

702 SW Abode Carport concept

I would like to add the SkyLift system while my roof gets replaced so it would be easier to build

My ~~38' x 25'~~ carport ~ ~~950 SQFT~~

35' x 27'

945 SQFT

<https://www.skylifthardware.com/18-36-inch-heavy-duty-roof-risers-p/hd-extended.htm>

The Sky Lifts would go along the roof line East to West

Carport has been revised to 35' x 27' as shown on the attached survey, so it does not extend to the side property line

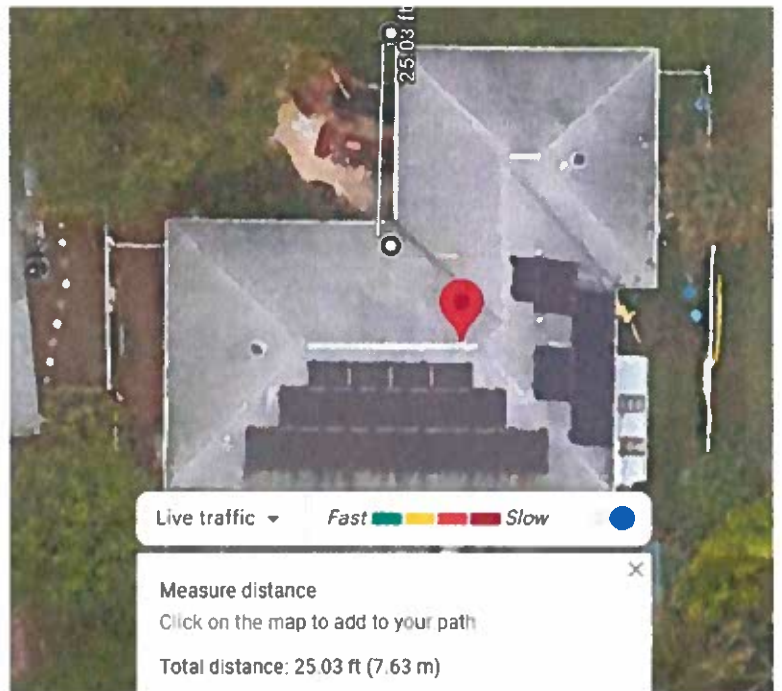
The skylift would be placed along the roof that is shown on the picture to the right.

The carport would be at least 15 feet high so a Uhaul could back up to the door.



The carport would span the driveway to the edge of the roof line

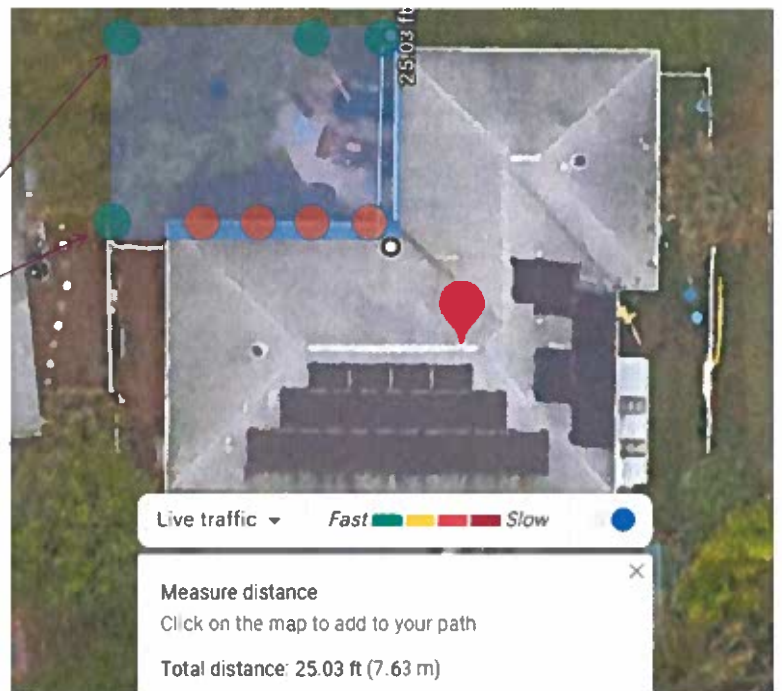
The carport would be about 25 feet wide.



The General Layout of the carport

- 6x6 posts
- Skylift system

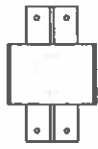
Posts have been revised as shown on the attached survey to keep it out of the 6' UE easement



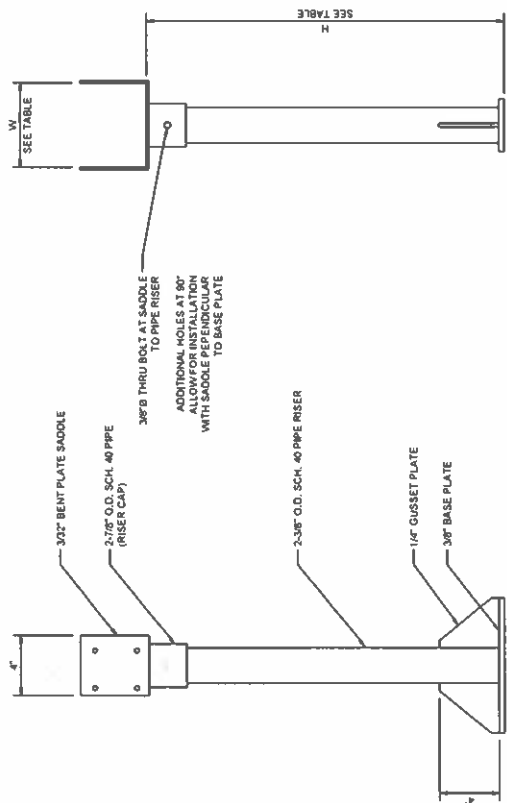
SKY LIFT HEAVY DUTY RISER

SERIES RISER HT.	MODEL #	WEIGHT	DIMENSIONS		NOTES
			W	H	
SK18-HD	SK18-HD 3.5	15.1BS	3-1/2"	18"	
	SK18-HD 5.5	15.2BS	5-1/2"	18"	
	SK18-HD 6R	15.1BS	6"	18"	SADDLE WIDTH SIZED FOR FULLSAW OR ROUGHSAW BEAMS
SK24-HD	SK24-HD 3.5	16.6BS	3-1/2"	24"	
	SK24-HD 5.5	16.6BS	5-1/2"	24"	
	SK24-HD 6R	16.6BS	6"	24"	SADDLE WIDTH SIZED FOR FULLSAW OR ROUGHSAW BEAMS
SK30-HD	SK30-HD 3.5	19.1BS	3-1/2"	30"	
	SK30-HD 5.5	19.1BS	5-1/2"	30"	
	SK30-HD 6R	19.1BS	6"	30"	SADDLE WIDTH SIZED FOR FULLSAW OR ROUGHSAW BEAMS
SK36-HD	SK36-HD 3.5	21.1BS	3-1/2"	36"	
	SK36-HD 5.5	21.2BS	5-1/2"	36"	

