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IronRidge
1435 Baechtel Rd.
Willits, CA 95490

January 3, 2012

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Attn: Mr. William Kim, Chief Executive Officer

Subject: Scalable Ground Array (SGA) – Structural Analysis

Dear Sir:

We have analyzed the subject ground mounted structure and determined that, for the configurations and criteria described below, it is in compliance with the structural requirements of the referenced Building Codes.

Reference documents, by IronRidge: Exhibit A - attached

Codes: ASCE/SEI 7-05 Min. Design Loads for Buildings & Other Structures
International Building Code, 2006 & 2009 Editions
Aluminum Design Manual, 2005 Edition

The structure is a simple column (pier) and beam (cross pipe) system. The piers & cross pipes are standard weight (schedule 40) steel pipes. The tops of the piers are connected in the E-W direction by the cross pipes which cantilever over and extend past the end piers. The cross pipes are connected by Ironridge proprietary XRS rails spanning up and down the slope which cantilever over and extend past the top and bottom cross pipes. The solar panels are attached to the XRS rails with IronRidge clamps. There are typically two rails per column of panels.

Gravity loads are transferred to the piers and foundations by the rails and cross pipes acting as simple beams. For lateral loads the system is either a cantilever structure or, when diagonal braces are provided, a braced frame.

The pier spacing in the N-S direction is 7'-6". The pier spacing in the E-W direction is selected from Load Tables determined by the structural design for the specified slope, wind load and snow load. The governing criteria for the pier spacing is the spanning capacity of the cross pipes. Simplified Load Tables 1A, 1B, 2A & 2B are included herein for reference. More comprehensive information covering all load combinations is available at the IronRidge web site < IronRidge.com >

Table 1A - MAXIMUM PIER SPACING (ft)											
2" Pipe Frame	Snow	Slope (deg)									
Wind Speed & Exposure Category	psf	0	5	10	15	20	25	30	35	40	45
90 mph Exposure B	0	11.1	11.3	9.8	9.5	9.0	8.6	8.3	8.3	8.3	8.4
	10	9.6	9.7	8.9	8.8	8.7	8.6	8.3	8.3	8.3	8.4
	20	8.1	8.2	7.8	7.7	7.7	7.8	7.8	8.0	8.3	8.4
	30	7.6	7.7	7.3	7.3	7.3	7.4	7.5	7.8	8.1	8.4
	40	6.9	6.9	6.7	6.7	6.8	6.9	7.1	7.4	7.8	8.2
	50	6.2	6.3	6.2	6.2	6.4	6.6	6.7	7.1	7.5	7.9
100 mph Exposure B	0	10.2	10.5	9.0	8.7	8.2	7.9	7.5	7.5	7.6	7.6
	10	9.2	9.3	8.5	8.3	8.2	7.9	7.5	7.5	7.6	7.6
	20	7.9	8.0	7.4	7.4	7.3	7.3	7.3	7.5	7.6	7.6
	30	7.4	7.5	7.0	7.0	7.0	7.1	7.1	7.3	7.6	7.6
	40	6.8	6.8	6.5	6.5	6.5	6.6	6.7	7.0	7.3	7.6
	50	6.2	6.3	6.1	6.0	6.2	6.3	6.4	6.7	7.1	7.4
110 mph Exposure B	0	9.9	10.2	8.7	8.4	8.0	7.6	7.3	7.3	7.3	7.4
	10	9.0	9.2	8.3	8.2	8.0	7.6	7.3	7.3	7.3	7.4
	20	7.8	7.9	7.3	7.2	7.2	7.2	7.2	7.3	7.3	7.4
	30	7.3	7.4	6.9	6.9	6.9	6.9	7.0	7.2	7.3	7.4
	40	6.7	6.8	6.4	6.4	6.5	6.5	6.6	6.9	7.2	7.4
120 mph Exposure B	0	9.3	9.5	8.1	7.8	7.4	7.1	6.8	6.7	6.8	6.8
	10	8.6	8.8	7.9	7.7	7.4	7.1	6.8	6.7	6.8	6.8
	20	7.5	7.6	7.0	6.9	6.9	6.8	6.8	6.7	6.8	6.8
	30	7.1	7.2	6.7	6.6	6.6	6.6	6.6	6.7	6.8	6.8
	40	6.5	6.6	6.2	6.2	6.2	6.3	6.3	6.5	6.8	6.8
130 mph Exposure B	0	8.7	8.9	7.5	7.3	6.9	6.6	6.3	6.3	6.3	6.3
	10	8.2	8.4	7.5	7.3	6.9	6.6	6.3	6.3	6.3	6.3
	20	7.3	7.4	6.8	6.7	6.6	6.5	6.3	6.3	6.3	6.3
	30	6.9	7.0	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.3
	40	6.4	6.5	6.0	6.0	6.0	6.0	6.0	6.2	6.3	6.3

Span Table Notes:

1. Shaded areas denotes Diagonal Bracing is required
2. Diagonal line denotes Special Requirements for Rails – contact IronRidge
3. Cross pipe splices not permitted in end spans or in middle 1/3 of interior spans
4. Topographic (Wind) Factor = 1.0 (no topographic effects)
5. Dead Load (Weight) = 3 psf
6. Maximum PV Panel Dimension = 78"

