GENERAL DYNAMICS
C4 Systems

DRAWING INDEX
Job #40377, Model 4.8 KPC-120
VATG – Germany

ANTENNA SYSTEM

Catalogue # Drawing # Description

R000863............000077........Foundation Instl 4.8KP120, 125MPH
R001502 ... .000347........Foundation Conduit Instl (4.8KP)
480101-01C........480101........Ref Instl 4.8M C-Band 120, 125 MPH, Cass.
029448-01.. ....029448........Lifting Tool Instl 4.8M
480100-01G. ......480100........Pedestal Instl

FEED SYSTEM

N/A...................021839........Feed Assy,4.8M,C-Band,CCass,TR,CP,DI220V
N/A . ...020006........Optical Geometry, 4.8KPC Cass
N/A . ...022643........Feed Interface,4.8M,FR,CP,C-Band

MOTOR/ CONTROL SYSTEM

Not Required

DEICE SYSTEM

Catalogue # Drawing # Description

600135-01P ....600135 ..... Deice Closeout Instl 4.8M
480117-01 . ...480117 ..... Subreflector Mtg Plate 4.8M
600134-02 . ...600134 ..... Heater Instl Ref 4.8M Hot Air 220V
019469-12 . ...019469 .... Cndt Instl ADS 4.8KP Euro.
019437-21 . ...019437 .... Cable Instl ADS 4.8KP Euro.
N/A . ...019438 ..... Wiring Schematic, ADS1230

RF INTEGRATION SYSTEM

Not Required

ANTENNA OPTIONS

030661-01P ....030661 ..... Rear Hub Cover Instl 4.8M KX
031842-01 . ...031842 ..... Rainshield Instl 4.8M
030859-01 . ...030859 ..... Elec Kit LPS 4.8KP Std. LPN

Vertex RSI
ISO 9001 Registered

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL SUMMARY PRINT DATE 11/19/05 TIME 11:25:12

CATALOGUE#: R000863 PSM: M STATUS: RELEASED DRAWING: D-000077 REV: D

DESCRIPTION: FDN INSTL 3/4KP STD TRV 125MPH

CATEGORY: ANTENNA ENTERED: 7/16/1992
CLASS: BASFTN REVISED: 7/27/2004 REV: D
SUBCLASS: INSTL APPROVED: 8/30/2004
JOB#: 9318 PENDING: REV

REVISION: D 040446 7/27/04 SDA/GPR OLD CAT#: 572707-01 12/29/92 JBJ SIZE: D DWG CAT: I ID: GOH

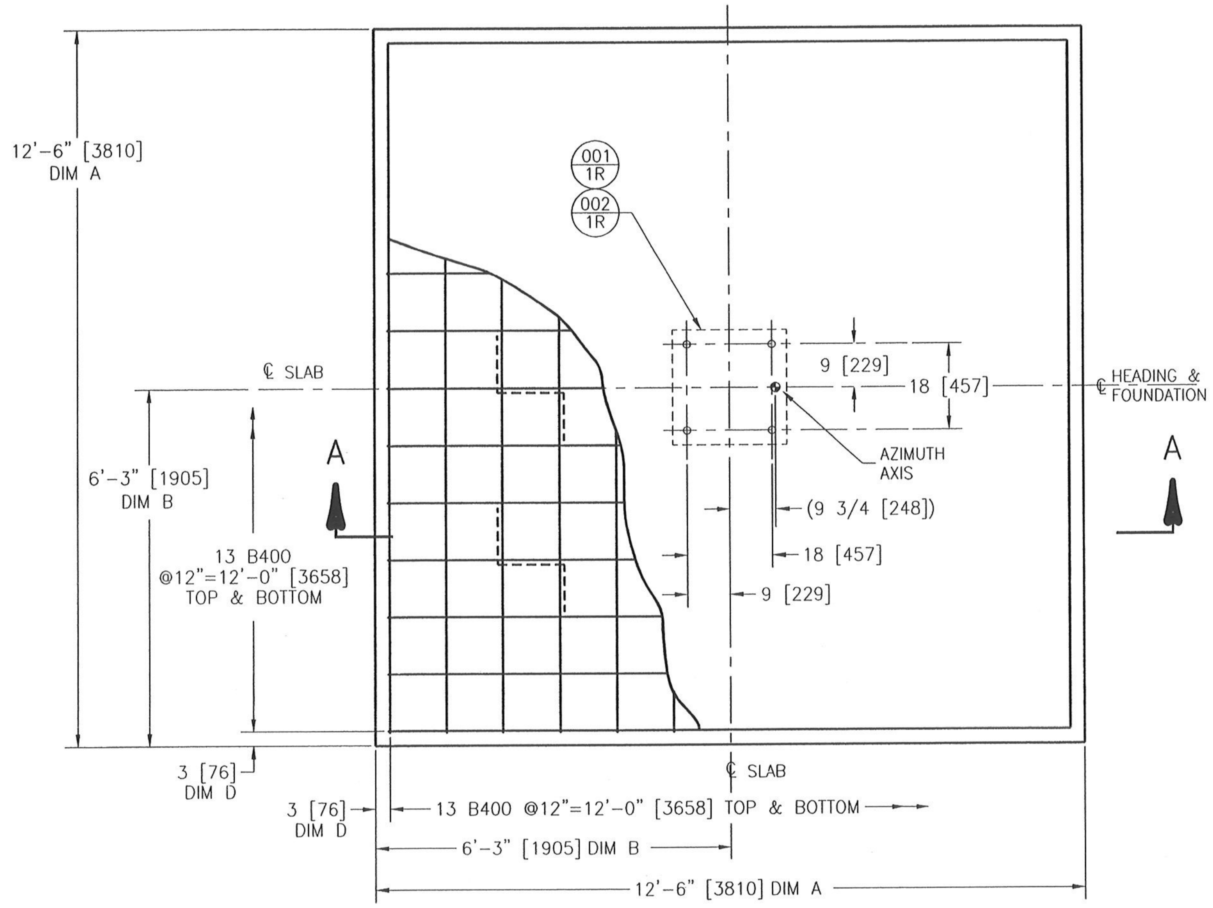
BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
001	R000864	1.00			R	C	S	TEMPLATE FDN ANCHOR BOLT			B-000025	F
002	R000865	1.00			R	C	S	PL BOLT FDN ANCHOR			B-000025	F
004	H40117-29	8.00		EA	R	P	S	FW (AN) 1 1/2 X 3 F436 HDG	FW	HDG		
005	V10890-29	4.00		EA	R	P	P	BOLT ASSY ANCHOR 1 1/2-6UNC X 20 A193 B7	BASFTN	HDG		
901R	DWG-000077	2.00		EA	R	P	P	DWG FDN INSTL 4M	BASFTN	INSTL	D-000077	D

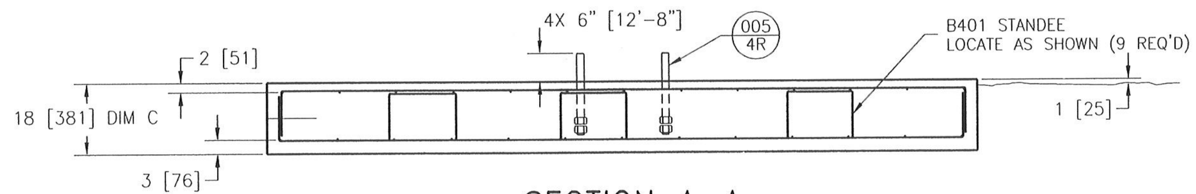
END OF BOM:R000863

REV	DESCRIPTION	DATE	APPROVED
A	JBS BASE; REPL 572707 (A);	11/16/92	JCH/
B	ECR96-1438; DELETED ITEM 003.	1/16/97	SJH/KLL
C	EC98-0667; SEC A-A 18 WAS 15, V10890-1 DIM (4 1/2 [114]) WAS (3 1/2 [89]) (23 [508]) WAS (20 [508]), & ADDED 4.8M.	03/24/98	MSS/JDH
D	EC04-0446; V10890-29 WAS V10890-1 #6 BARS WAS #5 & #4 BARS; CHANGED TOTAL WT OF STEEL TO MATCH BAR SIZES	08/13/04	SDA/GPR

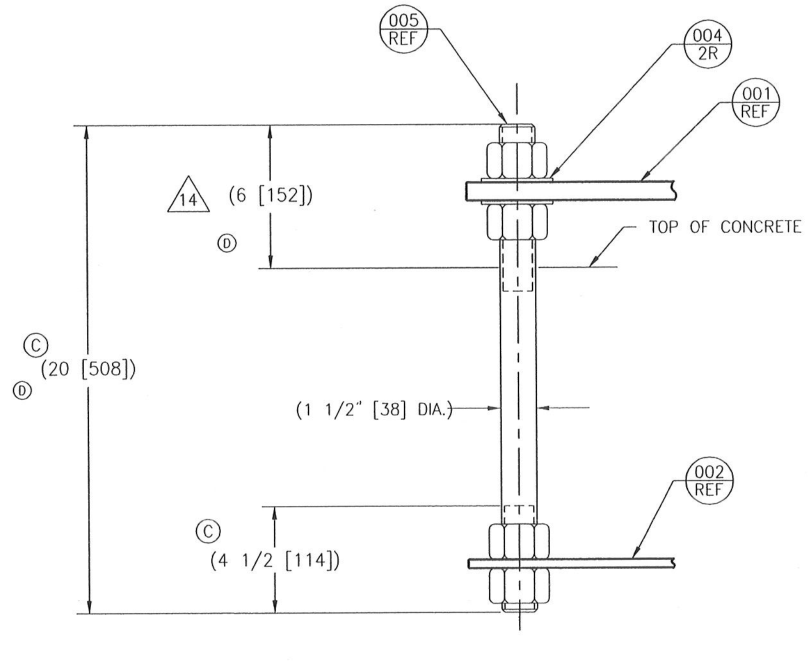
REVISIONS



R000863 FOUNDATION PLAN



SECTION A-A



V10890-29

D

(SCALE: 1/4)

4-PLCS

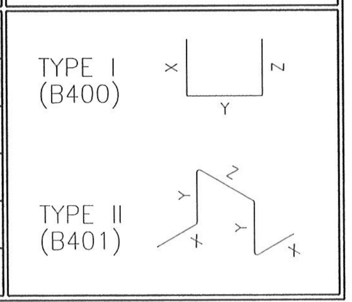
NOTES:

1. ALL CONCRETE SHALL HAVE A 28-DAY MIN. COMPRESSION STRENGTH OF 3,000 PSI (20.7 MPa).
2. CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY EITHER RODDING OR VIBRATING.
3. REINFORCEMENT STEEL SHALL BE DEFORMED INTERMEDIATE GRADE NEW BILLET STEEL BARS WITH 60,000 PSI (413.7MPa) MIN. YIELD STRENGTH IN ACCORDANCE WITH SPECIFICATION FOR DEFORMATION OF DEFORMED STEEL BARS FOR CONCRETE REINFORCEMENT (A.S.T.M. A-615-GR. 60).
4. ALL REINFORCEMENT BARS SHALL BE SECURELY WIRED TO PREVENT SHIFTING WHEN CONCRETE IS PLACED.
5. REINFORCEMENT STEEL SHALL HAVE MIN. COVER SHOWN ON DRAWING.
6. ANCHOR BOLT PATTERNS SHALL BE LOCATED WITHIN ±1/8 [3] OF SPECIFIED LOCATIONS.
7. SUB-SOIL (OR BASE COURSE) MUST BE ADEQUATE TO PROVIDE A MINIMUM OF 2,000 PSF (960 mbar) BEARING PRESSURE.
8. FINISHED GRADE TO BE AN ELEVATION THAT WILL NOT BE SUBJECT TO INUNDATION FROM ADJACENT TERRAIN.
9. (C) REINFORCED CONCRETE SHALL MEET THE REQUIREMENTS OF CURRENT ACI 318-77.
10. FOUNDATION SURFACE TO HAVE A BROOM FINISH; A MINIMUM 3FT. x 3FT. (0.9m X 0.9m) SQUARE AREA, CENTERED ON THE FOUNDATION WITH ITS SIDES PARALLEL TO THE ANCHOR BOLT PATTERN, SHALL BE SMOOTH, FLAT, AND LEVEL. THE REMAINING SURFACE SHALL BE SLOPED SLIGHTLY DOWNWARDS FROM THIS AREA TO EDGES.
11. ANCHOR BOLTS, WASHER PLATES, AND NUTS TO BE A-36 STEEL OR BETTER.
12. STEEL REINFORCEMENT BARS B400 MAY BE REPLACED BY STRAIGHT BAR DIM. "Y" LONG AND ADD STRAIGHT SIDE BARS DIM. "X" OR "Z".
13. EMBEDDED CONDUIT MAY BE INSTALLED FOR ELECTRICAL POWER OF FOR IFL.
14. PROTECT EXPOSED THREADS FROM CONCRETE SPLATTER DURING PLACEMENT OF CONCRETE. REMOVE WOODEN TEMPLATES AND HEX NUTS 24 HOURS AFTER PLACEMENT OF CONCRETE AND CLEAN ALL EXPOSED THREADS.
15. COMPLIANCE WITH ALL BUILDING CODES AND THE REQUIRED PERMITS ARE THE RESPONSIBILITY OF OTHERS.
16. DIMENSIONS IN [] ARE METRIC EQUIVALENTS IN MILLIMETERS.

ALTERNATE FOUNDATION DESIGNS FOR SOIL FROST LINE PROBLEMS

	FROST LINE DEPTH	SLAB SIZE A	SLAB SIZE B	SLAB SIZE C	SLAB SIZE D	CONC. VOLUME (CU. YDS.)	STEEL REINFORCING QTY. B400	BAR SIZE	UNIT LGTH	TOT'L LGTH	BEND TYPE	BEND DIM'S X	BEND DIM'S Y	BEND DIM'S Z	ON CENTER SPACING	QTY. B401	BAR SIZE	UNIT LGTH	TOT'L LGTH	BEND TYPE	BEND DIM'S X	BEND DIM'S Y	BEND DIM'S Z	TOTAL WT. OF STEEL
(D)(C)	DOWN TO 14" (DESIGN SHOWN)	12'-6	6'-3	18"	3"	8.7	52	#6	14'-0	728'	I	12"	12'-0	12"	12"	9	#4	5'-3.5	47'-7.5	II	14"	10.75"	14"	1125#
(D)(C)	15" TO 25"	11'-0	5'-6	26"	6"	9.7	44	#6	13'-0	572'	I	1'-6	10'-0	1'-6	12"	9	#4	6'-7.5	59'-7.5	II	14"	18.75"	14"	900#
(D)(C)	26" TO 38"	9'-6	4'-9	39"	3"	10.9	40	#6	14'-0	560'	I	2'-6	9'-0	2'-6	12"	6	#4	8'-9.5	52'-9	II	14"	31.75"	14"	877#
(D)(C)	39" TO 50"	8'-6	4'-3	51"	3"	11.4	36	#6	15'-0	540'	I	3'-6	8'-0	3'-6	12"	6	#4	10'-9.5	64'-9	II	14"	43.75"	14"	854#

BEND DIAGRAM



___ # EA
- EST. WEIGHT -

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .05, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN		DRAWN J.HUEGEL	11/16/92
MECHANICAL		CHECKED G.ROBERTS	10/16/92
STRUCTURAL		DESIGNER V.TWU	
ELECTRICAL		MANUFACTURING D.DAVIS	10/26/92
-		PROJECT G.HALL	10/26/92
-		PRODUCT MGR J.PORTER	10/26/92
-		-	

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE: FOUNDATION INSTL 4.5/4.8KP +/- 60° AZ TRAVEL 125MPH

CODE ID. NO.	SIZE	DWG NO.	REV
98230	D	000077	D
SCALE 1/20	CONTRACT NO.	SHEET 1 OF 1	

DFORM1D1

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL **SUMMARY** **PRINT DATE 11/19/05** **TIME 11:25:14**

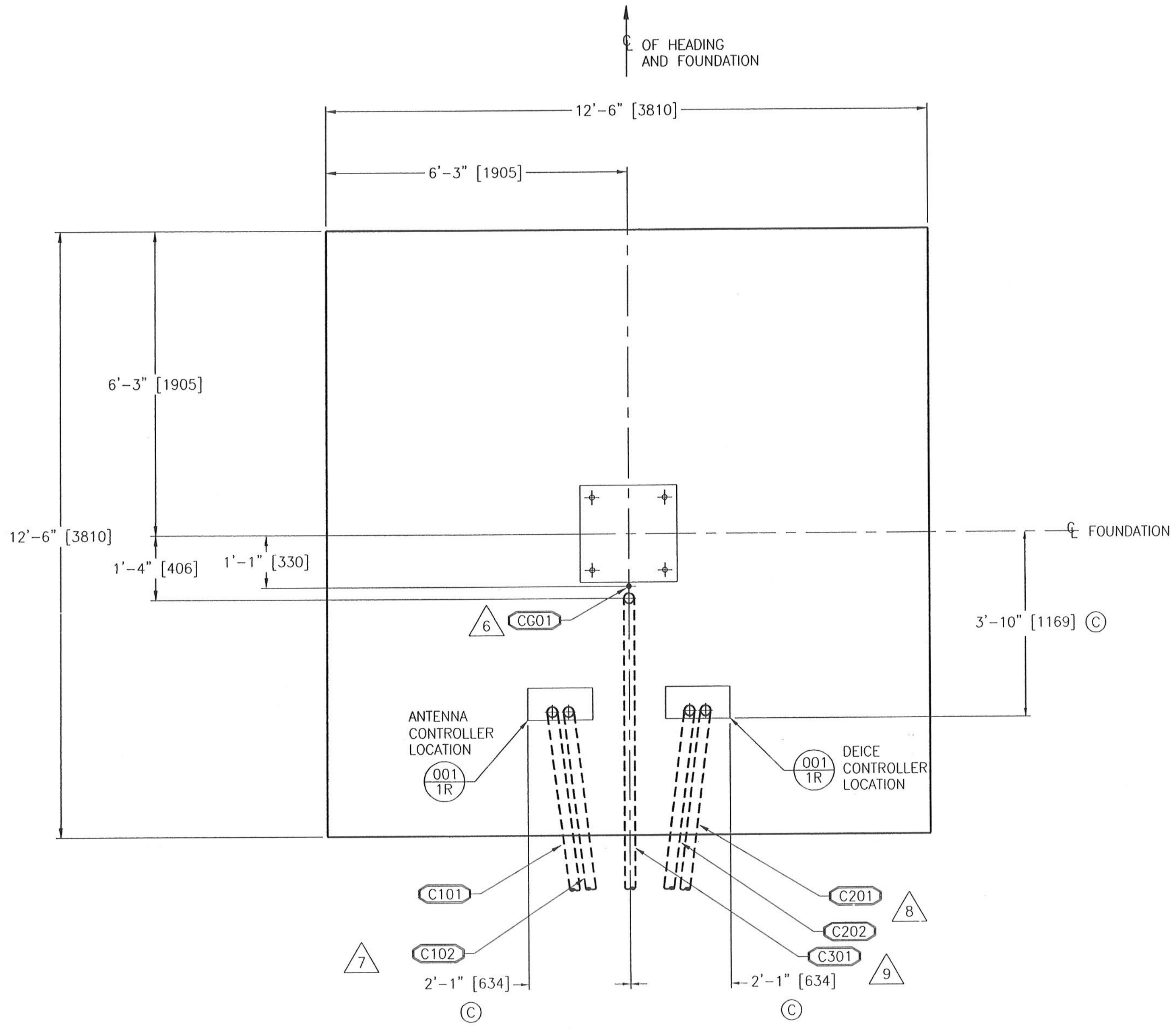
CATALOGUE#:	R001502	PSM: M	STATUS:	RELEASED	DRAWING:	D-000347	REV: C
DESCRIPTION:	CNDT INSTL FDN 3.5/4.5KP STD		CATEGORY:	INTEGRAT	ENTERED:	10/14/1992	
	TRV KP 125MPH		CLASS:	BASFTN	REVISED:	11/11/1998	REV: C
			SUBCLASS:	INSTL	APPROVED:	11/23/1998	
			JOB#:	9318	PENDING:		REV
REVISION:	A JCH 11/21/93		OLD CAT#:	574418-01	SIZE: D	DWG CAT: I	ID: GOH

BILL OF MATERIAL

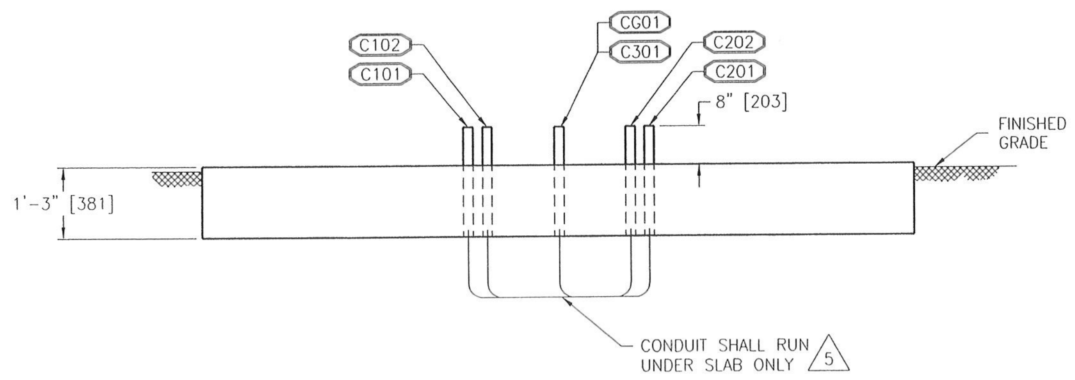
ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
001	R001503	2.00			R	C	S	TEMPLATE FDN CNDT 4KP	BASFTN	DETAIL	B-000348	A
901R	DWG-000347	2.00		EA	R	P	P	DWG FDN CNDT INSTL 4M	BASFTN	INSTL	D-000347	C

END OF BOM:R001502

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	JBS BASE, REPL 574418(-);	11/21/92	JCH/KL
B	REVISED PER IDCR 93111	09/03/93	SPM/
C	REVISED PER ECR #99-0158	11/11/98	JED/KBS



CONDUIT LAYOUT



SECTION A-A

CONDUIT SCHEDULE - FOUNDATION CONDUITS					
ID#	SIZE	TERMINATION POINT	ORIGINATION POINT	FILL	NOTES
C101	2" PVC	MOTOR CONTROLLER	CUSTOMER POWER SOURCE	MOTOR CONTROLLER POWER FEEDER	7
C102	2" PVC	MOTOR CONTROLLER	ANTENNA REMOTE CONTROL UNIT	TRANSDUCER/CONTROL CABLING	7
C201	2" PVC	DEICE CONTROLLER	CUSTOMER POWER SOURCE	DEICING POWER FEEDER	8
C202	2" PVC	DEICE CONTROLLER	DEICE REMOTE CONTROL UNIT	DEICING CONTROL CABLES	8
C301	2" PVC	ANTENNA BASE	CUSTOMER POWER SOURCE	ANCILLARY POWER FEEDERS	9
CG01	1" PVC	GROUNDING SYSTEM	ANTENNA MECHANICAL INTERFACE	GROUNDING CABLE	6

NOTES:

1. COMPLIANCE WITH ALL ELECTRICAL CODES AND THE REQUIRED PERMITS ARE THE RESPONSIBILTIES OF OTHERS.
2. (C000) INDICATES CONDUIT ID NUMBER. REFERENCE CONDUIT SCHEDULE FOR SIZE AND DESCRIPTION. ALL PVC CONDUIT (OR TYPE REQUIRED BY LOCAL CODES) IS TO BE SUPPLIED BY OTHERS.
3. CONDUITS SHOWN EXITING THE FOUNDATION MAY DO SO IN THE DIRECTION THAT IS THE MOST CONVENIENT FOR EACH SITE.
4. POWER DISTRIBUTION PANEL(S) AND/OR MAIN POWER DISCONNECTS ARE TO BE SUPPLIED BY OTHERS. VOLTAGE AND FREQUENCY ARE CONTRACT SPECIFIC AS SITE DICTATES.
5. ALL CONDUIT ELBOWS ARE TO BE SWEEPS, 90° LONG ELBOWS THAT ARE PROPERLY SEALED FOR UNDERGROUND USE.
6. CONDUIT STUB-UPS FOR GROUNDING CABLES. TYPICAL 1 PLACE. SITE GROUNDING SYSTEM IS TO BE SUPPLIED BY OTHERS.
7. CONDUITS WITH 100 SERIES I.D. NUMBERS REQUIRED FOR ANTENNA CONTROL. REFER TO CONTRACT POWER REQUIREMENTS FOR DEFINITION OF POWER FEEDERS REQUIRED.
8. CONDUITS WITH 200 SERIES I.D. NUMBERS REQUIRED FOR ELECTRIC ANTENNA DEICING. (REFLECTOR, FEED AND SUBREFLECTOR HEATING WITH PAD MOUNTED DEICE CONTROLLER). REFER TO CONTRACT POWER REQUIREMENTS FOR DEFINITION OF POWER FEEDERS REQUIRED.
9. CONDUITS WITH 300 SERIES I.D. NUMBERS REQUIRED FOR ANCILLARY EQUIPMENT POWER FEEDERS. ANCILLARY EQUIPMENT MAY CONSIST OF ANY OF THE FOLLOWING OPTIONS: RAINBLOWER, OBSTRUCTION LIGHTING, HUB UTILITIES, ETC... REFER TO THE CONTRACT POWER REQUIREMENTS FOR EXACT DEFINITION OF FEEDERS REQUIRED.
10. DIMENSIONS IN [ ] ARE METRIC (MILLIMETERS). CONDUITS ARE U.S. STANDARD NOMINAL SIZES.