- NOTES:
- FINISH OF ALL SKY LIFT RISER ASSEMBLIES IS POWDER-COATED BLACK, UNLESS NOTED OTHERWISE.
 - USE PROVIDED FASTENERS FOR INSTALLATION. DO NOT SUBSTITUTE FASTENERS.
 - REQUIRED SADDLE SIZE IS FOUND BY USING COLUMN "W" ON TABLE ABOVE. VALUE EQUALS BEAM WIDTH. 1/8" ADDED TO MANUFACTURED WIDTH TO ALLOW FOR INSTALLATION.
 - BEAM MUST BE FULLY SUPPORTED BY STRUCTURAL MEMBER. ALL PERMITTING, STRUCTURAL DESIGN, STAMPED DRAWINGS, CALCULATIONS AND INSPECTIONS ARE SOLE RESPONSIBILITY OF PURCHASER. SKY LIFT ROOF RISER HARDWARE AND SAGE BRACKET SOLUTIONS, LLC MAINTAINS AND ACCEPTS NO RESPONSIBILITY FOR SKY LIFT PROVIDED ASSEMBLIES OR HARDWARE THAT IS NOT INSTALLED PER OFFICIAL SKY LIFT ROOF RISER INSTALLATION INSTRUCTIONS (PART # 372). LOCAL CODE REQUIREMENTS AND ALL LOCAL LICENSED ENGINEERS MUST BE CONSULTED FOR ALL LOCAL REQUIREMENTS. SKY LIFT ROOF RISER HARDWARE IS NOT INTENDED TO BE USED WITHIN A STRUCTURAL SYSTEM DESIGNED BY A LOCALLY LICENSED PROFESSIONAL ENGINEER AND IS INTENDED TO BE USED WITHIN A STRUCTURAL SYSTEM DESIGNED BY A LOCALLY LICENSED PROFESSIONAL ENGINEER.

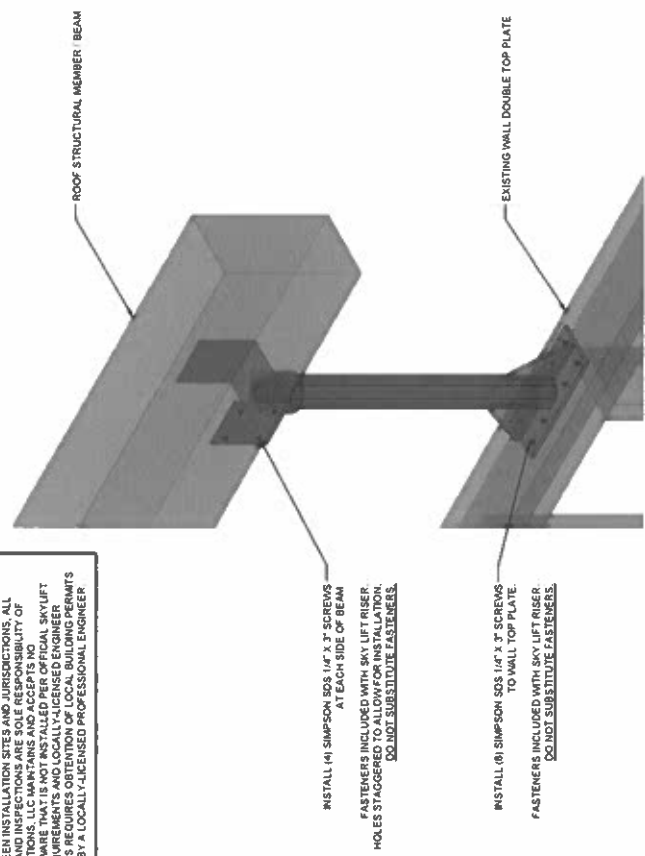


TOP VIEW



FRONT VIEW

SIDE VIEW



THREE-DIMENSIONAL VIEW

FOR ILLUSTRATIVE PURPOSES ONLY



PART NUMBERS:
SK18, SK24
SK30, SK36
DRAWING NAME:
SKY LIFT
HEAVY DUTY RISER

LEGEND PROJECT NO. SK1	
NO.	DESCRIPTION
1	SKY LIFT RISER
2	SKY LIFT RISER
3	SKY LIFT RISER
4	SKY LIFT RISER
5	SKY LIFT RISER
6	SKY LIFT RISER
7	SKY LIFT RISER
8	SKY LIFT RISER
9	SKY LIFT RISER
10	SKY LIFT RISER

SHEET TITLE
SPECIFICATIONS
(CLIENT)
SHEET NO.
SP-1



ENGINEERINGEXPRESS.COM

POSTAL ADDRESS: 401 W. ATLANTIC AVE R10 #210
DELRAY BEACH, FL 33444

Technical Evaluation Report

THIS DOCUMENT CONTAINS (11) PAGES. THE FIRST PAGE MUST BEAR AN ORIGINAL SIGNATURE & SEAL OF THE CERTIFYING PE TO BE VALID FOR USE. COPIES ARE NOT VALID FOR PERMIT.

(Subject to Renew August 1, 2023 or next code cycle)

EVALUATION SUBJECT: STEEL SADDLE RISER - STD., HEAVY DUTY & DESIGNER LINE W/ STABILIZER

TER-21-42319

REPORT HOLDER:

SKYLIFT HARDWARE

1160 Vista Avenue SE

Salem, OR 97302 USA

Phone: (503) 361-2274 | SkyLiftHardware.com

SCOPE OF EVALUATION (compliance with the following codes):

THIS IS A STRUCTURAL PERFORMANCE EVALUATION OF THE COMPONENTS LISTED HEREIN ONLY. NO OTHER PERFORMANCE RATINGS OR CERTIFICATIONS ARE OFFERED OR IMPLIED HEREIN.

This Product Evaluation Report is being issued in accordance with the requirements of the *International Building & Residential Codes (2012, 2015, & 2018),

California Building & Residential Codes (2019), & the *Florida Building Code Seventh Edition (2020) per FBC/IBC Section 104.11, FBC/IBC Building Ch. 16, and ASCE 7. The product noted on this report has been tested and/or evaluated as summarized herein.

SUBSTANTIATING DATA:

Product Evaluation Documents

Substantiating documentation has been submitted to provide this report and is summarized in the sections below.

Test Reports

No testing data has been provided and this analysis is based on 360-16 Specifications for Structural Steel Building - AISC and 2018 National Design Specification - NDS standards.

DESIGN:

1. Positive and negative design pressures calculates for use with this system shall be determined by others on a job-specific basis using ASD method of ASCE 7-10 or ASCE 7-16 as applicable.
2. Contractor shall investigate and confirm to all local building code amendments which may apply. Design criteria beyond stated herein require additional site specific sealed engineering.

INSTALLATION:

Installation shall be made in accordance with the manufacturers published installation instructions and this report.

