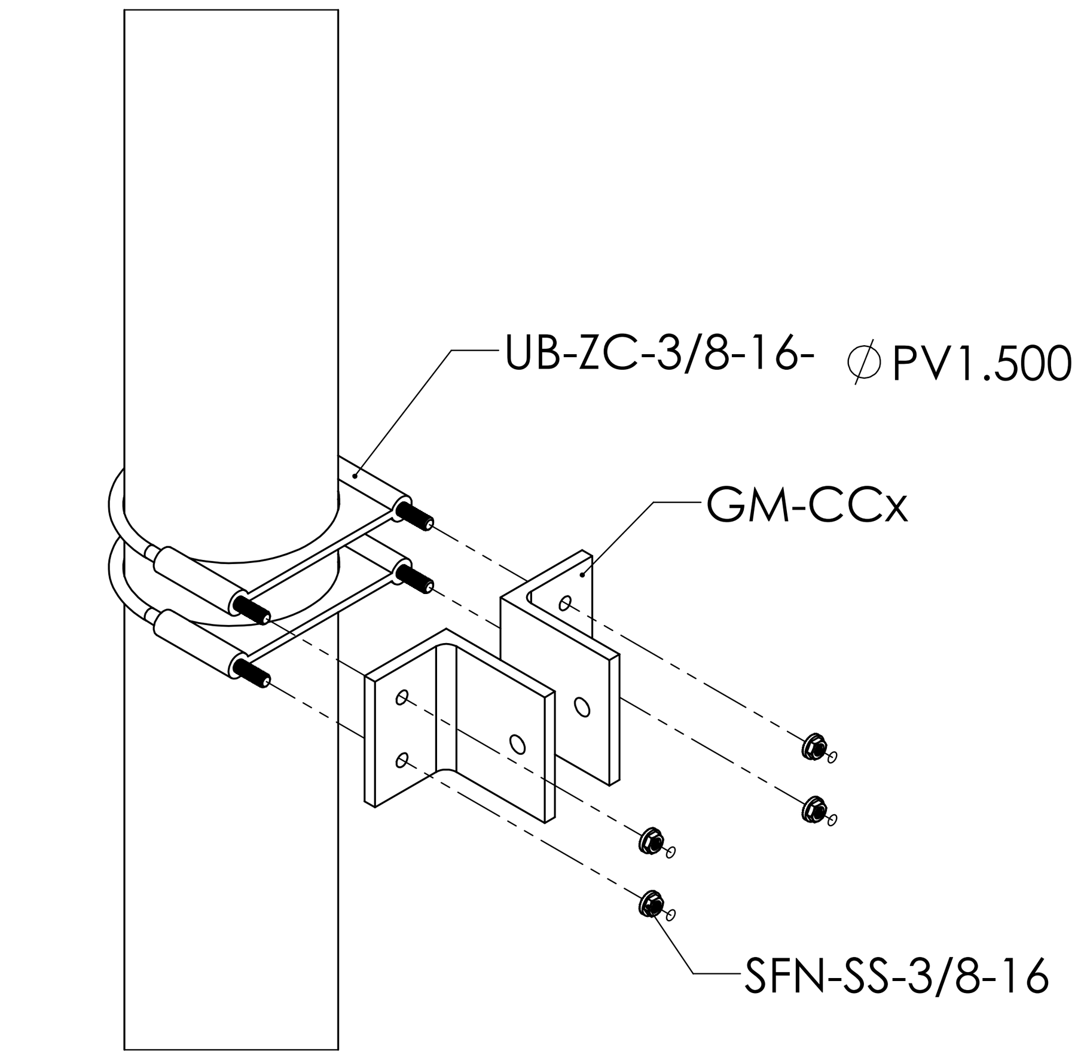
Drawn By: FM	Check By: NL
Drawn Date: 2021-10-12	Rev: 01
Scale: 1:1	Page: PV1.601

POST ASSEMBLY



DETAIL: POST U-BOLT ASSEMBLY

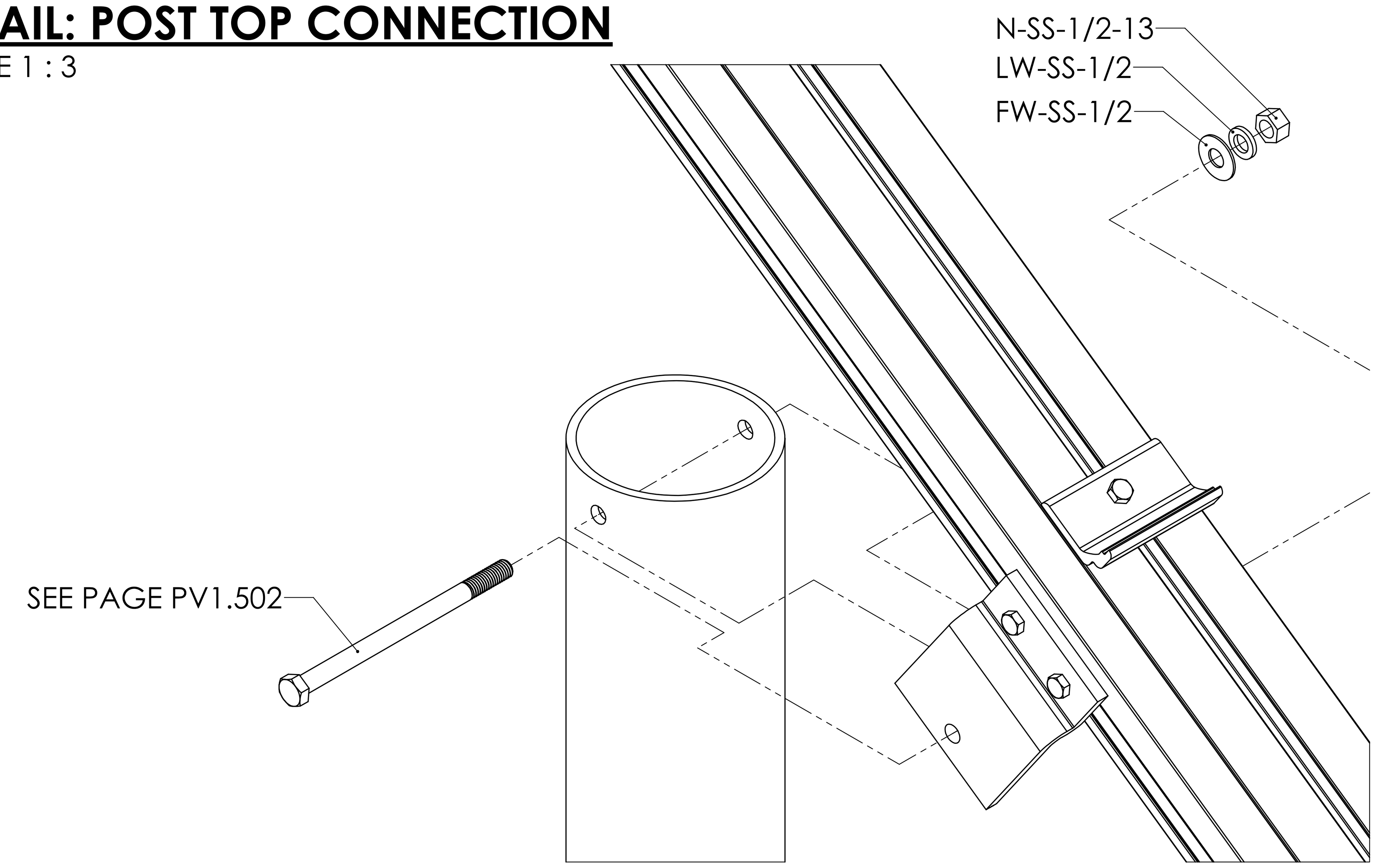
SCALE 1 : 3



(SFN-SS-3/8-16)INCLUDED WITH U-BOLT

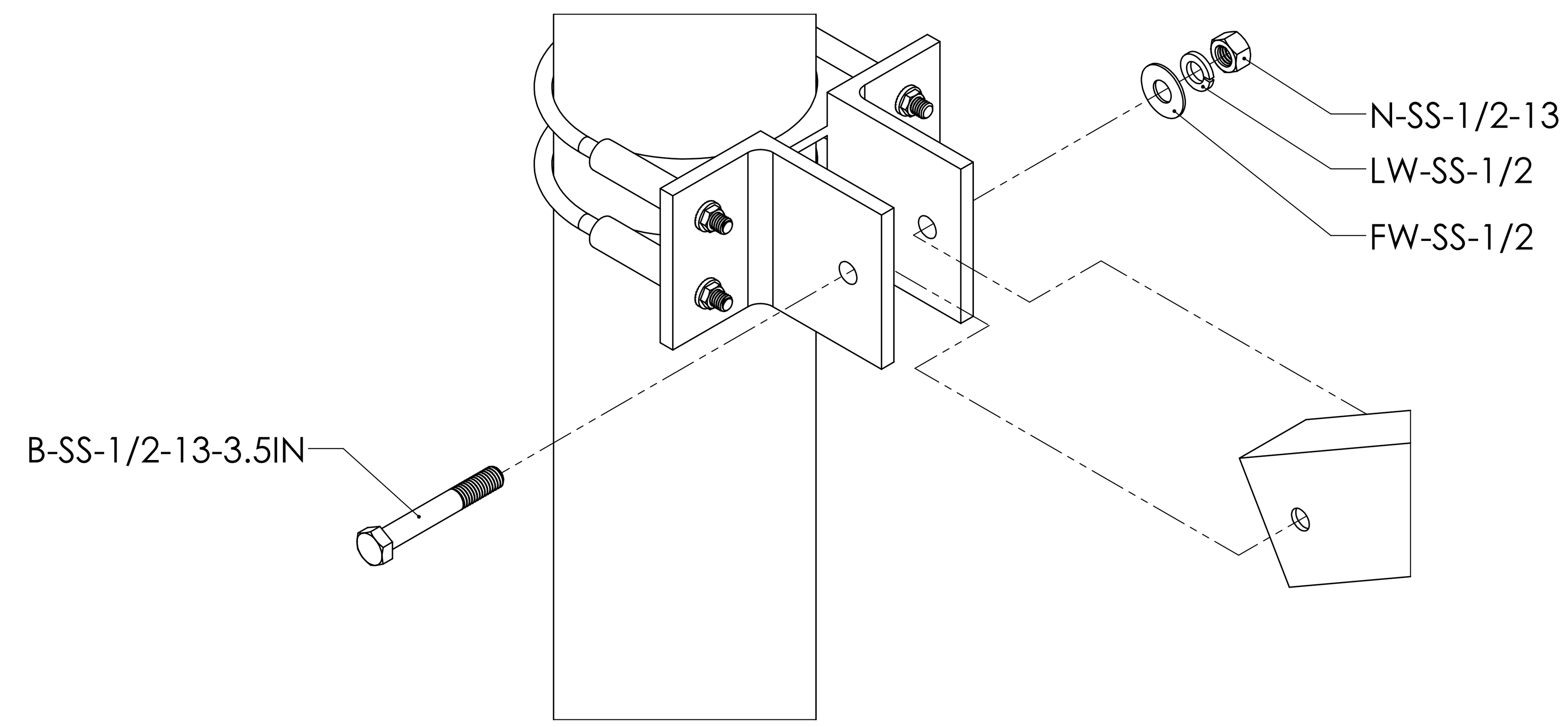
DETAIL: POST TOP CONNECTION

SCALE 1 : 3



DETAIL: U-BOLT CONNECTION

SCALE 1 : 3



SEE NOTE 2.8 PAGE PV0.100 FOR TIGHTENING TORQUES

GM-S-VT3555-P-LON03-SRS3-SRS4-10.5FT-2X20-7F-D5.56

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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

Phone:

Email:
amy@championsolar.com

Project Info

Project Name:
GAME FARM RD

Project Number:
CMN-24080505

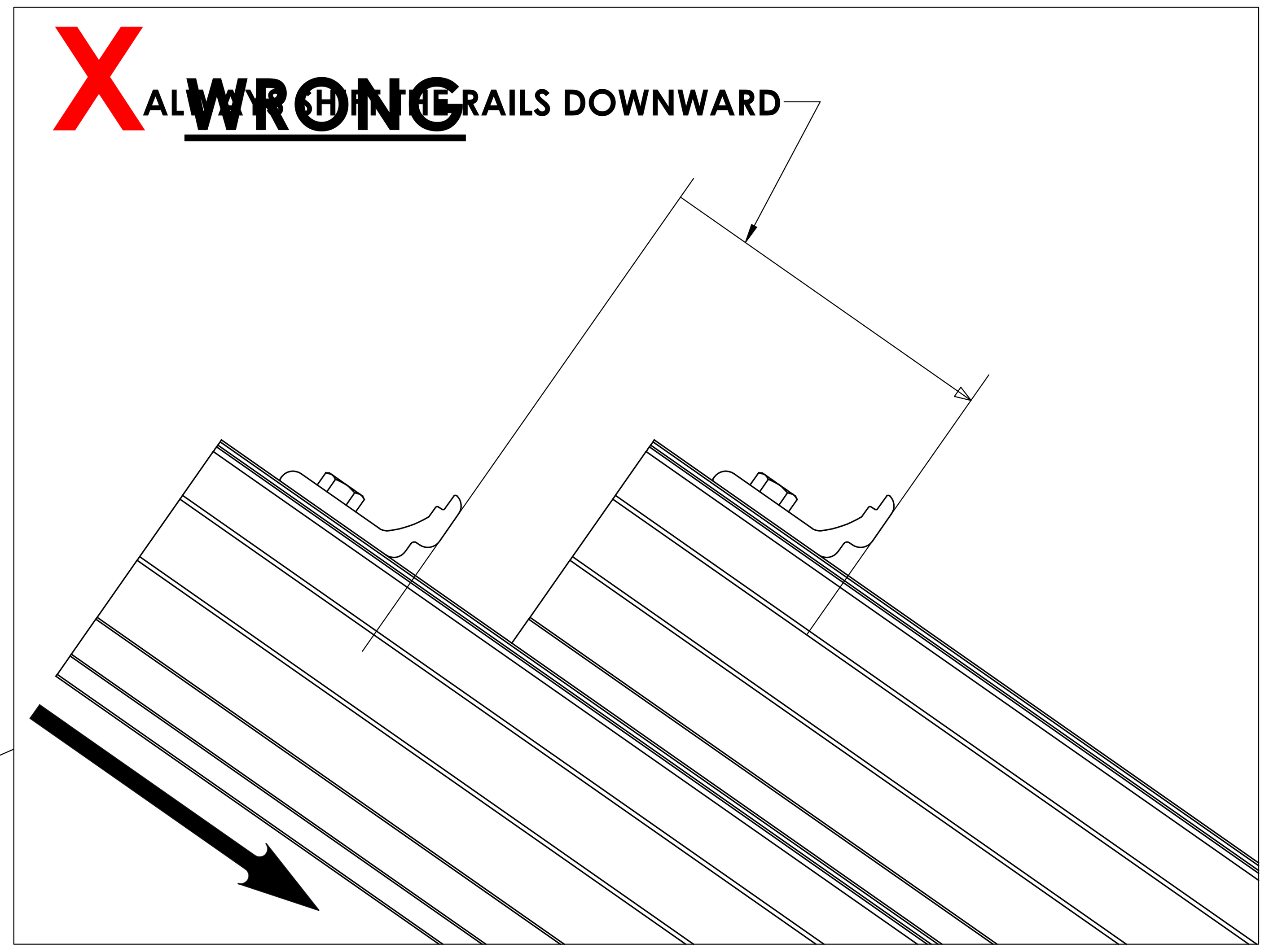
Project Address:
25 Game Farm rd.
Independence, MN, 55359