Table 1B - MAXIMUM PIER SPACING (ft)											
2" Pipe Frame	Snow	Slope (deg)									
Wind Speed & Exposure Category	psf	0	5	10	15	20	25	30	35	40	45
90 mph Exposure C	0	9.5	9.7	8.3	8.0	7.6	7.2	6.9	6.9	6.9	7.0
	10	8.7	8.9	8.0	7.9	7.6	7.2	6.9	6.9	6.9	7.0
	20	7.6	7.7	7.1	7.0	7.0	6.9	6.9	6.9	6.9	7.0
	30	7.2	7.3	6.8	6.7	6.7	6.7	6.7	6.9	6.9	7.0
	40	6.6	6.7	6.3	6.2	6.3	6.3	6.4	6.6	6.9	7.0
	50	6.1	6.2	5.9	5.9	5.9	6.0	6.1	6.4	6.7	7.0
100 mph Exposure C	0	8.7	8.9	7.5	7.3	6.9	6.6	6.3	6.3	6.3	6.3
	10	8.2	8.4	7.5	7.3	6.9	6.6	6.3	6.3	6.3	6.3
	20	7.3	7.4	6.8	6.7	6.6	6.5	6.3	6.3	6.3	6.3
	30	6.9	7.0	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.3
	40	6.4	6.5	6.0	6.0	6.0	6.0	6.0	6.2	6.3	6.3
	50	6.0	6.0	5.7	5.6	5.7	5.7	5.8	6.0	6.2	6.3
110 mph Exposure C	0	8.4	8.7	7.3	7.1	6.7	6.4	6.1	6.1	6.1	6.1
	10	8.1	8.2	7.3	7.1	6.7	6.4	6.1	6.1	6.1	6.1
	20	7.2	7.3	6.6	6.5	6.4	6.3	6.1	6.1	6.1	6.1
	30	6.8	6.9	6.3	6.3	6.2	6.2	6.1	6.1	6.1	6.1
	40	6.3	6.4	5.9	5.9	5.9	5.9	5.9	6.0	6.1	6.1
120 mph Exposure C	0	7.8	8.0	6.8	6.6	6.2	5.9	5.6	5.6	5.6	5.6
	10	7.7	7.8	6.8	6.6	6.2	5.9	5.6	5.6	5.6	5.6
	20	6.9	7.0	6.3	6.2	6.1	5.9	5.6	5.6	5.6	5.6
	30	6.5	6.6	6.1	6.0	5.9	5.8	5.6	5.6	5.6	5.6
	40	6.1	6.2	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6
130 mph Exposure C	0	7.3	7.5	6.3	6.1	5.7	5.5	5.2	5.2	5.2	5.2
	10	7.3	7.4	6.3	6.1	5.7	5.5	5.2	5.2	5.2	5.2
	20	6.6	6.7	6.0	5.9	5.7	5.5	5.2	5.2	5.2	5.2
	30	6.3	6.4	5.8	5.7	5.6	5.5	5.2	5.2	5.2	5.2
	40	5.9	6.0	5.5	5.4	5.3	5.3	5.2	5.2	5.2	5.2

Notes: Per Table 1A

Table 2A - MAXIMUM PIER SPACING (ft)											
3" Pipe Frame	Snow	Slope (deg)									
Wind Speed & Exposure Category	psf	0	5	10	15	20	25	30	35	40	45
90 mph Exposure B	0	19.3	19.8	17.1	16.6	15.8	15.1	14.5	14.4	14.6	14.6
	10	16.8	17.0	15.7	15.4	15.2	15.0	14.5	14.4	14.6	14.6
	20	14.3	14.4	13.6	13.5	13.5	13.6	13.7	14.1	14.6	14.6
	30	13.3	13.5	12.8	12.7	12.8	13.0	13.2	13.6	14.2	14.6
	40	12.1	12.1	11.7	11.7	11.9	12.2	12.4	13.0	13.6	14.3
	50	10.9	11.0	10.9	10.9	11.2	11.5	11.8	12.4	13.1	13.8
100 mph Exposure B	0	17.9	18.3	15.7	15.2	14.4	13.8	13.2	13.2	13.2	13.3
	10	16.0	16.3	14.8	14.6	14.3	13.8	13.2	13.2	13.2	13.3
	20	13.8	14.0	13.0	12.9	12.9	12.9	12.9	13.2	13.2	13.3
	30	12.9	13.1	12.3	12.2	12.3	12.3	12.4	12.8	13.2	13.3
	40	11.8	12.0	11.4	11.3	11.5	11.6	11.8	12.2	12.8	13.3
	50	10.9	11.0	10.6	10.6	10.8	11.0	11.3	11.8	12.4	13.0
110 mph Exposure B	0	17.4	17.8	15.2	14.8	14.0	13.4	12.8	12.8	12.8	12.9
	10	15.8	16.0	14.5	14.3	14.0	13.4	12.8	12.8	12.8	12.9
	20	13.6	13.8	12.8	12.7	12.6	12.6	12.6	12.8	12.8	12.9
	30	12.8	12.9	12.1	12.0	12.1	12.1	12.2	12.5	12.8	12.9
	40	11.7	11.9	11.2	11.2	11.3	11.4	11.6	12.0	12.5	12.9
120 mph Exposure B	0	16.2	16.6	14.1	13.7	13.0	12.4	11.8	11.8	11.9	11.9
	10	15.1	15.4	13.8	13.5	13.0	12.4	11.8	11.8	11.9	11.9
	20	13.2	13.4	12.3	12.2	12.0	12.0	11.8	11.8	11.9	11.9
	30	12.4	12.6	11.7	11.6	11.6	11.5	11.5	11.8	11.9	11.9
	40	11.4	11.6	10.9	10.8	10.9	11.0	11.0	11.4	11.8	11.9
130 mph Exposure B	0	15.2	15.6	13.2	12.8	12.1	11.5	11.0	10.9	11.0	11.1
	10	14.4	14.7	13.1	12.8	12.1	11.5	11.0	10.9	11.0	11.1
	20	12.7	12.9	11.8	11.7	11.5	11.4	11.0	10.9	11.0	11.1
	30	12.0	12.2	11.3	11.1	11.1	11.0	10.9	10.9	11.0	11.1
	40	11.2	11.3	10.5	10.5	10.5	10.5	10.5	10.8	11.0	11.1