___ # EA
- EST. WEIGHT -

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN J.HUEGEL	11/21/92
MECHANICAL N/R		CHECKED K.LINDSEY	12/12/92
STRUCTURAL N/R		DESIGNER M.BALLY	04/15/93
ELECTRICAL M. RABENHORST	09/09/93	MANUFACTURING D.DAVIS	12/16/92
-		PROJECT G.HALL	12/16/92
-		PRODUCT MGR J.PORTER	04/15/93
-		-	

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE: FOUNDATION CONDUIT INSTL STD TRAVEL, 125 MPH WIND MODEL 4.5/4.8 KPC/KPK

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	000347	C
SCALE: 1/20	CONTRACT NO. 9318	SHEET 1 OF 1	

DFORM101

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL SUMMARY PRINT DATE 11/19/05 TIME 11:25:20

CATALOGUE#: 480101-01C PSM: M STATUS: RELEASED DRAWING: D-480101 REV: H

DESCRIPTION: REF INSTL (4.8M) C/B
AZ 120 (1@120) EL 0-90
45 GUSTS TO 60MPH; 125MPH ANY

CATEGORY: REFLECTOR
CLASS: BAS
SUBCLASS: INSTL
JOB#: 9950

ENTERED: 1/18/1999
REVISED: 4/26/2004 REV: H
APPROVED: 5/04/2004
PENDING: REV

REVISION: G 030713 7/14/03 JDH/GPR

OLD CAT#: C 990937 7/27/99 RRY/GPR SIZE: D DWG CAT: I ID: MWD

BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
002	480101-02C	1.00			R	C	S	CRATE PNL 4.8M	BASPNL	DETAIL	D-480101	H
003	480101-03C	1.00			R	C	S	RADIAL/MISC CRATE, 4.8M	BAS	INSTL	D-480101	H
005	480112-01C	1.00			R	C	S	HUB ASSY/SKID 4.8M	BASHUB	ASSY	D-480112	E

END OF BOM:480101-01C

NOTES:

(B) △1. SET DISTANCE FROM BACK OF SUBREFLECTOR TO MAIN REFLECTOR SURFACE ALONG A LINE PARALLEL TO THE ANTENNA RF AXIS TO 55.445"[1408.3mm] AS SHOWN. SUBREFLECTOR SHOULD BE CENTERED IN MAIN REFLECTOR AT POSITION DESCRIBED. THE CENTER POINT OF THE SUBREFLECTOR SHOULD BE WITHIN .060 INCHES OF THE RF AXIS. REF OPTICAL GEOMETRY DWG Ku BAND 019703 & C BAND 020006.

(C) △2. QUAD LEGS/APEX MUST BE INSTALLED AT PROPER CLOCKING POSITIONS AS INDICATED.

3. MAIN REFLECTOR ACCURACY TO BE WITHIN 0.070" PEAK TO PEAK WITH RESPECT TO SPECIFIED THEORETICAL SURFACE.

(G)(B)

(E) △5. SNUG NUT AGAINST COVER BY HAND ONLY TIGHT ENOUGH TO HOLD COVER AGAINST BACK OF SUB.
NOTE: BE CAREFUL NOT TO INDUCE STRESS INTO SUB.

(F)(E) △6. APPLY PAINTABLE CAULK AROUND EDGE OF SUB-REFLECTOR & SUB-REFLECTOR COVER & AROUND ALL THREAD RODS AT COVER TO PREVENT WATER FROM ENTERING BACK OF SUB-REFLECTOR ON DEICED & NON-DEICED UNITS.

(G)(F)

REV	DESCRIPTION	DATE	APPROVED
D	ECR 00-0095; CHANGED 028 FROM 480122-07	4/4/00	JJL/GPR
E	EC #00-0632; SHT #1, ADDED NOTE #5 & 6. BOM ITEM #051 (480035-07), 053 (H52103-39) & 054 (H30007-39) DELET'D,ITEM #055 H60084-39 WAS H14171-99; SHT #5. VIEW M-M & DETAIL P MOV'D TO SHT #4,DETAIL N, NEW DESIGN OF MOUNTING SUB-REFL, ADD'D DETAIL N, ANTI-ICE INSTL DET	05/18/00	RRY/JDH
F	EC 00-0878; SHT #1, BOM, CREAT'D ITEMS #002 480101-02, 003 ...-03, 014 ...-14; MOV'D ITEM #007 TO ITEM #002; MOV'D ITEMS #004, 009, 010, 011, 013, 028, 040, 041, 042, 043, 044 & 060 TO ITEM #003, MOV'D ITEMS #015, 016, 017, 018, 020, 021, 022, 023, 024, 025, 026, 027, 029, 033, 036, 037, 038, 047, 048 & 055 TO ITEM #014; ITEM #005 DESCP HUB ASSY/SKID, 4.8M WAS HUB ASSY 4.8M; ADD'D ITEMS #062 & 063 TO ...-14; ADD'D NON-DEICED TO NOTE #6; ADD'D NOTE #7; ADD'D VIEW AC-AC TO SHEET #2 & 3 MOV'D ITEM #006 TO 032 & ADD'D ITEM #031, UPDAT'D DWG; UPDAT'D SHT #5, DETAIL N, DEICED INSTL. DET, ITEM BUBBLE #032 WAS #006, NOTE CALL OUT FOR #7 DEICED INSTL. DET, ADD'D ITEM #031, ADD'D NOTE CALL OUT FOR #5 & 6	10/26/00	RRY/GPR
G	ECR 03-0713	06/25/03	JDH/GPR
H	ECR 04-0335	04/12/04	SDA/GPR

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	01/18/99	MWD/TLF
B	SHT #1; BOM, DELET'D: ITEM #008, 030 & 045 (480107-02, H54147-39 & 013555-01), CHG'D QTY: ITEM #007 & 037, 8 & 38 TO 16 & 41, CHG'D P/N: ITEM #050 & 051, 600035-06 & -07 TO 600136-04, QTY 1 & -07, QTY 4, ADD ITEM #060, NOTE #1: CHG'D 55.289[1404.3mm] & 017474 TO 55.445"[1408.3mm] & Ku BAND 019703 & C BAND 020006; SHT #2:CHG'D VIEW TO DETAIL, 7 PLCS, CHG'D 55.289 TO 55.445, IN SECT A-A, CHG'D ITEM BUB #008 TO 007, 8 PLCS, CHG'D 8R TO 16R, ITEM #007, ADD'D "()" TO EL JACK BRKT LABEL, ADD'D "(SHT #4);SHT #3:CHG'D VIEW TO DETAIL, 5 PLCS;SHT #4:CHG ITEM BUB #008 TO 007, 3 PLCS;SHT #5:ADD'D ITEM BUB #060 TO VIEW M-M, REMOV'D, ITEM BUB #045 IN VIEW M-M, CHG'G ITEM #039 TO 036, 9 PLCS, W/ CHG 2R TO 4R, 2 PLCS & CHG'D 4R TO 8R, 1 PLC, CHG'D ITEM BUB #045 TO LABEL "SUBREFL PER JOB", 2 PLCS, ADD'D "(Ku-BAND SUBREFL SHOWN)", ITEM #037,CHG'D 4R TO 2R, 2 PLCS, CHG'D 55.289 TO 55.445	05/04/99	RRY/GPR
C	EC #99-0937; SHT #1, NOTE #2, 'QUAD LEGS/APEX' WAS 'ITEM 004 (QUAD LEG RADIAL ASSY)', DELETED ITEMS #006, 050, 056, 057 & 058 (480105-01, 600136-04, P98392-19, P98393-19 & M91070-19), ITEMS #004 & 036 QTY 16 & 76 WERE 4 & 70; SHT #2, REMOV'D BUBBLES #004, 006 & 007, BUBBLE #004, 16R WAS 006, 12R, ADD'D [1408] TO 55.445 DIM, ADD'D NOTE FLAG #2 TO QUAD LEGS; SHT #5, VIEW M-M, REMOVE'D BUB'S #050, 056, 057 & 058, DETAIL N, REMOV'D BUBBLE #050, ADD'D NOTE TO DETAIL N	07/09/99	RRY/GPR

LIST OF MATERIALS OR PARTS LIST

REV	QUANTITY REQUIRED		-14	-03	-02	-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
							064			
(F)			1				063	M91070-19	SILICONE SEALANT 3.0 OZ	
(F)			16				062	P98394-19	KNOCKOUT PLUG 1 T&B #5712	
(G)			4				061	H62076-29	BOLT EYE 3/8-16UNC X 2 1/2 W HEX NUT HDG	
(G)(F)(B)							060			
(G)			8				059	H30013-29	LW HELICAL 1/2 A325 HDG	
(G) (C)			8				058	H40066-29	FW (AN) 1/2 X 1 1/16 F436 HDG	
(G) (C)			8				057	H21015-29	HEX NUT 1/2-13UNC A194 HDG	
(G) (C)			4				056	H62091-89	BOLT EYE 1/2-13UNC X 12 FT HDG	
(F)(E)			3				055	H60084-39	ALL THD ROD 3/8-16UNC X 6 SS18-8	
(E)							054			
(E)							053			
							052			
(F)(E)(B)							051			
(F)(C)(B)							050			
							049			
(G)(F)			8				048	H14160-39	HH CAP SCR 3/8-16UNC X 1 3/4 SSF593	
(F)			16				047	H14161-39	HH CAP SCR 3/8-16UNC X 2 SSF593	
							046			
(F)(B)							045			
(F)				6			044	600043-01	FB 3/16 X 2 X 2 AL6061 (PNT)	
(G)(F)				1			043	480162-01	APEX WLDMNT (PNT)	
(G)(F)				4			042	480162-02	APEX LEG WLDMNT (PNT)	
(G)(F)							041			
(G)(F)							040			
							039			
(F)			32				038	H30011-39	HELICAL LW 3/8 SS18-8	
(G)(F)(B)			41				037	H20013-39	HEX NUT 3/8-16UNC SSF594	
(G)(F)(C)			65				036	H40055-39	FW (AN) 3/8 X 13/16 SS18-8	
							035			
							034			
(F)			464				033	H90009-19	SERRATED FLG LOCKNUT#10-24UNC SS18-8	

LIST OF MATERIALS OR PARTS LIST

REV	QUANTITY REQUIRED	-08	-14	-03	-02	-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
(F)							032			
(G)(F)							031			
(B)							030			
(F)			464				029	H54147-39	TH MCH SCR #10-24UNC X 3/4 SS18-8	
(F)(D)				16			028	630014-06	BACKUP STRIP LACING 6.3M	
(F)			32				027	H20011-39	HEX NUT 1/4-20UNC SSF594	
(F)			32				026	H30009-39	HELICAL LW 1/4 SS18-8	
(F)			32				025	H40045-39	FW (AN) 1/4 X 5/8 SS18-8	
(F)			32				024	H10447-39	SH CAP SCR 1/4-20UNC X 5/8 SSF837	
(F)			64				023	H20015-39	HEX NUT 1/2-13UNC SSF594	
(F)			64				022	H30013-39	HELICAL LW 1/2 SS18-8	
(F)			128				021	H40066-39	FW (AN) 1/2 X 1 1/16 SS18-8	
(F)			64				020	H14311-39	HH CAP SCR 1/2-13UNC X 2 SSF593	
				REF			019	600128-01P	DI CLSOUT ELECT INTFC 4.8M PTD	
(F)			72				018	H20012-39	HEX NUT 5/16-18UNC SSF594	
(F)			72				017	H30010-39	HELICAL LW 5/16 SS18-8	
(F)			144				016	H40050-39	FW (AN) 5/16 X 11/16 SS18-8	
(F)			72				015	H14083-39	HH CAP SCR 5/16-18UNC X 1 1/4 SSF593	
(F)			X	1			014	480101-14	REFL HARDWARE KIT (4.8M) C/B	
(F)				40			013	600014-02	L 2 1/2 X 2 1/2 X 1/4 X 2 1/2 AL6061-T6	
(G)				1			012	030859-01	LIGHTNING PROTECTION	
(F)				8			011	480102-03	LACING 32 3/8 LG. 4.8M	
(F)				16			010	480102-02	LACING 19 3/4 LG. 4.8M	
(F)				16			009	480108-01	LACING ASSY OUTER 4.8M	
(H)(B)		X					008	480101-08	REFLECTOR INSTL 4.8 PM	
(F)(B)					16		007	480107-01	PANEL SKIN 4.8M	
(H)(F)(E)(C)		1					006	480112-03	HUB ASSY 4.8PM	
(F)						1	005	480112-01	HUB ASSY 4.8KP	
(F)(C)		1		16			004	480105-02	RADIAL ASSY QUAD LEG 4.8M	
(F)		1		X		1	003	480101-03	RADIAL/MISC CRATE, 4.8M	
(F)		1			X	1	002	480101-02	PANEL CRATE, 4.8M	
(F)(B)						X	001	480101-01	REFLECTOR INSTALLATION, 4.8KP	3

___ # EA
- EST. WEIGHT -

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE.

FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN M DYER	01/18/99
MECHANICAL N/R		CHECKED TL FULLERTON	03/19/99
STRUCTURAL N/R		DESIGNER TL FULLERTON	03/19/99
ELECTRICAL N/R		MANUFACTURING RG HUGHEY	03/19/99
- N/R		PROJECT TL FULLERTON	03/19/99
- N/R		PRODUCT MGR CL SHEETS	03/19/99
- N/R		- N/R	

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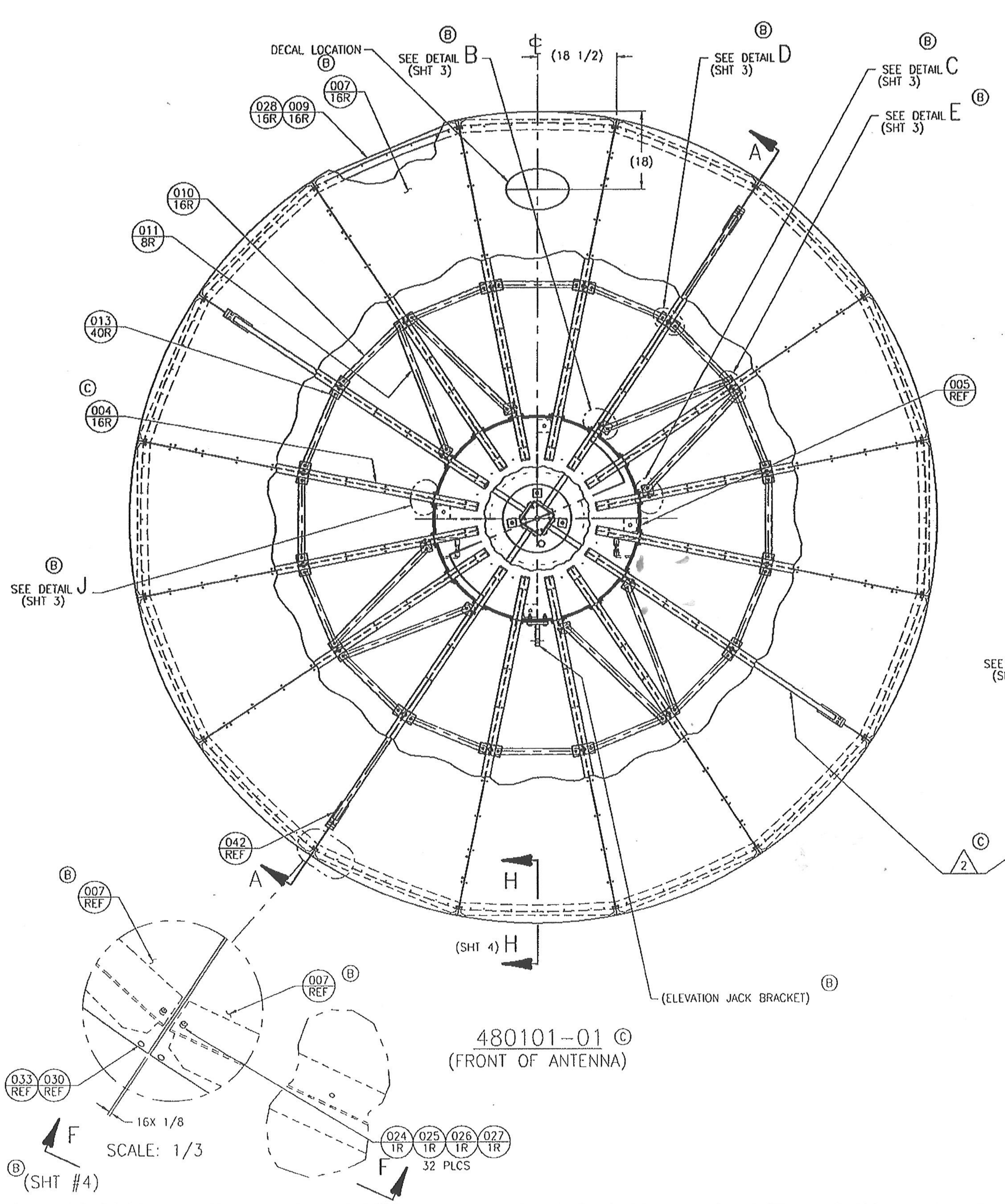
VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

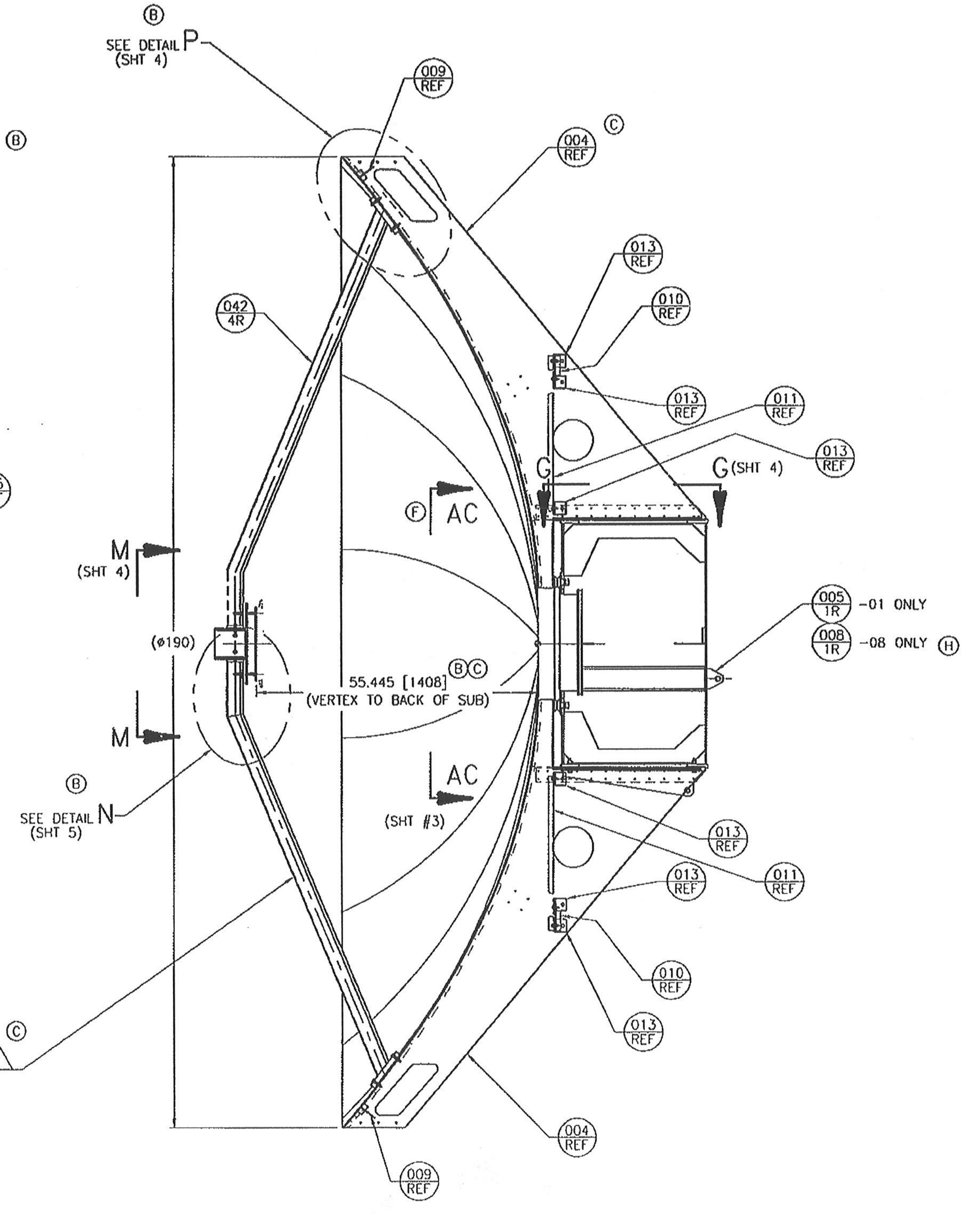
TITLE: REFLECTOR INSTL, 4.8M

CODE ID NO.	SIZE	DWG NO	REV
1GD22	D	480101	H
SCALE 1/1	CONTRACT NO	9950	SHEET 1 OF 6

DFORM101



480101–01 © (FRONT OF ANTENNA)



SECTION A–A

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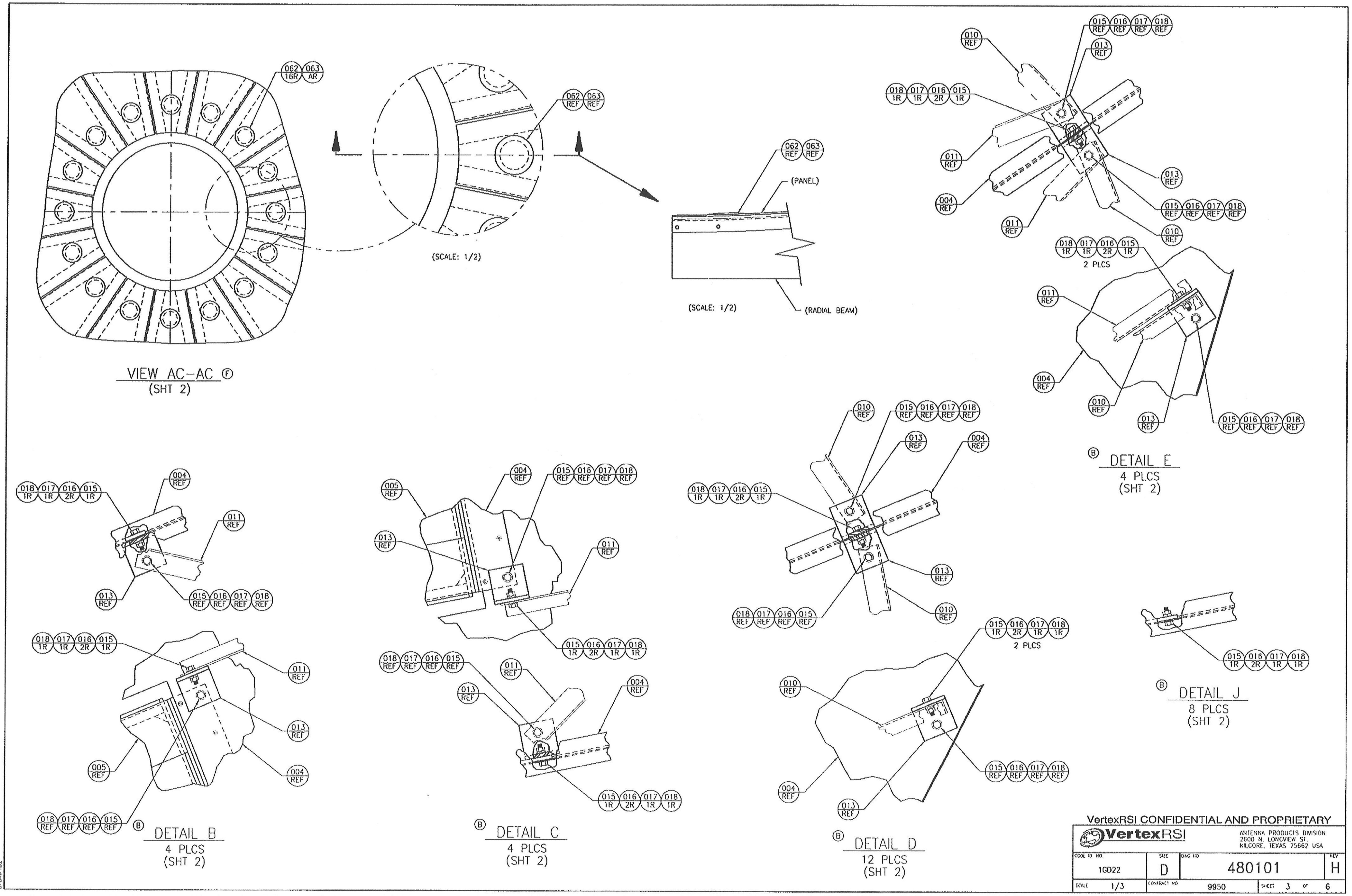
CODE ID. NO 1GD22	SIZE D	DWG NO 480101	REV H
SCALE 1/15	CONTRACT NO 9950	SHEET 2 OF 6	