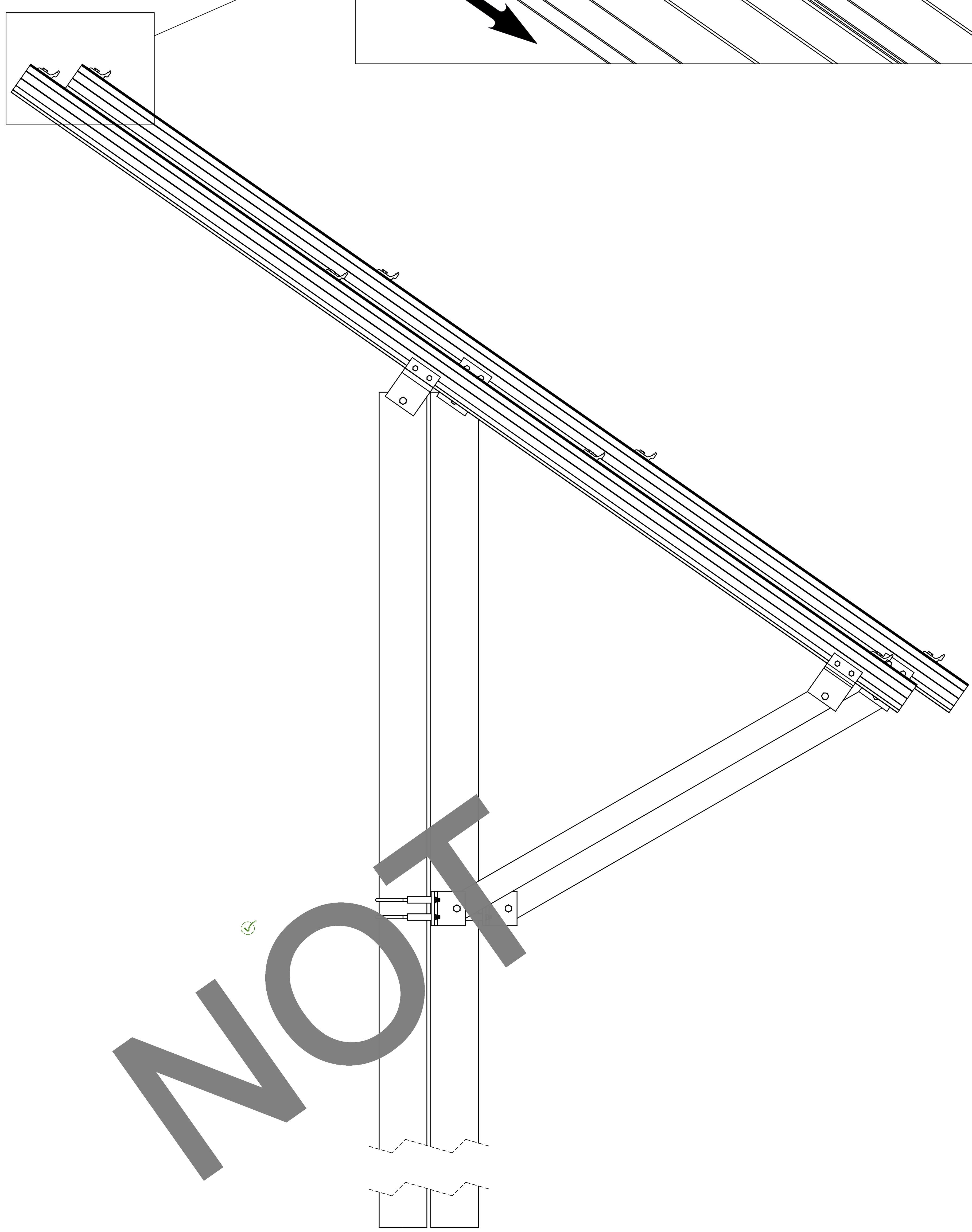
Title
POST ASSEMBLY

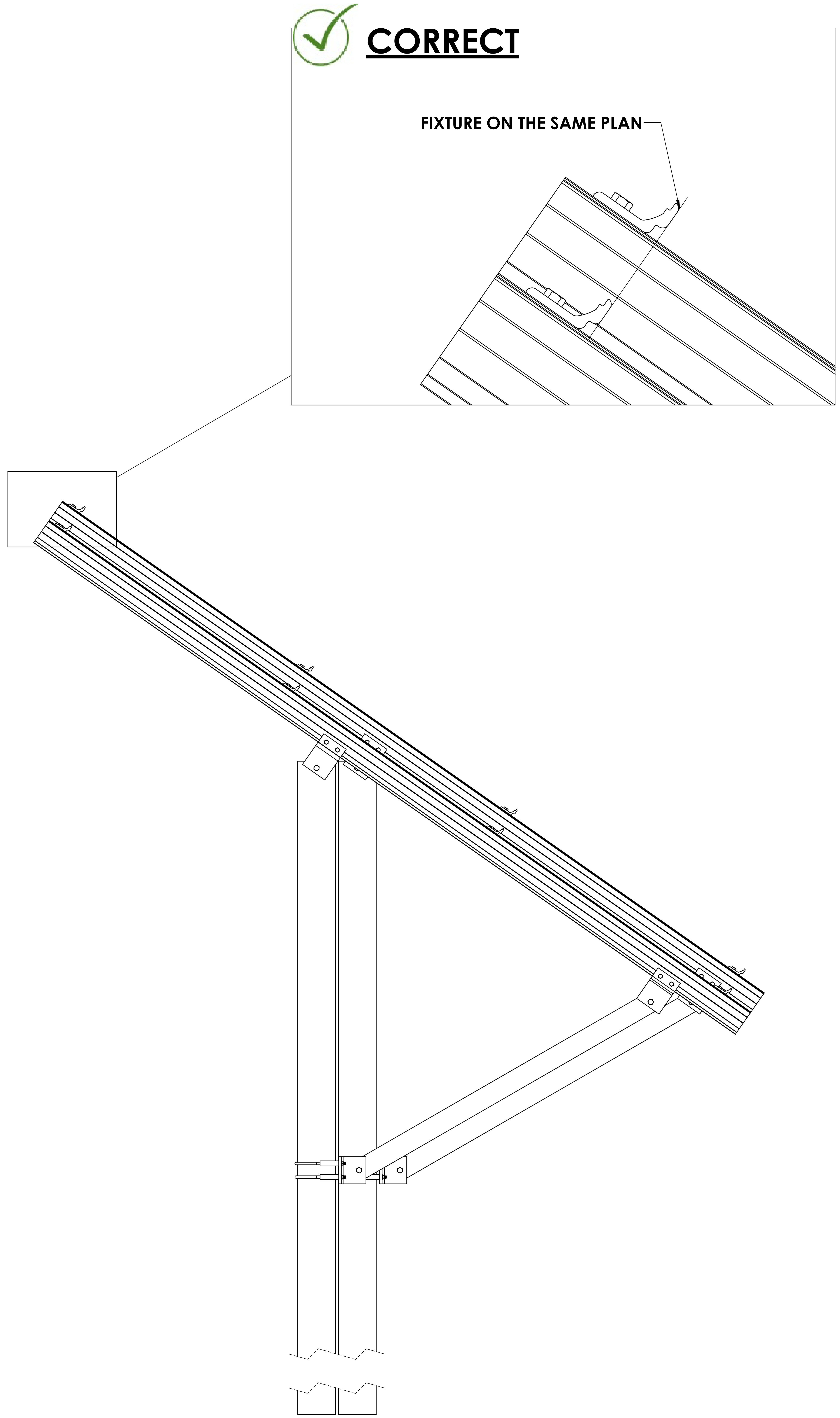
Drawn By:	Check By:
FM	NL
Drawn Date:	Rev
2021-10-12	01
Scale:	Page:
1:1	PV1.602

SRS4 AJUSTEMENT

- IF ONE OF THE POST IS NOT ON THE SAME AXIS, SRS4 ASSEMBLY MUST BE MOVED SO THE FIXTURES COULD BE ALIGNED.
- THE SRS4 RAIL THAT IS THE FURTHEST BACK MUST BE SHIFTED DOWNWARD.







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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

CHAMPION SOLAR

Phone:

Email:
amy@championsolar.com

Project Info

Project Name:
GAME FARM RD

Project Number:
CMN-24080505

Project Address:
25 Game Farm rd,
Independence, MN, 55359

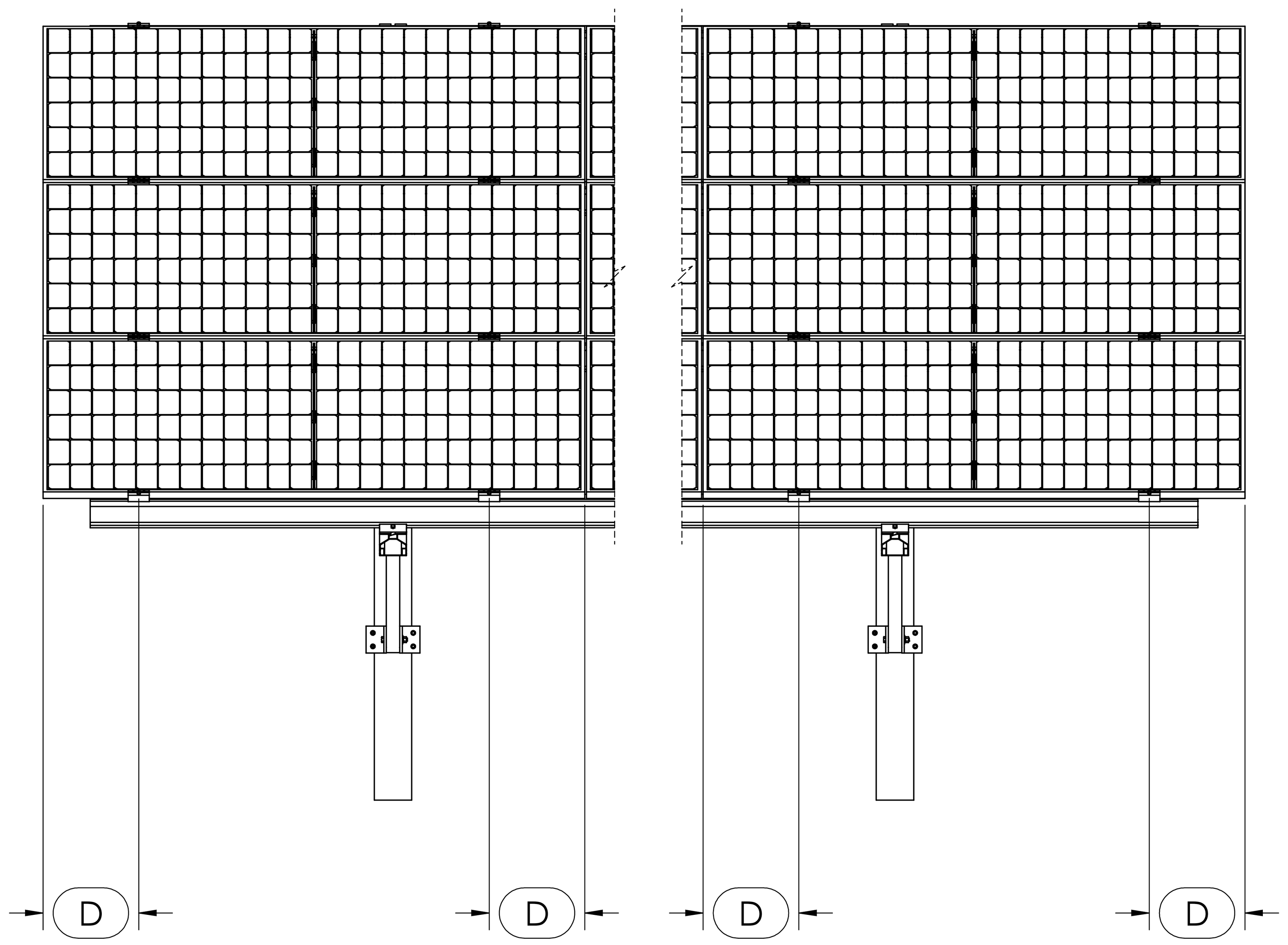
Title
SRS4 ADJUSTEMENT

Drawn By: FM	Check By: NL
Drawn Date: 2021-10-12	Rev 01
Scale: 1:60	Page: PV1.603