Notes: Per Table 1A

Table 2B - MAXIMUM PIER SPACING (ft)											
3" Pipe Frame	Snow	Slope (deg)									
Wind Speed & Exposure Category	psf	0	5	10	15	20	25	30	35	40	45
90 mph Exposure C	0	16.6	17.0	14.5	14.0	13.3	12.7	12.1	12.1	12.2	12.2
	10	15.3	15.6	14.0	13.8	13.3	12.7	12.1	12.1	12.2	12.2
	20	13.3	13.5	12.5	12.3	12.2	12.2	12.1	12.1	12.2	12.2
	30	12.5	12.7	11.8	11.7	11.7	11.7	11.7	12.0	12.2	12.2
	40	11.5	11.7	11.0	10.9	11.0	11.1	11.2	11.6	12.1	12.2
	50	10.7	10.8	10.3	10.3	10.4	10.6	10.8	11.2	11.7	12.2
100 mph Exposure C	0	15.2	15.6	13.2	12.8	12.1	11.5	11.0	11.0	11.0	11.1
	10	14.4	14.7	13.1	12.8	12.1	11.5	11.0	11.0	11.0	11.1
	20	12.7	12.9	11.8	11.7	11.5	11.4	11.0	11.0	11.0	11.1
	30	12.1	12.2	11.3	11.2	11.1	11.0	11.0	11.0	11.0	11.1
	40	11.2	11.3	10.6	10.5	10.5	10.5	10.5	10.8	11.0	11.1
	50	10.4	10.6	9.9	9.9	10.0	10.1	10.1	10.5	10.9	11.1
110 mph Exposure C	0	14.7	15.2	12.8	12.4	11.7	11.2	10.7	10.6	10.7	10.7
	10	14.2	14.4	12.8	12.4	11.7	11.2	10.7	10.6	10.7	10.7
	20	12.5	12.7	11.6	11.4	11.3	11.1	10.7	10.6	10.7	10.7
	30	11.9	12.1	11.1	11.0	10.9	10.8	10.7	10.6	10.7	10.7
	40	11.0	11.2	10.4	10.3	10.3	10.3	10.3	10.6	10.7	10.7
120 mph Exposure C	0	13.7	14.1	11.8	11.5	10.8	10.3	9.8	9.8	9.8	9.9
	10	13.4	13.7	11.8	11.5	10.8	10.3	9.8	9.8	9.8	9.9
	20	12.0	12.2	11.1	10.9	10.6	10.3	9.8	9.8	9.8	9.9
	30	11.4	11.6	10.6	10.5	10.3	10.2	9.8	9.8	9.8	9.9
	40	10.7	10.8	10.0	9.9	9.8	9.8	9.7	9.8	9.8	9.9
130 mph Exposure C	0	12.7	13.1	11.0	10.7	10.0	9.6	9.1	9.1	9.1	9.2
	10	12.7	13.0	11.0	10.7	10.0	9.6	9.1	9.1	9.1	9.2
	20	11.5	11.7	10.5	10.3	10.0	9.6	9.1	9.1	9.1	9.2
	30	11.0	11.2	10.1	10.0	9.8	9.6	9.1	9.1	9.1	9.2
	40	10.3	10.5	9.6	9.5	9.4	9.3	9.1	9.1	9.1	9.2

Notes: Per Table 1A

The foundation requirements for a cast-in-place drilled concrete pier system may be obtained from Tables 3 & 4. These tables are based on the piers being installed at their maximum allowable spacing. For spacings less than maximum, the requirements can be revised. Contact IronRidge for more information.

2" Pipe Frame Unbraced	Pier Dia. (in)	Table 3A - MINIMUM FOUNDATION DEPTHS (in)									
		Slope (deg)									
		0	5	10	15	20	25	30	35	40	45
90 mph Exposure B or C	12	36	36	42	48	54	54	54	54	54	*
	16	36	36	36	48	48	48	48	48	*	*
	20	36	36	36	42	48	48	*	*	*	*
	24	36	36	36	36	42	42	*	*	*	*
100 mph Exposure B or C	12	36	42	42	54	54	54	54	54	*	*
	16	36	36	36	48	48	48	*	*	*	*
	20	36	36	36	42	48	48	*	*	*	*
	24	36	36	36	42	42	*	*	*	*	*
110 mph Exposure B or C	12	36	42	42	54	54	54	54	54	*	*
	16	36	36	36	48	48	48	*	*	*	*
	20	36	36	36	42	48	*	*	*	*	*
	24	36	36	36	42	42	*	*	*	*	*
120 mph Exposure B or C	12	42	48	48	54	54	54	54	*	*	*
	16	36	36	42	48	48	48	*	*	*	*
	20	36	36	36	48	48	*	*	*	*	*
	24	36	36	36	42	42	*	*	*	*	*

Notes: Tabulated values above are based on the following criteria:

- Class 4 Soils – ref 2006 IBC Table 1804.2, 2009 IBC Table 1806.2
- Concrete Weight = 145 pcf / $f'c = 2500$ psi
- Skin Friction per 2006 IBC 1808.2.8.4 & 5, 2009 IBC 1810.3.3.1.4 & 5
- Top 1'-0" of soil neglected for Skin Friction
- Snow Load = 0 psf – tabulated values are conservative for Snow Loads > 0 psf
- Resistance to corrosion and/or sulfate attack, along with possible adverse effects due to expansive soils has not been considered in these foundation recommendations. SML Engineers assumes no liability with regard to these items.

