

ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
22	2	Swage-Lok Elbow 1/2" to 1/4 NPT	-	15.1	1	Insulation Roof Safety Anchor	PFS03036				
21	1	Styrofoam 3/4" Layer	-	15	4	Anchor Assembly	-	10	2	Pipe Strain Protector	-
20	1	Formica, black	-	13	2	Quick Disconnect Coupling MCM1077T17	-	9	1	Insulation Roof Outer Sheet	PFS03003
19	2	Formica, black	-	12	8	Pull Handle MCM1402A11	-	8	1	Insulation Roof Heat Sink	PFS03004
18	2	Formica, black	-	11	4	Collar 1/2" two-piece - MCM6436K14	-	7	4	Insulation Vertical Post Coupling	PFS03013
17	2	1/4 NPT Ball Valve	-	10.6	2	SHCS 6-32 UNCx1	-	6	2	Insulation Frame Horizontal Long - Roof	PFS03016
16	48	FHMS, Phillips, 8-32 UNC x 3/8 in	-	10.5	2	SHCS 6-32 UNCx0.5	-	5	2	Insulation Frame Horizontal Short	PFS03017
15.5	1	Threaded Rod MCM98743A230	-	10.4	2	Washer, ANSI A, Normal #6	-	4	1	Insulation Floor/Roof 4" Foam	PFS03019
15.4	2	Washer, ANSI A, Normal 0.25	-	10.3	2	Hex Nut 6-32	-	3	1	Insulation Floor/Roof 3" Foam	PFS03022
15.3	2	Hex nut 1/4-20	-	10.2	1	Tube Stiffener Clamp Anchor	PFS03043	2	1	Insulation Roof Water Jacket	PFS03026
15.2	10	1/8 X .313 Std Pop Rivet	-	10.1	1	Tube Stiffener Clamp	PFS03044	1	4	Insulation Frame Miter Brace	PFS03029
Bill of Material			Bill of Material			Bill of Material					

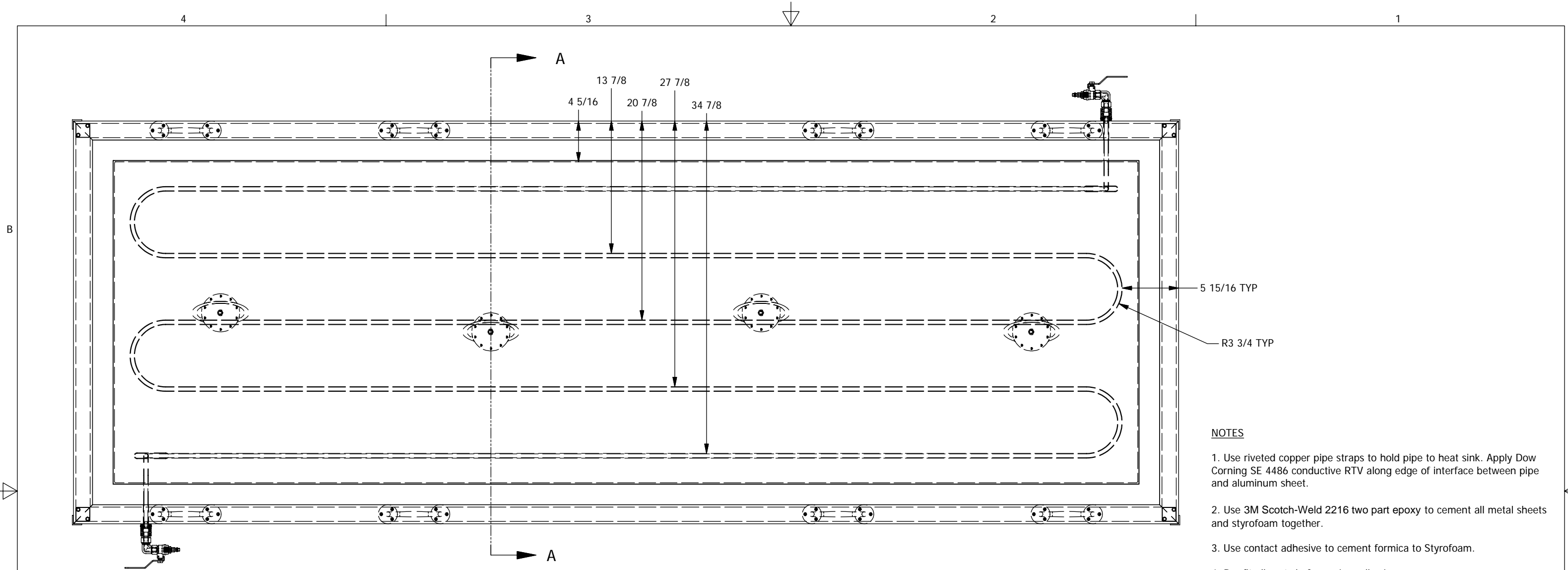
**THE OBSERVATORIES
OF THE CARNEGIE INSTITUTION OF WASHINGTON**
813 Santa Barbara Street
Pasadena, CA 91101