VA-GM-SRS4_VT

PV INSTALLATION

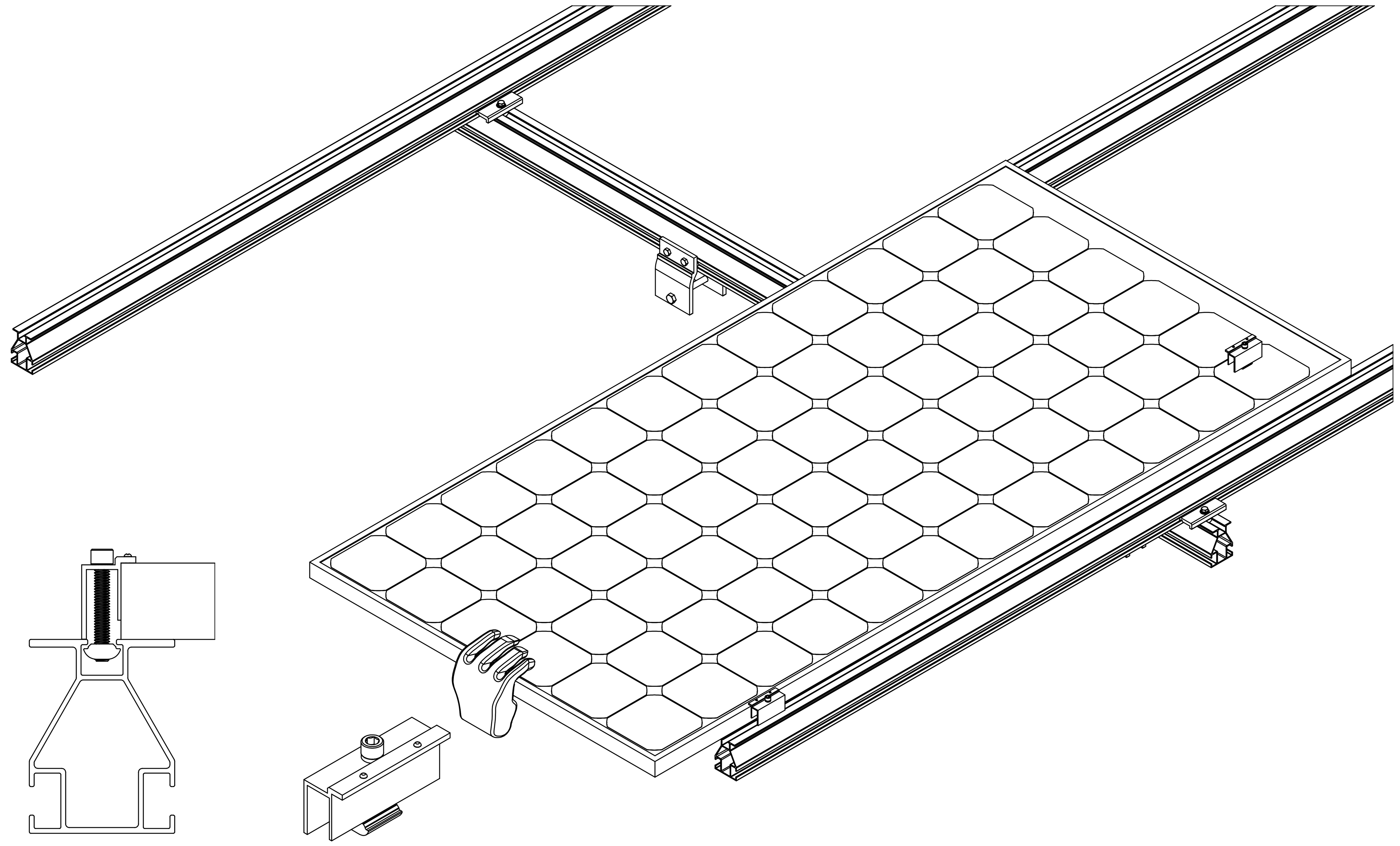
PV PANELS POSITION



(D) : SEE PAGE PV1.500

STEP 1

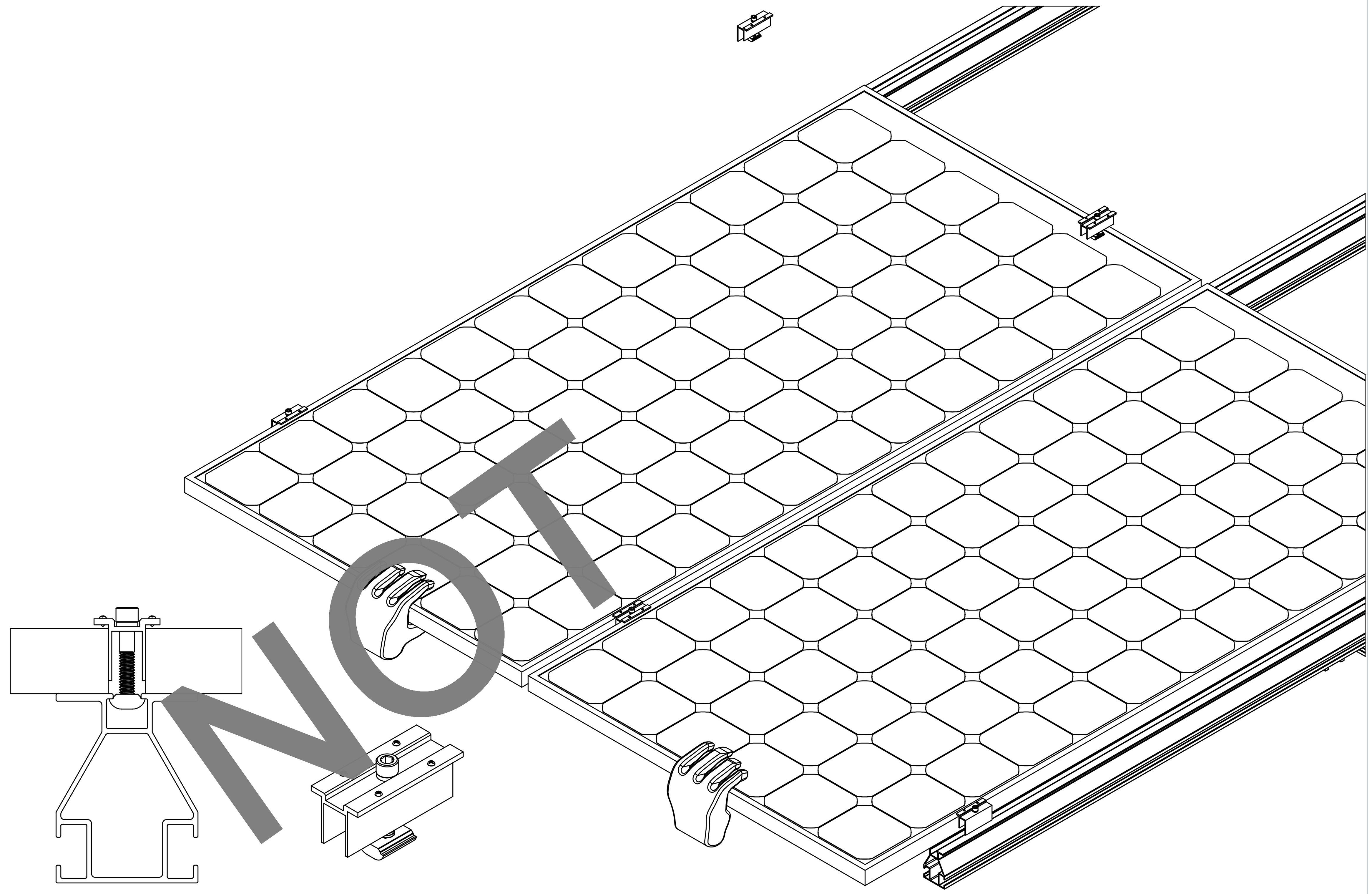
- WITH A HAND UNDER THE PANEL, TIGHTEN THE BOLT OF THE BOTTOM TWO(2) ZBC.



TILT THE ZBC FOR AN EASY INSTALLATION, THEN TIGHTEN THE BOLT TO LOCK IT IN POSITION. (SEE NOTE 2.8 PAGE PV0.100 FOR MORE DETAILS)

STEP 2

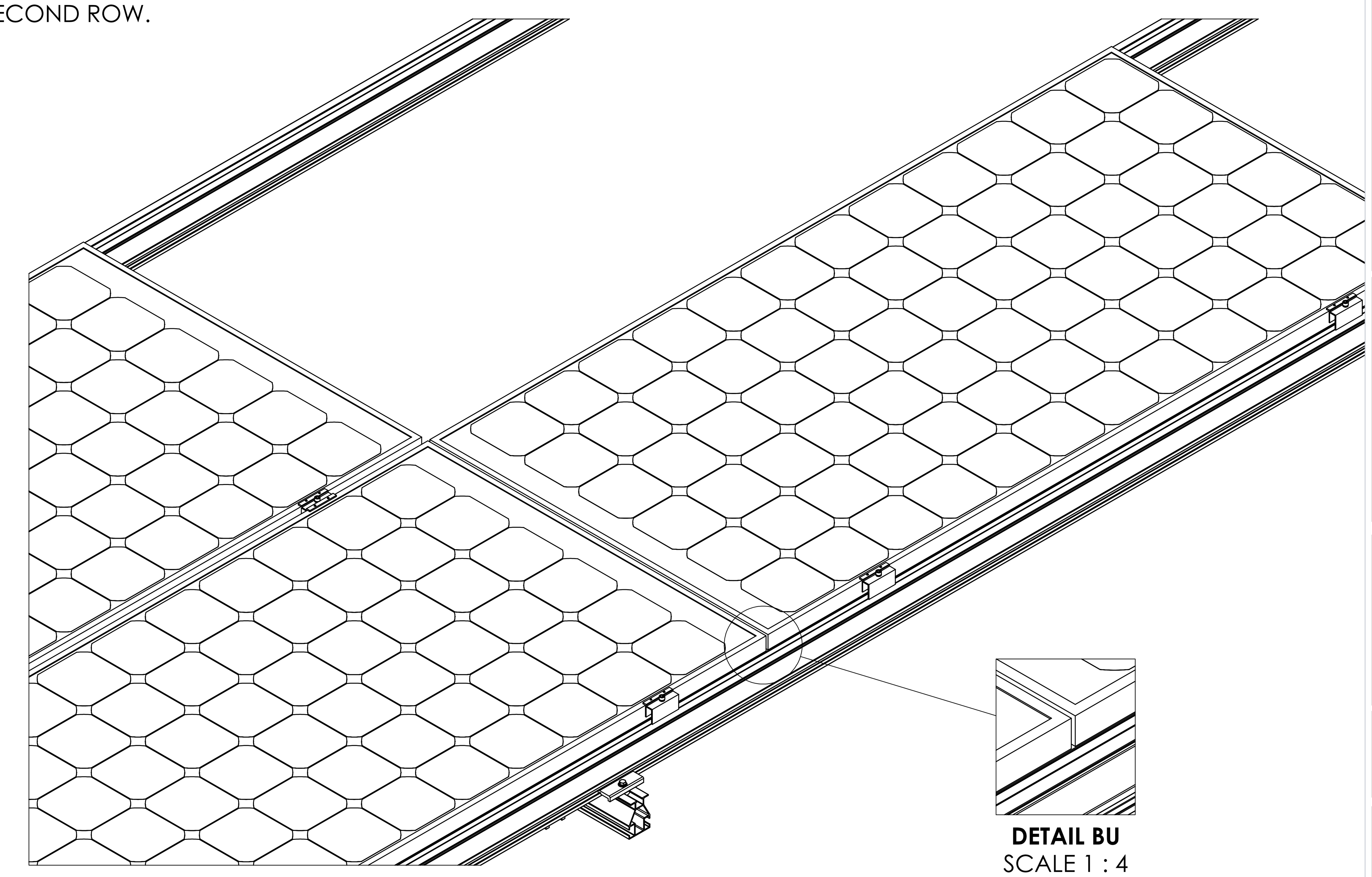
- WHILE HOLDING BOTH PV PANELS, TIGHTEN THE UBC IN PLACE.



TILT THE UBC FOR AN EASY INSTALLATION, THEN TIGHTEN THE TORX BOLT TO LOCK IT IN POSITION. (SEE NOTE 2.8 PAGE PV0.100 FOR MORE DETAILS)

STEP 3

- REPEAT STEP 1 AND 2 FOR THE SECOND ROW.
- LEAVE A GAP OF 1/4" (6mm) BETWEEN THE FIRST AND SECOND ROW.