2" Pipe Frame Braced	Pier Dia. (in)	Table 3B - MINIMUM FOUNDATION DEPTHS (in)									
		Slope (deg)									
		0	5	10	15	20	25	30	35	40	45
90 mph Exposure B or C	12	36	36	36	48	54	60	66	72	78	84
	16	36	36	36	42	48	54	60	66	66	72
	20	36	36	36	36	42	48	54	60	60	66
	24	36	36	36	36	42	42	48	54	54	60
100 mph Exposure B or C	12	36	42	42	48	54	66	72	78	84	90
	16	36	36	36	42	48	54	60	66	72	78
	20	36	36	36	36	42	48	54	60	66	72
	24	36	36	36	36	42	48	54	54	60	66
110 mph Exposure B or C	12	36	42	48	54	60	66	72	78	84	90
	16	36	36	36	42	48	60	66	66	72	78
	20	36	36	36	42	48	54	60	60	66	72
	24	36	36	36	36	42	48	54	54	60	66
120 mph Exposure B or C	12	42	48	48	54	60	66	78	84	90	96
	16	36	36	36	48	54	60	66	72	78	84
	20	36	36	36	42	48	54	60	66	66	72
	24	36	36	36	36	42	48	54	60	66	66

3" Pipe Frame Unbraced	Pier Dia. (in)	Table 4A - MINIMUM FOUNDATION DEPTHS (in)									
		Slope (deg)									
		0	5	10	15	20	25	30	35	40	45
90 mph Exposure B or C	12	48	54	54	66	72	84	90	90	90	90
	16	36	42	42	54	66	78	78	78	78	78
	20	36	36	42	54	60	72	72	72	72	72
	24	36	36	36	48	54	66	66	66	66	66
100 mph Exposure B or C	12	54	60	60	72	78	90	90	90	90	90
	16	42	48	48	60	72	78	78	78	78	78
	20	36	36	42	54	66	72	72	72	72	72
	24	36	36	42	48	60	66	66	66	66	66
110 mph Exposure B or C	12	54	66	66	72	78	90	90	90	90	90
	16	42	48	48	60	72	78	78	78	78	78
	20	36	42	42	54	66	72	72	72	72	72
	24	36	36	42	54	60	66	66	66	66	66
120 mph Exposure B or C	12	60	72	72	78	84	90	90	90	90	90
	16	48	54	54	60	72	78	78	78	78	78
	20	36	42	48	54	66	72	72	72	72	72
	24	36	36	42	54	60	66	66	66	66	*

3" Pipe Frame Braced	Pier Dia. (in)	Table 4B - MINIMUM FOUNDATION DEPTHS (in)									
		Slope (deg)									
		0	5	10	15	20	25	30	35	40	45
90 mph Exposure B or C	12	48	54	60	72	78	84	90	96	*	*
	16	36	42	48	54	60	66	78	84	90	96
	20	36	36	36	48	54	60	72	72	78	84
	24	36	36	36	42	48	60	66	66	72	78
100 mph Exposure B or C	12	54	66	66	78	84	90	90	*	*	*
	16	42	48	54	60	66	72	78	84	96	*
	20	36	42	42	48	60	66	72	78	84	90
	24	36	36	36	48	54	60	66	72	78	84
110 mph Exposure B or C	12	54	66	72	84	90	96	96	*	*	*
	16	42	48	54	60	66	72	84	90	96	*
	20	36	42	42	48	60	66	72	78	84	90
	24	36	36	36	48	54	60	66	72	78	84
120 mph Exposure B or C	12	60	72	78	90	96	*	*	*	*	*
	16	48	54	60	66	72	78	84	90	*	*
	20	36	42	48	54	60	72	78	84	90	96
	24	36	36	36	48	54	66	72	78	84	90

Notes: see Table 3A

To avoid potential problems from the effects of thermal expansion, a maximum total continuous cross pipe length of 100 ft is recommended.

Our analysis assumes that the array, including the connections and associated hardware, are installed in a workmanlike manner in accordance with the IronRidge Installation Manual and generally accepted standards of construction practice.

Please feel free to contact me at your convenience if you have any questions.