- remove roofing materials carefully as required and save for reinstall whenever is possible. Cut an access hole through the roof directly over the exterior bearing wall. Do not cut any roof trusses or rafters.
- Verify existing surface and structure for deficiencies, cracks or other imperfections that will create rotation on the system. Design is based on full contact of base plate to host surface.
- Determine approximate positioning or layout of all SkyLift roof riser brackets prior cutting any access holes. SkyLift positioning shall be directly over exterior load bearing walls.
- Center base plate on top of existing host structure with minimum anchoring edge and end distances required.
- Integrity of existing host structure shall be verified by others for new vertical and horizontal imposed loads including re-installation of removed material from access hole.
- If the SkyLift column does not extend above the roofline, you may need to purchase a different SkyLift product. Raising SkyLift with additional blocking will create rotation on the system and it is not covered under this report.
- Install anchoring (by others) as required according to designer and manufacturer's specifications.
- Additional bracing and/or shoring (by others) may required during erection and installation process.
- Connect steel bucket to wood beam as shown and as per manufacturer's specifications. Use of wood post for upright support shall be designed by others. Dry wood may split more easily. If wood tends to split, pre-boring holes shall be used with diameters not exceeding 3/4 of the anchor diameter or use a 5/32" bit for SDS screws. A fastener that splits the wood shall be reevaluated prior loading the connection.
- SkyLift Lateral Stabilizer Strap This device will be used as an ALTERNATE

METHOD of stabilizing a stand-off, riser, stanchion, electrical weather head, Satellite Dish, Solar Installations, et al. There may be other uses, but the strap is intended to add lateral stability to a SkyLift Riser or other device at the roof plane/diaphragm assembly.



NOTE: THE GRAPHICAL DEPICTIONS IN THIS REPORT ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER IN APPEARANCE.

LIMITATIONS & CONDITIONS OF USE:

Use of this product shall be in strict accordance with this report as noted herein. See remaining pages for complete limitations and conditions of use. Use provided fasteners for installation. DO NOT SUBSTITUTE FASTENERS.

FINISH:

All SkyLift risers are in powder-coated black.

MATERIAL:

Steel pipes schedule 40 conform to ASTM A53 grade B, $F_y = 35$ ksi and $F_u = 60$ ksi. Steel base plates conform to ASTM A36, $F_y = 36$ ksi and $F_u = 58$ ksi. Carbon Steel. Steel plate stabilizer conform to ASTM A653, $F_y = 33$ ksi and $F_u = 45$ ksi. SDS screws conform to ICC-ES ESR-2236. Thru bolts to conform to ASTM A307 and SAE J429.

OPTIONS:

This evaluation is valid for the SkyLift Risers sizes listed herein. See following tables and drawings.

STRUCTURAL PERFORMANCE: This report is based on individual force direction capacity referred by the standards above. User / designer shall combine forces on more than one direction to find allowable capacity of riser. No allowable stress increase has been used in the preparation of this document.

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OR DIGITAL SEAL REQUIRED TO BE VALID PER CODE:



NOTICE: This report is for informational purposes only. It is not a contract. The Engineer's seal and signature are required for this report to be valid. The Engineer's seal and signature are required for this report to be valid. The Engineer's seal and signature are required for this report to be valid.

DRAFT SET

FULL SET TO INCLUDE

SEAL & STAMP

IF CHECKED, CERTIFYING
ENGINEER AND PE#
APPEAR ABOVE

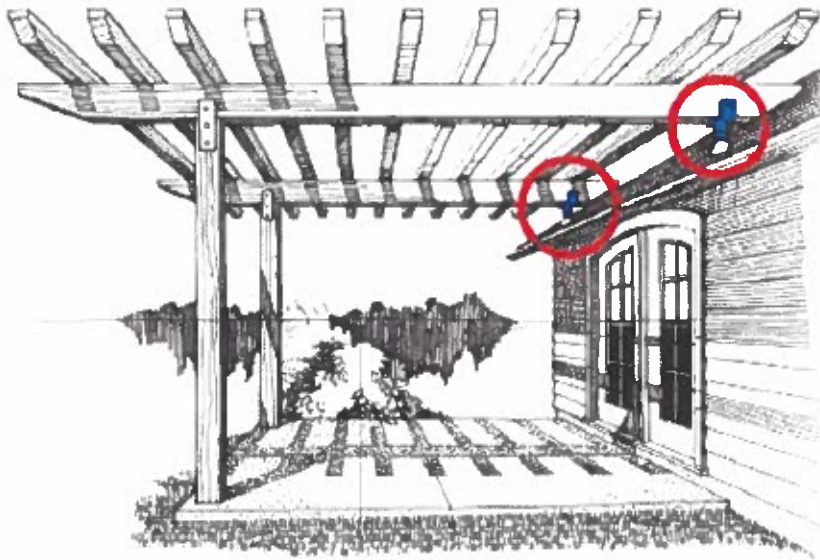
FL PE #0046549 FLCA #9885

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SECTION 1: TYPICAL INSTALLATION DETAILS