DETAIL BU
SCALE 1 : 4

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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

CHAMPION SOLAR

Phone:
Email: amy@championsolar.com

Project Info

Project Name: GAME FARM RD
Project Number: CMN-24080505
Project Address: 25 Game Farm rd. Independence, MN, 55359
Title: PV PANEL INSTALLATION

Drawn By: FM	Check By: NL
Drawn Date: 2021-10-07	Rev: 01
Scale: 1:8	Page: PV1.801

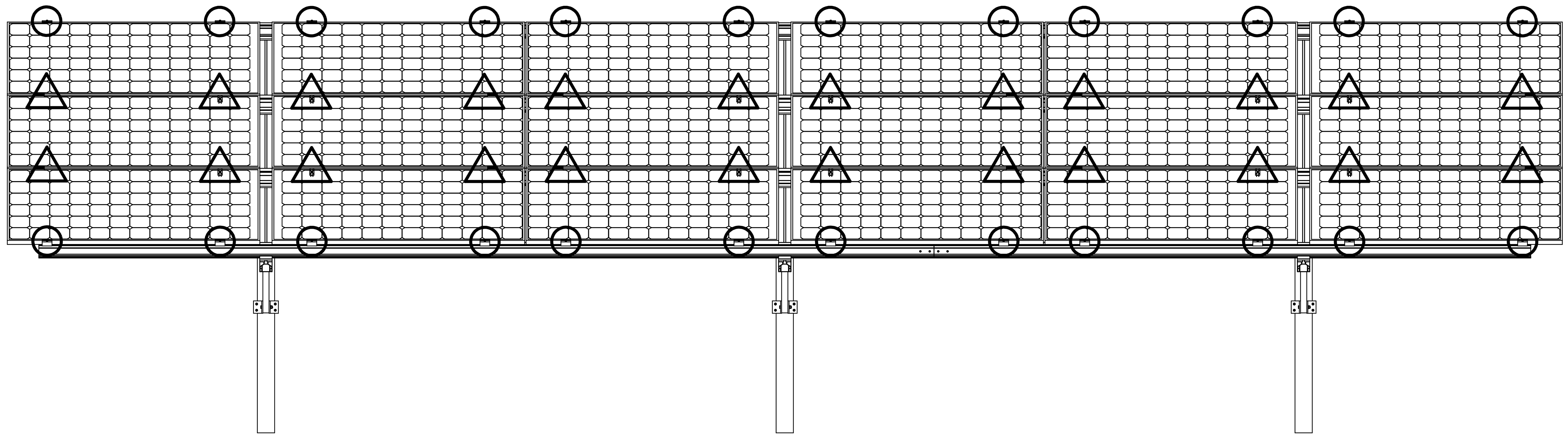
VA-GM-PV-INSTALLATION-LANDSCAPE-FRAMER-BI-NOT OPTIMISE

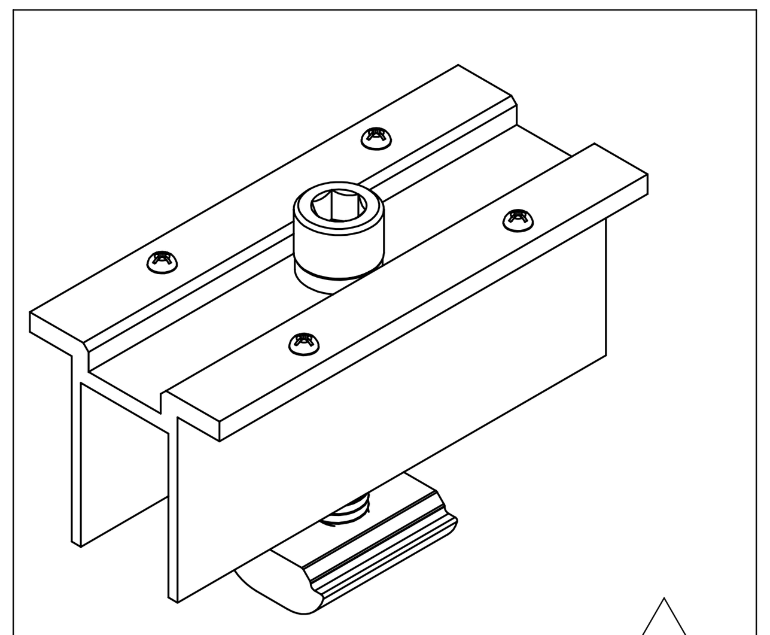
GM ELECTRICAL DETAILS

CONFIGURATION FOR INFORMATION ONLY

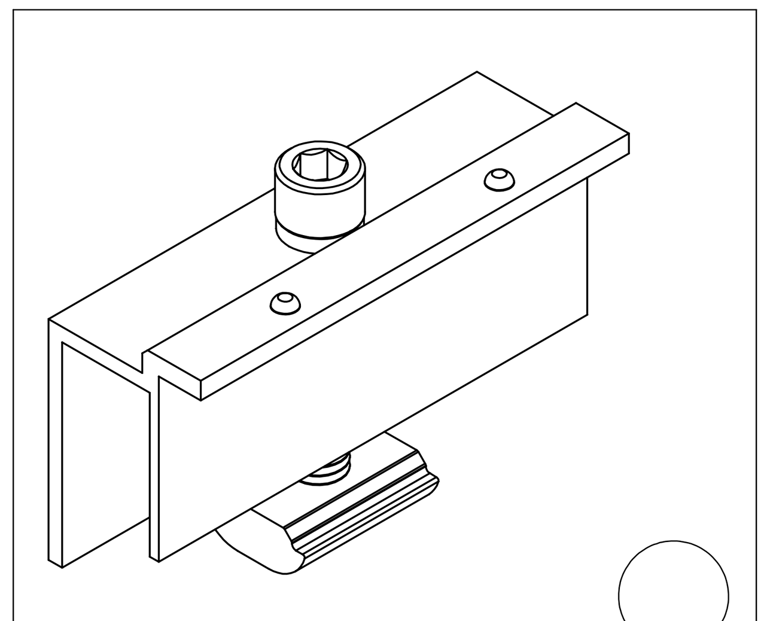
△ - USE UBC FOR EVERY CONNECTION BETWEEN TWO PANNELS

○ - USE ZBC FOR EVERY ENDROW CONNECTION



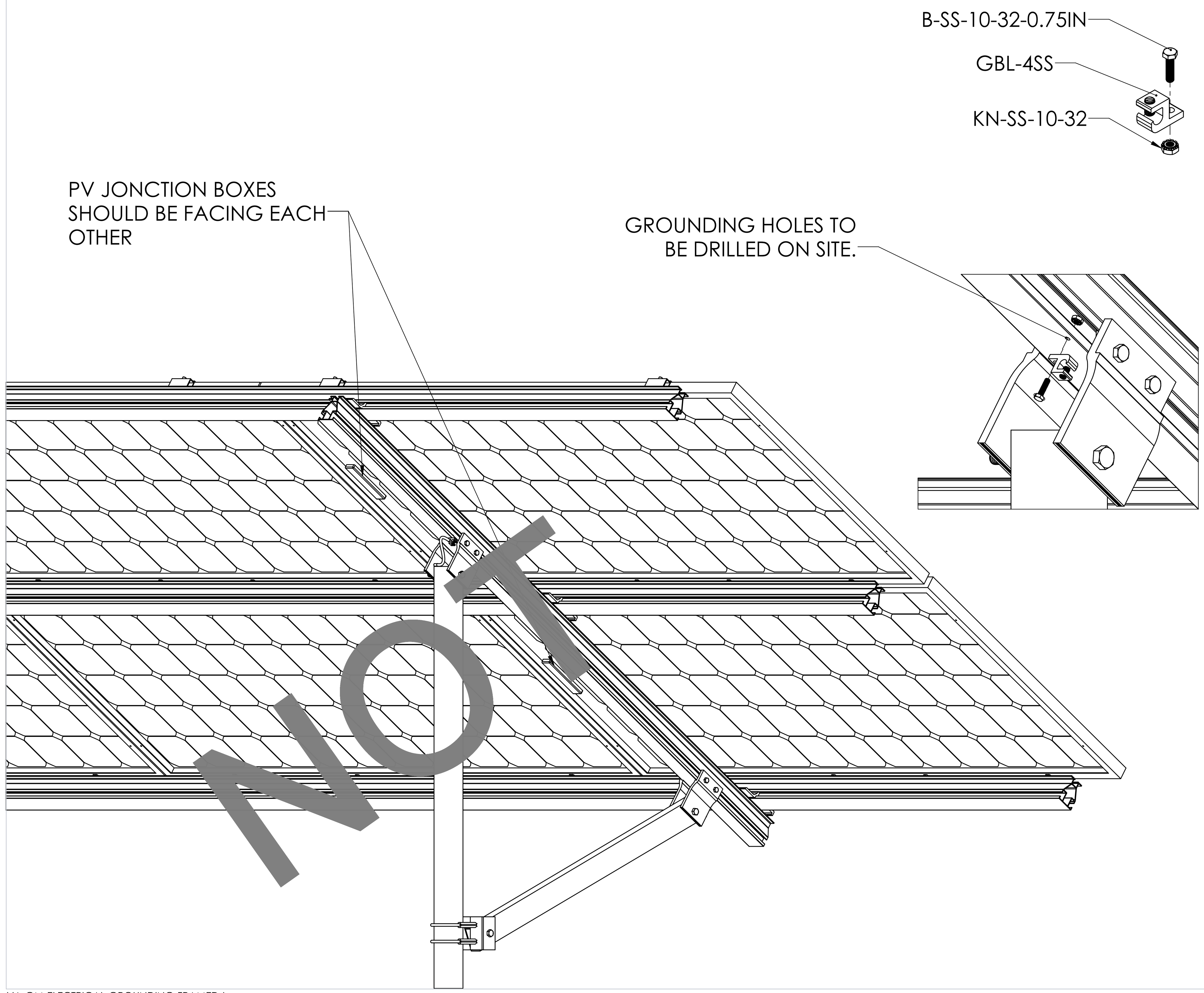


UBC



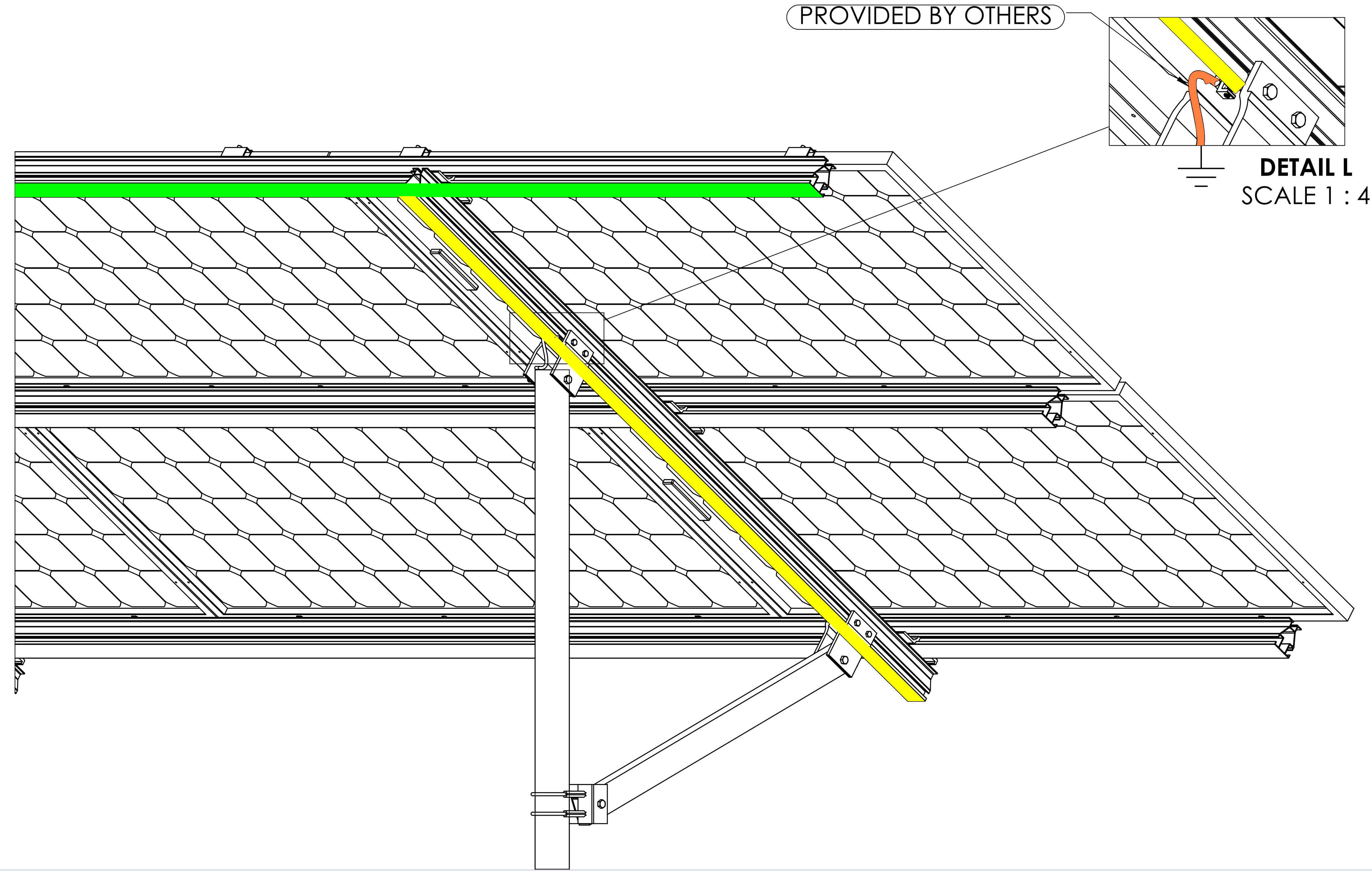
ZBC

GROUNDING



BONDING PATH

- MODULE CLAMPS CARRY CURRENT TO THE CROSS RAIL(SRS3)(SEE NOTE 5.1 PAGE PV01-1 FOR MORE DETAILS).
- RL-RL3 (RAIL LINKER FOR SRS3) CARRY THE CURRENT FROM CROSS RAIL TO CROSS RAIL. CURRENT IS CARRIED OVER TO THE VERTICAL BEAM (SRS4 PREASSEMBLY) FROM THE CROSSRAIL THROUGH STRONGLY CLAMPED MILL FINISH ALUMINUM COMPONENTS.
- THE VERTICAL BEAM (SRS4 PREASSEMBLY) CARRY THE CURRENT TO THE POST THROUGH A GROUNDING WIRE.
- CURRENT IS CARRIED TO GROUND THROUGH GROUND LUG.
- ONLY ONE GROUND LUG IS REQUIRED PER CONTINUOUS ARRAY.
- ONE GROUNDING POINT IS REQUIRED PER CONTINUOUS ARRAY, NOT EXCEEDING 150FT, IN ANY DIRECTION
- MAXIMUM 30A PER LUG WHEN INSTALLED IN SERIES.