DFORM102



VIEW AC–AC F
(SHT 2)

B DETAIL B
4 PLCS
(SHT 2)

B DETAIL C
4 PLCS
(SHT 2)

B DETAIL D
12 PLCS
(SHT 2)

B DETAIL E
4 PLCS
(SHT 2)

B DETAIL J
8 PLCS
(SHT 2)

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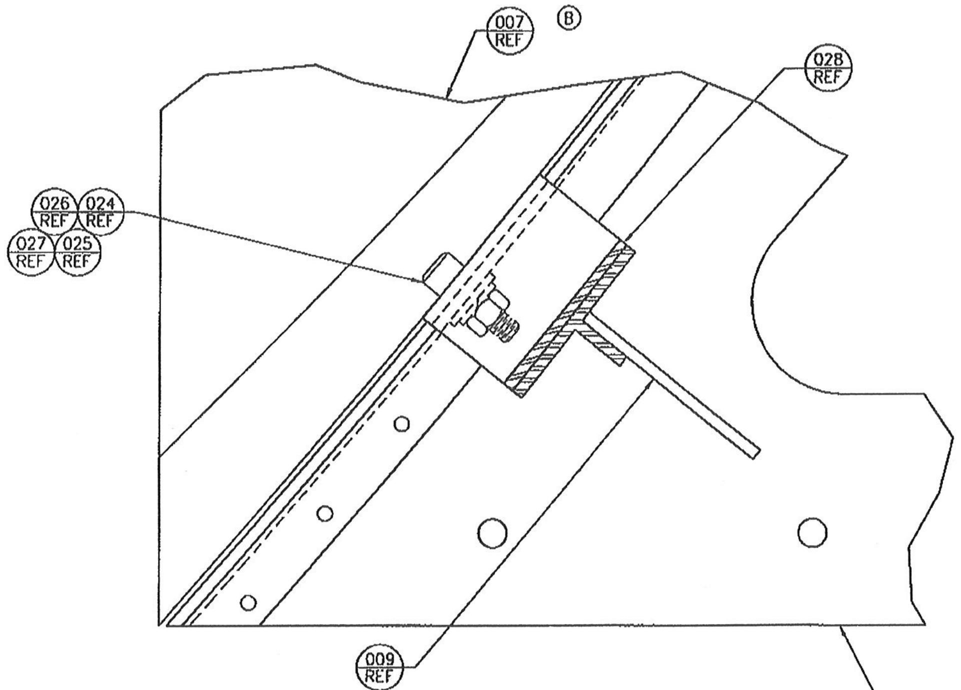
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

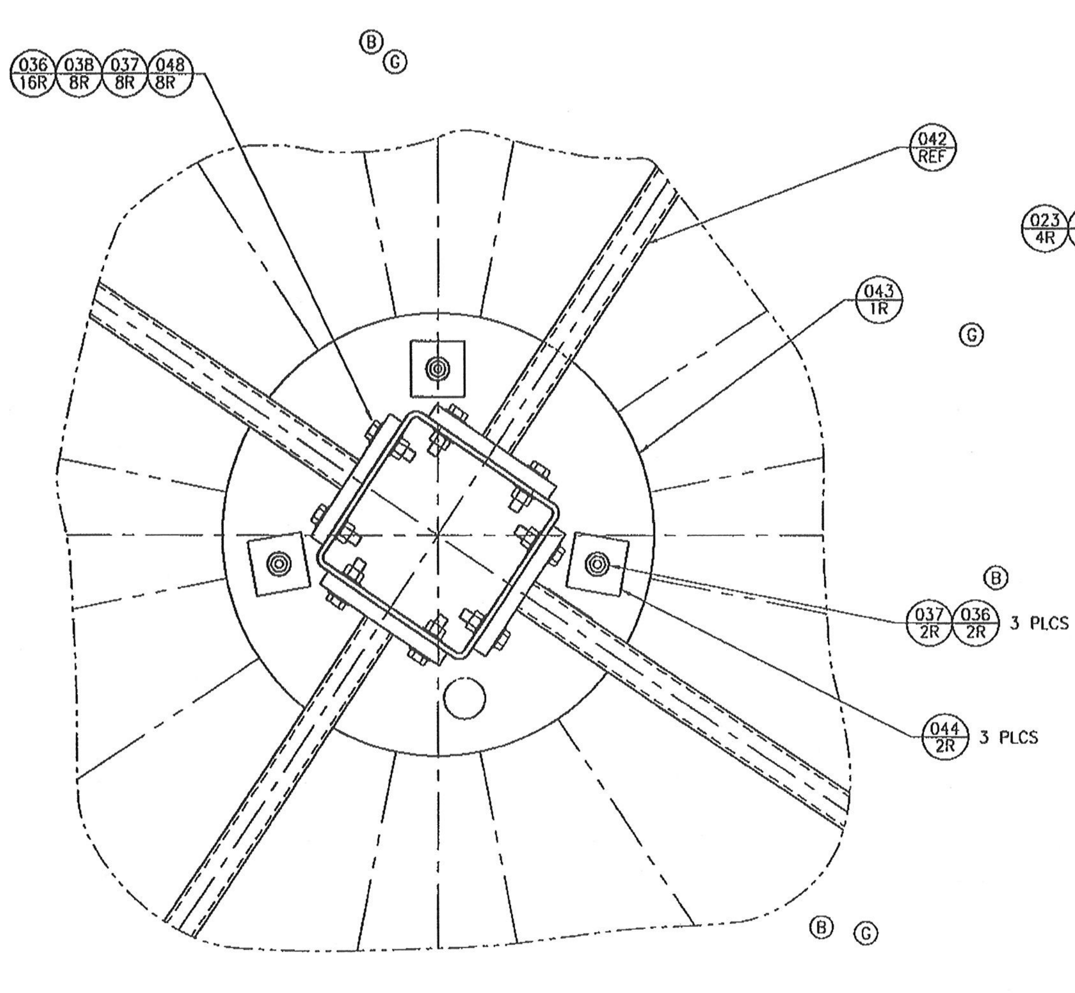
CODE ID NO.	SIZE	DWG NO	REV
1GD22	D	480101	H
SCALE 1/3	CONTRACT NO 9950	SHEET 3 OF 6	

DFORM1D2

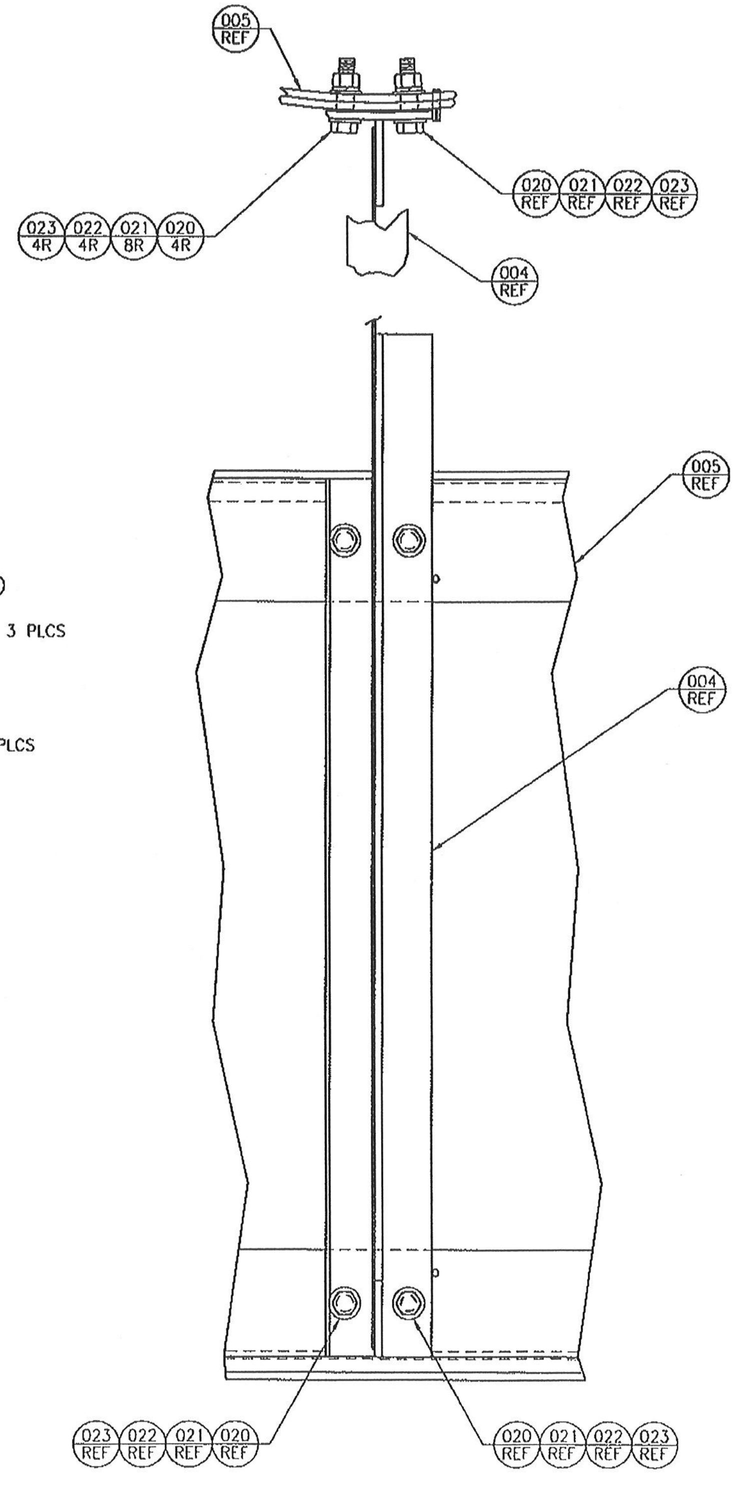


SECTION H-H
SCALE : 1/1
16 PLCS
(SHT #2)

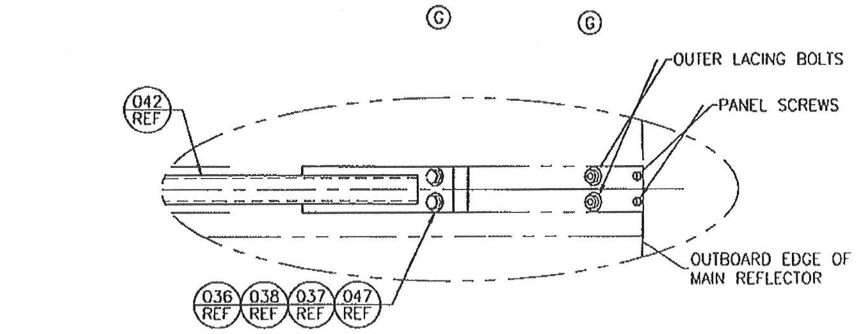
Ⓑ Ⓖ



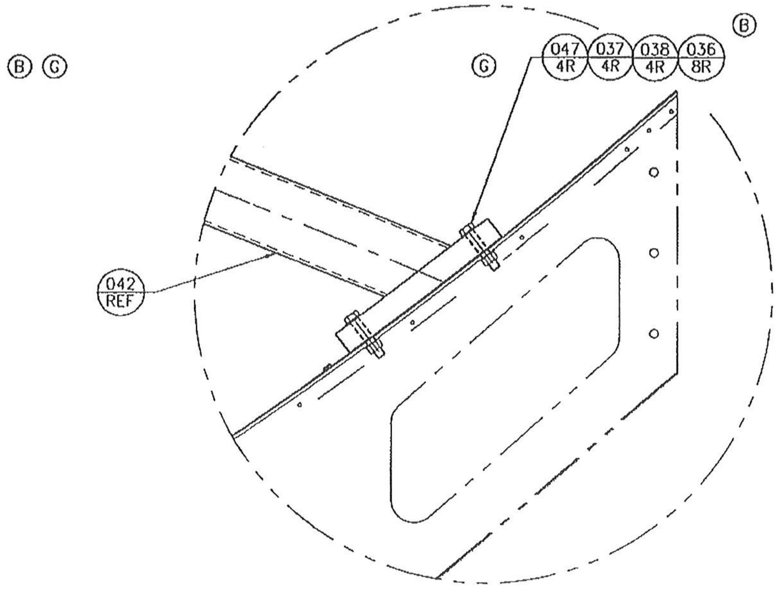
VIEW M-M Ⓒ Ⓖ
(SHT #2)



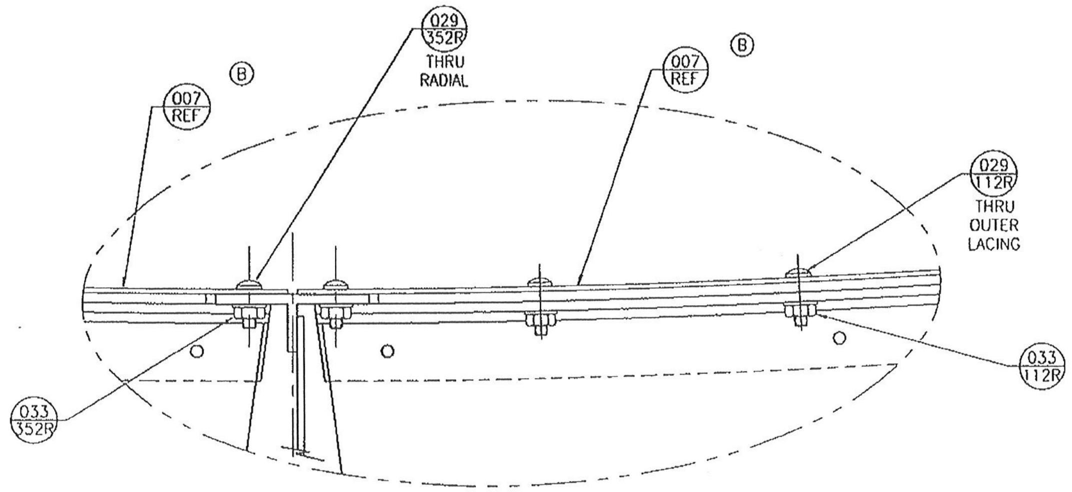
SECTION G-G
16 PLCS
(SHT #2)



Ⓑ Ⓖ



DETAIL P Ⓖ
(SHT #2)
4 PLCS



VIEW F-F
NO SCALE
(SHT #2)

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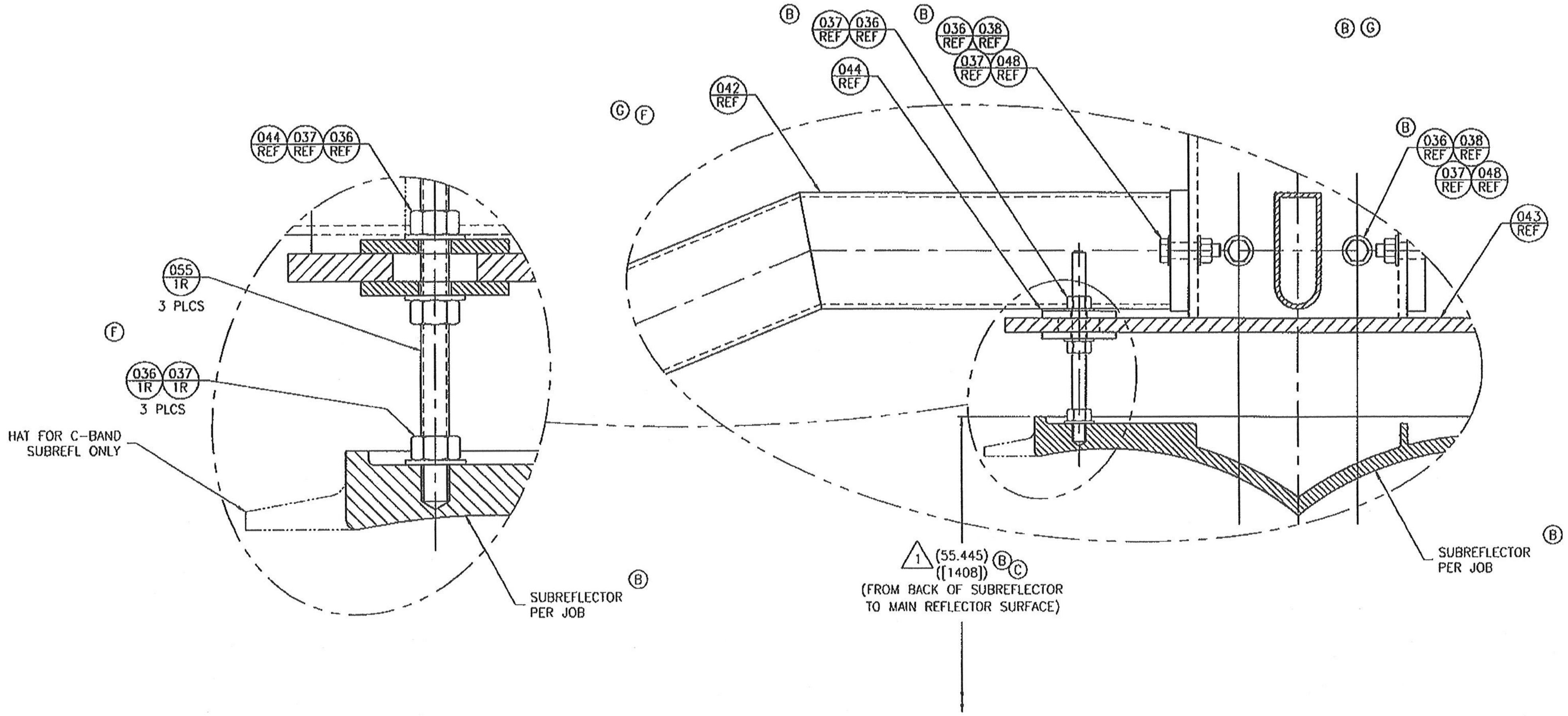
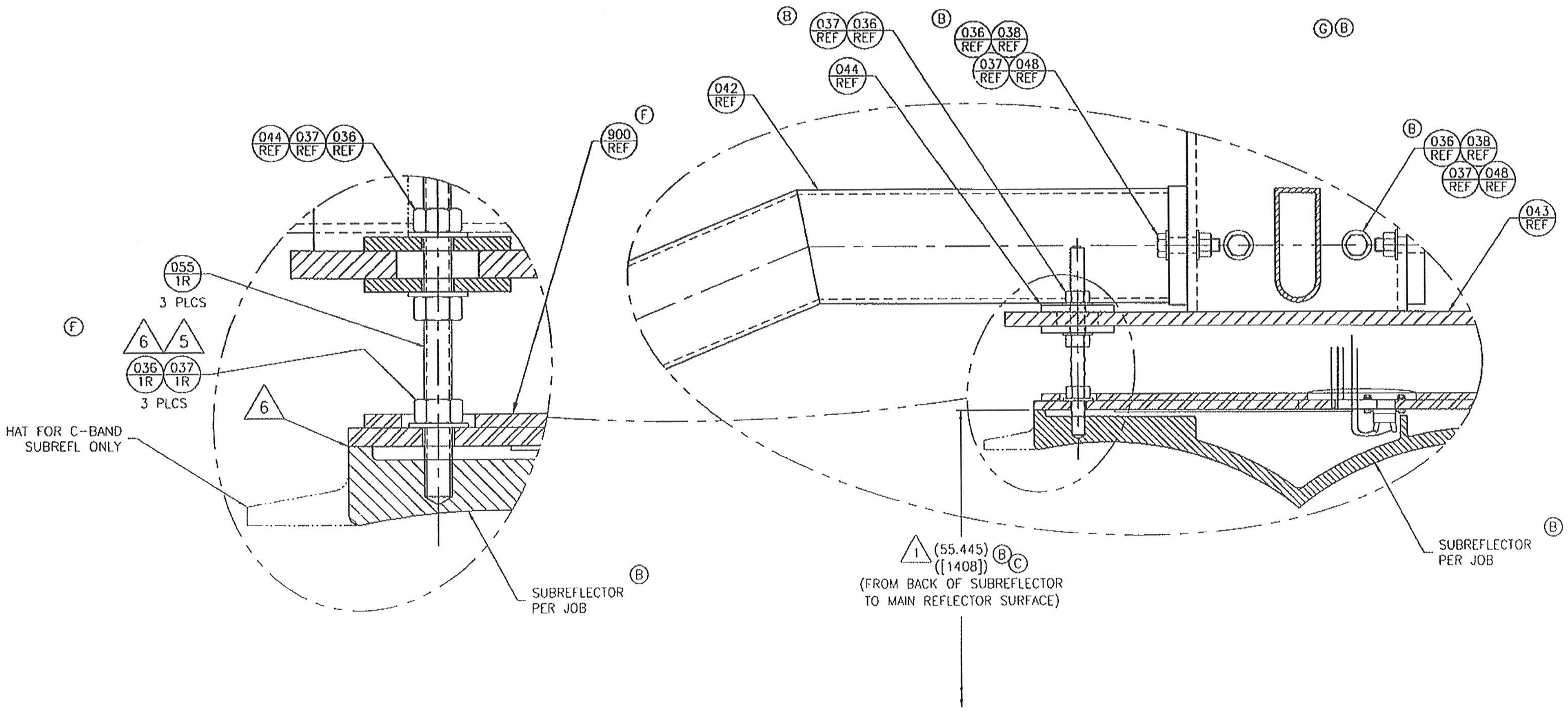
CODE ID NO 1GD22	SIZE D	DWG NO 480101	REV H
SCALE 1/3	CONTRACT NO	9950	SHEET 4 OF 6

DFORM1D2



DETAIL N B C F
480101-01
(Ku-BAND SUBREFLECTOR SHOWN)
(SHT #2)



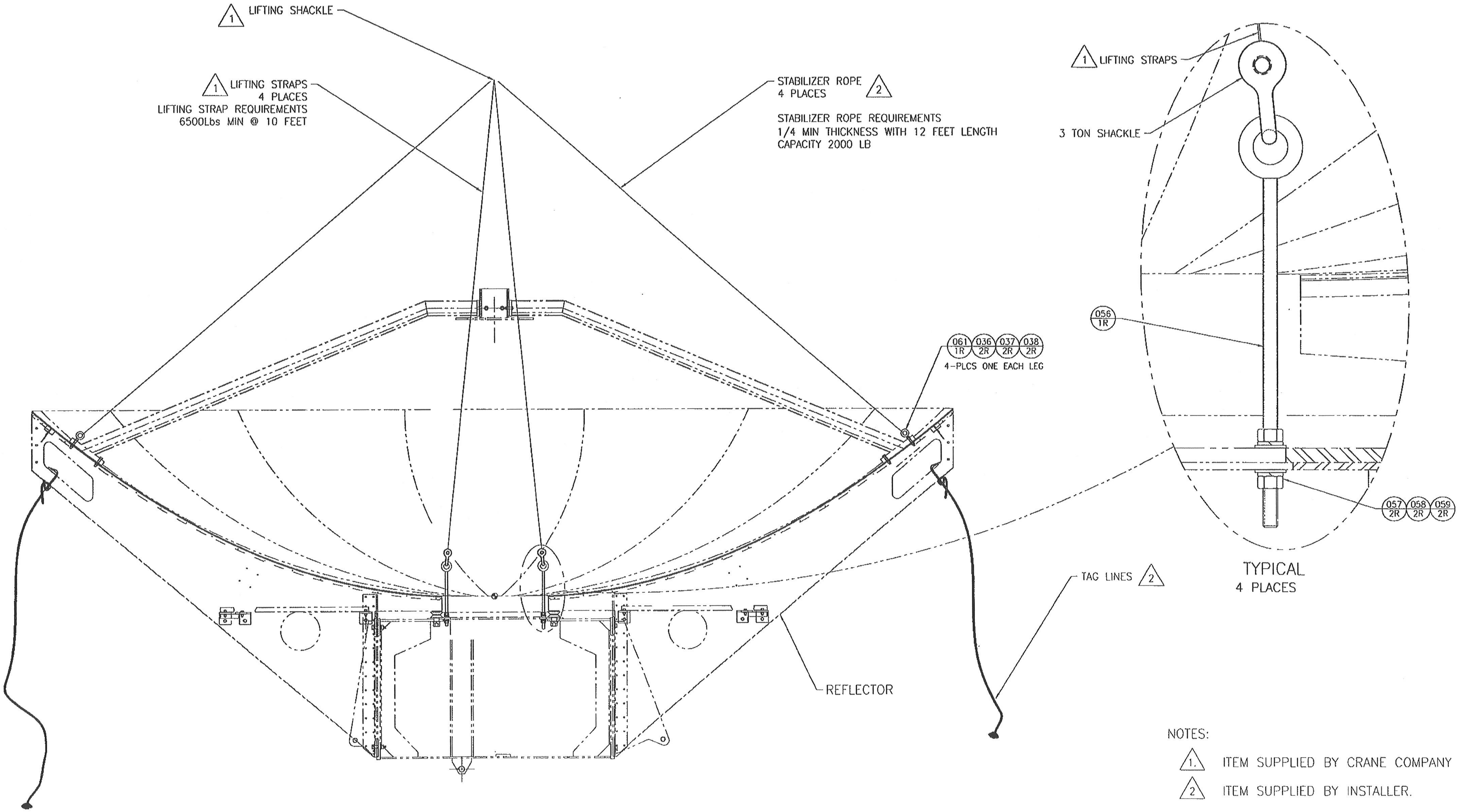
DETAIL N B C
DEICE INSTL. DET
(Ku-BAND SUBREFLECTOR SHOWN)
(SHT #2)