Respectfully yours,



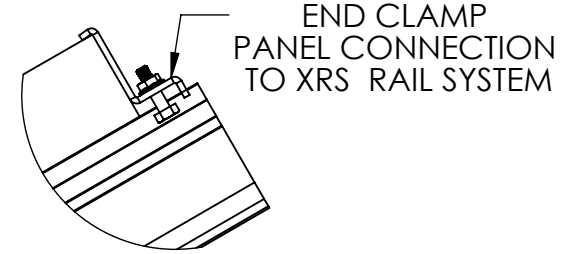
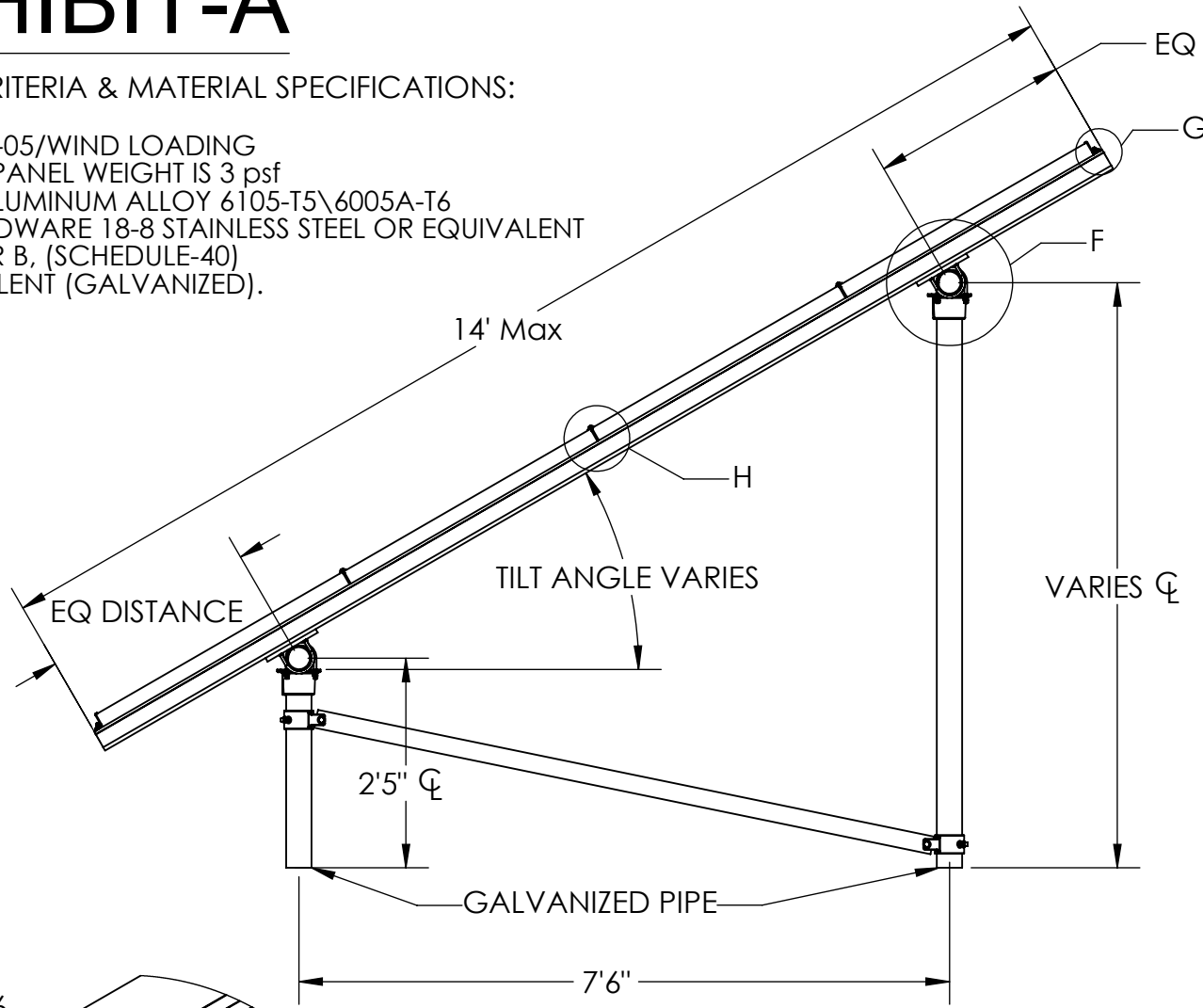
Tres Warner, P.E.
 Design Division Manager

ZONE	REV.	REVISIONS DESCRIPTION	DATE	APPROVED
		Initial Release	09-14-09	HV
	17	Redlines per RWS	04-09-10	HV
	18	Redlines per RWS	28-07-10	HV
	19	Redlines per WK	07-01-11	HV
	20	Redlines per RWS	09-01-11	HV
	21	Redlines per RWS	24-01-11	HV
	22	Redlines per SP	30-01-11	HV
	23	REWORK WITH UPDATED REV COMMENTS	1/10/12	VZ

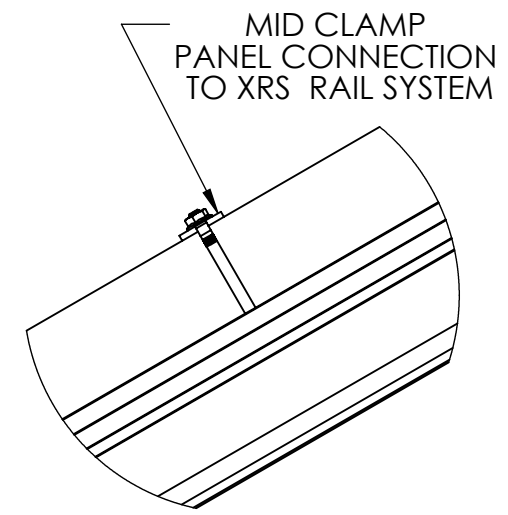
EXHIBIT-A

DESIGN CRITERIA & MATERIAL SPECIFICATIONS:

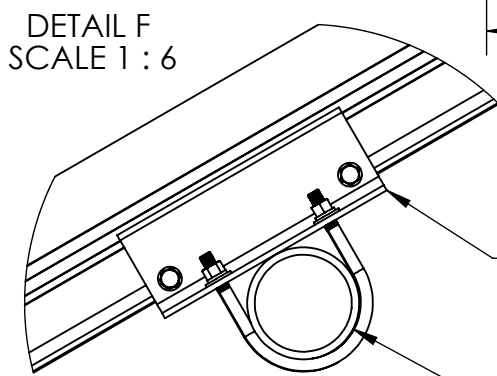
PER ASCE 7-05/WIND LOADING
MAXIMUM PANEL WEIGHT IS 3 psf
XRS RAIL, ALUMINUM ALLOY 6105-T5\6005A-T6
PANEL HARDWARE 18-8 STAINLESS STEEL OR EQUIVALENT
PIPE A53 GR B, (SCHEDULE-40)
OR EQUIVALENT (GALVANIZED).