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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

Phone:

Email:
amy@championsolar.com

Project Info

Project Name: GAME FARM RD

Project Number: CMN-24080505

Project Address: 25 Game Farm rd. Independence, MN, 55359

Title: GM ELECTRICAL DETAIL

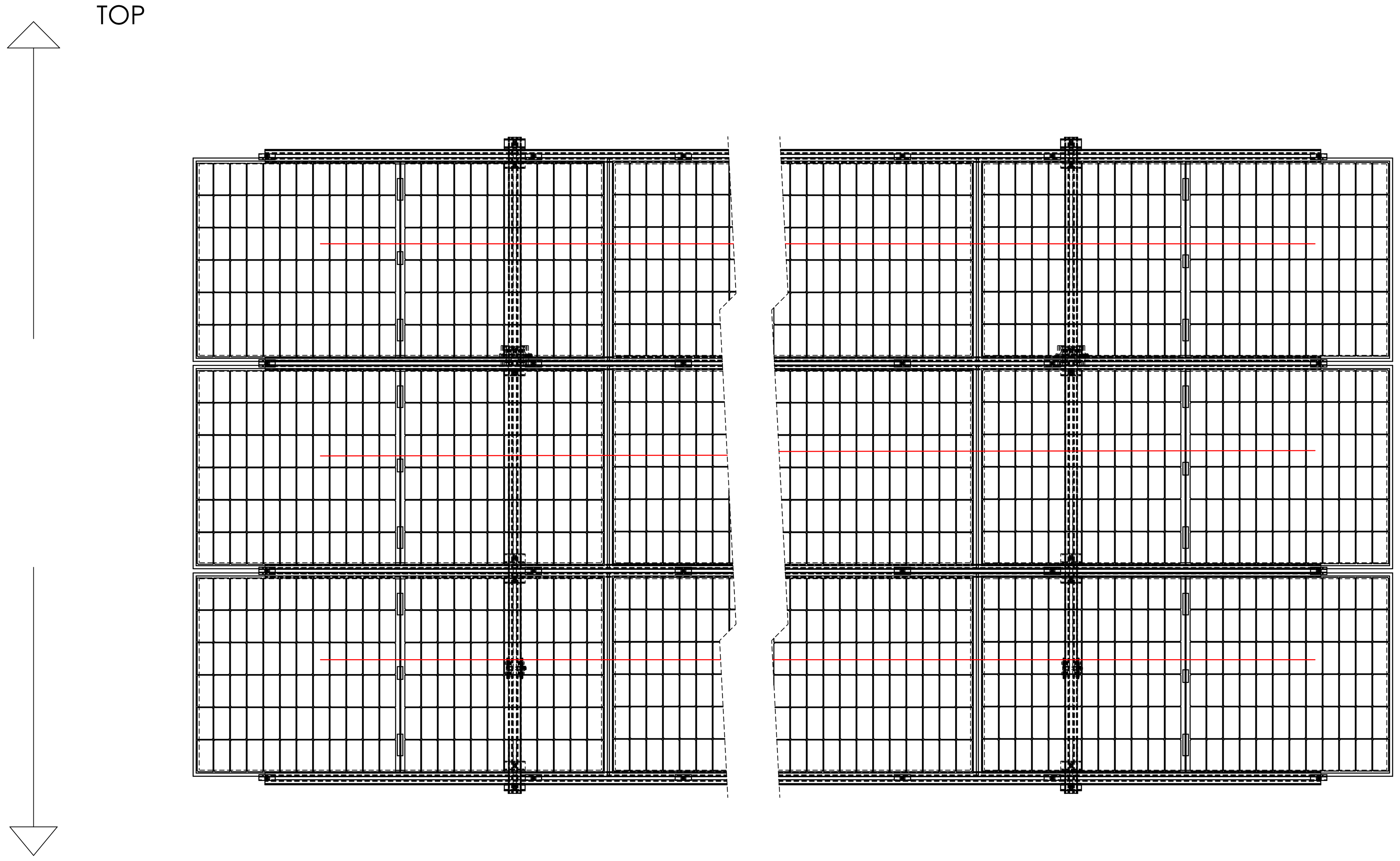
Drawn By: NL	Check By: FM
Drawn Date: 2024-08-23	Rev: 01
Scale: 1:10	Page: PV1.811

VA-GM-ELECTRICAL-GROUNDING-FRAMED-L

PV PANELS WIRE MANAGEMENT

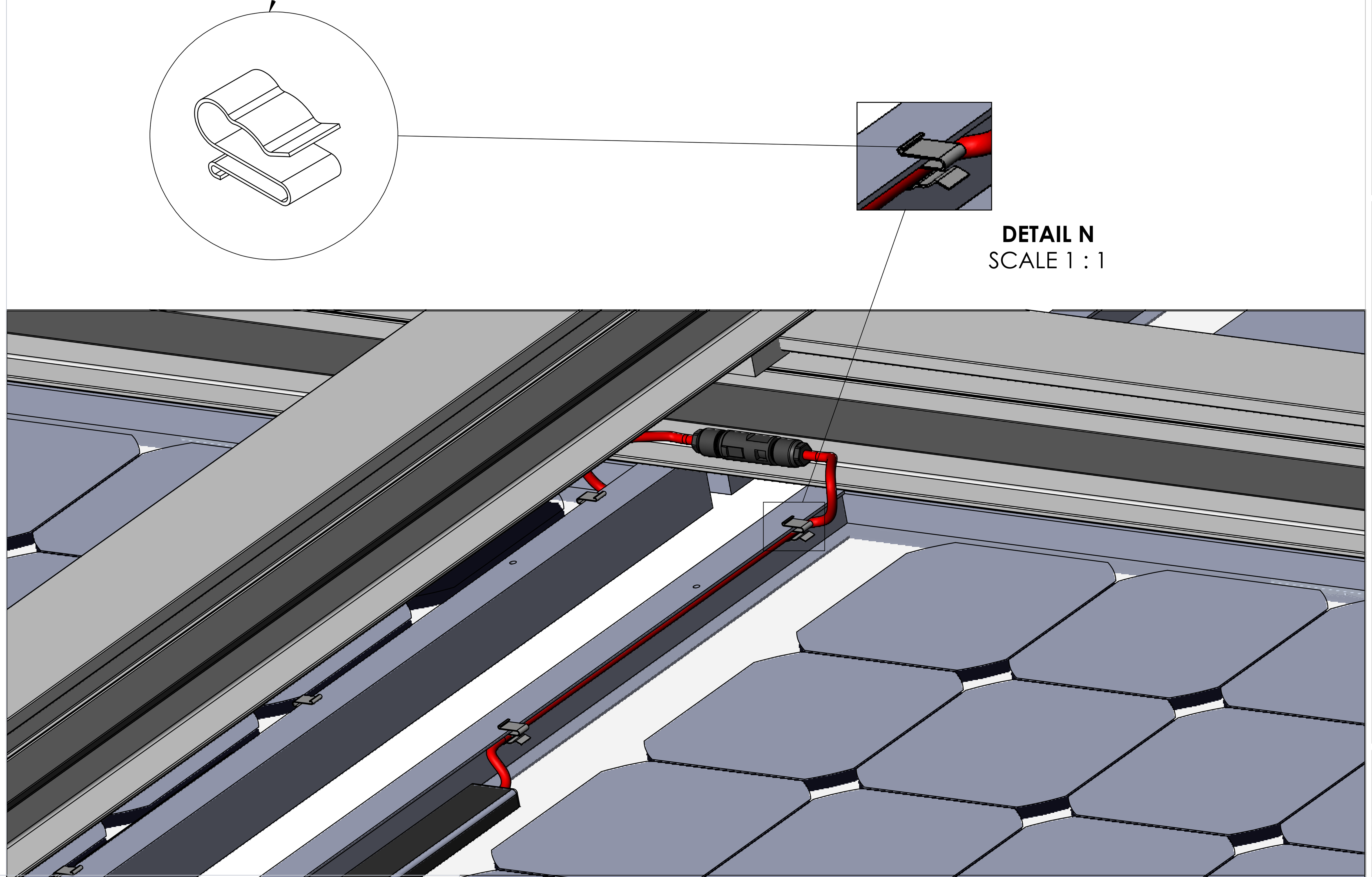
ELECTRICAL CONNECTION

- MAKE SURE ALL THE JUNCTION BOXES FACING EACH OTHER.
- IN RED IS A SUGGESTED PATH FOR CONNECTING THE PV PANELS. (MUST BE DESIGNED ACCORDING TO INVERTER MANUFACTURER SPECIFICATIONS)