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO	REV
1GD22	D	480101	H
SCALE 1/2	CONTRACT NO 9950	SHEET 5 OF 6	

DFORM1D2



LIFTING INSTL GUIDE

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO	REV
1GD22	D	480101	H
SCALE 1/10	CONTRACT NO	SE-18	SHEET 6 OF 6

DFORM102

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL **SUMMARY** **PRINT DATE 11/19/05** **TIME 11:25:24**

CATALOGUE#: 029448-01 PSM: M STATUS: RELEASED DRAWING: D-029448 REV: B

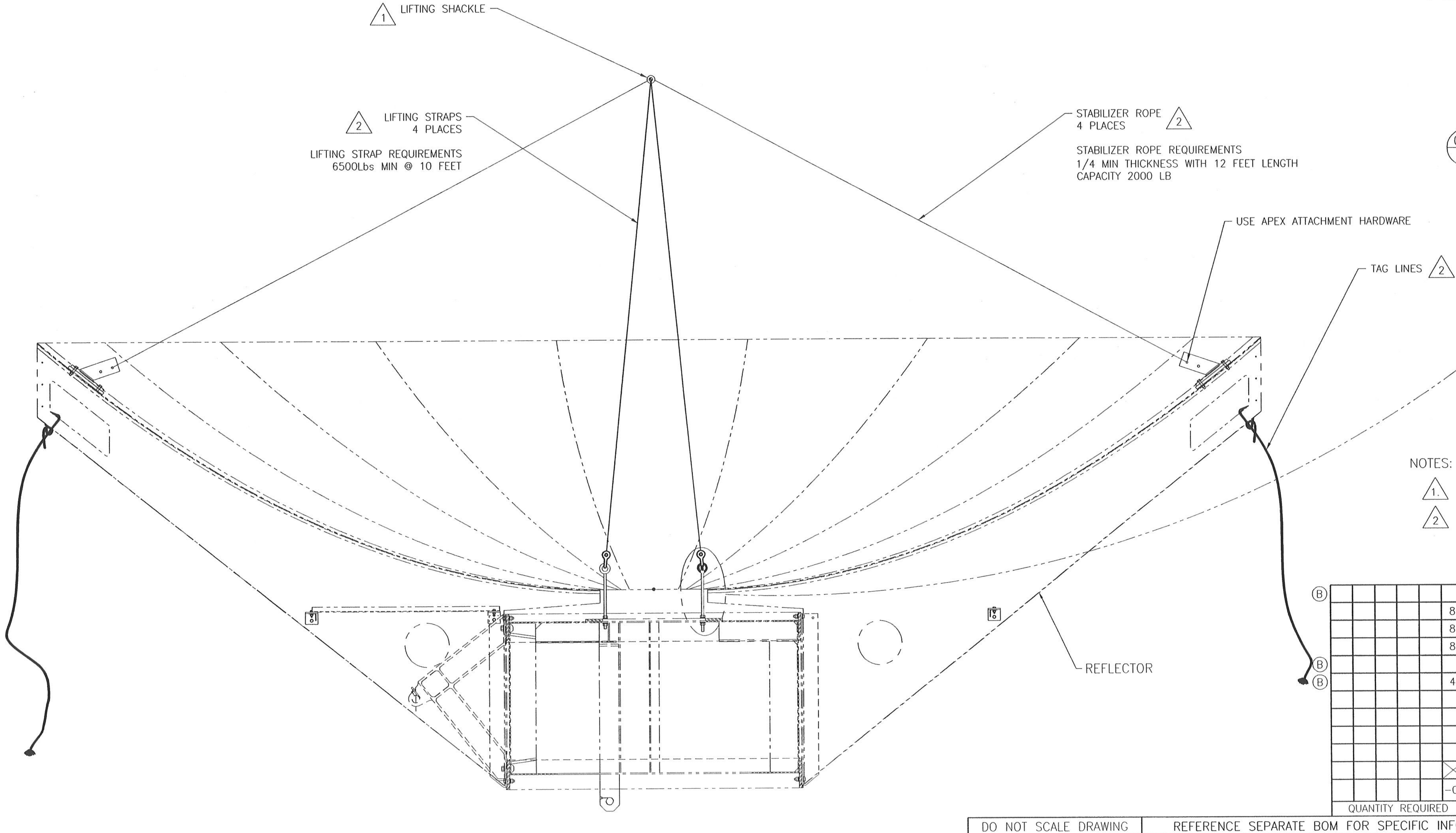
DESCRIPTION: LIFTING TOOL, REF INSTL CATEGORY: ANTENNA ENTERED: 10/09/2002
6.3M/4.8M CLASS: BAS REVISED: 2/07/2003 REV: B
SUBCLASS: INSTL APPROVED: 3/06/2003
JOB#: SE-18 PENDING: REV
REVISION: C 030389 3/18/03 JRF/RRY OLD CAT#: NEW 10/09/02 JRF/GPR SIZE: D DWG CAT: ID: JRF

BILL OF MATERIAL

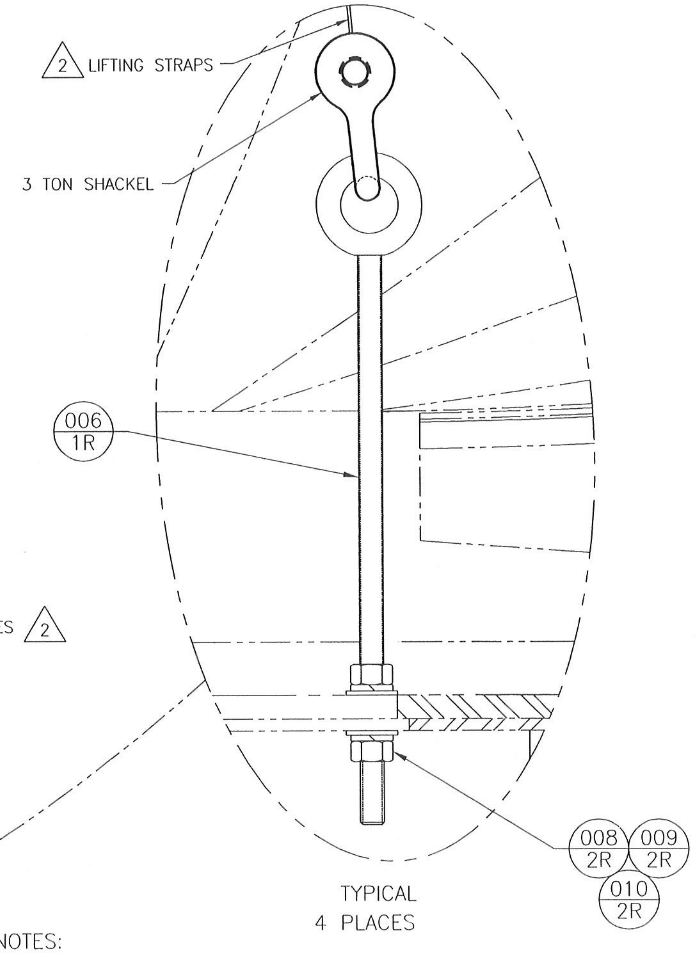
ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
006	H62091-89	4.00		EA	R	P	S	BOLT EYE 1/2-13UNC 12 HDG THD LG=4	BOLT	HDG		
006S	H62091-89	1.00		EA	R	P	S	BOLT EYE 1/2-13UNC 12 HDG THD LG=4	BOLT	HDG		
008	H21015-29	8.00		EA	R	P	S	NUT HH 1/2-13UNC A563-DH HDG	HHNUT	HDG		
008S	H21015-29	2.00		EA	R	P	S	NUT HH 1/2-13UNC A563-DH HDG	HHNUT	HDG		
009	H40066-29	8.00		EA	R	P	S	FW (AN) 1/2 X 1 1/16 F436 HDG	FW	HDG		
009S	H40066-29	2.00		EA	R	P	S	FW (AN) 1/2 X 1 1/16 F436 HDG	FW	HDG		
010	H30013-29	8.00		EA	R	P	S	LW HELICAL 1/2 HDG	LW	HDG		
010S	H30013-29	2.00		EA	R	P	S	LW HELICAL 1/2 HDG	LW	HDG		

END OF BOM:029448-01

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	10/09/02	JRF/GPR
B	EC # 03-0262; ITEMS #006, H62091-89 WAS H60112-29; DELET'D ITEMS #007 & 011 (H62105-39 & H22015-29, BOTH QTY 4)	02/04/03	RRY/GPR



029448-01



TYPICAL
4 PLACES

NOTES:

1. ITEM SUPPLIED BY CRANE COMPANY
2. ITEM SUPPLIED IN FIELD CREW TOOLBOX

(B)						011			
					8	010	H30013-29	LW HELICAL 1/2 A325 HDG	
					8	009	H40066-29	FW (AN) 1/2 X 1 1/16 F436 HDG	
					8	008	H21015-29	NUT HH 1/2-13UNC A194 HDG	
(B)						007			
(B)					4	006	H62091-89	BOLT EYE 1/2-13UNC X 12 FT HDG	
						005			
						004			
						003			
						002			
					X	001	029448-01	LIFTING TOOL, REFLECTOR INSTL	
					-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
QUANTITY REQUIRED							LIST OF MATERIALS OR PARTS LIST		

DO NOT SCALE DRAWING

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FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

___ # EA
– EST. WEIGHT –

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN		DRAWN R FLOREY	10/09/02
MECHANICAL		CHECKED G ROBERTS	11/12/02
STRUCTURAL		DESIGNER	
ELECTRICAL		MANUFACTURING RGH	11/12/02
–		PROJECT JBJ	11/113/02
–		PRODUCT MGR S. KRUEGER	11/13/02
–		–	

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VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE:
REFLECTOR LIFTING INSTALLATION 6.3M/4.8M

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	029448	B
SCALE 1/12	CONTRACT NO. SE-18	SHEET 1 OF 1	

DFORM101

SINGLE LEVEL BILL OF MATERIAL **SUMMARY** **PRINT DATE 11/19/05** **TIME 11:25:27**

CATALOGUE#: 480100-01G PSM: S STATUS: RELEASED DRAWING: D-480100 REV: D

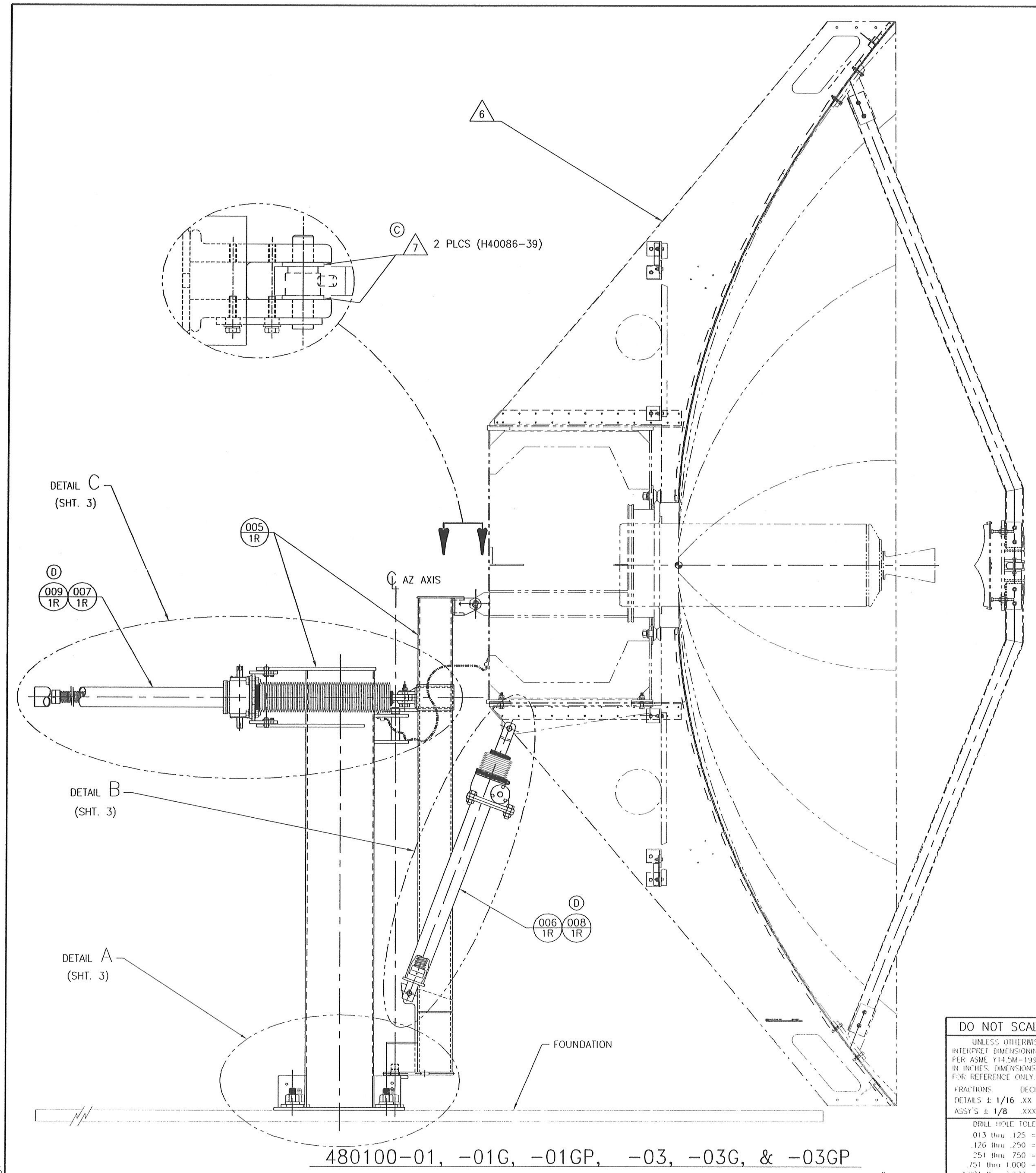
DESCRIPTION: PED INSTL, JACKS (4KPJ) HDG CATEGORY: PEDESTAL ENTERED: 5/05/1999
TRAV: 120AZ (1@120), 0-90EL CLASS: BASPED REVISED: 9/12/2005 REV: D
WIND: 45 GUST TO 60MPH, 125MPH ANY SUBCLASS: INSTL APPROVED: 9/28/2005
TEMP: -15/+49 DEG/C; -29/+60 DEG/C JOB#: MKTG PENDING: REV
REVISION: B 030710 06/27/03 JH/GPR OLD CAT#: NEW 06/16/99 RRY/GPR SIZE: D DWG CAT: ID: RRY

BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
005	480095-01G	1.00			R	C	M	PED ASSY 4KP 120AZ 0-90 EL		ASSY	D-480095	C
006	573537-01	1.00				C	M	DRV ASSY MAN EL 4KPJ 0-90 125MPH	BAS	ASSY	D-573537	D
007	R001307	1.00			R	C	M	DRV ASSY MAN AZ 4KPJ 120 125MPH	BASDRV	ASSY	D-000267	G
010	R000808	4.00			R	C	S	PL WASHER 1 3/4 ID X 1 X 5 X 5LG A36	BASFTN	DETAIL	B-000049	L

END OF BOM:480100-01G

REV	DESCRIPTION	DATE	APPROVED
A	ORGINAL RELEASE	06/09/99	RRY/GPR
B	EC 03-0710 REMOVED ITEMS 008 & 011 ADDED SHT 4 & -02 STRUT ASSY	06/24/03	JDH/GPR
C	EC #05-0156; ADDED NOTE #7 W/ DETAILS SHT #1 & 4	04/11/05	RRY/GPR
D	EC #05-0840; ADDED ITEMS 003, 008, & 009	09/09/05	RBG/GPR



480100-01, -01G, -01GP, -03, -03G, & -03GP

SEE SHEET 4 FOR STRUT INSTL

___ # EA
EST. WEIGHT

NOTES:

1. FIELD INSTALL FOR FINAL LUBRICATION, PER 600-0047.
2. TORQUE 1 1/2"-6UNC-2B ANCHOR BOLT NUT TO 740 FT. LBS. ±10% DRY OR 560 FT. LBS. ±10% LUBRICATED.
3. ALL A325 & A490 FASTENERS (1/2" DIA THROUGH 1 1/2") SHALL BE TIGHTENED PER TURN OF THE NUT METHOD DEFINED IN THE AISC MANUAL OF STEEL CONSTRUCTION, NINTH EDITION, PART 5: SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, SECTION 8, PARAGRAPHS (D1) AND (E).
4. FOUNDATION HARDWARE SHIPPED WITH FOUNDATION HARDWARE KIT.
5. REMOVE PAINT TO BARE METAL TO ENSURE METAL TO METAL CONTACT.
6. REFLECTOR SHOWN FOR REFERENCE ONLY.
7. (C) PLACE SPACER WASHERS (H40086-39, FW (AW) 3/4 X 2 SS18-8) ON EITHER SIDE OF HUB LUG, TO PROVIDE PROPER SPACING OF HUB LUGS BETWEEN V-FRAME LUGS. WASHERS PROVIDED WITH ITEM #005 (480095-01, PED/V-FRAME ASSY 4.8M/4.5M KPC/KPK)

REV				-03	-02	-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
B					1		013	031141-01	ELEV STRUT ASSY	
B					1		012	031137-01	AZ STRUT ASSY	
B							011			
				4	4	4	010	R000808	PLATEWASHER, FOUNDATION	
D				1			009	R001307-LT	MAN DRIVE ASSY AZ JACK 3/4KPJ STD TRAVEL	
D				1			008	573537-LT	EL DRIVE JACK ASSY 4.5KPJ 0 TO 90 DEG	
						1	007	R001307	MAN DRIVE ASSY AZ JACK 3/4KPJ STD TRAVEL	
						1	006	573537-01	EL DRIVE JACK ASSY 4.5KPJ 0 TO 90 DEG	
				1	1	1	005	480095-01	PED/V-FRAME ASSY 4.8M/4.5M KPC/KPK	
							004			
D				X			003	480100-03G	ANTENNA INSTL 4.8M, LOW TEMP JACKS	
B					X		002	480100-02	ANTENNA INSTL 4.8M, STRUTS	
						X	001	480100-01	ANTENNA INSTL 4.8M, JACKS	
D	QUANTITY REQUIRED						LIST OF MATERIALS OR PARTS LIST			

DO NOT SCALE DRAWING

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FRACTIONS:	DECIMALS:	ANGLES:
DETAILS ± 1/16	.XX ± .05	± 1°
ASSY'S ± 1/8	.XXX ± .005	

DRILL HOLE TOLERANCE (DRILL)
.013 thru .125 = +.005/-.001
.126 thru .250 = +.007/-.003
.251 thru .750 = +.008/-.003
.751 thru 1.000 = +.009/-.004
1.001 thru 2.000 = +.012/-.005

CLEARANCE HOLE TOLERANCE (CHT)
+.03125/-.00000

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
MECHANICAL		DRAWN RR YOUNG	06/09/99
STRUCTURAL		CHECKED GP ROBERTS	07/19/99
ELECTRICAL		DESIGNER TL FULLERTON	06/09/99
		MANUFACTURING RG HUGHEY	07/23/99
		PROJECT TL FULLERTON	07/26/99
		PRODUCT MGR CL SHEETS	07/26/99
		DESIGN N/R	

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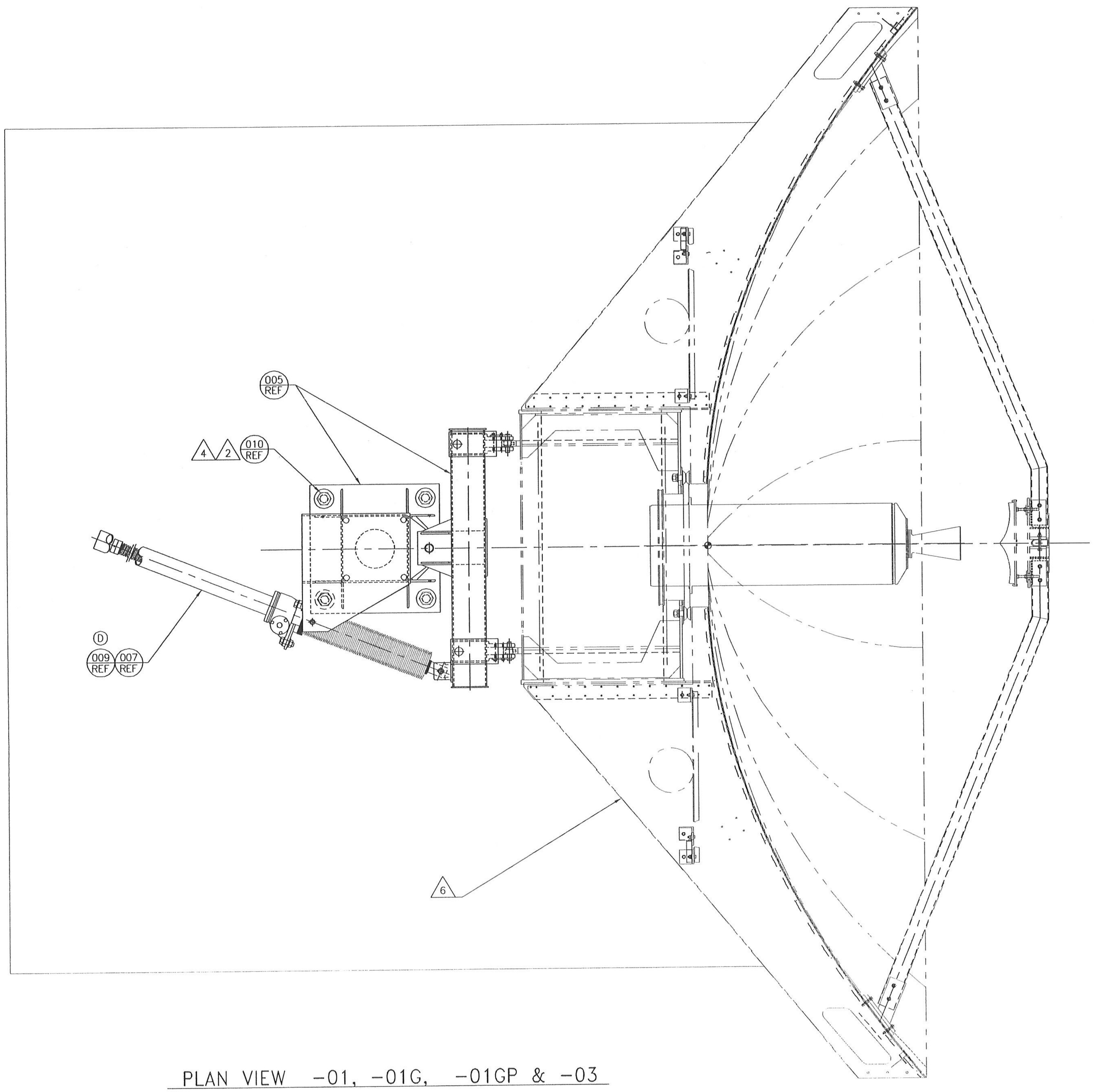
VertexRSI GENERAL DYNAMICS
ANTENNA PRODUCTS
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE: ANTENNA INSTL 4.8M
125 MPH STD TRAVEL JACK