**CONTENTS**

1 Designer Riser, Black
Part No. SK-DR 3.5

12" Long with
3.5" Saddle & Plate

(16) 1/4x3 Galv. Hex Head
Wood Screws

(4) Simpson SDS Strong Tie
1/4x3 T-40 Torx® Screws

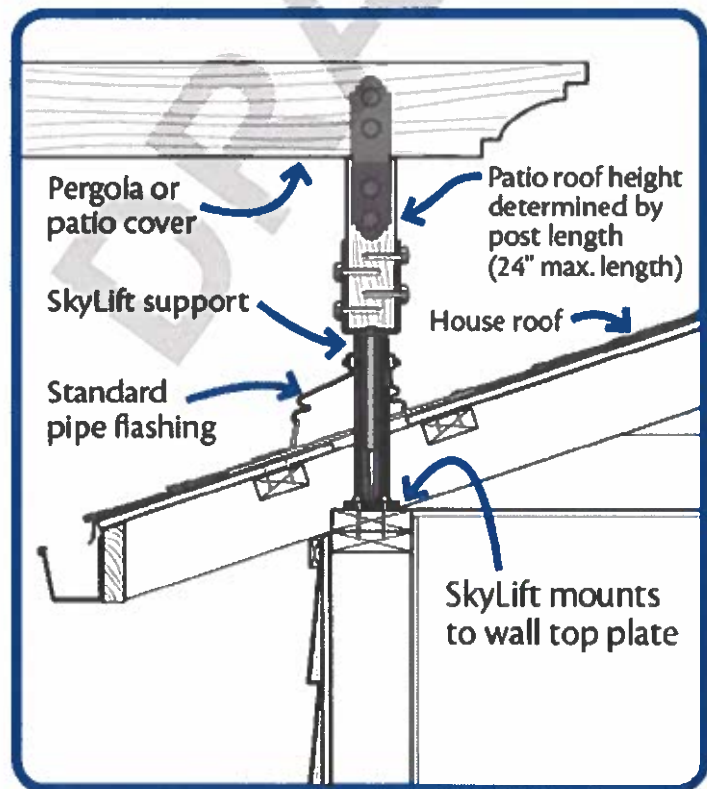
(1) Torx® Bit

(4) Simpson Outdoor
Accents Hex Head Washers

Installation instructions

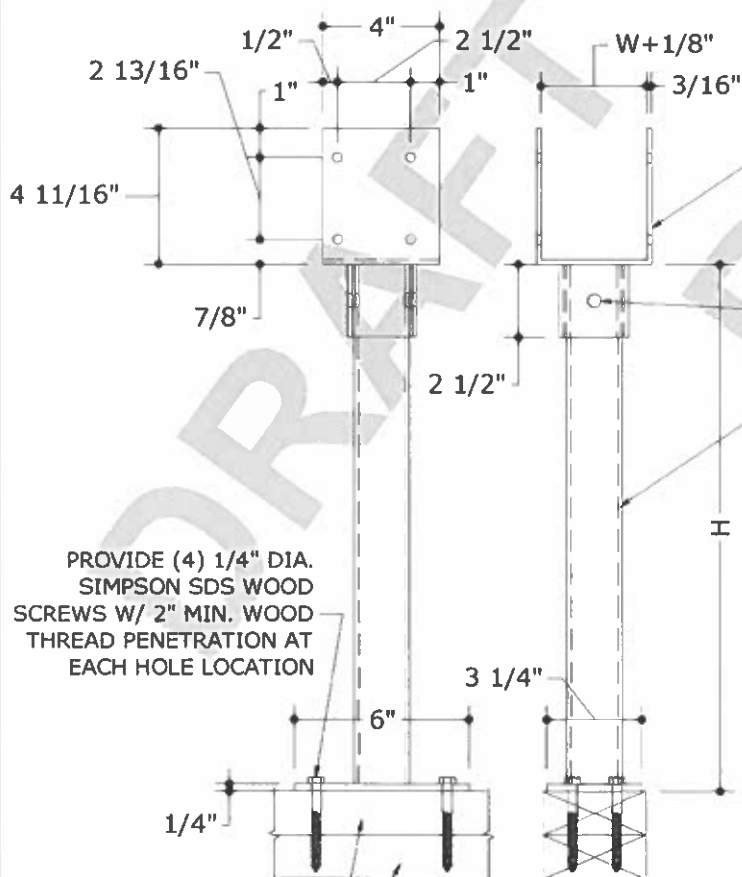
Patent Pending

NOTE: FASTENERS SHOWN ABOVE MAY VARY FOR EACH RISER TYPE.



IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE LOAD RATING HEREIN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS PRODUCT.

BASE PLATE



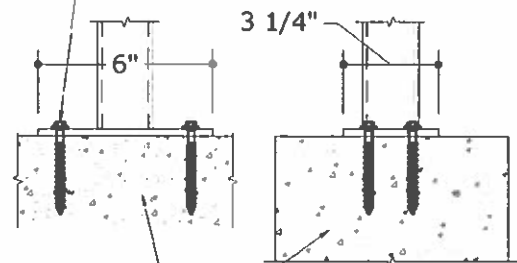
1-1/2" DIA. (1.90" O.D.x0.145"
THICK WALL) STEEL PIPE SCH.
40 ASTM A53 GR. B

PROVIDE (4) 1/4" DIA. DEWALT
ULTRACON+ OR EQ., 1-3/4"
EMBED. INTO CONCRETE, 2-1/2"
FROM ANY CONCRETE FACE

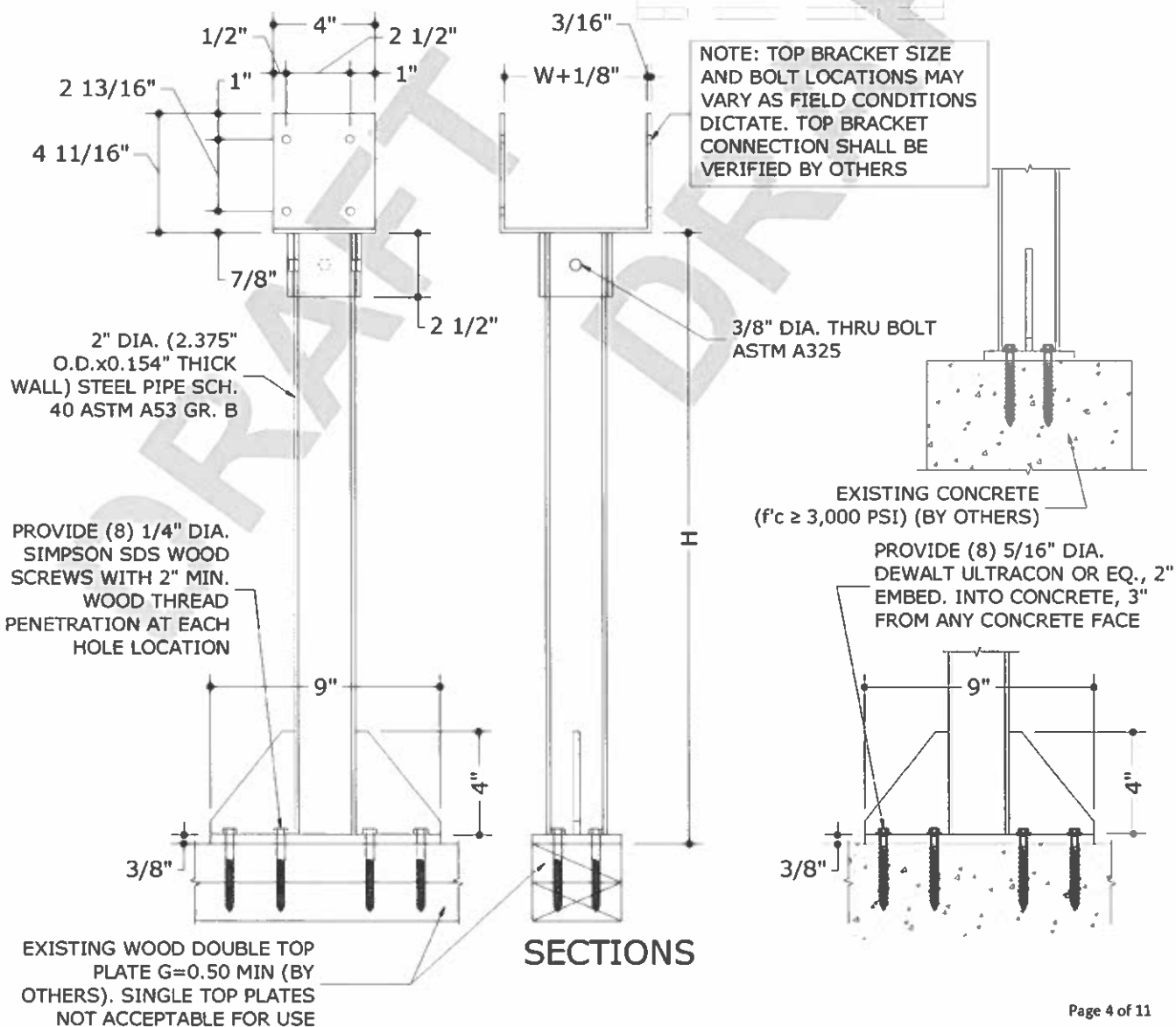
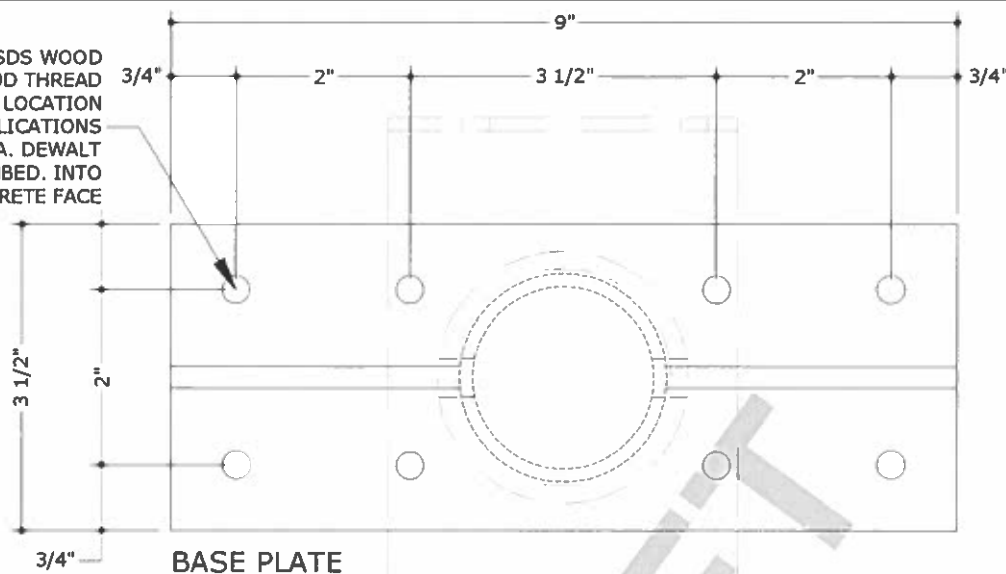
EXISTING WOOD DOUBLE
TOP PLATE, $G=0.50$ MIN
(BY OTHERS). SINGLE TOP
PLATES NOT ACCEPTABLE
FOR USE