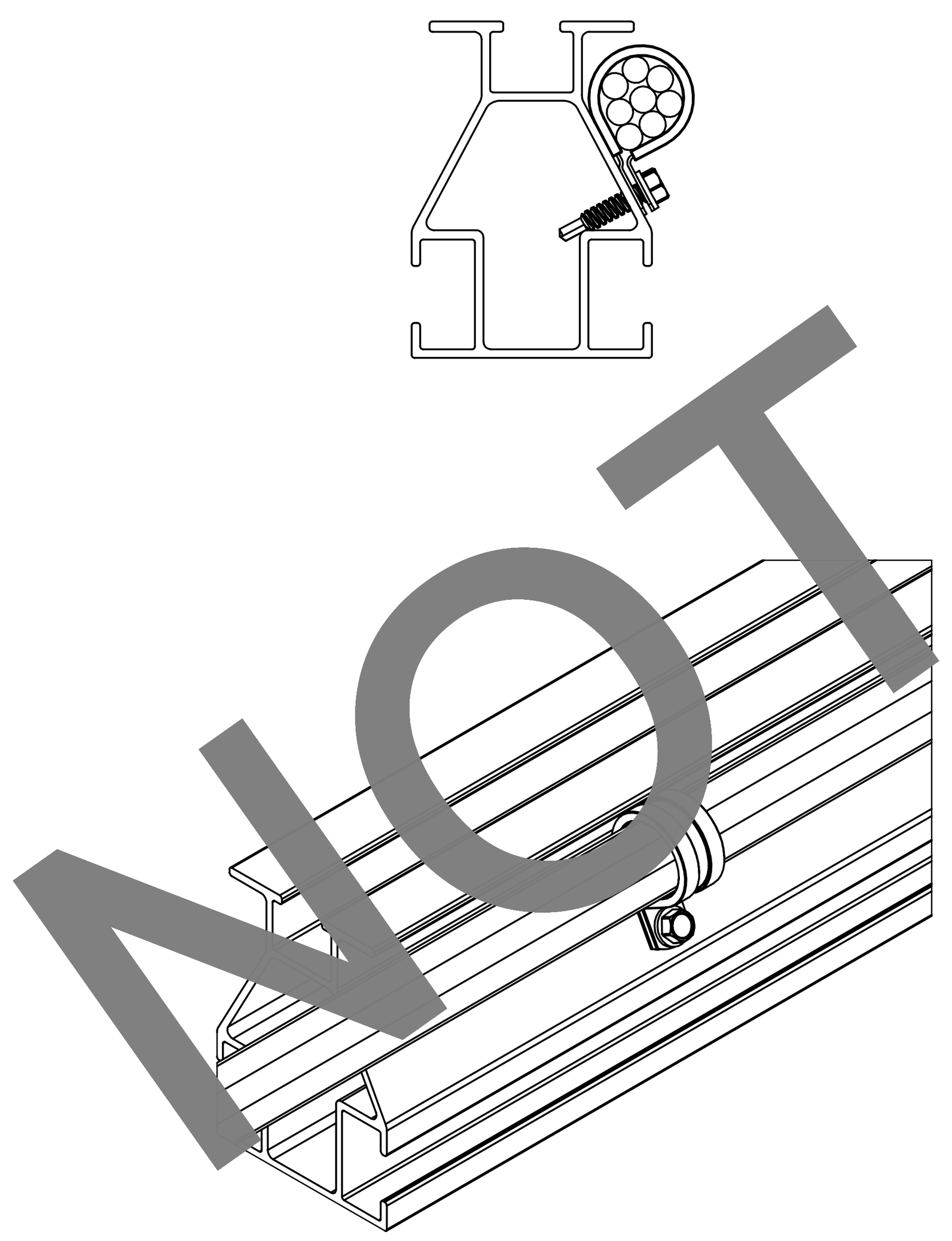
PV PANELS WIRE MANAGEMENT

USE WIRE CONNECTORTO HOLD THE WIRE IN PLACE.
OPTIONAL



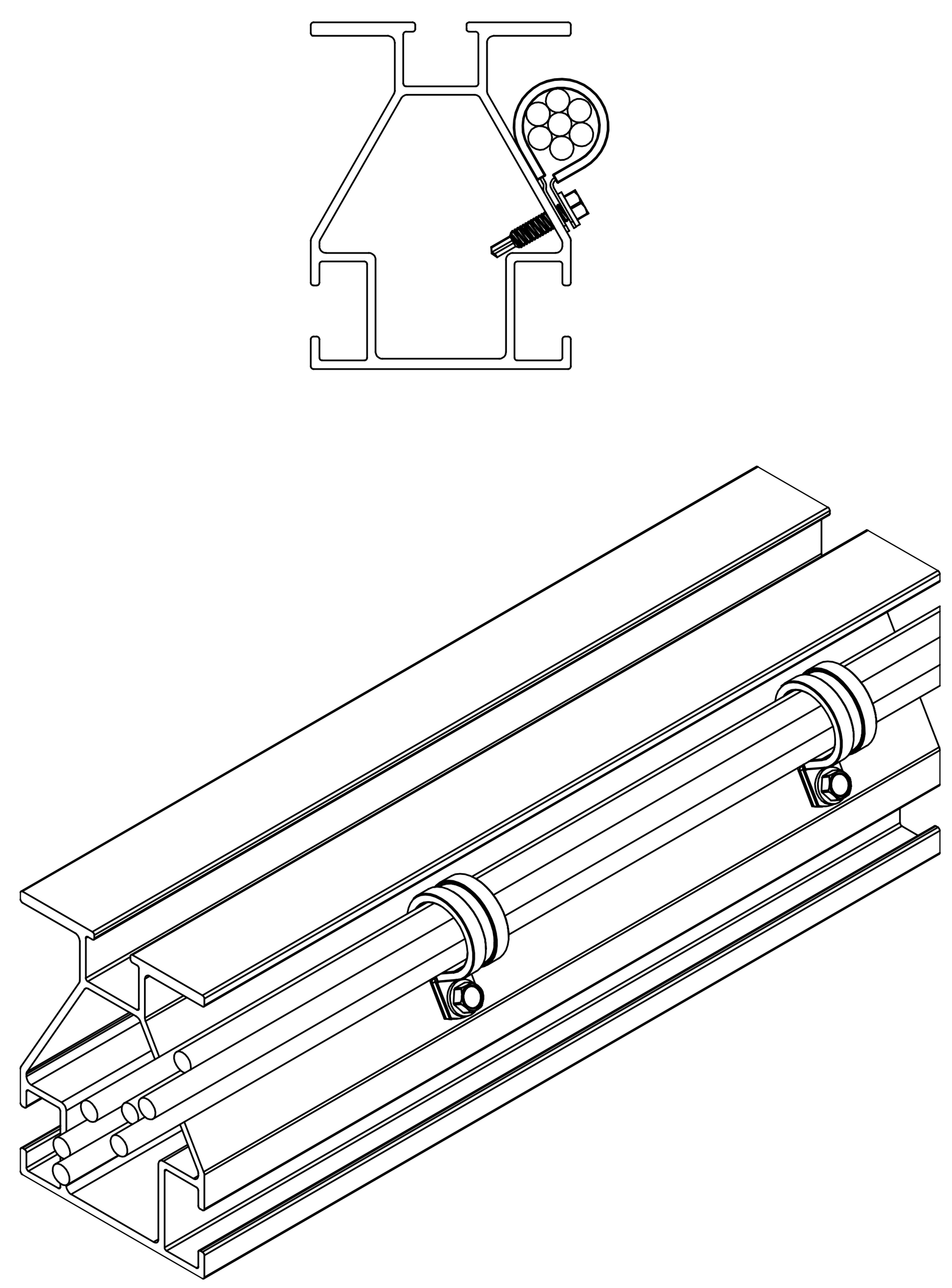
WIRE MANAGEMENT SRS3

WIRE CLAMP
PROVIDED BY OTHERS



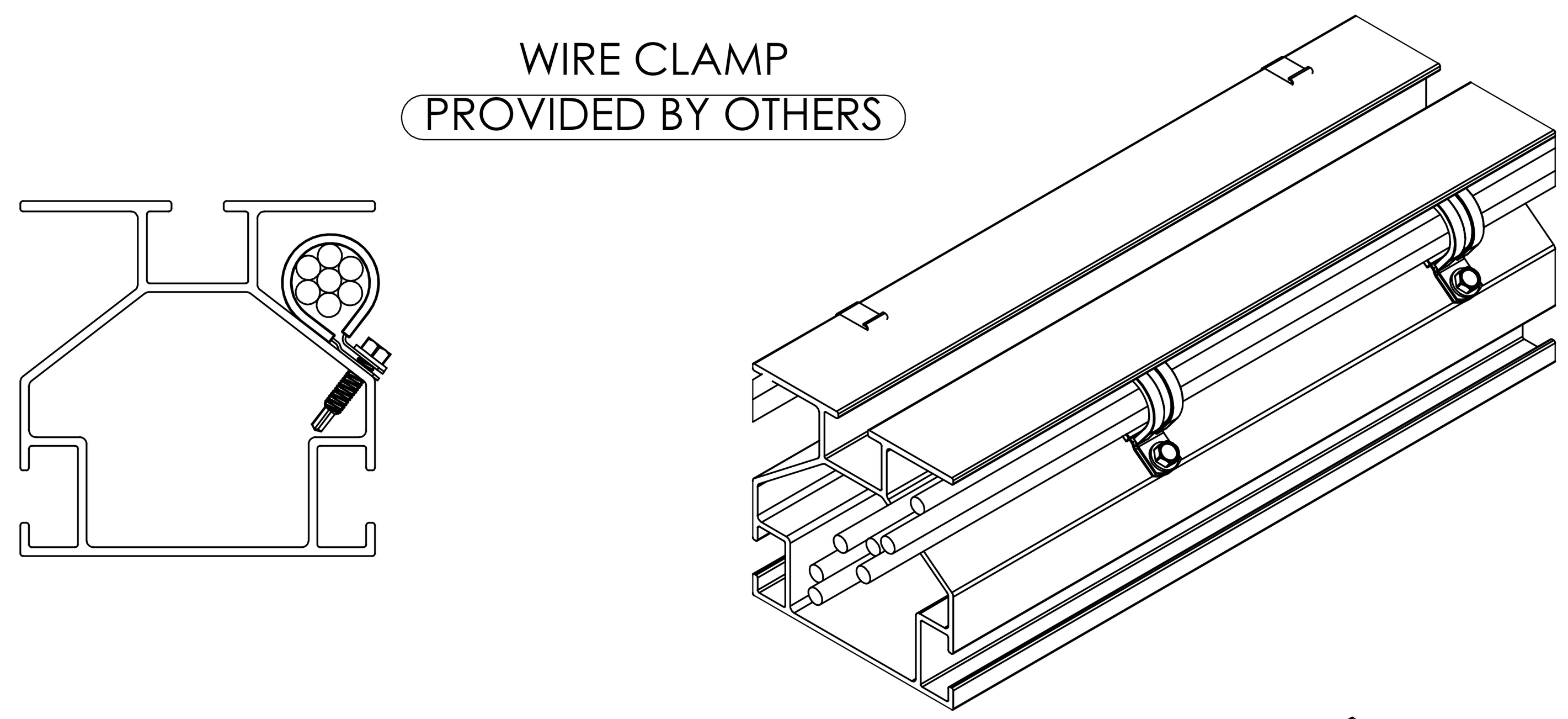
WIRE MANAGEMENT SRS34

WIRE CLAMP
PROVIDED BY OTHERS

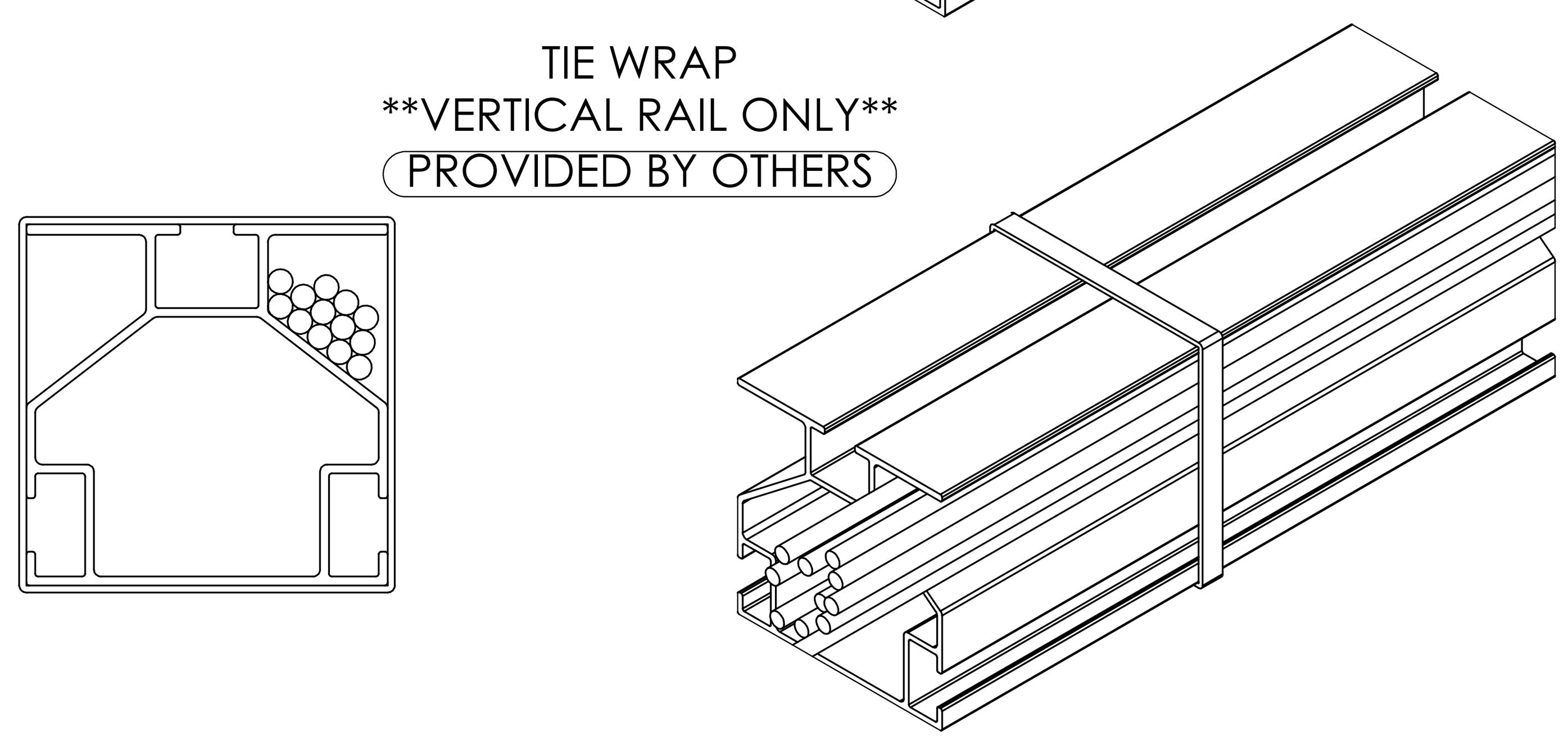


WIRE MANAGEMENT SRS4

WIRE CLAMP
PROVIDED BY OTHERS



TIE WRAP
VERTICAL RAIL ONLY
PROVIDED BY OTHERS



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Note

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

CHAMPION SOLAR

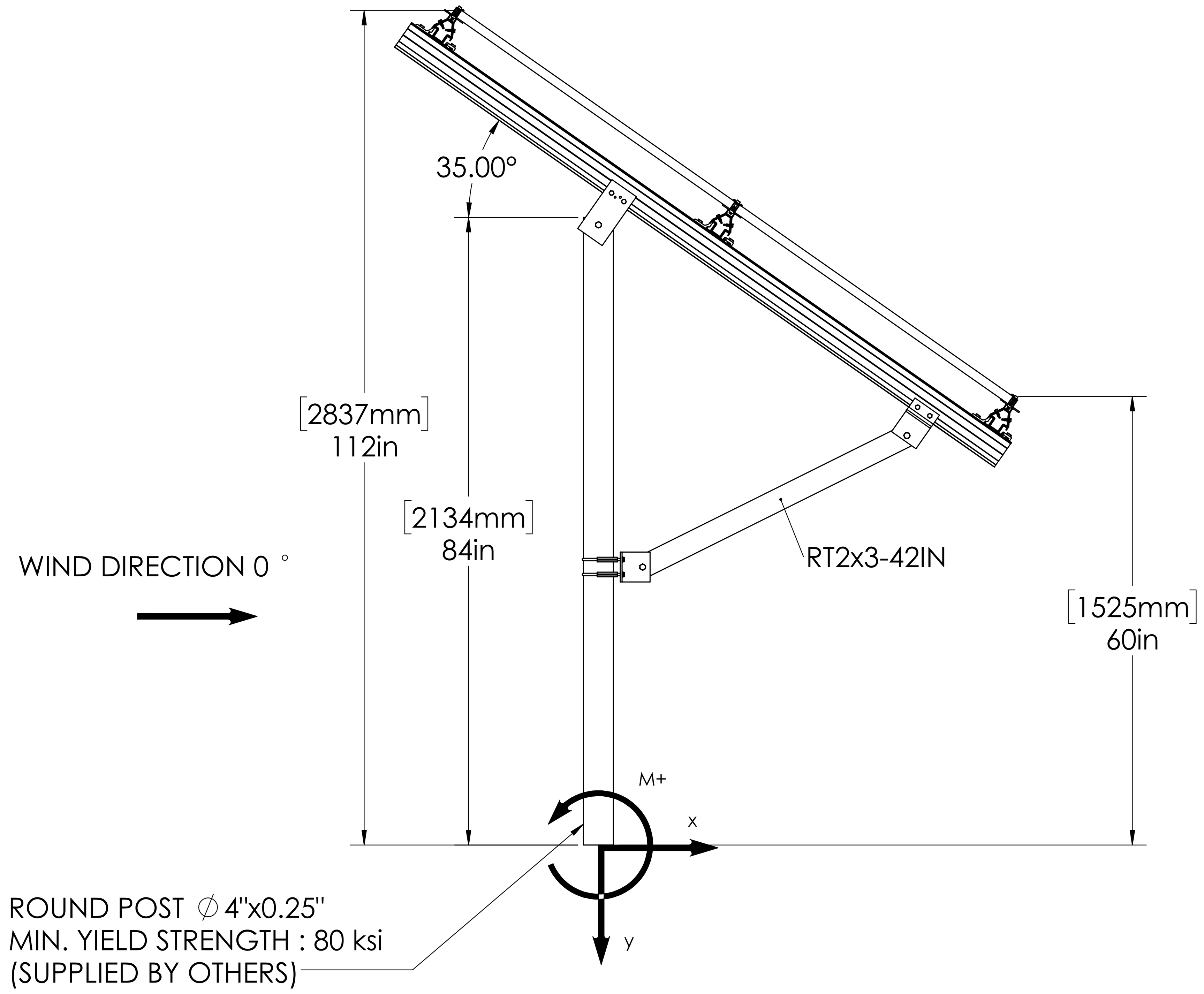
Phone:
Email: amy@championsolar.com

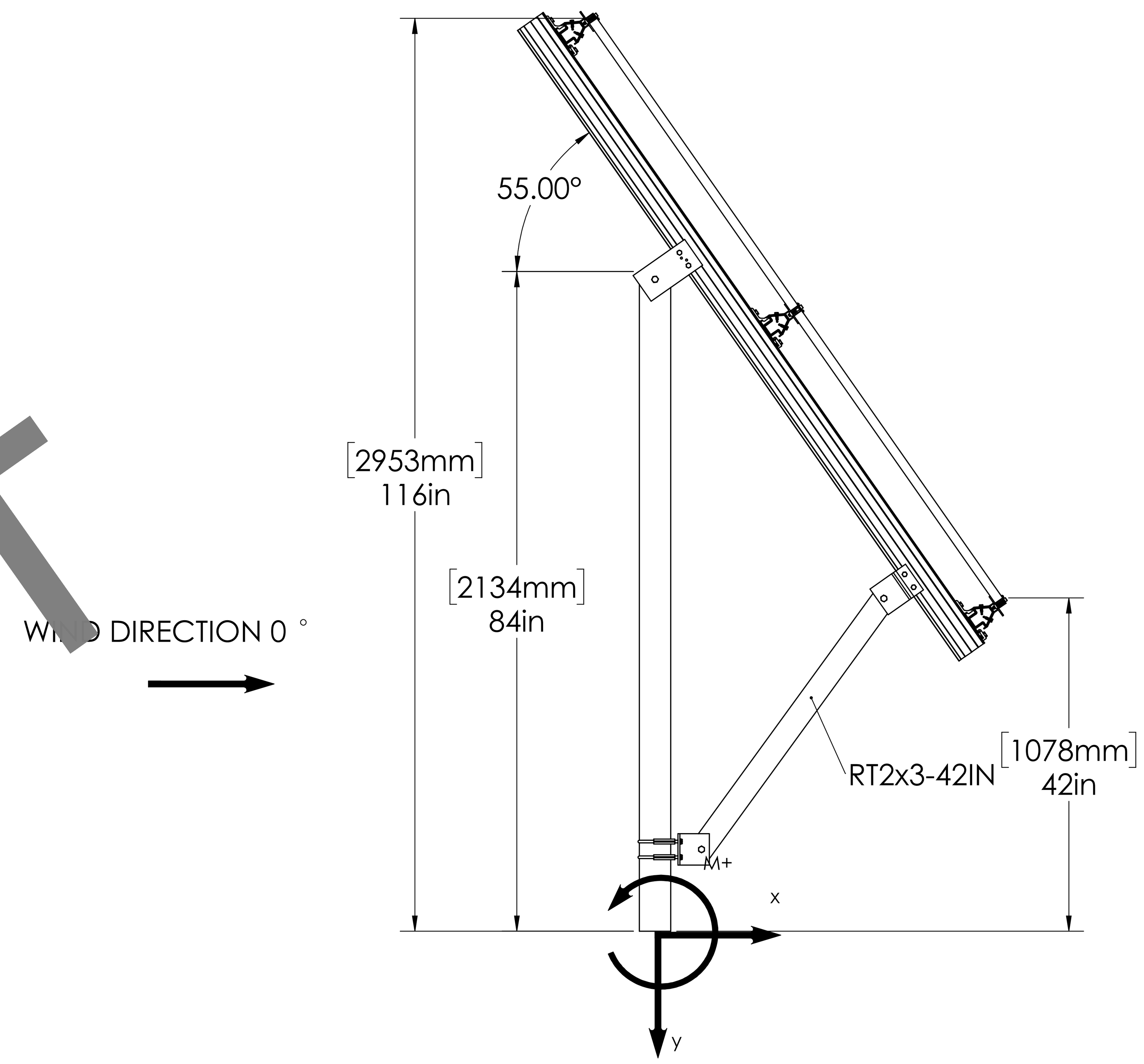
Project Info

Project Name: GAME FARM RD
Project Number: CMN-24080505
Project Address: 25 Game Farm rd. Independence, MN, 55359

Title: PV PANELS WIRE MANAGEMENT

Drawn By: NL | Check By: FM
Drawn Date: 2024-08-23 | Rev: 01
Scale: 1:20 | Page: PV1.812





UNFACTORED LOAD (PER PV PANEL)	
DEAD LOAD, D (PV PANEL ONLY)	70.55 lbf
SNOW LOAD, S	35° : 429.3 lbf 55° : 128.8 lbf
WIND LOAD, W (WINDWARD/LEEWARD)	WIND DIRECTION 0° LOAD CASE A - 35°: -901.9/-901.9 lbf LOAD CASE B - 35°: -1219.3/-283.9 lbf LOAD CASE A - 55°: -801.7/-901.9 lbf LOAD CASE B - 55°: -1152.4/-350.7 lbf WIND DIRECTION 180° LOAD CASE A - 35°: 1052.2/1085.6 lbf LOAD CASE B - 35°: 1336.1/534.5 lbf LOAD CASE A - 55°: 1102.3/1252.7 lbf LOAD CASE B - 55°: 1302.7/701.5 lbf
MAXIMUM REACTION AT POST BASE	
PANEL INCLINAISON	35-55°
LOCATION	INDEPENDENCE, MN
CODE(S)	ASCE 7-16
UPLIFT (0.6D+0.6W, 0°-A @ 35)	-1120 lbf
COMPRESSION (D+0.75(0.6W)+0.75S, 180°-A @35°)	2190 lbf
SHEAR (D+0.6W, 180°-A @ 55°)	1580 lbf
MOMENT AT BASE (D+0.6W, 180°-A @ 55°)	9083 lbf-ft

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Note

NOT FOR CONSTRUCTION

Revision

Rev.#	Review	Date
01	For Coordination	2024-08-22

Customer Info

BayWa r.e. (BAY)
Phone:
Email:
amy@championsolar.com

Project Info

Project Name: GAME FARM RD
Project Number: cmn-24080505
Project Adress: 25 GAME FARM RD
INDEPENDENCE, Minnesota, 55359
Title: REACTION LOAD

Drawn By: NL	Check By: FM
Drawn Date: 2022-05-02	Rev 01
Scale: 1:50	Page: PV1.901

City of Independence

Request for an Amendement to the Conditional Use Permit for the Windsong Farm Golf Club Located at 18 Golf Walk

To:	City Council
From:	Mark Kaltsas, City Planner
Meeting Date:	December 3, 2024
Applicant:	Windsong Farm Golf Club
Owner:	David Meyer
Location:	18 Golf Walk

Request:

PUBLIC HEARING – Jon Dailing/Windsong Farm Golf Club (Applicant) and David Meyer (Owner) are requesting the following action for the properties generally located at 18 Golf Walk and 550 CSAH 92 N. (PID No.s 32-118- 24-13-0001, 32-118-24-42-0001, 32-118-24-24-0001, 32-118-24-31-0002, 32-118-24-42-0030, 32-118-24-43-0002, 32-118-24-42-0031, 32-118-24-42-0029, 32-118-24-42-0025, 32-118-24-42-0036, 32-118-24-34-0001 and 32-118-24-31-0001) in the City of Independence, MN:

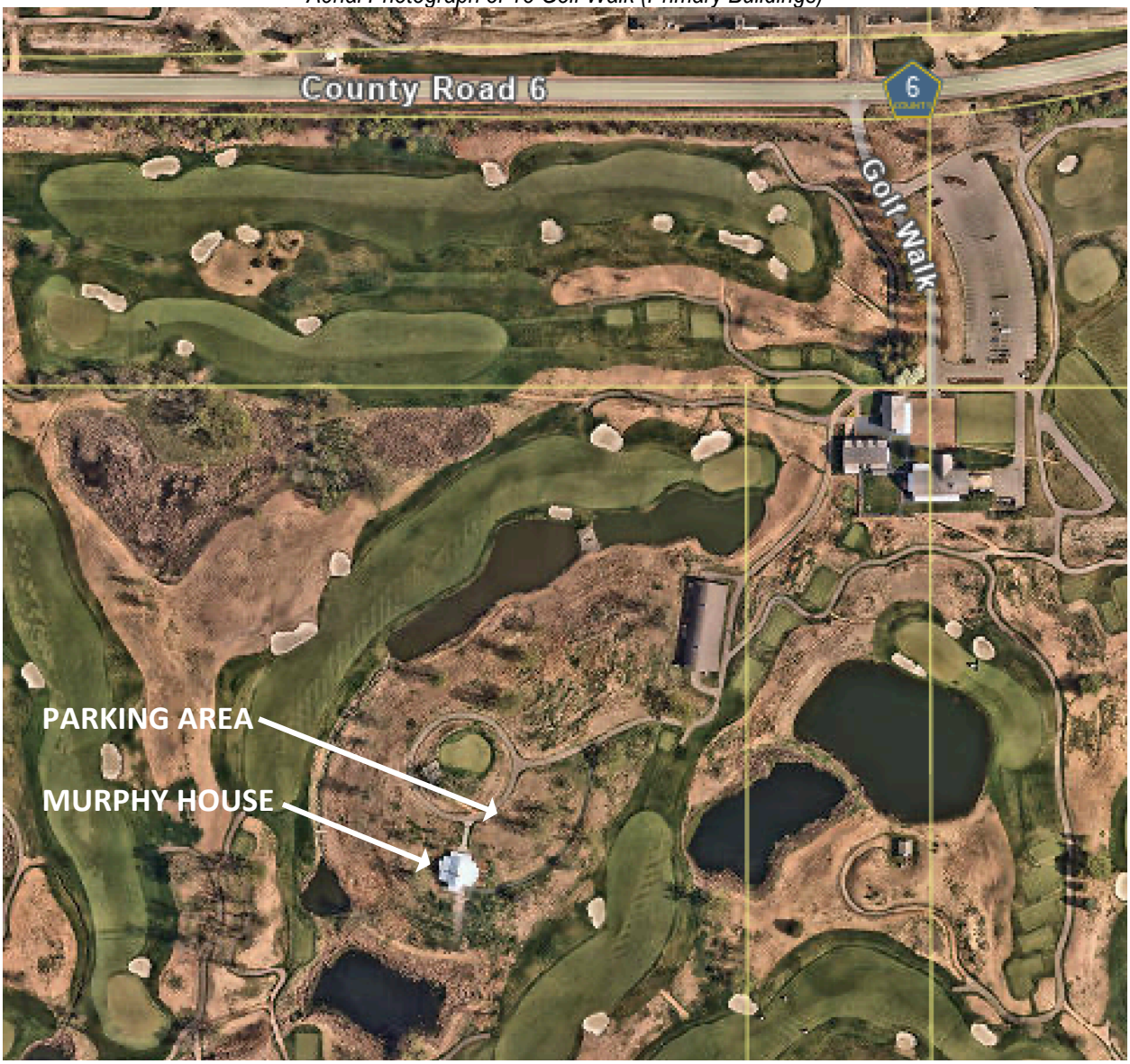