CODE ID. NO	SIZE	DWG NO	REV
1GD22	D	480100	D
SCALE 1/10	CONTRACT NO 12843	SHEET 1 OF 4	

DFORM101



PLAN VIEW -01, -01G, -01GP & -03

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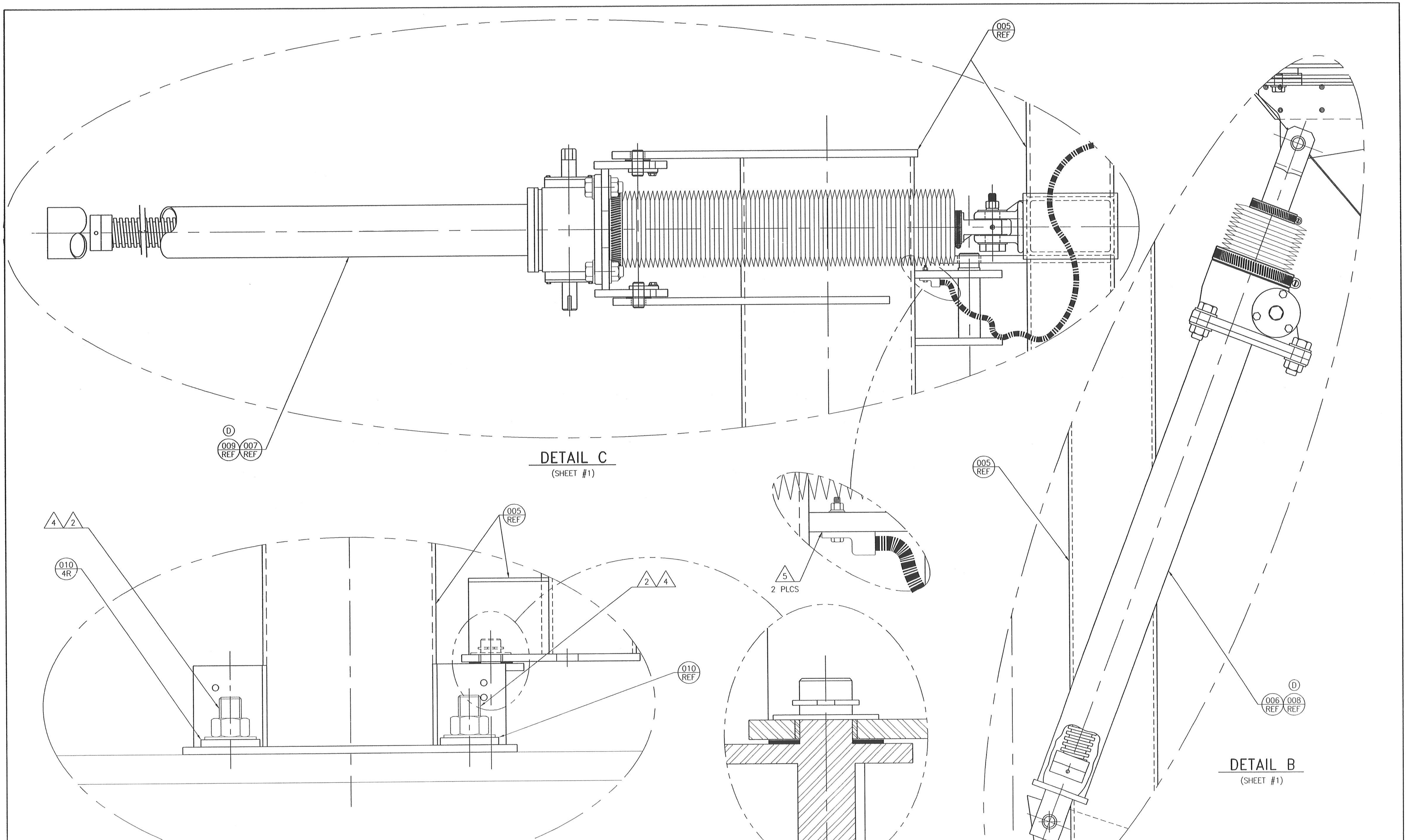
	CODE ID. NO. 1GD22	SIZE D	DWG NO. 480100	REV D
	SCALE 1/10	CONTRACT NO. 12843	SHEET 2 OF 4	

DFORM102



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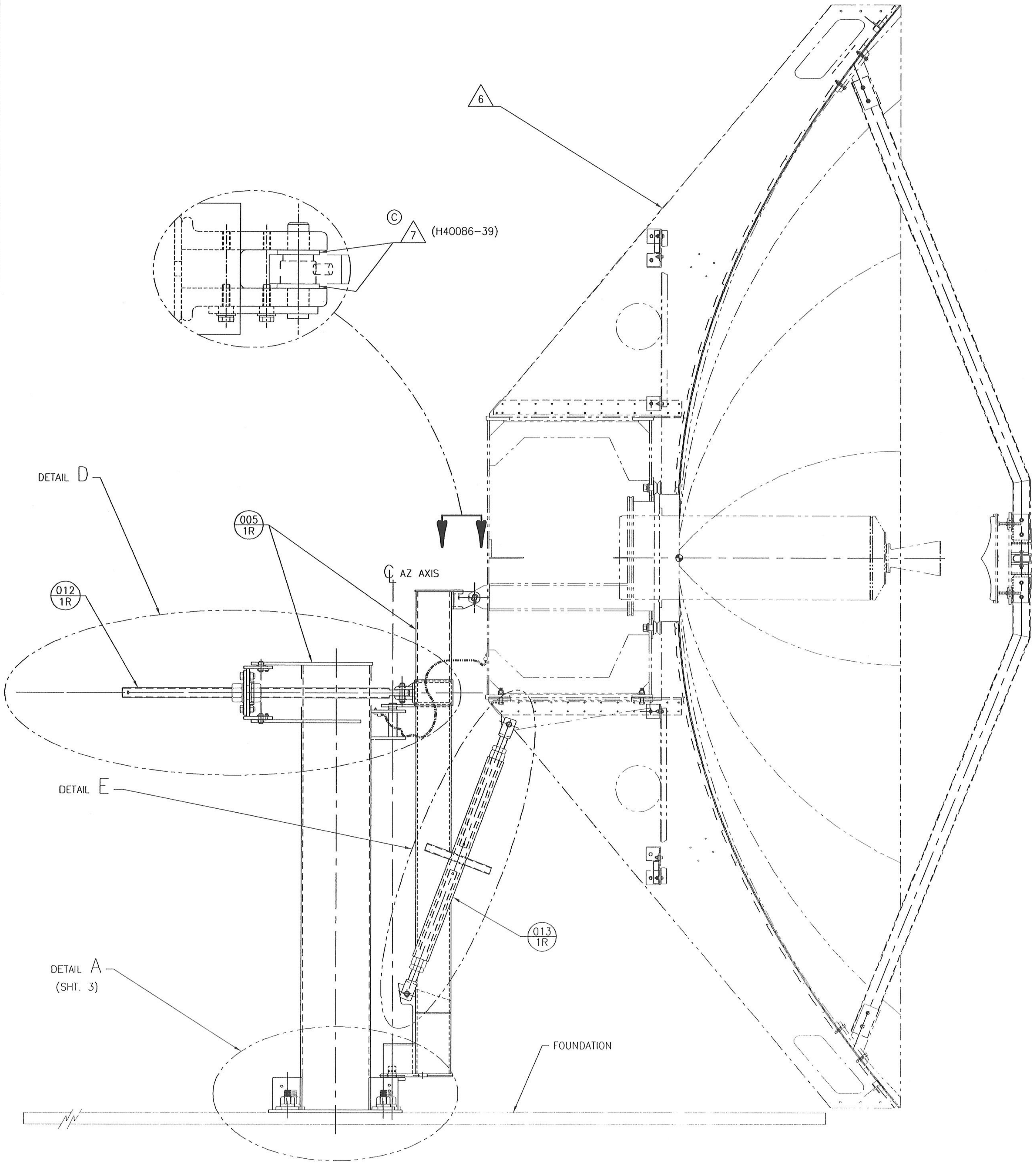
VertexRSI GENERAL DYNAMICS

ANTENNA PRODUCTS
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

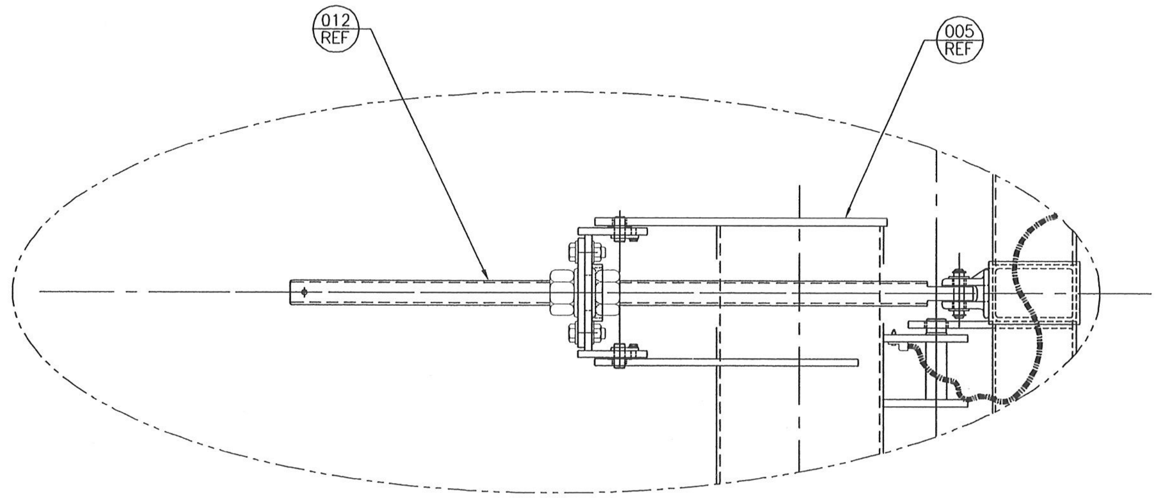
CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	480100	D

SCALE: 1/3	CONTRACT NO 12843	SHEET 3 OF 4

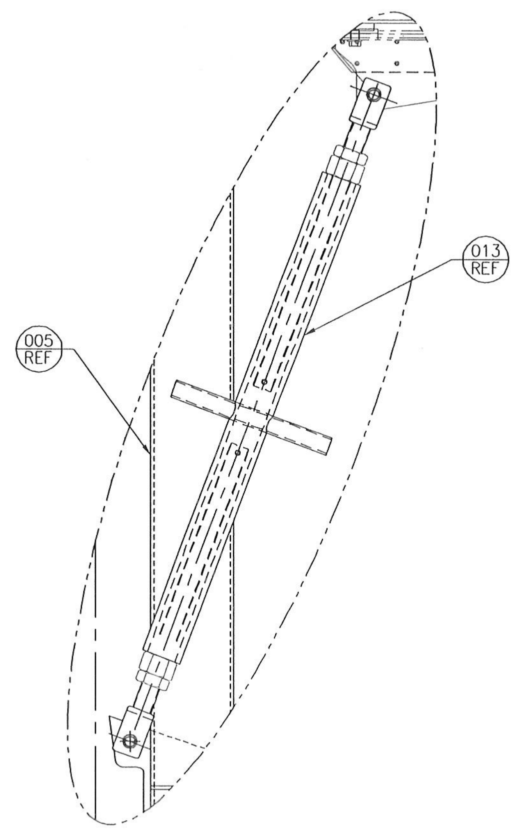
DFORM1D2



480100-02, -02G, & -02GP



DETAIL D



DETAIL E

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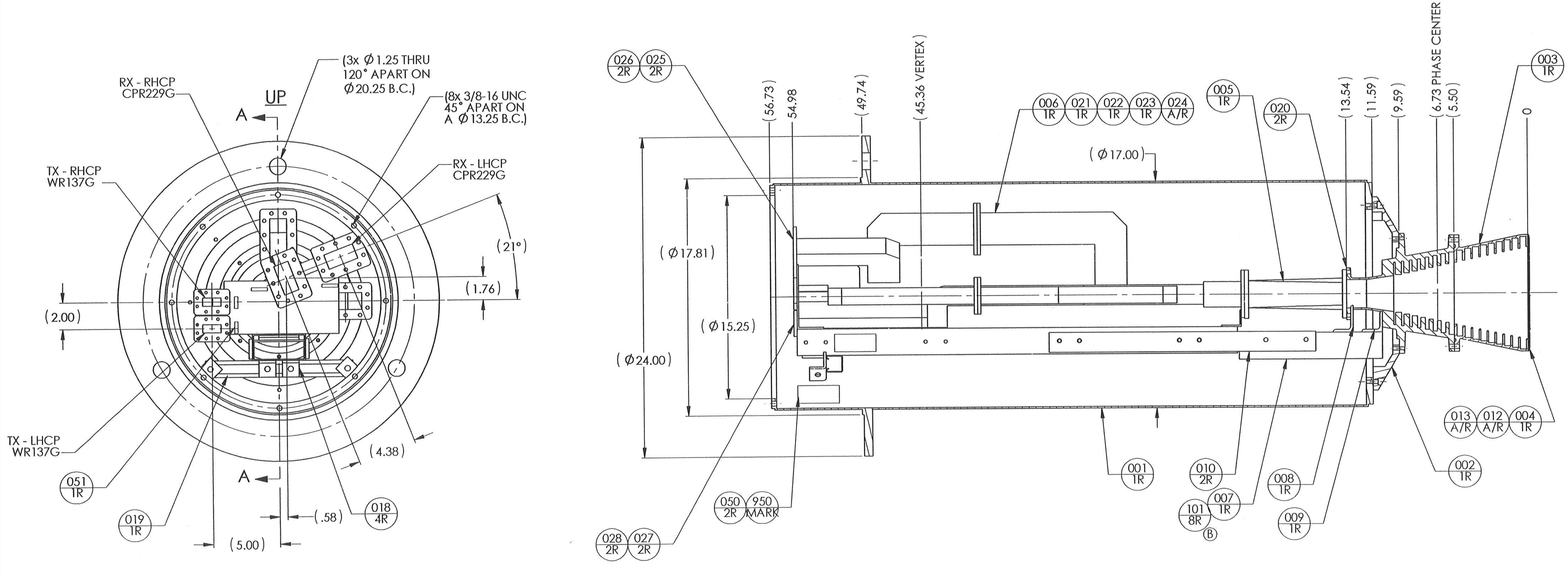
	CODE ID. NO. 1GD22	SIZE D	DWG. NO. 480100			REV D
	SCALE: 1/10	CONTRACT NO. 12843		SHEET 4	OF 4	

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	-	-
B	EC 03-0426	09/12/03	DK/TMA



SECTION A-A

NOTE:

1. ASSEMBLE USING SPECIFIED HARDWARE AND SPEC #940-0108.

021839-01

#
- EST. WEIGHT -

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS:		DECIMALS:	
DETAILS ±	1/16	.XX ±	.03
ASSY'S ±	1/8	.XXX ±	.005

ANGLES ± 1 DEG

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN R. CHUGH	2/5/01	DRAWN H. DYKES	1/25/01
MECHANICAL K. HOLLWARTH	2/5/01	CHECKED D. THOMPSON	2/5/01
STRUCTURAL		DESIGNER H. DYKES	1/25/01
ELECTRICAL		MANUFACTURING R. HUGHEY	02/13/01
		PROJECT	
		PRODUCT MGR R. SCHWERDTFEGER	2/5/01

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE:

FEED ASSY, 4.8M, C-BAND *SW*
CCASS, FR, CP, MODEL C48KDFRCN
RX:3.625-4.200/ TX:5.85-6.425

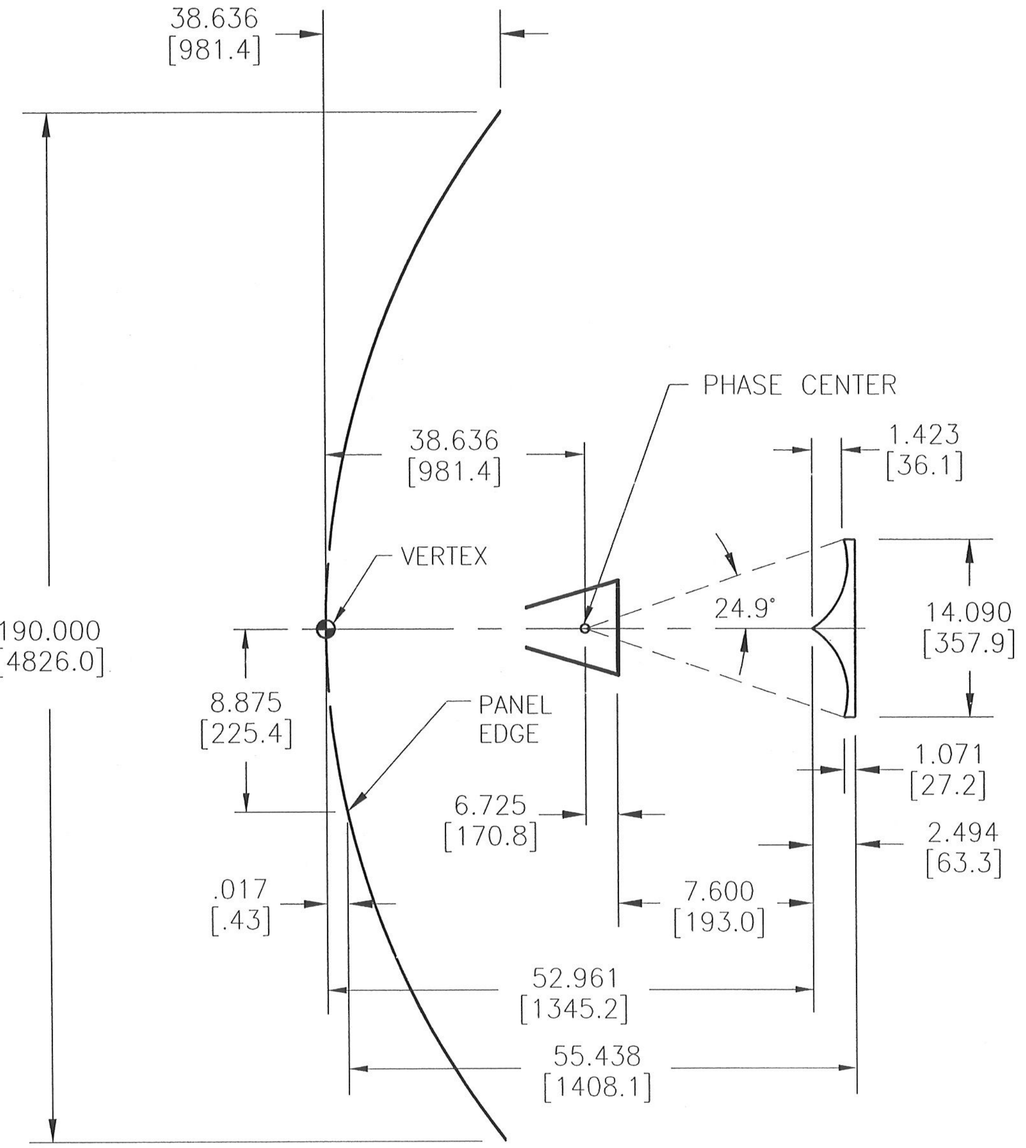
CODE ID. NO.	SIZE	DWG NO.	REV
IGD22	D	021839	B
SCALE: 1:4	CONTRACT NO. 11925	SHEET 1 OF 1	

DFORMSWA1

MAIN REF. SPEC	400-0521
SUB REF. SPEC	400-0553

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE.	–	–



NOTES:
1. DIMENSIONS IN [ ] ARE IN MM.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

___ # EA
– EST. WEIGHT –

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY.

UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE:

FRACTIONS:	DECIMALS:
DETAILS ± 1/16	.XX ± .03
ASSY'S ± 1/8	.XXX ± .005

ANGLES ± 1°

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

VertexRSI CONFIDENTIAL AND PROPRIETARY

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/A		DRAWN H. DYKES	01/05/99
MECHANICAL N/A		CHECKED P. SZAFRAN	01/06/99
STRUCTURAL N/A		DESIGNER R.CHUGH	4/19/99
ELECTRICAL N/A		MANUFACTURING N/A	
–		PROJECT N/A	
–		PRODUCT MGR R. SCHWERDTFEGER	4/19/99
–		–	

VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

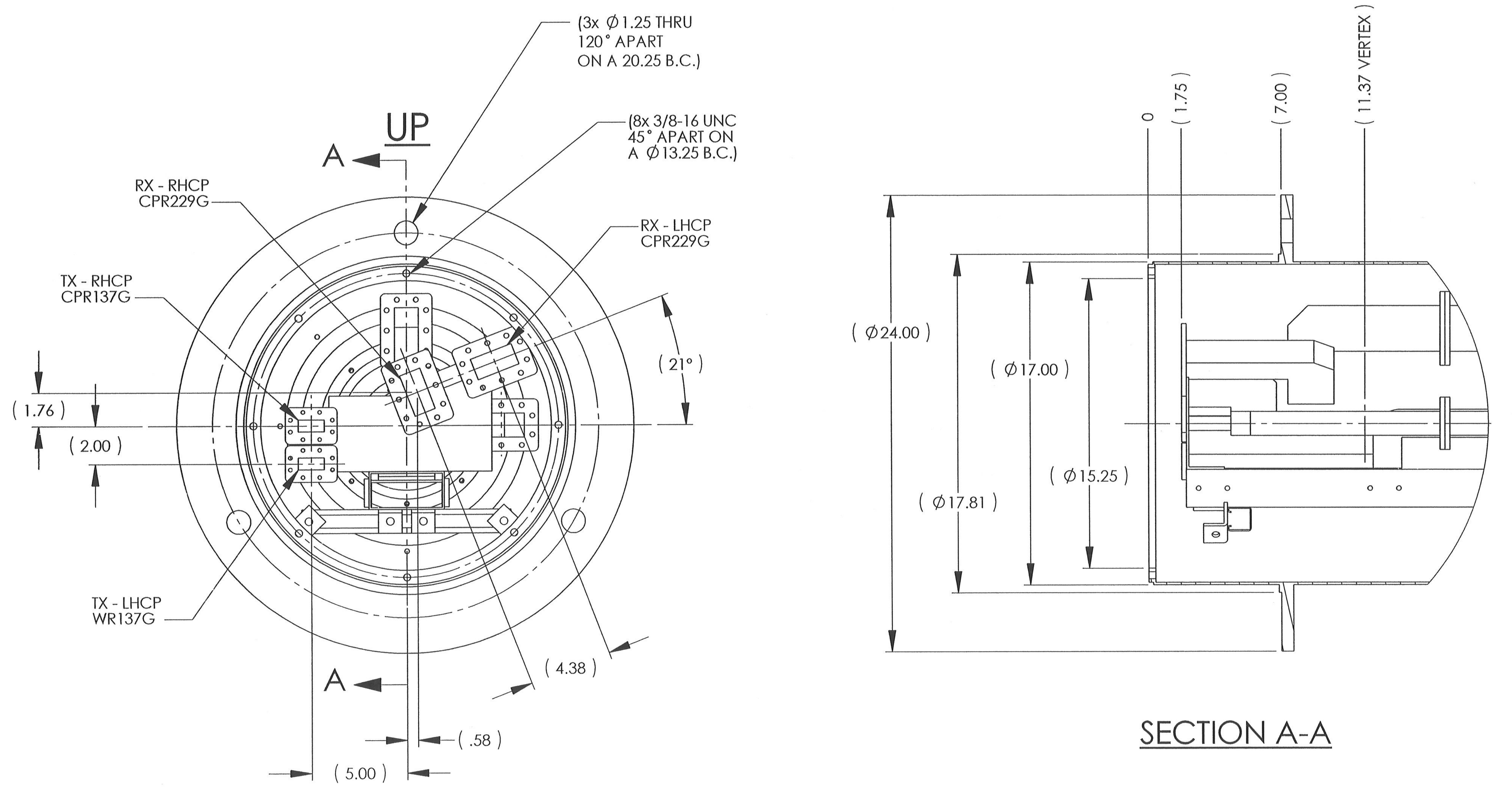
TITLE:
OPTICAL GEOMETRY,4.8M KPC, CCASS WITHOUT DIELECTRIC CONE 3.625-4.200, 5.850-6.425

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	A	020006	A

SCALE: 1/1	CONTRACT NO 9950	SHEET 1 OF 1

AFORM1G1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	-	-



SECTION A-A

DO NOT SCALE DRAWING	REFERENCE SEPARATE BOM FOR SPECIFIC INFO				VertexRSI CONFIDENTIAL AND PROPRIETARY
UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:	ADDITIONAL APPROVALS	DATE	APPROVALS	DATE	VertexRSI ANTENNA PRODUCTS DIVISION 2600 N. LONGVIEW ST. KILGORE, TEXAS 75662 USA
FRACTIONS: DECIMALS:	DESIGN R. CHUGH	2/5/01	DRAWN H. DYKES	1/25/01	TITLE: FEED INTERFACE, 4.8M, CCASS C-BAND, 4-PORT, CP *SW*
DETAILS ± 1/16 .XX ± .03	MECHANICAL K. HOLLWARTH	2/5/01	CHECKED D. THOMPSON	2/5/01	
ASSY'S ± 1/8 .XXX ± .005	STRUCTURAL		DESIGNER H. DYKES	1/25/01	
ANGLES ± 1 DEG	ELECTRICAL		MANUFACTURING		
UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.	-		PROJECT		CODE ID. NO. 1GD22 / SIZE B / DWG NO. 022643 / REV A
TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.	-		PRODUCT MGR R. SCHWERDTFEGER	2/5/01	
	-		-		SCALE: 1:6 / CONTRACT NO. 11925 / SHEET 1 OF 1

#
- EST. WEIGHT -

BFORMSWA1

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL SUMMARY PRINT DATE 11/19/05 TIME 11:25:34