DETAIL G
SCALE 1 : 4



DETAIL H
SCALE 1 : 4



DETAIL F
SCALE 1 : 6

XRS RAIL CONNECTION DETAIL TO HORIZONTAL CROSS PIPE

CROSS PIPE

DRAWN	SM	1/10/12
CHECKED	VZ	1/10/12
ENG APPR.	SML	1/10/12
MFG APPR.	VZ	1/10/12



COMMENTS:

DO NOT SCALE DRAWING

ASSY, SCALABLE GROUND ARRAY (SGA)		
SIZE A	DWG. NO. 420-000-036	REV. 23
SCALE:1:96	WEIGHT:	SHEET 1 OF 6

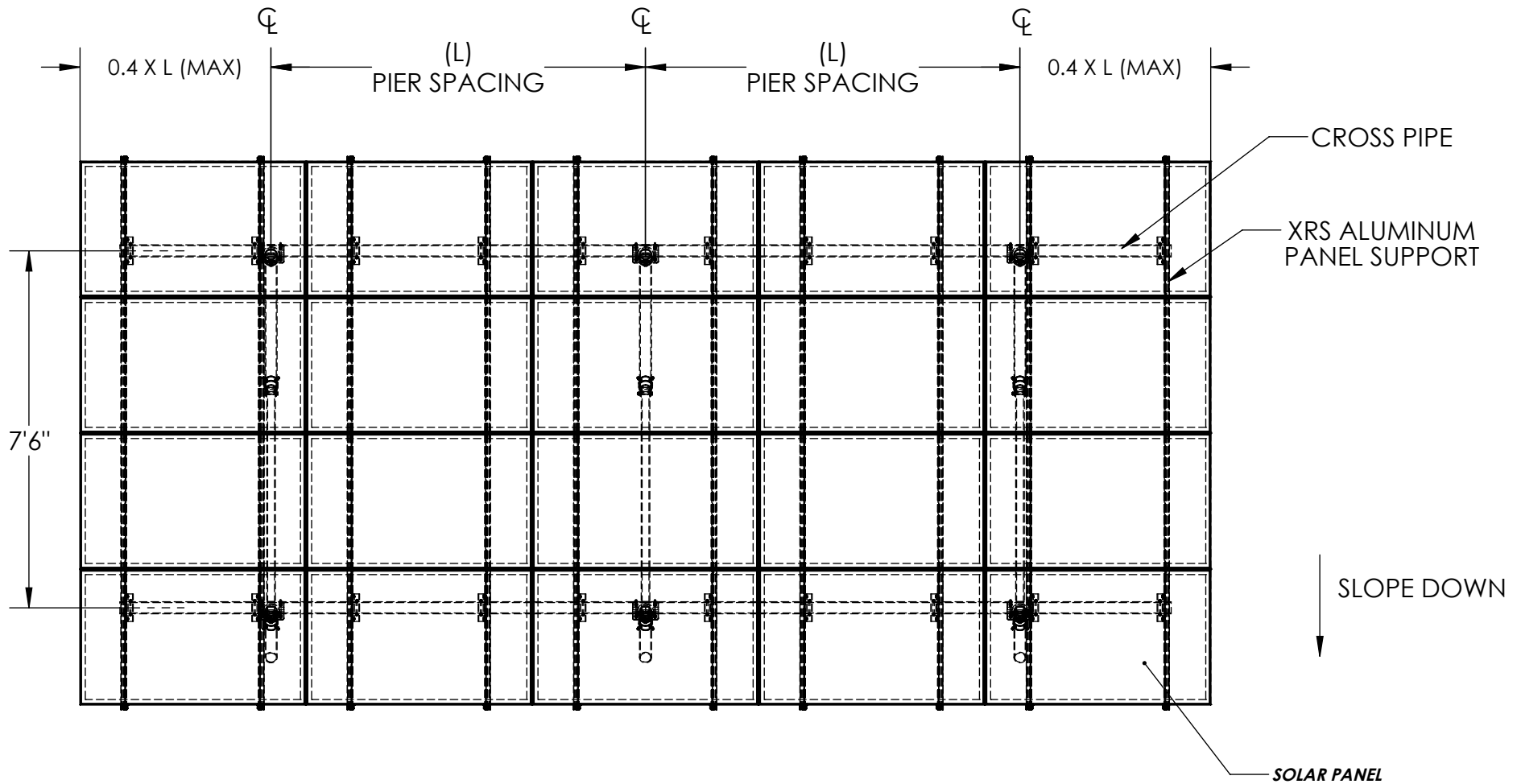
MATERIAL

FINISH

DIMENSIONS ARE IN INCHES.
TOLERANCES: .XX: +/- .125"
ANGLES: +/- 1.5°

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	19		Redlines per WK	07-01-11	HV
	20		Redlines per RWS	09-01-11	HV
	21		Redlines per RWS	24-01-11	HV
	22		Redlines per SP	30-01-11	HV
	23		REVISION WITH UPDATED REV COMMENTS	1/10/12	VZ



PLAN VIEW (6 PIER LAYOUT SHOWN)

DRAWN	SM	1/10/12
CHECKED	VZ	1/10/12
ENG APPR.	SML	1/10/12
MFG APPR.	VZ	1/10/12

Q.A.