a. A conditional use permit amendment to allow a modification to the vehicle parking area for the out-of-town member guest house and amendment to the approved conditions for use of the house in association with the private golf club.

Property/Site Information:

The subject property is located on the south side of County Road 6, just west of County Road 92. The property is a golf course. The properties have the following characteristics:

Property Information18 Golf Walk
Zoning: *Agriculture*
Comprehensive Plan: *Public/Semi-Public*

Aerial Photograph of 18 Golf Walk (Primary Buildings)



Discussion:

Windsong Golf Club approached the City to discuss an amendment to the conditional use permit to alter conditions relating to the use of the Murphy Guest House. In 2012, the city permitted the construction of the Murphy House for use by national club members who travel into town to play Windsong. The conditions from the 2012 CUP amendment relating to the use of the Murphy House are as follows:

1. The following condition shall be added to the conditional use permit:
   a. In addition to the 18-hole golf course and 29,000 square foot clubhouse, Windsong Farm Golf Club can construct one 5,350 square foot guest house with six sleeping rooms. Use of the guest house will be limited as follows:

1. Use of the guest house shall be limited to members and their non-paying guests.
2. The maximum length of stay for any individual shall be limited to three (3) consecutive nights.
3. Access to the guest houses will be by golf cart only.
4. Access to the existing club house, pro shop and guest house for emergency vehicles shall be maintained at all times.
5. The guest house shall not be equipped with a full kitchen.
6. No meals will be prepared in the guest house.

Windsong would like the city to consider an amendment that would modify two of the six conditions as follows:

2. *The maximum length of stay for any individual shall be limited to three (3) consecutive nights from May 1st to October 31st. The maximum length of stay for any individual shall be limited to fourteen (14) consecutive nights from November 1st to April 30th.*

3. *Access to the guest house will be by golf cart only from May 1st to October 31st. Access to the guest house is permitted by automobile from November 1st to April 30th. Parking of automobiles used to access the guest house from November 1st to April 30th shall be in the designated parking spaces only.*

The existing CUP currently limits the consecutive number of nights that a guest may stay in the guest house to three (3) nights. Windsong has noted that they have national members that would like to utilize the guest house during the off-season for social and business events at the golf club for periods longer than three (3) nights.

The existing CUP also limits access to the guest house via golf cart only. While this works well during the peak golf season, it creates some issues for use during the off-peak season. Windsong is proposing to construct eight (8) parking spaces adjacent to the guest house for use by automobiles during the off-peak season only.