CATALOGUE#: 600135-01P PSM: M STATUS: RELEASED DRAWING: D-600135 REV: B

DESCRIPTION: DI CLSOUT INSTL 4.8M CATEGORY: ANTENNA ENTERED: 6/01/1998

CLASS: ADSREF REVISED: 4/21/2004 REV: B

SUBCLASS: INSTL APPROVED: 4/23/2004

JOB#: 9830 PENDING: REV

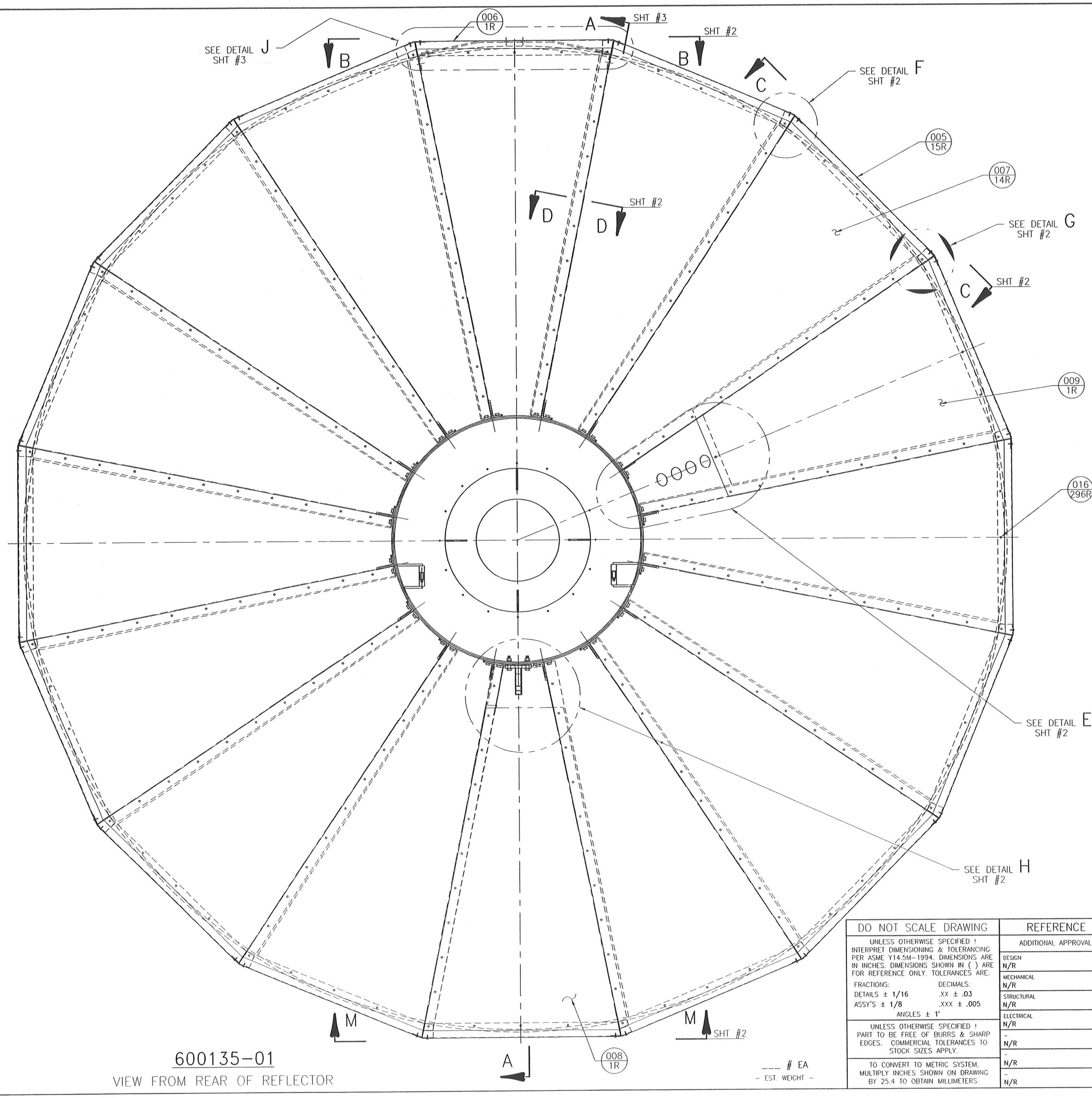
REVISION: B 040352 4/21/04 KBN/KLL OLD CAT#: NEW 06/02/98 TD/GPR SIZE: D DWG CAT: A ID: TD

BILL OF MATERIAL

ITEM	SUB	PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
002		600135-02P	1.00			R	C	S	DEICE CLSOUT CRATE (4.8M)	ADSREF	INSTL	D-600135	B
014		M91065-19			EA	R	P	S	SEALANT SILICONE COMPOUND			NONE	00
015		P98572-19	2.00		EA	R	P	S	PLUG	PLUG			
016		H63105-39	296.00		EA	R	P	S	SCR ST HH #10 X 3/4 SS410 BODY	SCR	SS		
016S		H63105-39	15.00		EA	R	P	S	SCR ST HH #10 X 3/4 SS410 BODY	SCR	SS		
020		H14006-39	44.00		EA	R	P	S	SCR CAP HH 1/4-20UNC X 1 SSF593	CAPSCR	SS	NONE	00
020S		H14006-39	5.00		EA	R	P	S	SCR CAP HH 1/4-20UNC X 1 SSF593	CAPSCR	SS	NONE	00
022		H40045-39	88.00		EA	R	P	S	FW (AN) 1/4 X 5/8 SS18-8	FW	SS	NONE	00
022S		H40045-39	10.00		EA	R	P	S	FW (AN) 1/4 X 5/8 SS18-8	FW	SS	NONE	00
024		H30009-39	44.00		EA	R	P	S	LW HELICAL 1/4 SS18-8	LW	SS	NONE	00
024S		H30009-39	5.00		EA	R	P	S	LW HELICAL 1/4 SS18-8	LW	SS	NONE	00
026		H20011-39	44.00		EA	R	P	S	NUT HEX 1/4-20UNC SSF594	HEXNUT	SS	NONE	00
026S		H20011-39	5.00		EA	R	P	S	NUT HEX 1/4-20UNC SSF594	HEXNUT	SS	NONE	00

END OF BOM:600135-01P

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	06/02/98	TD/GPR
B	EC 04-0352; ADDED -02. MOVED ITEMS 005 THRU 013 FROM -01 TO -02.	04/21/04	KBN/KLL



600135-01
VIEW FROM REAR OF REFLECTOR

___ # EA
– EST. WEIGHT –

					-02	-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
						44	026	H20011-39	HEX NUT 1/4-20UNC SSF594	
							025			
						44	024	H30009-39	HELICAL LW 1/4 SS18-8	
							023			
						88	022	H40045-39	FW (AN) 1/4 X 5/8 SS18-8	
							021			
						44	020	H14006-39	HH CAP SCR 1/4-20UNC X 1 SSF593	
							019			
							018			
							017			
						296	016	H63105-39	HH ST SCR #10 X 3/4 SS410 BODY, W/FW	
						2	015	P98572-19	PLUG HEYCO #2663	
						0	014	M91065-19	SEALANT SILICONE COMPOUND	
B					2		013	600130-01	SHEET .063 X 8 5/8 X 16 1/4 AL5052-H32	
B					1		012	600127-02	SHEET .080 X 6 15/16 X 9 AL5052-H32	
B					16		011	600127-01	SHEET .080 X 6 15/16 X 9 AL5052-H32	
B					1		010	P89026-5	REFL CLOSEOUT PANEL INSUL 1/2" THICK	
B					1		009	600133-03	DEICE CLOSEOUT PANEL ASSY. 4.8M *SEE -P*	
B					1		008	600133-02	DEICE CLOSEOUT PANEL ASSY. 4.8M *SEE -P*	
B					14		007	600133-01	DEICE CLOSEOUT PANEL ASSY. 4.8M *SEE -P*	
B			Panel		1		006	600133-05	DEICE CLOSEOUT PANEL ASSY. 4.8M *SEE -P*	
B					15		005	600133-04	DEICE CLOSEOUT PANEL ASSY. 4.8M *SEE -P*	
							004			
							003			
B					X	1	002	600135-02	DEICE CLOSEOUT CRATE 4.8M	
						X	001	600135-01	DEICE CLOSEOUT INSTALLATION 4.8M	
QUANTITY REQUIRED							LIST OF MATERIALS OR PARTS LIST			

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS SHOWN IN ( ) ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS:	DECIMALS:
DETAILS ± 1/16	.XX ± .03
ASSY'S ± 1/8	.XXX ± .005
ANGLES ± 1°	

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN T.DORSEY	06/02/98
MECHANICAL N/R		CHECKED G.P.ROBERTS	06/10/98
STRUCTURAL N/R		DESIGNER T.DORSEY	06/02/98
ELECTRICAL N/R		MANUFACTURING R.G.HUGHEY	06/10/98
- N/R		PROJECT T.L.FULLERTON	06/10/98
- N/R		PRODUCT MGR C.L.SHEETS	06/10/98
- N/R		- N/R	

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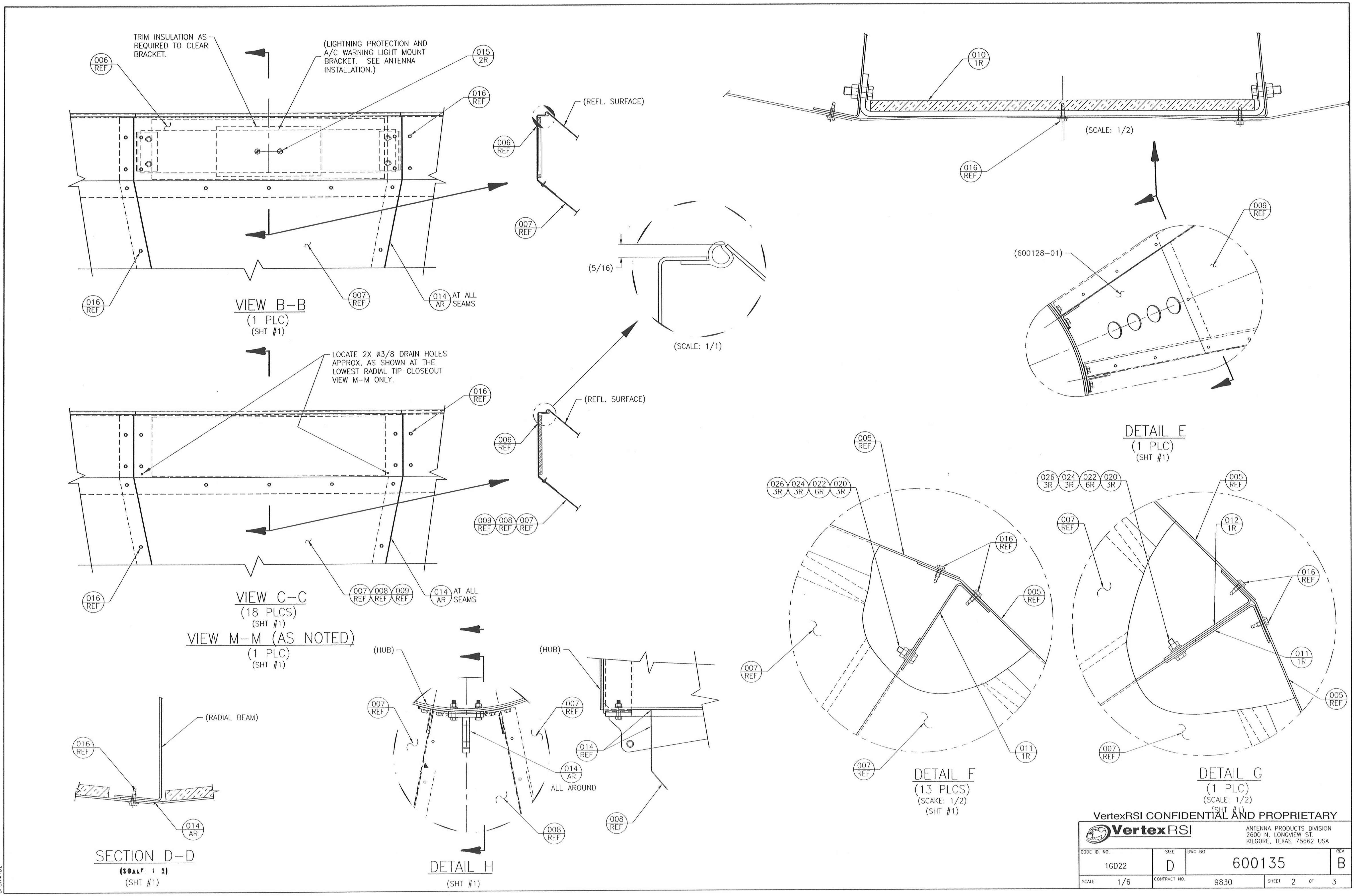
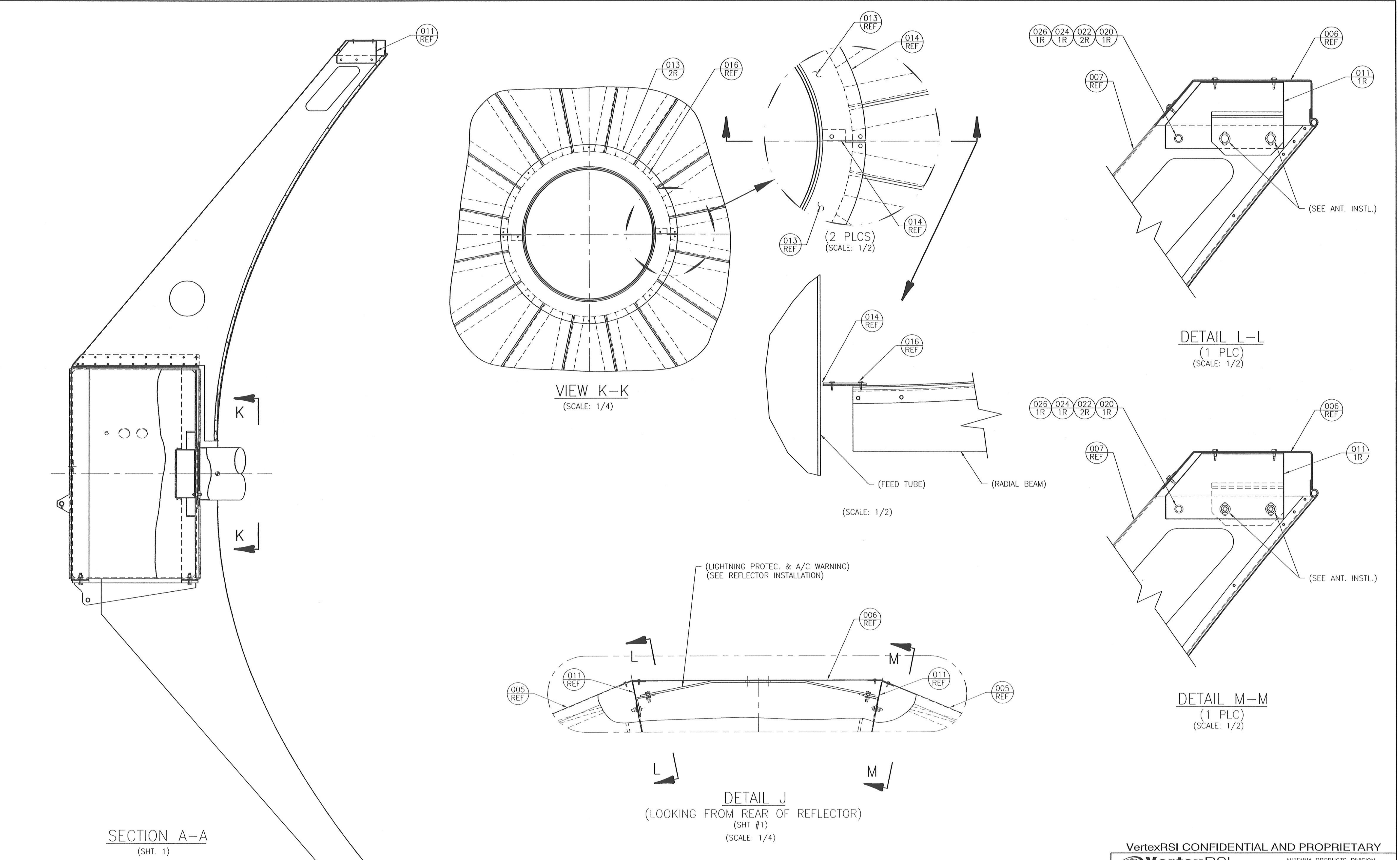
VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE: DEICING CLOSEOUT INSTL 4.8M

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	600135	B
SCALE: 1/10	CONTRACT NO. 9830	SHEET 1 OF 3	

DFORM1D1


TRIM INSULATION AS REQUIRED TO CLEAR BRACKET.
(LIGHTNING PROTECTION AND A/C WARNING LIGHT MOUNT BRACKET. SEE ANTENNA INSTALLATION.)
006 REF
015 2R
016 REF
007 REF
014 AR AT ALL SEAMS
(REFL. SURFACE)
(5/16)
(SCALE: 1/1)
VIEW B-B
(1 PLC)
(SHT #1)
LOCATE 2X ø3/8 DRAIN HOLES APPROX. AS SHOWN AT THE LOWEST RADIAL TIP CLOSEOUT VIEW M-M ONLY.
009 REF 008 REF 007 REF
VIEW C-C
(18 PLCS)
(SHT #1)
VIEW M-M (AS NOTED)
(1 PLC)
(SHT #1)
010 1R
(SCALE: 1/2)
009 REF
(600128-01)
DETAIL E
(1 PLC)
(SHT #1)
005 REF
026 3R 024 3R 022 6R 020 3R
011 1R
012 1R
DETAIL F
(13 PLCS)
(SCAKE: 1/2)
(SHT #1)
DETAIL G
(1 PLC)
(SCALE: 1/2)
(SHT #1)
(RADIAL BEAM)
014 AR
SECTION D-D
(SHT #1)
(HUB)
014 AR ALL AROUND
008 REF
DETAIL H
(SHT #1)
VertexRSI CONFIDENTIAL AND PROPRIETARY
VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA
CODE ID. NO. 1GD22
SIZE D
DWG NO. 600135
REV B
SCALE 1/6
CONTRACT NO. 9830
SHEET 2 OF 3
DFORM1D2



VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI — ANTENNA PRODUCTS DIVISION, 2600 N. LONGVIEW ST., KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	600135	B
SCALE 1/10	CONTRACT NO 9830	SHEET 3 OF 3	

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL   SUMMARY   PRINT DATE 11/19/05   TIME 11:25:36

CATALOGUE#: 480117-01   PSM: S   STATUS: RELEASED   DRAWING: D-480117   REV: A

DESCRIPTION: SUB MTG PL 4.8M DI 120/220   CATEGORY: REFLECTOR   ENTERED: 5/23/2000

CLASS: REVISED: 5/23/2000   REV: A

SUBCLASS: APPROVED: 5/30/2000

JOB#:   PENDING: REV

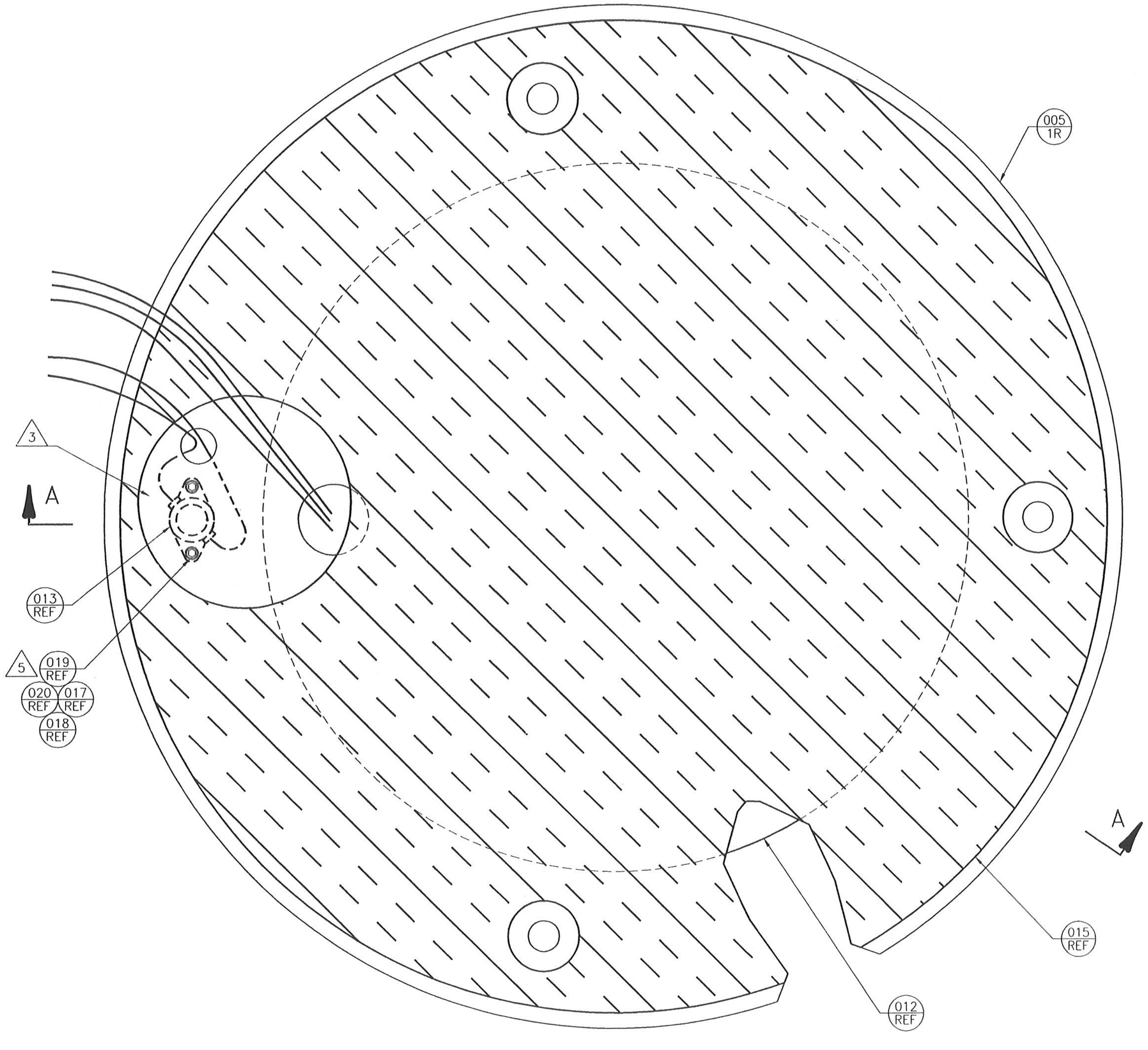
REVISION: A 05/23/00 RRY/JDH   OLD CAT#: NEW 05/23/00 RRY/JDH   SIZE: D   DWG CAT: ID: RRY

BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
005	480035-05	1.00			R	C	M	PL APEX 4.8M	BASAPX	DETAIL	D-480035	A
010	M91070-19	2.00		EA	R	P	S	SEALANT SILICONE 3.0 OZ				
012	F003889	1.00		EA	R	P	P	HTR FLEXIBLE 10 OD 400W 115/230V				
013	816002-002	1.00		EA	R	P	S	SNAP DISC TSTAT			NONE	00
015	019405-01	1.00			R	C	M	SUB-REF INSUL 4.8M			D-019405	A
017	H56086-39	2.00		EA	R	P	S	SCR CAP SH #6-32UNC X 7/8 SSF837	CAPSCR	SS	NONE	00
018	H30005-39	2.00		EA	R	P	S	LW HELICAL #6 SS18-8	LW	SS	NONE	00
019	H40021-39	2.00		EA	R	P	S	FW #6 X 1/4 SS18-8	FW	SS	NONE	00
020	H20007-39	2.00		EA	R	P	S	NUT HEX #6-32UNC SSF594	HEXNUT	SS	NONE	00
022	E10520-19	4.00		FT	R	P	S	CBL #14AWG 1C THHN BRN	WIRE			
023	E10550-19	4.00		FT	R	P	S	CBL #14AWG 1C THHN BLK	WIRE			
025	M91015-19	1.00		GL	R	P	S	ADHESIVE SEALGRIP SILICONE			NONE	00
026	M91010-19	1.00		EA	R	P	S	CATALYST			NONE	00

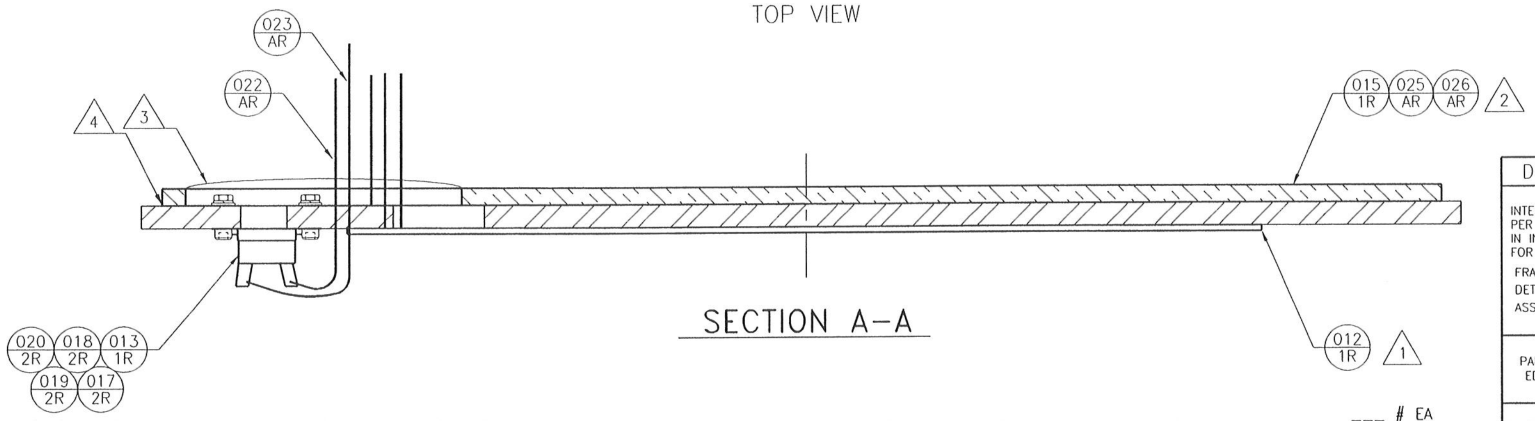
END OF BOM:480117-01

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	07/06/99	RRY/JDH



480117-01

TOP VIEW



SECTION A-A

___ # EA
– EST. WEIGHT –

NOTES :

1. CLEAN UNDERSIDE OF SUBREFLECTOR MOUNTING PLATE (ITEM 005). FEED HEATER WIRES THRU HOLE FROM UNDERSIDE AND CENTER HEATER (ITEM 012), AS SHOWN, ON SUBREFLECTOR MOUNTING PLATE. INSURE HEATER IS PRESSED FLAT AND THERE ARE NO AIR BUBBLES.
2. CLEAN TOP SIDE OF SUBREFLECTOR MOUNTING PLATE (ITEM 005), BEFORE MOUNTING SUBREFLECTOR INSULATION (ITEM 015). APPLY MIXED ADHESIVE (ITEMS 025 AND 026) TO SUBREFLECTOR MOUNTING PLATE AND CENTER SUBREFLECTOR INSULATION (ITEM 015) ON PLATE AS SHOWN.
3. AFTER WIRES ARE PULLED THRU HOLES IN REFLECTOR MOUNTING PLATE (ITEM 005) FILL HOLES AND OPENING IN INSULATION (ITEM 015) WITH SILICONE SEALANT (ITEM 010) TO INSURE A WATERTIGHT SEAL.
4. APPLY SILICONE SEALANT (ITEM 010) AROUND EDGES OF INSULATION (ITEM 015) TO INSURE A WATERTIGHT SEAL.
5. MATCH DRILL FOR #6 MOUNTING HARDWARE.
6. MASK HEATER, THERMOSTAT & WIRES AND PAINT.