COMMENTS:

DO NOT
SCALE DRAWING



ASSY, SCALABLE
GROUND ARRAY (SGA)

SIZE	DWG. NO.	REV.
A	420-000-036	23
SCALE:1:96	WEIGHT:	SHEET 2 OF 6

MATERIAL

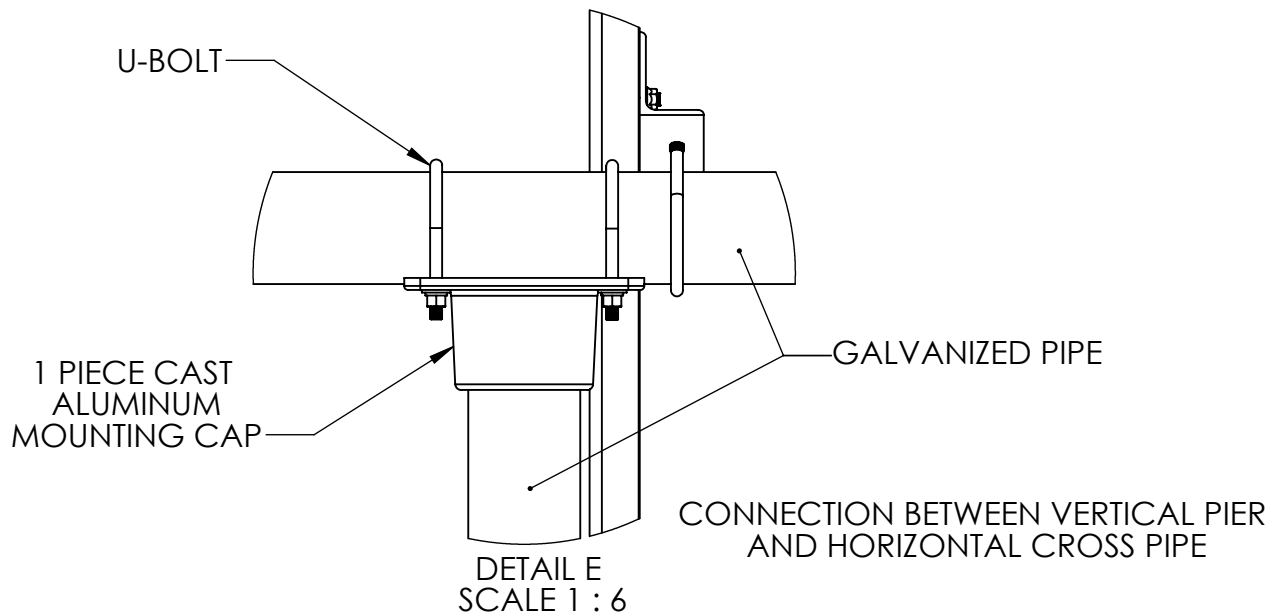
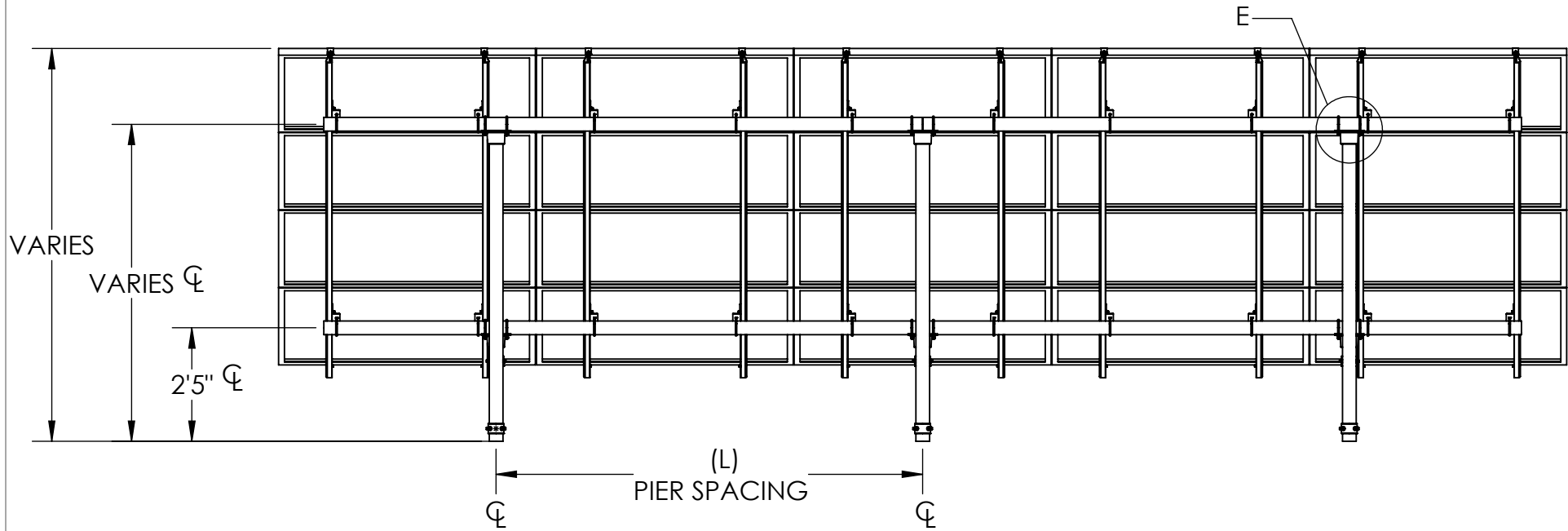
FINISH

DIMENSIONS ARE IN INCHES.
TOLERANCES: .XX: +/- .125"
ANGLES: +/- 1.5°

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	19		Redlines per WK	07-01-11	HV
	20		Redlines per RWS	09-01-11	HV
	21		Redlines per RWS	24-01-11	HV
	22		Redlines per SP	30-01-11	HV
	23		RE-DRAWN WITH UPDATED REV COMMENTS	1/10/12	VZ

NORTH VIEW



DRAWN	SM	1/10/12
CHECKED	VZ	1/10/12
ENG APPR.	SML	1/10/12
MFG APPR.	VZ	1/10/12



ASSY, SCALABLE
GROUND ARRAY (SGA)

Q.A.