The city reviewed the request with both West Hennepin Public Safety and Maple Plain Fire Department. It was noted that the proposed spaces would actually provide needed space for emergency vehicle parking if needed during peak season when automobiles would not be permitted. Windsong also noted that they would not be able to allow vehicles during the golf season as they could easily be hit by stray golf balls as well as conflict with golf cart traffic using the course.

PARKING PLAN

In order to consider the requested amendments to the conditions, an amendment to the conditional is necessary.

> *520.09 Subd. 8. If a conditional use permit holder wishes to alter or extend the operation or to change the conditions of the permit, the city will evaluate the permit holder's compliance with the existing permit conditions. Any change involving structural alterations, enlargement, intensification of use, or similar change not specifically permitted by the conditional use permit issued requires an amended conditional use permit. An amended conditional use permit application must be administered in a manner similar to that required for a new conditional use permit.*

Commercial golf courses are permitted as conditional uses in the AG - Agriculture zoning district. The golf club has a conditional use permit that was originally approved in 2001 and amended in 2012 and 2013, 2016, 2021, 2022 and 2023 and 2024. The CUP allows two golf courses, their associated club house/pro shop, guest house and parking north of CSAH 6. The initial Golf Course CUP was issued under 530.01, subd. 4(s) which makes "commercial golf course" a conditionally permitted use.

Any amendment to an existing CUP must meet the same requirements established for granting a new CUP. The criteria for granting a conditional use permit are clearly delineated in the City's Zoning Ordinance (Section 520.11 subd. 1, a-i) as follows:

1. *The conditional use will not adversely affect the health, safety, morals and general welfare of occupants of surrounding lands.*
2. *The proposed use will not have a detrimental effect on the use and enjoyment of other property in the immediate vicinity for the proposes already permitted or on the normal and orderly development and improvement of surrounding vacant property for uses predominant in the area.*
3. *Existing roads and proposed access roads will be adequate to accommodate anticipated traffic.*
4. *Sufficient off-street parking and loading space will be provided to serve the proposed use.*
5. *The proposed conditional use can be adequately serviced by public utilities or on-site sewage treatment, and sufficient area of suitable soils for on-site sewage treatment is available to protect the city form pollution hazards.*
6. *The proposal includes adequate provision for protection of natural drainage systems, natural topography, tree growth, water courses, wetlands, historic sites and similar ecological and environmental features.*
7. *The proposal includes adequate measures to prevent or control offensive odor, fumes, dust, noise, or vibration so that none of these will constitute a nuisance.*
8. *The proposed condition use is consistent with the comprehensive plan of the City of Independence.*
9. *The proposed use will not stimulate growth incompatible with prevailing density standards.*

The City will need to find that requested amendments to the conditions relating to the use of the guest house are consistent with the conditional use allowing a commercial (private) golf club on the property. In addition, the City will need to determine if the proposed amendment to the CUP meets the requirements for granting a conditional use permit amendment.

There are several items that should be noted:

- The use of the guest house is limited to members of the golf club or their non-paying guests. The city has historically not had issues relating to the use of the guest house. Windsong does have national members that regularly travel to Independence to play the course and use the club amenities. Windsong would like to allow national members the option to utilize the guest house during the off-peak season for periods longer than three (3) consecutive nights. Due to weather conditions during the non-peak season, the club would also like to allow automobile access/parking to the guest house.

The Planning Commission will need to determine if the requested amendment to the conditional use permit meets all of the aforementioned conditions and restrictions.

Neighbor Comments:

The City has not received any written comments regarding the proposed amendment to the conditional use permit.

Planning Commission Comments:

Commissioners reviewed the application and asked questions of staff and the applicant. Commissioners asked if WHPS and MP Fire had reviewed and had any issues. It was noted that both WHPS and MP Fire had reviewed and provided comments. Both were supportive of the request. Commissioners asked about the initial reason the limitation on number of days had been included in the approval. It was noted that the city wanted to ensure that the guest house would not become a rental or permanent house. Commissioners felt comfortable with the request, found that it met the criteria for granting an amendment and recommended approval to the City Council.

Recommendation:

The Planning Commission recommended approval of the request for an amendment to the conditional use permit with the following findings and conditions:

1. The proposed conditional use permit amendment meets all applicable conditions and restrictions stated Chapter V, Section 510, Zoning, in the City of Independence Zoning Ordinance.

2. The conditional use permit will continue to be reviewed annually by the City to ensure conformance with the conditions set forth in the resolution.

3. All conditions of the original conditional use permit and all subsequent amendments shall remain in full force.

4. The following condition from the October 16, 2012, conditional use permit amendment shall be amended as follows:

- In addition to the 18-hole golf course and 29,000 square foot clubhouse, Windsong Farm Golf Club can construct one 5,350 square foot guest house with six sleeping rooms. Use of the guest house will be limited as follows:

    1. Use of the guest house shall be limited to members and their non-paying guests.
    2. The maximum length of stay for any individual shall be limited to three (3) consecutive nights *from May 1st to October 31st. The maximum length of stay for any individual shall be limited to fourteen (14) consecutive nights from November 1st to April 30th.*

3. *from May 1st to October 31st. The maximum length of stay for any individual shall be limited to fourteen (14) consecutive nights from November 1st to April 30th.*
4. Access to the guest houses will be by golf cart only *May 1st to October 31st. Access to the guest house is permitted by automobile from November 1st to April 30th. Parking of automobiles used to access the guest house from November 1st to April 30th shall be in the designated parking spaces only.*
5. Access to the existing club house, pro shop and guest house for emergency vehicles shall be maintained at all times.
6. The guest house shall not be equipped with a full kitchen.
7. No meals will be prepared in the guest house.

5. The applicant shall pay for all costs associated with the review of the conditional use permit amendment application.

Attachments: Application
Parking Plan

RESOLUTION OF THE
CITY OF INDEPENDENCE
HENNEPIN COUNTY, MINNESOTA

RESOLUTION NO. 24-1203-05

A RESOLUTION GRANTING APPROVAL OF AN AMENDMENT TO THE CONDITIONAL USE PERMIT FOR THE WINDSONG FARMS GOLF CLUB LOCATED AT 18 GOLF WALK

WHEREAS, the City of Independence (the "City) is a municipal corporation under the laws of Minnesota; and

WHEREAS, the City adopted a comprehensive plan in 2020 to guide the development of the community; and

WHEREAS, the City has adopted a zoning ordinance and other official controls to assist in implementing the comprehensive plan; and

WHEREAS, requested amendment to the Conditional Use Permit is consistent with the City of Independence comprehensive plan; and

1. WHEREAS, Windsong Farm Golf Club (the "Applicant") submitted a request for an amendment to the conditional use permit to allow a change in the conditions regulating use of the guest house located on the club properties generally located at 18 Golf Walk and 550 CSAH 92 N. (PID No.s 32-118- 24-13-0001, 32-118-24-42-0001, 32-118-24-24-0001, 32-118-24-31-0002, 32-118-24-42-0030, 32-118-24-43-0002, 32-118-24-42-0031, 32-118-24-42-0029, 32-118-24-42-0025, 32-118-24-42-0036, 32-118-24-34-0001 and 32-118-24-31-0001) in the City of Independence, MN; and

   WHEREAS, the Property is zoned Agriculture; and

   WHEREAS, the Property is legally described on **EXHIBIT A** attached hereto; and

WHEREAS the requested amendment to the Conditional Use Permit meets all requirements, standards and specifications of the City of Independence zoning ordinance for Agriculture property; and

WHEREAS the Planning Commission held a public hearing on November 19, 2024 to review the application for an amendment to the Conditional Use Permit, following mailed and published noticed as required by law; and

WHEREAS, the City Council has reviewed all materials submitted by the Applicant; considered the oral and written testimony offered by the applicant and all interested parties; and has now concluded that the application is in compliance with all applicable standards and can be considered for approval; and

WHEREAS, this amendment adds additional provisions to the previous Conditional Use Permit for this property and all previous conditions not being amended shall remain in force; and

WHEREAS, Windsong Farm Golf Course is a private club with a defined membership that inherently restricts the use of the club and its facilities; and

WHEREAS, the proposed golf practice building will be used solely by members of Windsong Farm Golf Club and their guests.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF INDEPENDENCE, MINNESOTA, that it should and hereby does approve the application by Windsong Farms Golf Club for an amendment to the conditional use permit per the City's zoning regulations with the following conditions:

1. The proposed conditional use permit amendment meets all applicable conditions and restrictions stated Chapter V, Section 510, Zoning, in the City of Independence Zoning Ordinance.

2. The conditional use permit will continue to be reviewed annually by the City to ensure conformance with the conditions set forth in the resolution.

3. All conditions of the original conditional use permit and all subsequent amendments shall remain in full force.

4. The following condition from the October 16, 2012, conditional use permit amendment shall be amended as follows:

- In addition to the 18-hole golf course and 29,000 square foot clubhouse, Windsong Farm Golf Club can construct one 5,350 square foot guest house with six sleeping rooms. Use of the guest house will be limited as follows:

    1. Use of the guest house shall be limited to members and their non-paying guests.
    2. The maximum length of stay for any individual shall be limited to three (3) consecutive nights *from May 1st to October 31st. The maximum length of stay for any individual shall be limited to fourteen (14) consecutive nights from November 1st to April 30th.*
    3. *from May 1st to October 31st. The maximum length of stay for any individual shall be limited to fourteen (14) consecutive nights from November 1st to April 30th.*

4. Access to the guest houses will be by golf cart only *May 1st to October 31st. Access to the guest house is permitted by automobile from November 1st to April 30th. Parking of automobiles used to access the guest house from November 1st to April 30th shall be in the designated parking spaces only.*
5. Access to the existing club house, pro shop and guest house for emergency vehicles shall be maintained at all times.
6. The guest house shall not be equipped with a full kitchen.
7. No meals will be prepared in the guest house.

5. The parking area shall be constructed in accordance with the approved plan depicted on **Exhibit B** attached hereto.

6. The applicant shall pay for all costs associated with the review of the conditional use permit amendment application.

7. The resolution shall be recorded with Hennepin County.

This resolution was adopted by the City Council of the City of Independence on this 3rd day of December, 2024, by a vote of _____ayes and _____nays.

_____
Marvin Johnson, Mayor

ATTEST:

_____
Mark Kaltsas, City Administrator

Exhibit A

(Legal Description)

Exhibit B

(Parking Plan)

Hakanson Anderson

Main Office:
3601 Thurston Avenue, Anoka, MN 55303
Phone: 763/427-5860
www.haa-inc.com

45 YEARS

MEMORANDUM

TO: **Mark Kaltsas, City Administrator; Amber Simon, Administrative Services Director**

CC: **Shane Nelson, City Engineer; Nikki McDermond-Spies, Environmental Specialist**

FROM: **Erica Halek, Environmental Scientist**

DATE: **November 27, 2024**

RE: **Agenda Item for December 3, 2024 – Annual Opportunity for Public Comment on SWPPP**

We are requesting that the following item is added to the Independence City Council meeting on December 3, 2024.

Annual Opportunity for Public Comment on SWPPP

Each year, the City is required to offer the public an opportunity to provide comments related to the City's SWPPP, which is part of the MS4 Permit. No official public hearing is required.

From the MPCA:

What is an MS4?

A municipal separate storm sewer system (MS4) is a conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains, etc.) that is also:

- Owned or operated by a public entity (which can include cities, townships, counties, military bases, hospitals, prison complexes, highway departments, universities, etc.).
- Designed or used for collecting or conveying stormwater.
- Not a combined sewer.
- Not part of a publicly owned treatment works.

The MS4 general permit is designed to reduce the amount of sediment and other pollutants entering state waters from stormwater systems. Entities that are regulated by the MS4 general permit must develop a stormwater pollution prevention program (SWPPP) and adopt best practices.

The goal of the SWPPP is to reduce the discharge of pollutants into receiving waters to the maximum extent practicable. The SWPPP consists of six components, each called a Minimum Control Measure (MCM). The MCMs and their requirements are shown below.

1. Public Education and Outreach
    - Distribute educational materials
    - Develop measurable goals
2. Public Participation/Involvement
    - Provide one opportunity annually for public comment
    - Provide access to SWPPP document upon request
3. Illicit Discharge Detection and Elimination
    - Regulatory mechanism prohibiting non-stormwater discharges
    - Training all field staff in recognition and reporting
4. Construction Site Stormwater Runoff Control
    - Regulatory mechanism for erosion and sediment control
    - Site plan review and site inspections
5. Post-Construction Stormwater Management
    - Regulatory mechanism for new and redevelopment regarding volume control and long-term maintenance
6. Pollution Prevention/Good Housekeeping for Municipal Operations
    - Facilities inventory
    - Pond assessment procedures and schedule
    - Employee training

City of Independence

Lake Independence Ordinary High Water Level Discussion

To:	City Council
From:	Mark Kaltsas, City Administrator
Meeting Date:	December 3, 2024

Discussion:

The Ordinary High Water Level for Lake Independence has been a topic of discussion for several years. This topic was discussed in September at a Pioneer-Sarah Creek WMC Technical Advisory Committee meeting. At the meeting, stakeholders pointed out the lake elevations often exceeded the OHWL in the past several years and expressed an interest in having the lake resurveyed to determine if the OHWL should be adjusted.

The DNR established the current OHWL (956.8, NGVD datum) in 1976. A fixed crest weir was installed at the lake outlet in 1984. Over a long period of time, this outlet change may have altered physical features on the landscape that indicate a basin's OHWL. While an OHWL is not an average water level, Lake Independence shows a substantial difference in long term average water levels before and after the outlet change.

LICA has also been moving forward with a plan to perform outlet channel maintenance by removing/cutting cattail bogs and disposing offsite. This work is scheduled for this winter and could help to improve water flow out of the lake.

PSCWMC is also advancing with a hydrologic study to evaluate the situation based on a request from LICA.

Staff will review this issue with Council and will be seeking feedback and discussion relating to this issue.