SECTIONS

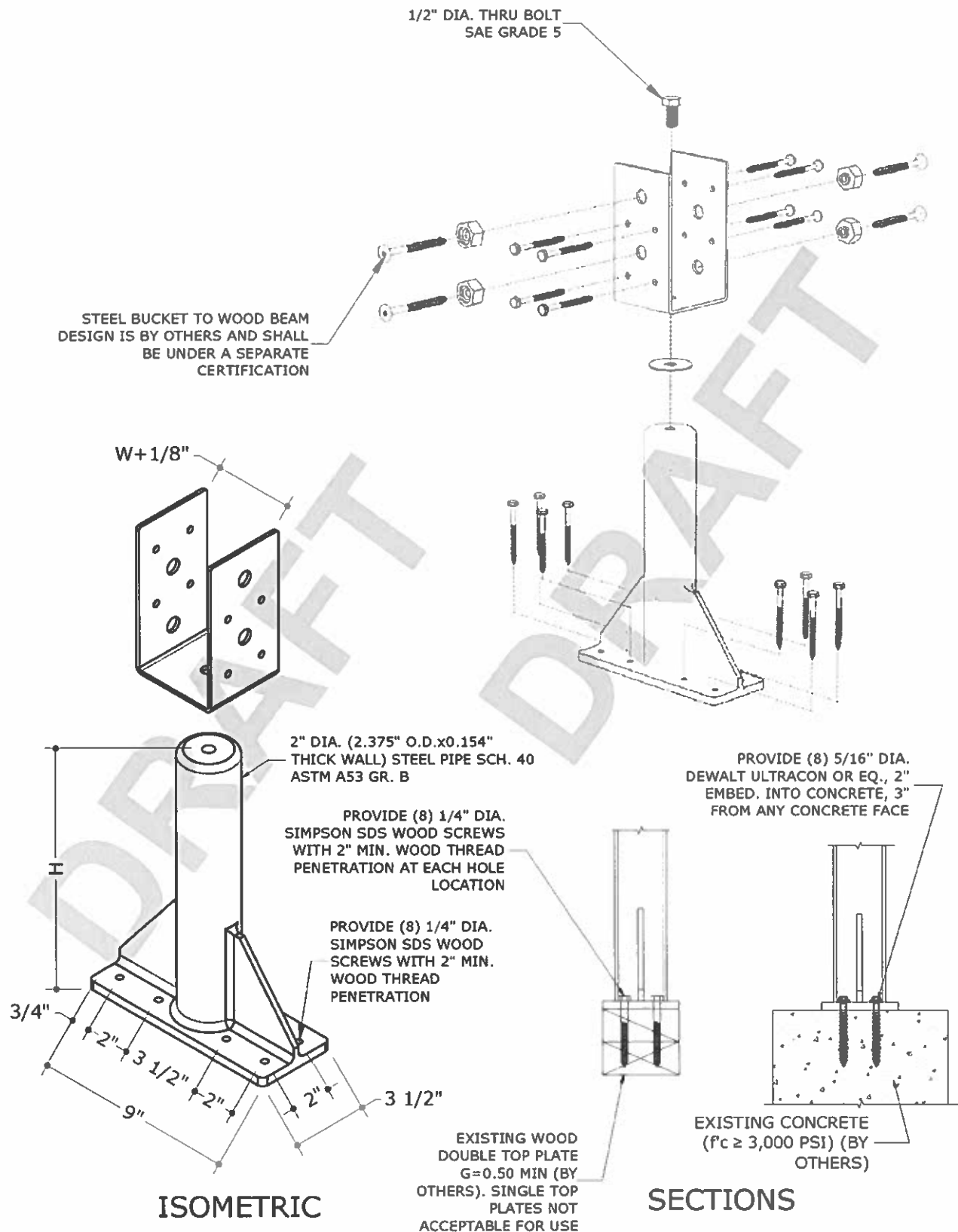
EXISTING CONCRETE
($f'_c \geq 3,000$ PSI) (BY OTHERS)



PROVIDE 1/4" DIA. SIMPSON SDS WOOD
SCREWS WITH 2" MIN. WOOD THREAD
PENETRATION AT EACH HOLE LOCATION
OR FOR CONCRETE APPLICATIONS
PROVIDE (8) 5/16" DIA. DEWALT
ULTRACON OR EQ., 2" EMBED. INTO
CONCRETE, 3" FROM ANY CONCRETE FACE