**Planet
Finder
Spectrograph**

**Insulation Roof
Assembly**

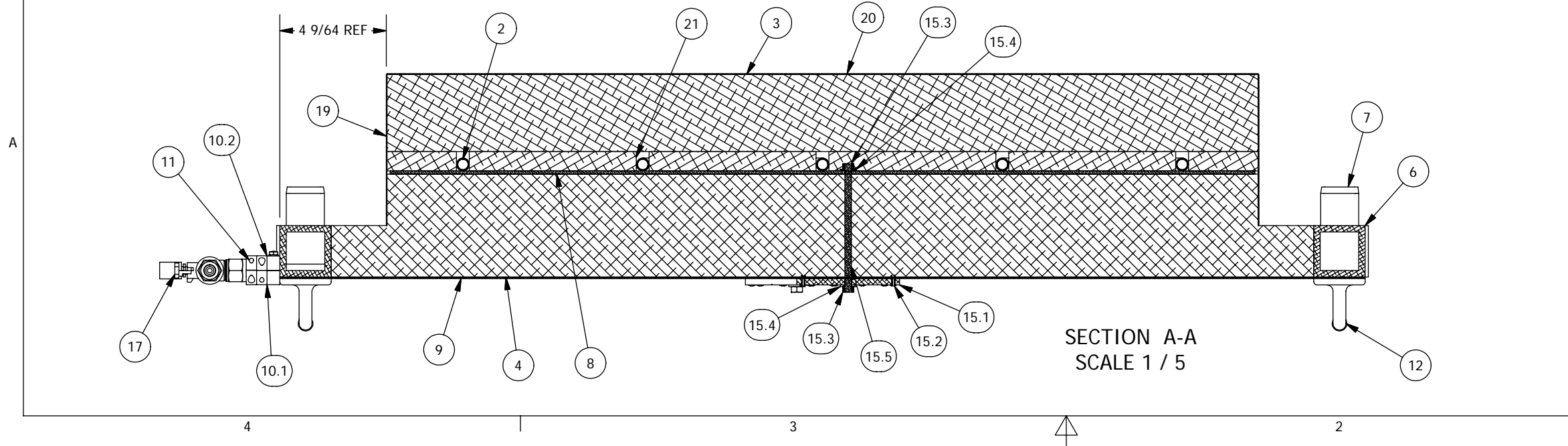
MATERIAL: UNLESS OTHERWISE SPECIFIED
FRACTIONAL DECIMAL ANGULAR
+/- 1/32 .XX +/- 0.01 +/- 0.1 DEG
EST WEIGHT: 200 lb
SCALE: 1:10
DWN: CRANE 5/20/2009
APVD: BY DATE

SHEET: B DRAWING NUMBER: PFS00027 SHT 1 OF 2 REV 1



NOTES

1. Use riveted copper pipe straps to hold pipe to heat sink. Apply Dow Corning SE 4486 conductive RTV along edge of interface between pipe and aluminum sheet.
2. Use 3M Scotch-Weld 2216 two part epoxy to cement all metal sheets and styrofoam together.
3. Use contact adhesive to cement formica to Styrofoam.
4. Dry fit all parts before using adhesive.
5. Rivets and pipe straps not shown.
6. Aluminum tubes, miter braces, and outer sheet are to be fastened together using rivets.



THE OBSERVATORIES OF THE CARNEGIE INSTITUTION OF WASHINGTON 813 Santa Barbara Street Pasadena, CA 91101				
MATERIAL		UNLESS OTHERWISE SPECIFIED FRACTIONAL DECIMAL ANGULAR +/- 1/32 .XX +/- 0.01 +/- 0.1 DEG		
EST WEIGHT		.XXX +/- 0.002 GOAL .XXX +/- 0.005 REQD BREAK SHARP EDGES MACHINED SURFACES 125 ✓ ALL DIMENSIONS IN INCHES		
SCALE		1:10		P lanet F nder S pectrograph
				Insulation Roof Assembly
DWN	CRANE	5/20/2009		
APVD				
	BY	DATE	SHEET	REV
			B	1
			DRAWING NUMBER	SHT 2
			PFS00027	OF 2