					1	026	M91010-19	CATALYST SILANE #SRC-18	
					1	025	M91015-19	SEALGRIP SILICONE ADHESIVE #PSA529	
						024			
					4	023	E10550-19	ELECTRIC WIRE #14 AWG THHN BLACK	
					4	022	E10520-19	ELECTRIC WIRE #14 AWG THHN BROWN	
						021			
					2	020	H20007-39	HEX NUT #6-32UNC SSF594	
					2	019	H40021-39	FW #6 X 1/4 SS18-8	
					2	018	H30005-39	HELICAL LW #6 SS18-8	
					2	017	H56086-39	SH CAP SCR #6-32UNC X 7/8 SSF837	
						016			
					1	015	019405-01	SUB-REF INSULATION 4.8M	
						014			
					1	013	816002-002	SNAP DISC THERMOSTAT	
					1	012	F003889	FLEXIBLE HEATER 10" DIA, 400W, 115/230V	
						011			
					2	010	M91070-19	SILICONE SEALANT 3.0 OZ	
						009			
						008			
						007			
						006			
					1	005	480035-05	PLATE 1/4 X 14 7/16 OD AL6061-T651	
						004			
						003			
						002			
					X	001	480117-01	SUB-REFLECTOR MOUNT PLATE	
					-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
QUANTITY REQUIRED							LIST OF MATERIALS OR PARTS LIST		

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS:	DECIMALS:
DETAILS ± 1/16	.XX ± .03
ASSY'S ± 1/8	.XXX ± .005

ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN		DRAWN RR YOUNG	05/23/00
MECHANICAL		CHECKED JD "BUDDY" HENDRIX	05/25/00
STRUCTURAL		DESIGNER JD "BUDDY" HENDRIX	05/23/00
ELECTRICAL		MANUFACTURING RG HUGHEY	05/25/00
-		PROJECT CL SHEETS	05/26/00
-		PRODUCT MGR CL SHEETS	05/26/00
-		-	

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE

SUB-REFLECTOR MOUNT PLATE ASSEMBLY MODEL 4.8M

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	480117	A
SCALE: 1/1	CONTRACT NO. EE002	SHEET 1 OF 1	

DFORM101

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL SUMMARY PRINT DATE 11/19/05 TIME 11:25:40

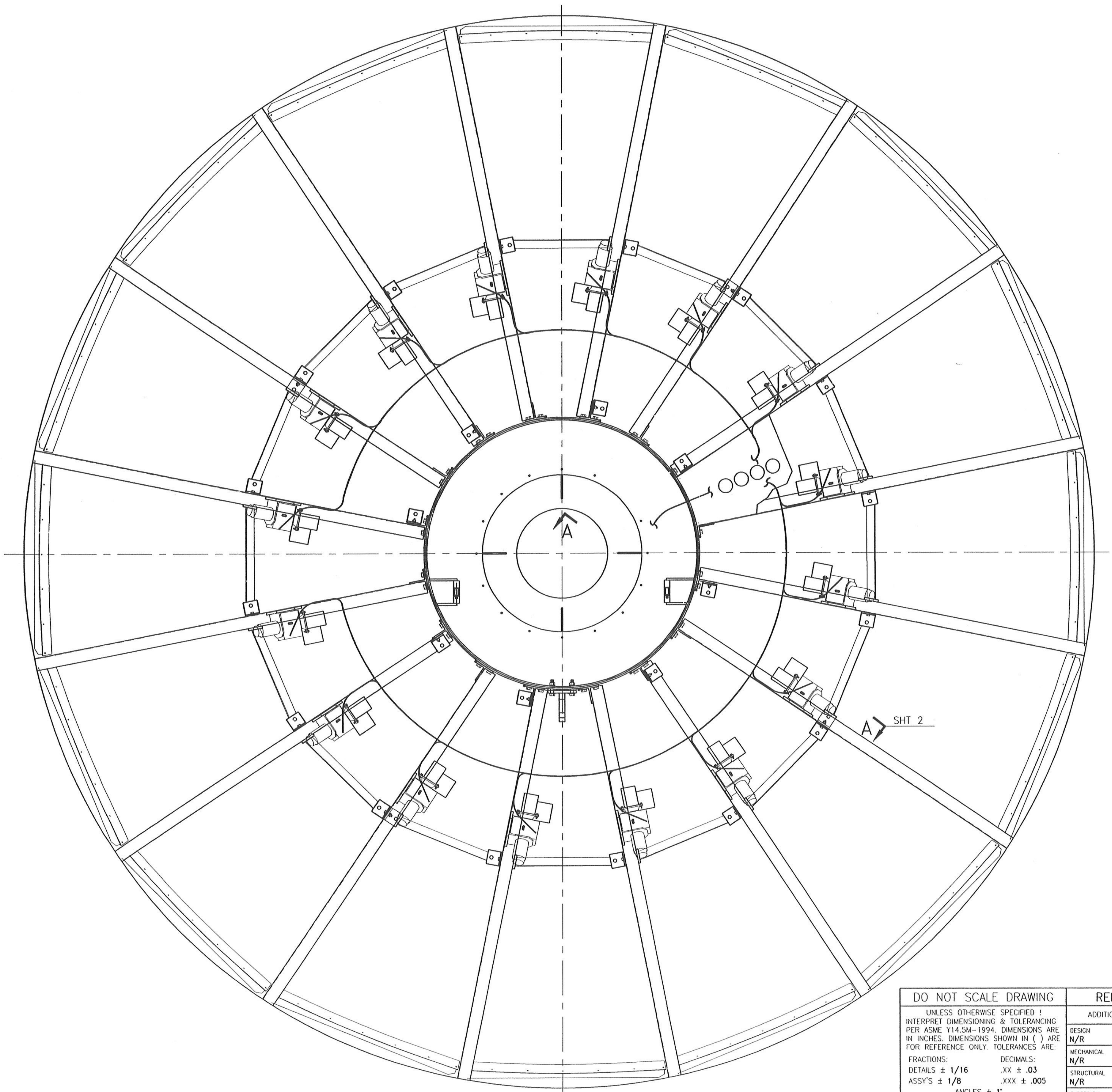
CATALOGUE#:	600134-02	PSM: M	STATUS:	RELEASED	DRAWING:	D-600134	REV: A
DESCRIPTION:	HOT AIR HTR INSTL REF 4.8M		CATEGORY:	ANTENNA	ENTERED:	5/19/1998	
	16KW 220V 1PH 50HZ		CLASS:	ADSREF	REVISED:	5/20/1998	REV: A
			SUBCLASS:	INSTL	APPROVED:	5/22/1998	
			JOB#:	9830	PENDING:		REV
REVISION:	A 05/19/98 TD/GPR		OLD CAT#:	NEW 05/19/98 TD/GPR	SIZE: D	DWG CAT: I	ID: TD

BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
006	H14006-39	64.00		EA	R	P	S	SCR CAP HH 1/4-20UNC X 1 SSF593	CAPSCR	SS	NONE	00
006S	H14006-39	6.00		EA	R	P	S	SCR CAP HH 1/4-20UNC X 1 SSF593	CAPSCR	SS	NONE	00
007	H40045-39	128.00		EA	R	P	S	FW (AN) 1/4 X 5/8 SS18-8	FW	SS	NONE	00
007S	H40045-39	12.00		EA	R	P	S	FW (AN) 1/4 X 5/8 SS18-8	FW	SS	NONE	00
008	H30009-39	64.00		EA	R	P	S	LW HELICAL 1/4 SS18-8	LW	SS	NONE	00
008S	H30009-39	6.00		EA	R	P	S	LW HELICAL 1/4 SS18-8	LW	SS	NONE	00
009	H20011-39	64.00		EA	R	P	S	NUT HEX 1/4-20UNC SSF594	HEXNUT	SS	NONE	00
009S	H20011-39	6.00		EA	R	P	S	NUT HEX 1/4-20UNC SSF594	HEXNUT	SS	NONE	00
010	036000-02	16.00			R	C	M	HTR ASSY 500/1000/1500W 240VAC 1PH	ADSREF	ASSY	D-036000	A

END OF BOM:600134-02

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	05/20/98	TD/GPR



600134-01
600134-02
VIEW FROM REAR OF REFLECTOR

___ # EA
– EST. WEIGHT –

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN T.DORSEY	05/20/98
MECHANICAL N/R		CHECKED G.P.ROBERTS	05/21/98
STRUCTURAL N/R		DESIGNER T.DORSEY	05/20/98
ELECTRICAL N/R		MANUFACTURING R.G.HUGHEY	05/21/98
- N/R		PROJECT T.L.FULLERTON	05/21/98
- N/R		PRODUCT MGR C.L.SHEETS	05/21/98
- N/R		- N/R	

VertexRSI CONFIDENTIAL AND PROPRIETARY

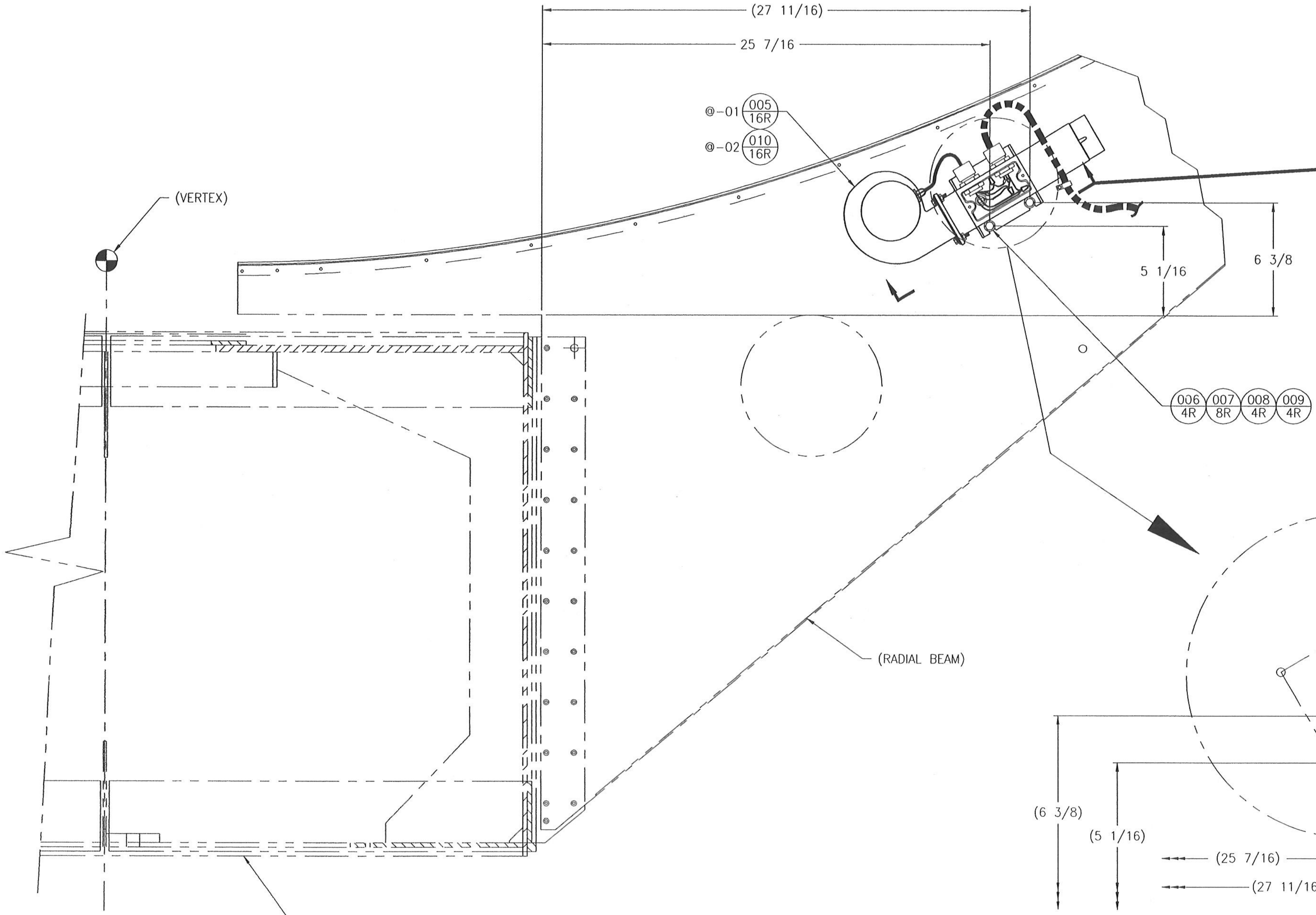
VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

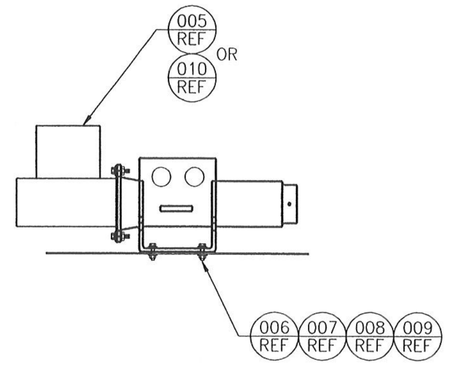
TITLE: HEATER INSTALLATION 4.8M REFLECTOR DEICE 120V/220V

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	600134	A

SCALE: 1/10 | CONTRACT NO. 9830 | SHEET 1 OF 2

DFORM1D1



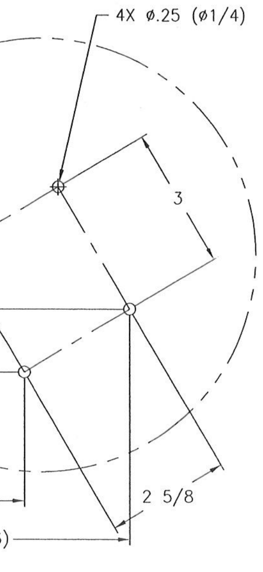


VIEW A–A

HEATER INSTALLATION

(TYPICAL 16 PLCS)

(SHT 1)



HEATER MOUNT BOLT PATTERN

(SCALE: 1/2)

VertexRSI — ANTENNA PRODUCTS DIVISION, 2600 N. LONGVIEW ST., KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	600134	A
SCALE: 1/4	CONTRACT NO. 9830	SHEET 2 OF 2	

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL SUMMARY PRINT DATE 11/19/05 TIME 11:25:45

CATALOGUE#: 019469-12 PSM: M STATUS: RELEASED DRAWING: D-019469 REV: C

DESCRIPTION: CNDT INSTL 4.8KP-ADS-EURO/LT

CATEGORY: INTEGRAT ENTERED: 10/05/1998
CLASS: ADSCDT REVISED: 11/01/2000 REV: C
SUBCLASS: INSTL APPROVED: 11/03/2000
JOB#: 9853 PENDING: REV

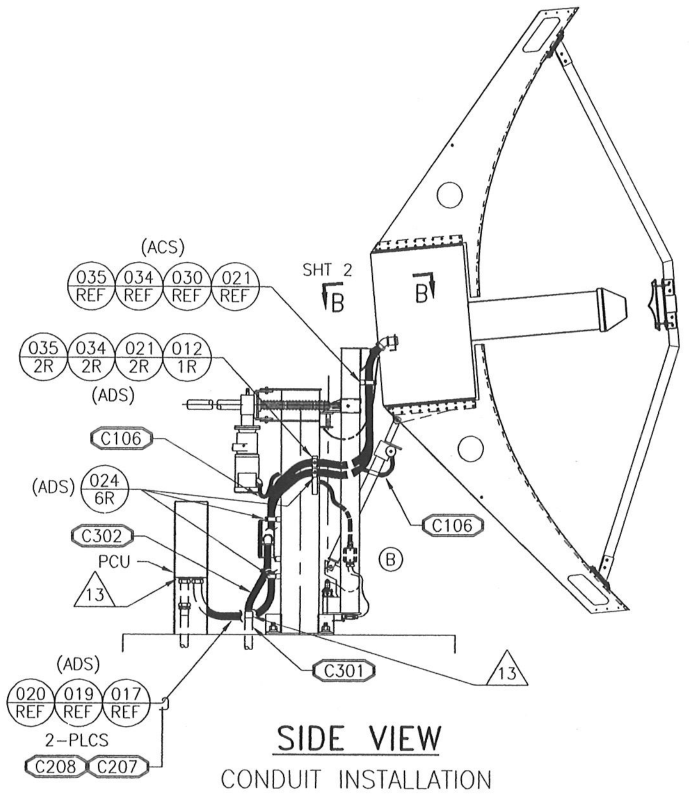
REVISION: A 10/05/98 JED/HLK OLD CAT#: NEW A 10/05/98 JED/HLK SIZE: D DWG CAT: I ID: JED

BILL OF MATERIAL

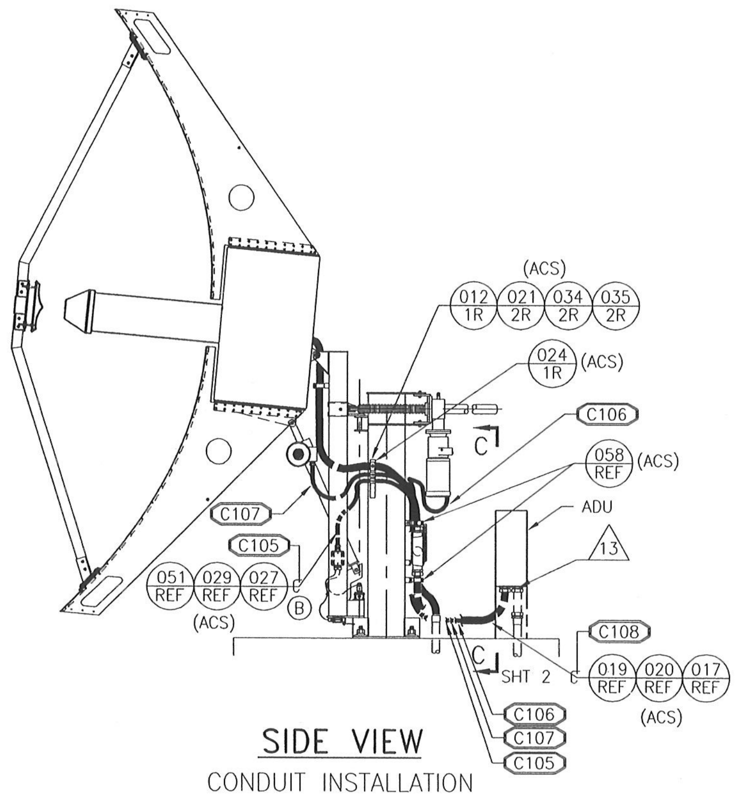
ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
012	R014539	1.00			R	C	S	C B22SH HDG X 12LG	CHAN	DETAIL	NONE	00
016	P99071-19	4.00		EA	R	P	S	ANCHOR 1/2 X 3 3/4				
016S	P99071-19	1.00		EA	R	P	S	ANCHOR 1/2 X 3 3/4				
017	P72388-1	3.00		EA	R	P	S	CONN CNDT 2 45DEG TYPE ST LOW TEMP	CONN			
019	E20150-19	90.00		FT	R	P	S	CNDT 2 ATX -60C	CNDT	FLEX		
020	P72280-1	7.00		EA	R	P	S	CONN CNDT 2 STR TYPE ST LOW TEMP	CONN			
020S	P72280-1	1.00		EA	R	P	S	CONN CNDT 2 STR TYPE ST LOW TEMP	CONN			
021	H14156-39	2.00		EA	R	P	S	SCR CAP HH 3/8-16UNC X 3/4 SSF593	CAPSCR	SS	NONE	00
021S	H14156-39	1.00		EA	R	P	S	SCR CAP HH 3/8-16UNC X 3/4 SSF593	CAPSCR	SS	NONE	00
022	P37070-19	8.00		EA	R	P	S	BSHG CNDT 2	BSHG			
022S	P37070-19	1.00		EA	R	P	S	BSHG CNDT 2	BSHG			
023	E91090-19	8.00		EA	R	P	S	NUT LOCK CNDT 2	LCKNUT			
023S	E91090-19	1.00		EA	R	P	S	NUT LOCK CNDT 2	LCKNUT			
024	P60572-19	11.00		EA	R	P	S	CLAMP CNDT TO STRUT 2 SS		SS		
024S	P60572-19	1.00		EA	R	P	S	CLAMP CNDT TO STRUT 2 SS		SS		
025	M15201-19	2.00		EA	R	P	S	ADPTR CNDT FEM 2 PVC	ADPTR	PVC		
031	M91040-19	1.00		EA	R	P	S	CEMENT PVC CNDT 1/2 PINT	CNDT	PVC		
032	M91070-19	1.00		EA	R	P	S	SEALANT SILICONE 3.0 OZ				
034	H40055-39	10.00		EA	R	P	S	FW (AN) 3/8 X 13/16 SS18-8	FW	SS	NONE	00
034S	H40055-39	2.00		EA	R	P	S	FW (AN) 3/8 X 13/16 SS18-8	FW	SS	NONE	00
035	H30011-39	6.00		EA	R	P	S	LW HELICAL 3/8 SS18-8	LW	SS	NONE	00
035S	H30011-39	2.00		EA	R	P	S	LW HELICAL 3/8 SS18-8	LW	SS	NONE	00
052	E49660-1	4.00		EA	R	P	S	SEALANT DUCT SEAL 1LB BOX				

END OF BOM:019469-12

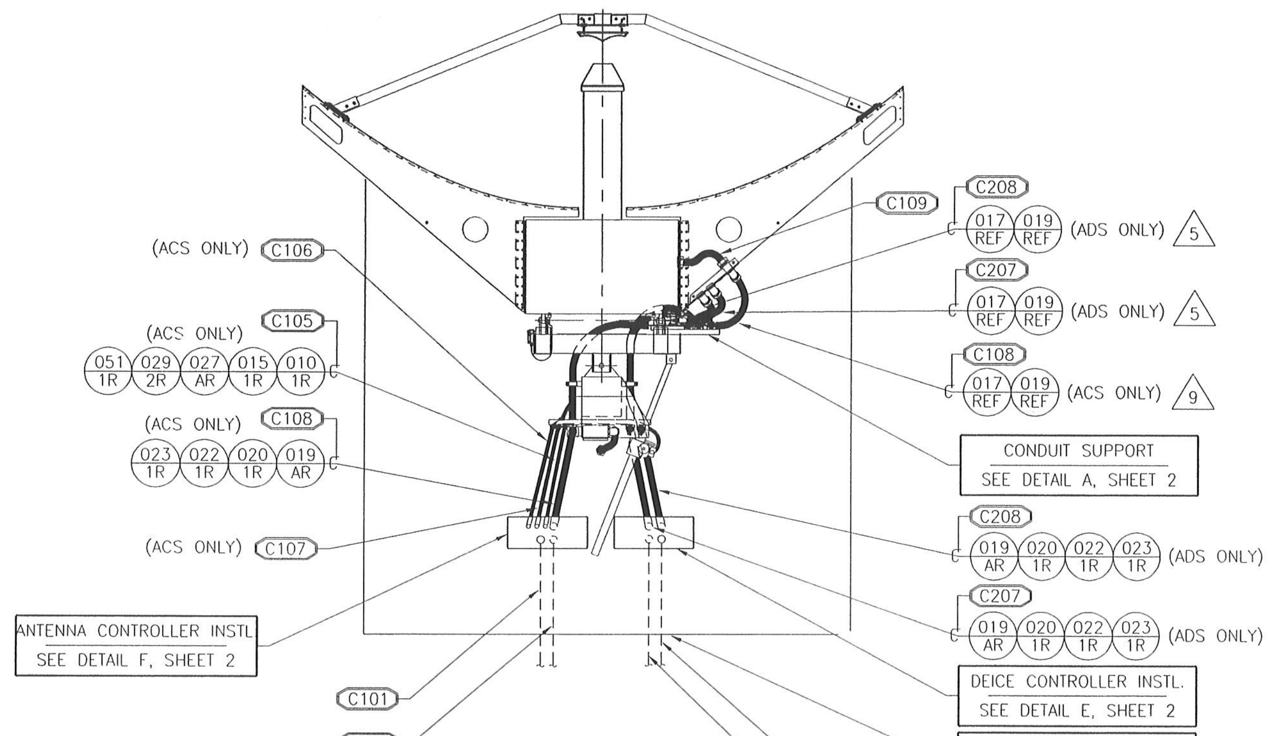
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	10/05/98	JED/HLK
B	REVISED PER ECR# 99-0857	06/28/99	SAH/JED
C	EC 01-0090	11/01/00	JED/KBS



SIDE VIEW
CONDUIT INSTALLATION



SIDE VIEW
CONDUIT INSTALLATION



PLAN VIEW
CONDUIT INSTALLATION

NOTES:

1. (C000) INDICATES CONDUIT ID NUMBER, REFERENCE VERTEX CABLE INSTL DRAWING FOR CONDUIT AND CABLE SCHEDULES.