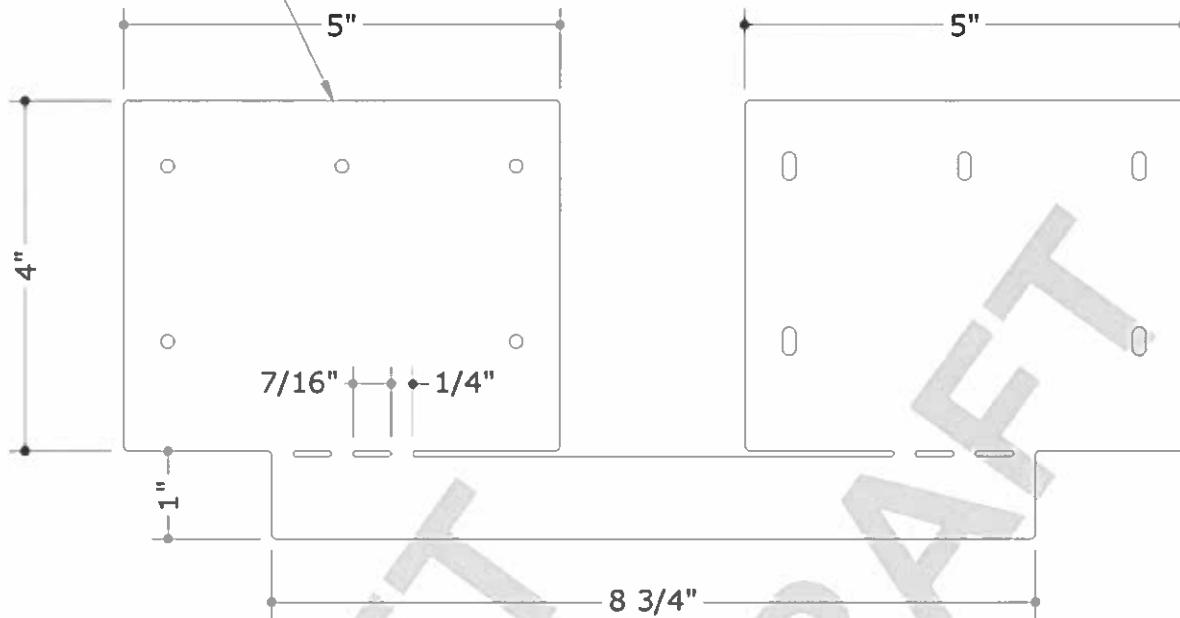
DESIGNER RISER



DESIGNER RISER

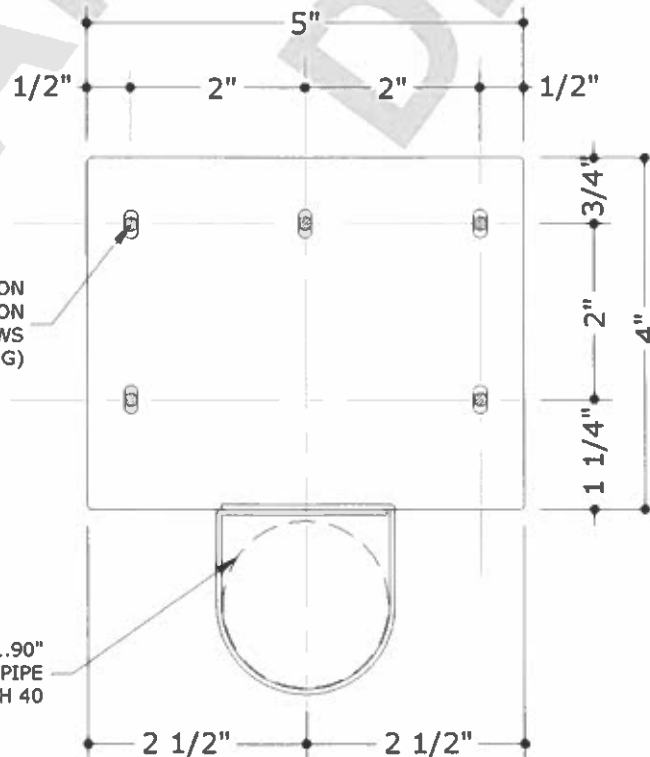
LATERAL SUPPORT STRAP (STANDARD)

16Ga OR 18Ga STEEL
PLATE ASTM A653 GR. 33



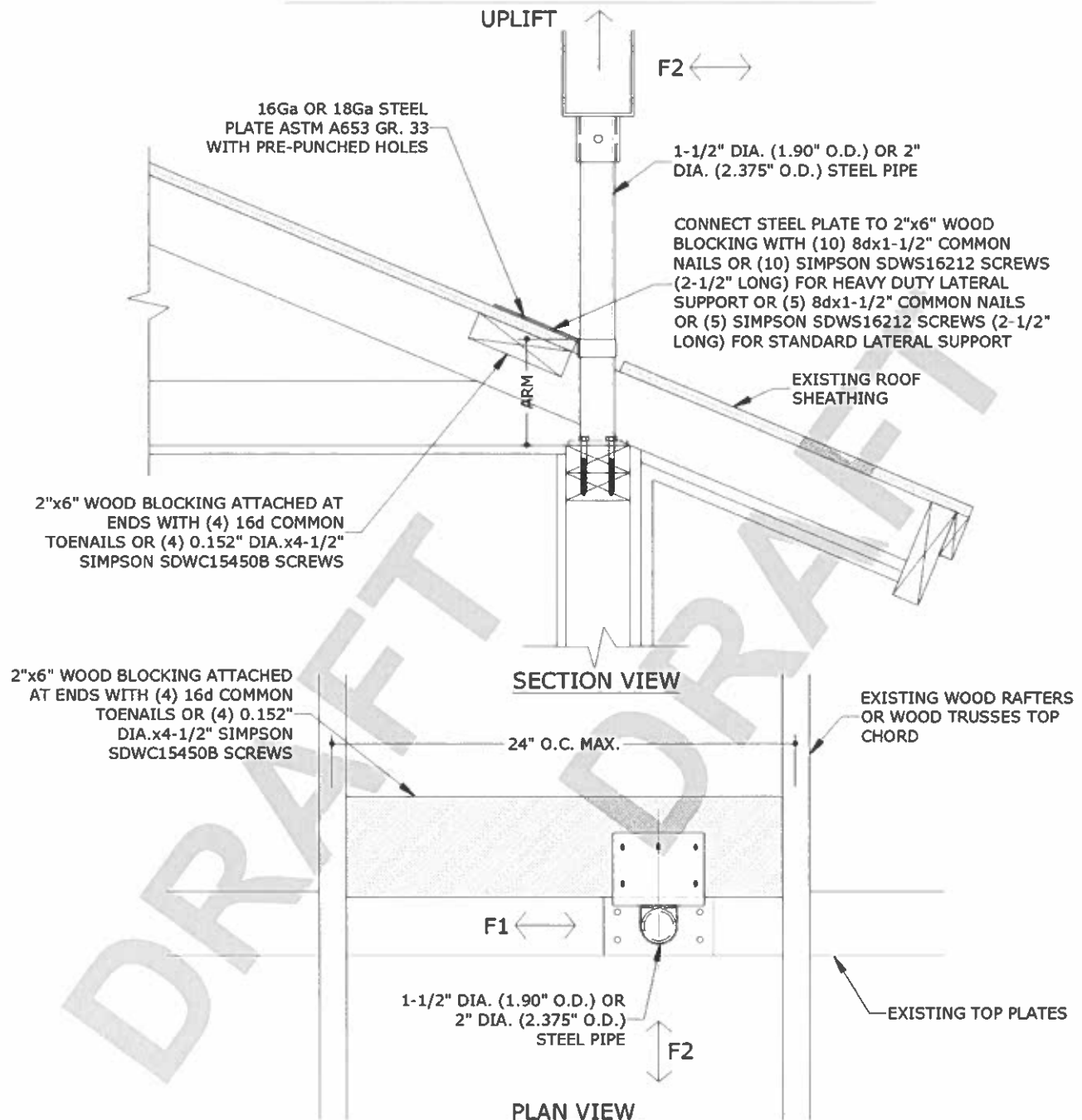
(5) 8d \times 1-1/2" COMMON
NAILS OR (5) SIMPSON
SDWS16212 SCREWS
(2-1/2" LONG)