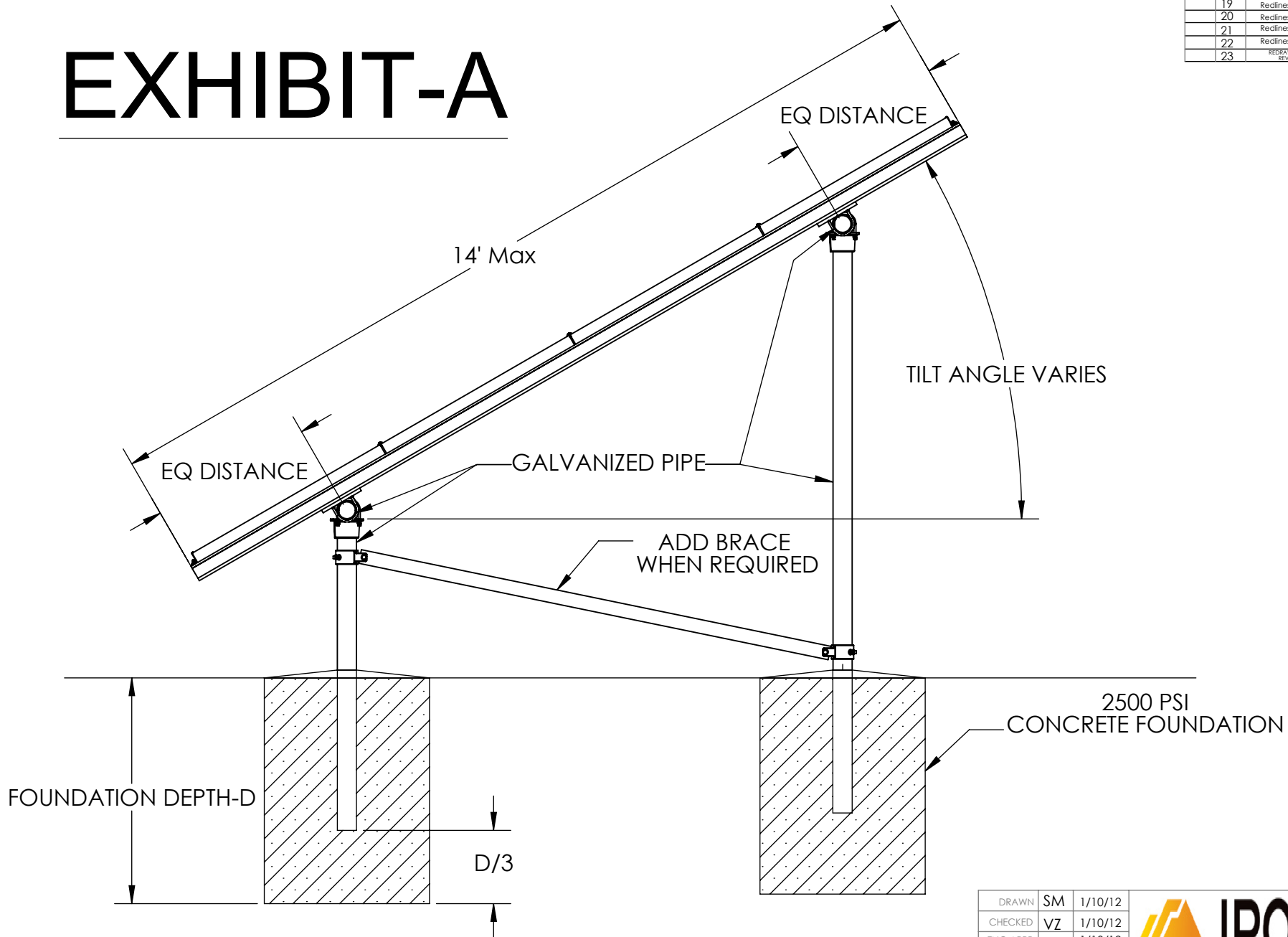
COMMENTS:

DO NOT
SCALE DRAWING

SIZE	DWG. NO.	REV.
A	420-000-036	23
SCALE:1:96	WEIGHT:	SHEET 3 OF 6

ZONE	REV.	REVISIONS	DESCRIPTION	DATE	APPROVED
			Initial Release	09-14-09	HV
	17		Redlines per RWS	04-09-10	HV
	18		Redlines per RWS	28-07-10	HV
	19		Redlines per WK	07-01-11	HV
	20		Redlines per RWS	09-01-11	HV
	21		Redlines per RWS	24-01-11	HV
	22		Redlines per SP	30-01-11	HV
	23		REWORK WITH UPDATED REV COMMENTS	1/10/12	VZ

EXHIBIT-A



Note:
The attached span tables are based using drilled cast-in-place concrete pier foundation system.
Other foundation systems (eg. screw anchors, driven piers) are permissible but may require
additional bracing and/or reduced span.
Please contact IronRidge for more information.

DRAWN	SM	1/10/12
CHECKED	VZ	1/10/12
ENG APPR.	SML	1/10/12
MFG APPR.	VZ	1/10/12



Q.A.

COMMENTS:

DO NOT SCALE DRAWING

ASSY, SCALABLE GROUND ARRAY (SGA)		
SIZE A	DWG. NO. 420-000-036	REV. 23
SCALE:1:96	WEIGHT:	SHEET 4 OF 6