1-1/2" DIA. (1.90"
O.D.) STEEL PIPE
SCH 40



DESIGNER RISER

LATERAL SUPPORT STRAP ASSEMBLY



INSTALLATION INSTRUCTIONS:

- 1- Carefully remove roofing and save for reinstallation where devices are to be installed.
- 2- Cut out the sheathing at the device to be supported approximately rafter to rafter (10" x 22" typical for a standard SkyLift Riser Installation. Save sheathing for re-installation.
- 3- Install a 2x6 minium wood block (min. specific gravity, G = 0.50) on the uphill side of the device to be stabilized. The block is to be installed rafter to rafter or top chord to top chord with the flat surface of block below the roof sheathing. When the sheathing is re-installed the block will be below the surface of the roof sheathing. Install the block using 16d connector toe nails or Simpson 4-1/2" SDWC15450B Truss Screw, 8 ea. minimum.
- 4- Cut and fit sheathing, install backing and blocking if necessary and re-install sheathing.
- 5- Install the SkyLift Stabilizer Strap. Determine if the radius side of the strap is oriented above or below the roof sheathing. Bend the radius part of the strap to the approximate roof pitch/slope.
- 6- Wrap the SkyLift Stabilizer Strap around the Riser and squeeze the strap so the fasteners holes are aligned. Install using 8d connector nails or 2-1/2" Simpson SDWS16212Q Framing Screws.
- 7- Install roofing and standard pipe/vent flashing.

LATERAL SUPPORT STRAP ASSEMBLY



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- Page 9 of 11

SECTION 2: ALLOWABLE CAPACITIES

TABLE 1: ALLOWABLE LOAD CAPACITIES WOOD SUBSTRATE (INDIVIDUAL):

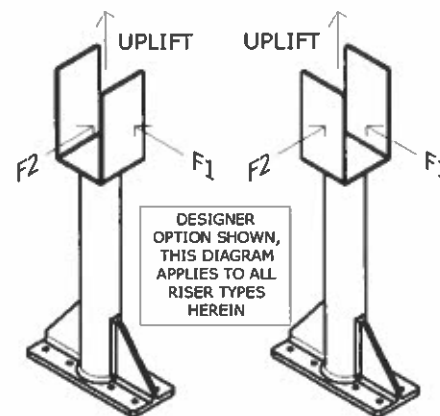
TYPE	MODEL	W	H	UPLIFT	DOWN	ARM	F1	F2 (16Ga)	F2 (18Ga)
STANDARD	SK18-B 3.5	3.5 in	18.0 in	743 lbs	2500 lbs	6.0 in	276 lbs	173 lbs	165 lbs
						12.0 in	276 lbs	346 lbs	337 lbs
	SK24-B 3.5	3.5 in	24.0 in	743 lbs	2500 lbs	6.0 in	208 lbs	130 lbs	123 lbs
						12.0 in	208 lbs	260 lbs	251 lbs
HEAVY DUTY	SK18-HD 3.5	3.5 in	18.0 in	1483 lbs	2500 lbs	6.0 in	480 lbs	277 lbs	277 lbs
						12.0 in	480 lbs	557 lbs	557 lbs
	SK18-HD 4R	4.0 in	18.0 in	1483 lbs	2500 lbs	6.0 in	480 lbs	277 lbs	277 lbs
						12.0 in	480 lbs	557 lbs	557 lbs
	SK18-HD 5.5	5.5 in	18.0 in	1483 lbs	2500 lbs	6.0 in	480 lbs	277 lbs	277 lbs
						12.0 in	480 lbs	557 lbs	557 lbs
	SK18-HD 6R	6.0 in	18.0 in	1483 lbs	2500 lbs	6.0 in	480 lbs	277 lbs	277 lbs
						12.0 in	480 lbs	557 lbs	557 lbs
	SK24-HD 3.5	3.5 in	24.0 in	1483 lbs	2500 lbs	6.0 in	360 lbs	208 lbs	208 lbs
						12.0 in	360 lbs	418 lbs	418 lbs
	SK24-HD 4R	4.0 in	24.0 in	1483 lbs	2500 lbs	6.0 in	360 lbs	208 lbs	208 lbs
						12.0 in	360 lbs	418 lbs	418 lbs
	SK24-HD 5.5	5.5 in	24.0 in	1483 lbs	2500 lbs	6.0 in	360 lbs	208 lbs	208 lbs
						12.0 in	360 lbs	418 lbs	418 lbs
	SK24-HD 6R	6.0 in	24.0 in	1483 lbs	2500 lbs	6.0 in	360 lbs	208 lbs	208 lbs
						12.0 in	360 lbs	418 lbs	418 lbs
	SK30-HD 3.5	3.5 in	30.0 in	1483 lbs	2500 lbs	6.0 in	295 lbs	166 lbs	166 lbs
						12.0 in	295 lbs	334 lbs	334 lbs
	SK30-HD 4R	4.0 in	30.0 in	1483 lbs	2500 lbs	6.0 in	295 lbs	166 lbs	166 lbs
						12.0 in	295 lbs	334 lbs	334 lbs
	SK30-HD 5.5	5.5 in	30.0 in	1483 lbs	2500 lbs	6.0 in	295 lbs	166 lbs	166 lbs
						12.0 in	295 lbs	334 lbs	334 lbs
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						12.0 in	295 lbs	334 lbs	334 lbs
	SK36-HD 3.5	3.5 in	36.0 in	1483 lbs	2500 lbs	6.0 in	240 lbs	139 lbs	139 lbs
						12.0 in	240 lbs	279 lbs	279 lbs
	SK36-HD 4R	4.0 in	36.0 in	1483 lbs	2500 lbs	6.0 in	240 lbs	139 lbs	139 lbs
						12.0 in	240 lbs	279 lbs	279 lbs
	SK36-HD 5.5	5.5 in	36.0 in	1483 lbs	2500 lbs	6.0 in	240 lbs	139 lbs	139 lbs
						12.0 in	240 lbs	279 lbs	279 lbs
	SK36-HD 6R	6.0 in	36.0 in	1483 lbs	2500 lbs	6.0 in	240 lbs	139 lbs	139 lbs
						12.0 in	240 lbs	279 lbs	279 lbs
DESIGNER	SK-DR 3.5	3.5 in	12.0 in	1055 lbs	2500 lbs	6.0 in	720 lbs	418 lbs	418 lbs
						9.0 in	720 lbs	627 lbs	627 lbs
	SK-DR 4	4.0 in	12.0 in	1055 lbs	2500 lbs	6.0 in	720 lbs	418 lbs	418 lbs
						9.0 in	720 lbs	627 lbs	627 lbs
	SK-DR 5.5	5.5 in	12.0 in	1055 lbs	2500 lbs	6.0 in	720 lbs	418 lbs	418 lbs
						9.0 in	720 lbs	627 lbs	627 lbs
	SK-DR 6	6.0 in	12.0 in	1055 lbs	2500 lbs	6.0 in	720 lbs	418 lbs	418 lbs
						9.0 in	720 lbs	627 lbs	627 lbs

CAPACITY TABLE NOTES (ALL SIZE OPTIONS):

1. LOAD DURATION, Cd SHALL BE DETERMINED BY USER. ALL VALUES LISTED ARE BASED ON 1.6 FOR WIND LOADS APPLICATIONS.
2. ALLOWABLE LOAD CAPACITIES LISTED HEREIN ARE FOR INDIVIDUAL FORCES CHECK ONLY. LOAD COMBINATIONS WITH HORIZONTAL AND VERTICAL FORCES SHALL BE VERIFIED BY OTHERS IN ACCORDANCE TO ASCE 7-10 LOAD COMBINATIONS AND SHALL ADHERE TO THE FOLLOWING UNITY EQUATION:

$$\left(\frac{\text{UPLIFT_REQUIRED}}{\text{UPLIFT}} \right) + \left(\frac{\text{F1_REQUIRED}}{\text{F1}} \right) + \left(\frac{\text{F2_REQUIRED}}{\text{F2}} \right) < 1.0.$$

3. SUBSTRATE HOST STRUCTURE SHALL HAVE MINIMUM SPECIFIC GRAVITY, G EQUAL OR BETTER THAN 0.50.



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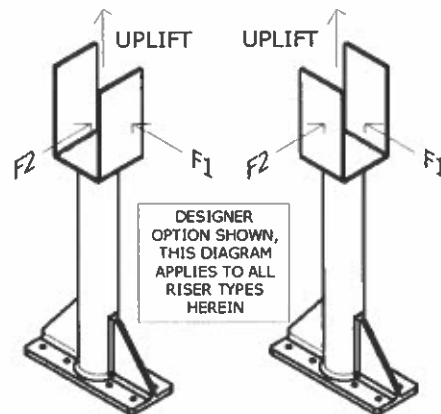
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	SK24-HD 3.5	3.5 in	24.0 in	1483 lbs	2500 lbs	6.0 in	236 lbs	208 lbs	208 lbs
						12.0 in	236 lbs	418 lbs	418 lbs
	SK24-HD 4R	4.0 in	24.0 in	1483 lbs	2500 lbs	6.0 in	236 lbs	208 lbs	208 lbs
						12.0 in	236 lbs	418 lbs	418 lbs
	SK24-HD 5.5	5.5 in	24.0 in	1483 lbs	2500 lbs	6.0 in	236 lbs	208 lbs	208 lbs
						12.0 in	236 lbs	418 lbs	418 lbs
	SK24-HD 6R	6.0 in	24.0 in	1483 lbs	2500 lbs	6.0 in	236 lbs	208 lbs	208 lbs
						12.0 in	236 lbs	418 lbs	418 lbs
	SK30-HD 3.5	3.5 in	30.0 in	1483 lbs	2500 lbs	6.0 in	189 lbs	166 lbs	166 lbs
						12.0 in	189 lbs	334 lbs	334 lbs
	SK30-HD 4R	4.0 in	30.0 in	1483 lbs	2500 lbs	6.0 in	189 lbs	166 lbs	166 lbs
						12.0 in	189 lbs	334 lbs	334 lbs
	SK30-HD 5.5	5.5 in	30.0 in	1483 lbs	2500 lbs	6.0 in	189 lbs	166 lbs	166 lbs
						12.0 in	189 lbs	334 lbs	334 lbs
	SK30-HD 6R	6.0 in	30.0 in	1483 lbs	2500 lbs	6.0 in	189 lbs	166 lbs	166 lbs
						12.0 in	189 lbs	334 lbs	334 lbs
	SK36-HD 3.5	3.5 in	36.0 in	1483 lbs	2500 lbs	6.0 in	158 lbs	139 lbs	139 lbs
						12.0 in	158 lbs	279 lbs	279 lbs
	SK36-HD 4R	4.0 in	36.0 in	1483 lbs	2500 lbs	6.0 in	158 lbs	139 lbs	139 lbs
						12.0 in	158 lbs	279 lbs	279 lbs
	SK36-HD 5.5	5.5 in	36.0 in	1483 lbs	2500 lbs	6.0 in	158 lbs	139 lbs	139 lbs
						12.0 in	158 lbs	279 lbs	279 lbs
	SK36-HD 6R	6.0 in	36.0 in	1483 lbs	2500 lbs	6.0 in	158 lbs	139 lbs	139 lbs
						12.0 in	158 lbs	279 lbs	279 lbs
DESIGNER	SK-DR 3.5	3.5 in	12.0 in	1055 lbs	2500 lbs	6.0 in	472 lbs	418 lbs	418 lbs
						9.0 in	472 lbs	627 lbs	627 lbs
	SK-DR 4	4.0 in	12.0 in	1055 lbs	2500 lbs	6.0 in	472 lbs	418 lbs	418 lbs
						9.0 in	472 lbs	627 lbs	627 lbs
	SK-DR 5.5	5.5 in	12.0 in	1055 lbs	2500 lbs	6.0 in	472 lbs	418 lbs	418 lbs
						9.0 in	472 lbs	627 lbs	627 lbs
	SK-DR 6	6.0 in	12.0 in	1055 lbs	2500 lbs	6.0 in	472 lbs	418 lbs	418 lbs
						9.0 in	472 lbs	627 lbs	627 lbs

CAPACITY TABLE NOTES (ALL SIZE OPTIONS):

1. LOAD DURATION, C_d SHALL BE DETERMINED BY USER. ALL VALUES LISTED ARE BASED ON 1.6 FOR WIND LOADS APPLICATIONS.
2. ALLOWABLE LOAD CAPACITIES LISTED HEREIN ARE FOR INDIVIDUAL FORCES CHECK ONLY. LOAD COMBINATIONS WITH HORIZONTAL AND VERTICAL FORCES SHALL BE VERIFIED BY OTHERS IN ACCORDANCE TO ASCE 7-10 LOAD COMBINATIONS AND SHALL ADHERE TO THE FOLLOWING UNITY EQUATION:

$$\left(\frac{\text{UPLIFT_REQUIRED}}{\text{UPLIFT}} \right) + \left(\frac{\text{F1_REQUIRED}}{\text{F1}} \right) + \left(\frac{\text{F2_REQUIRED}}{\text{F2}} \right) < 1.0.$$

3. SUBSTRATE HOST STRUCTURE SHALL HAVE MINIMUM NORMAL CONCRETE WEIGHT WITH COMPRESSIVE STRENGTH EQUAL OR BETTER THAN 3,000 PSI.



IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE LOAD RATING HEREIN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS PRODUCT.