2. CUSTOMER SUPPLIED CONDUITS. CONDUITS ARE INSTALLED PER SYSTEM AS REQUIRED BY CONTRACT. REFERENCE FOUNDATION CONDUIT LAYOUT DRAWING FOR CONDUIT STUB-UP LOCATIONS AND INSTALLATION.

3. TRIM CONDUIT STUB-UPS AS REQUIRED.

4. INSTALL CONDUIT FITTING (ITEM 017) IN CONDUIT INTERFACE PLATE (ITEM 013) AND TIGHTEN USING LOCKNUT (ITEM 023) OR COUPLING (ITEM 018) AS REQUIRED.

5. CUT FLEX CONDUIT FOR ELEVATION AXIS CROSSOVER TO LENGTH AS REQUIRED PER SYSTEM ROUTE FLEX THROUGH THE ELEVATION AXIS AND TERMINATE ON REFLECTOR CONDUIT INTERFACE PLATE. (REFER TO NOTE 4)

6. INSTALL OUTDOOR CONTROLLER OVER CONDUIT STUB-UPS AND ANCHOR TO FOUNDATION USING HARDWARE SUPPLIED.

7. FIELD CUT ø 2 1/2" HOLES FOR 2" CONDUIT ENTRY.

8. REFERENCE SYSTEM TOP ASSEMBLY FOR SPECIFIC OUTDOOR CONTROLLER REQUIRED.

9. CUT CONDUIT (ITEM 019) TO LENGTH AS REQUIRED PER SYSTEM FOR HUB. INSTALL FROM REFLECTOR RADIAL CONDUIT INTERFACE PLATE TO PRE-DRILLED HUB ENTRANCE USING FITTINGS AND BUSHINGS PROVIDED.

10. INSTALL CONDUIT TEE IN C108 AND ITEM 012 TO PEDESTAL WHEN UTILITY J-BOX IS FURNISHED.

11. FIELD CUT ø 2" HOLE FOR 1 1/2" CONDUIT ENTRY.

12. MATCH DRILL 7/16 ø HOLE IN RADIAL, 4 REQUIRED, USING CONDUIT INTERFACE PLATE (ITEM 013) AS TEMPLATE.

13. SEAL ALL UNDERGROUND CONDUITS AT BOTH ENDS WITH DUCT SEAL (ITEM 052). THIS SEAL IS TO PREVENT AN ACCUMULATION OF CONDENSATION.

14. USE SILICANE SEALANT (ITEM 032) TO SEAL AS REQUIRED TO ENSURE A WATER TIGHT SEAL ON J-BOX.

___ # EA
- EST. WEIGHT -

DO NOT SCALE DRAWING

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DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN T HARRIS	06/28/99
MECHANICAL N/R		CHECKED JE DINES	06/28/99
STRUCTURAL N/R		DESIGNER JE DINES	06/28/99
ELECTRICAL JE DINES	06/28/99	MANUFACTURING RG HUGHEY	06/29/99
-		PROJECT KB STODDARD	07/01/99
-		PRODUCT MGR MJ RABENHORST	07/01/99
-		-	

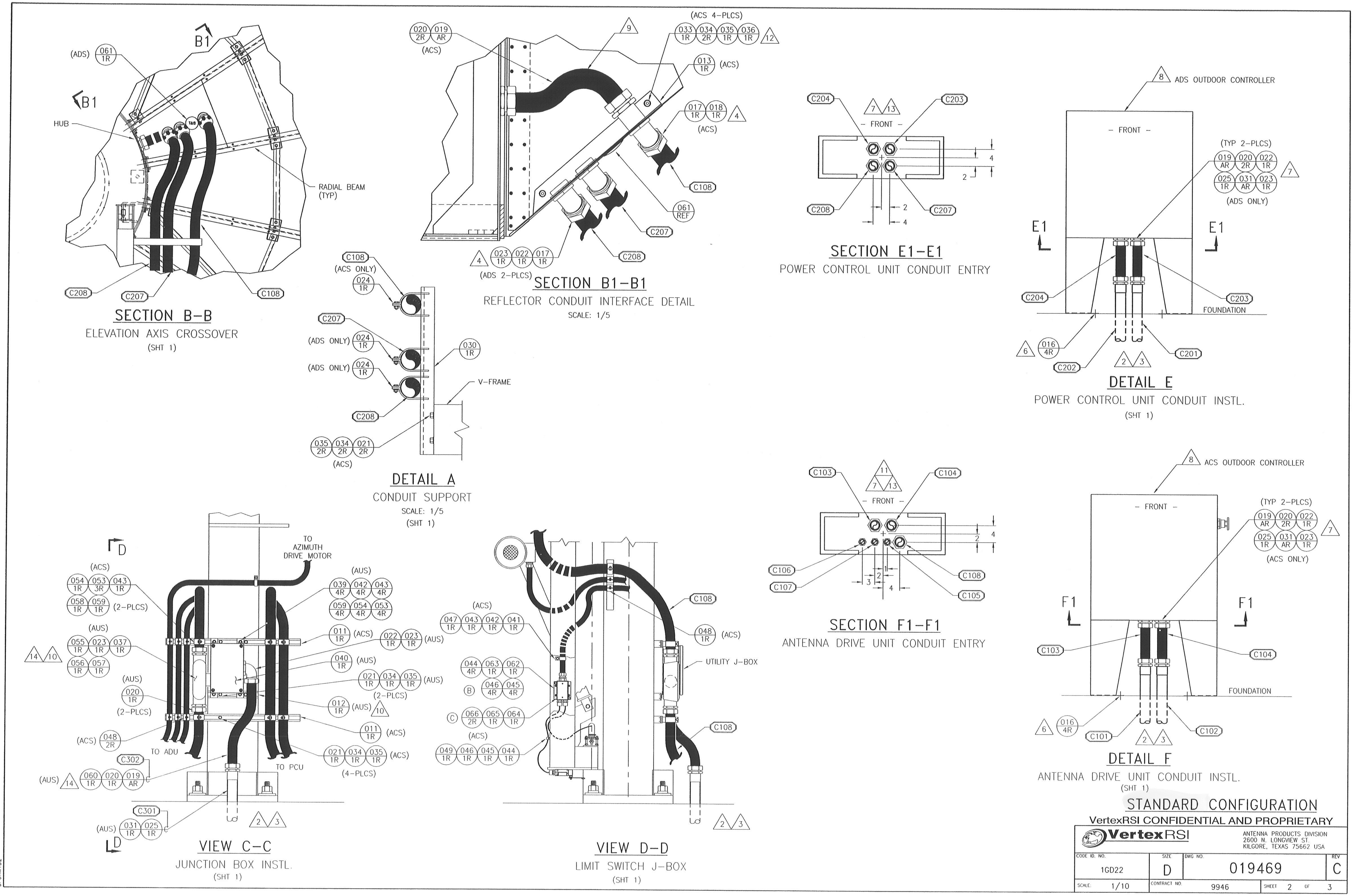
VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE: CONDUIT INSTALLATION MODEL 4.8KP STD

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019469	C
SCALE: 1/30	CONTRACT NO. 9946	SHEET 1 OF 3	



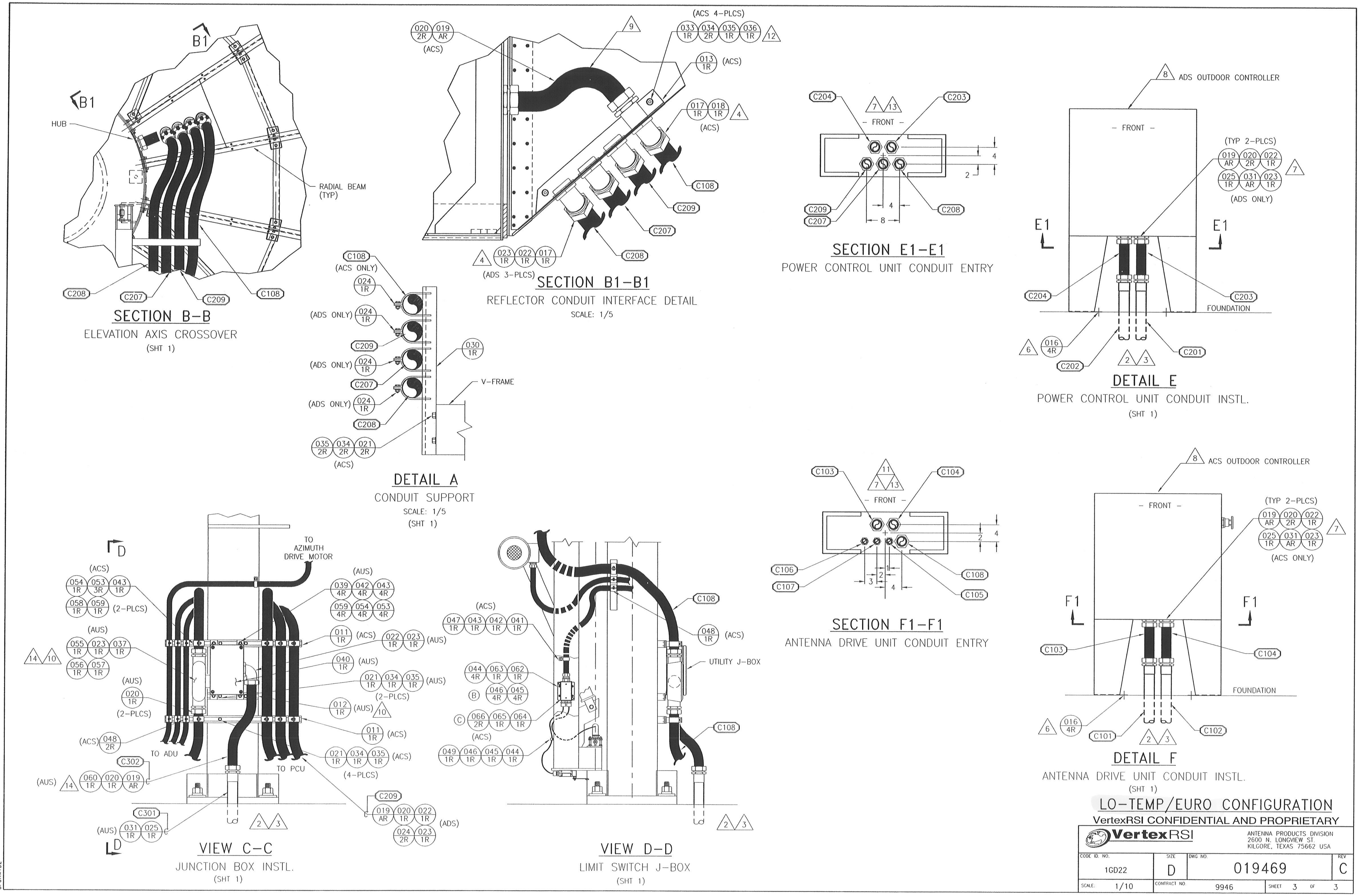
STANDARD CONFIGURATION

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019469	C
SCALE: 1/10	CONTRACT NO. 9946	SHEET 2 OF 3	



LO-TEMP/EURO CONFIGURATION

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI	ANTENNA PRODUCTS DIVISION 2600 N. LONGVIEW ST. KILGORE, TEXAS 75662 USA		
CODE ID. NO. 1GD22	SIZE D	DWG NO. 019469	REV C
SCALE 1/10	CONTRACT NO. 9946	SHEET 3 OF 3	

SINGLE LEVEL BILL OF MATERIAL   SUMMARY   PRINT DATE 11/19/05   TIME 11:25:50

CATALOGUE#: 019437-21   PSM: M   STATUS: RELEASED   DRAWING: D-019437   REV: A

DESCRIPTION: CBL INSTL ADS 4.8KP STD EURO W/DI PROBE

CATEGORY: INTEGRAT   ENTERED: 9/30/1998
CLASS: ADSCAB   REVISED: 10/01/1998   REV: A
SUBCLASS: INSTL   APPROVED: 10/27/1998
JOB#: 9853   PENDING: REV

REVISION: C 040893 09/24/04 BH/BS   OLD CAT#: NEW A 10/06/98 JED/HLK   SIZE: D   DWG CAT: I   ID: JED

BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
001	F000296			FT	R	P	P	CBL #18AWG 12C 600V -50C	CABLE			
002	E20005-19	50.00		FT	R	P	S	CBL 1.0MM2 5C BS 6500 1984	CABLE			
003	E20006-19	800.00		FT	R	P	S	CBL 2.5MM2 3C BS6500 1984	CABLE			
008	M93105-19	2.00		EA	R	P	S	CBL MARKER SELF LAM 1 X 3/4			NONE	00
009	P68100-19	64.00		EA	R	P	S	CLAMP CUSHIONED LOOP 3/8	CLAMP		NONE	00
009S	P68100-19	6.00		EA	R	P	S	CLAMP CUSHIONED LOOP 3/8	CLAMP		NONE	00
010	H52725-19	66.00		EA	R	P	S	SCR MCH ST HH #12-24UNC X 1 1/4 ZINC	MCHSCR	ZINC		
010S	H52725-19	6.00		EA	R	P	S	SCR MCH ST HH #12-24UNC X 1 1/4 ZINC	MCHSCR	ZINC		
011	P70100-1	1.00		EA	R	P	S	CORD GRIP 1/2NPT CG-3150	CONN		NONE	00
011S	P70100-1	1.00		EA	R	P	S	CORD GRIP 1/2NPT CG-3150	CONN		NONE	00
012	P70120-1	21.00		EA	R	P	S	CORD GRIP 1/2NPT CG-3750	CONN		NONE	00
012S	P70120-1	3.00		EA	R	P	S	CORD GRIP 1/2NPT CG-3750	CONN		NONE	00
015	E91010-19	18.00		EA	R	P	S	LOCKNUT CNDT 1/2	LCKNUT		NONE	00
015S	E91010-19	2.00		EA	R	P	S	LOCKNUT CNDT 1/2	LCKNUT		NONE	00
016	P37010-19	2.00		EA	R	P	S	BSHG CNDT 1/2	BSHG		NONE	00
016S	P37010-19	1.00		EA	R	P	S	BSHG CNDT 1/2	BSHG		NONE	00
017	P74007-19	4.00		EA	R	P	S	CONN BUTT CRIMP #22-18AWG	CONN		NONE	00
017S	P74007-19	2.00		EA	R	P	S	CONN BUTT CRIMP #22-18AWG	CONN		NONE	00
018	P74009-19	48.00		EA	R	P	S	BUTT CRIMP #12-10AWG	CONN			
018S	P74009-19	12.00		EA	R	P	S	BUTT CRIMP #12-10AWG	CONN			
019	H55105-39	2.00		EA	R	P	S	SCR MCH PH PHH #10-24UNC X 1 SSF879	MCHSCR	SS		
019S	H55105-39	1.00		EA	R	P	S	SCR MCH PH PHH #10-24UNC X 1 SSF879	MCHSCR	SS		
020	H52106-39	4.00		EA	R	P	S	SCR MCH HH #10-24UNC X 1 1/4 SSF593	MCHSCR	SS	NONE	00
020S	H52106-39	1.00		EA	R	P	S	SCR MCH HH #10-24UNC X 1 1/4 SSF593	MCHSCR	SS	NONE	00
021	H40036-39	12.00		EA	R	P	S	FW (A) #10 X 1/2 SS18-8	FW	SS	NONE	00
021S	H40036-39	2.00		EA	R	P	S	FW (A) #10 X 1/2 SS18-8	FW	SS	NONE	00
022	H30007-39	8.00		EA	R	P	S	LW HELICAL #10 SS18-8	LW	SS	NONE	00
022S	H30007-39	2.00		EA	R	P	S	LW HELICAL #10 SS18-8	LW	SS	NONE	00
023	H20009-39	6.00		EA	R	P	S	NUT HEX #10-24UNC SSF594	HEXNUT	SS	NONE	00
023S	H20009-39	2.00		EA	R	P	S	NUT HEX #10-24UNC SSF594	HEXNUT	SS	NONE	00
024	028795-02	1.00			R	C	S	DEICE PROBE ASSY 120VAC	ADSPRB	ASSY	D-028795	B
032	E46080-1	2.00		EA	R	P	S	BOX BELL 1-GANG 5-1/2			NONE	00
033	E49600-19	2.00		EA	R	P	S	CVR PL BLANK AL			NONE	00
034	F000313	6.00		EA	R	P	S	TIE CBL 14 1/2LG				
034S	F000313	2.00		EA	R	P	S	TIE CBL 14 1/2LG				
040	035692-05	2.00			R	C	M	EUROSTRIP 5 POS 18-10AWG 30A	ACS	DETAIL	B-035692	A
051	P93200-19	1.00		EA	R	P	S	NIPPLE CHASE CNDT 1/2 GAL	NIPPLE		NONE	00
052	M91070-19	1.00		EA	R	P	S	SEALANT SILICONE 3.0 OZ				

SINGLE LEVEL BILL OF MATERIAL **SUMMARY** **PRINT DATE 11/19/05** **TIME 11:25:50**

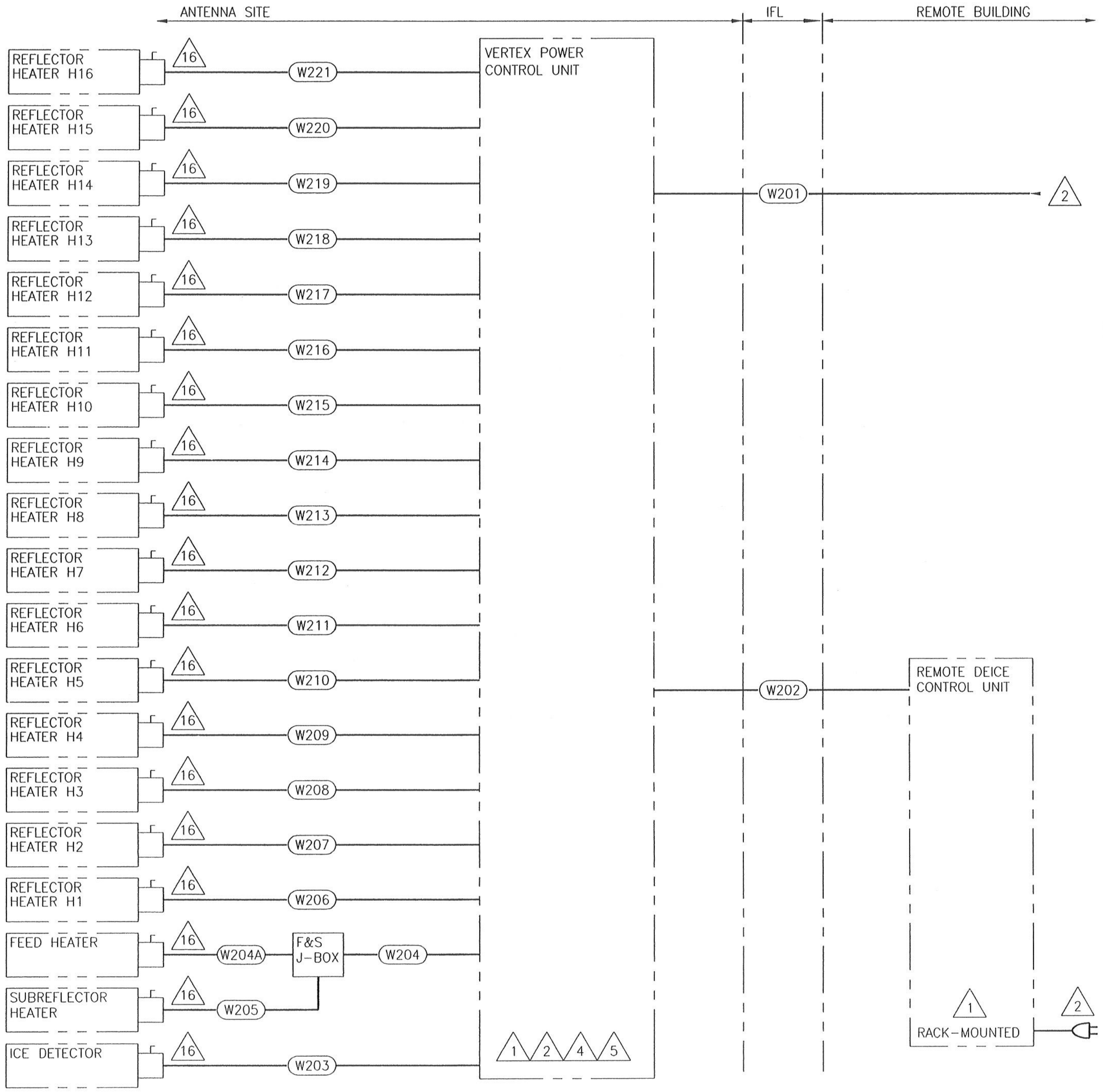
CATALOGUE#: 019437-21 PSM: M STATUS: RELEASED DRAWING: D-019437 REV: A

BILL OF MATERIAL

ITEM	SUB	PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
999		GENERIC CBL-MRP	9,999.00		FT	R	P	P	TBD - GENERIC ITEM FOR CABLE.				

END OF BOM:019437-21

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	10/01/98	JED/HLK



CABLE BLOCK DIAGRAM

NOTES:

1. REFERENCE ELECTRICAL WIRING SCHEMATIC FOR PROPER CABLE CONNECTIONS. INSTALL PER LOCAL CODES AND PRACTICES. THIS MAY IMPLY THE USE OF ISOLATORS OR SPECIAL DISCONNECTS, WHICH ARE THE RESPONSIBILITY OF OTHERS. REFERENCE VERTEX CONTROLLER O & M MANUALS FOR EQUIPMENT INSTALLATION, START-UP, TESTING AND OPERATIONAL REQUIREMENTS.
2. VOLTAGE AND FREQUENCY ARE CONTRACT SPECIFIC AS THE SITE DICTATES. INSTALLER SHALL VERIFY EQUIPMENT RATINGS AGAINST AVAILABLE SITE POWER. INSTALLER TO VERIFY SITE VOLTAGE AND PHASE ROTATION PRIOR TO INSTALLATION. CUSTOMER SUPPLIED POWER FEEDER TO THE POWER CONTROL UNIT SHALL BE 3-PHASE, 4-WIRE PLUS GROUND.

   CUSTOMER SUPPLIED POWER TO RACK EQUIPMENT SHALL BE 1-PHASE, 2-WIRE PLUS GROUND. AN ELECTRICAL CORD (PIGTAIL) IS PROVIDED WITH THE RACK EQUIPMENT. CUSTOMER TO PROVIDE PLUG AND CORRESPONDING RECEPTACLE AT THE RACK.
3. CUSTOMER SUPPLIED CONDUIT. REFERENCE VERTEX FOUNDATION CONDUIT LAYOUT DRAWING FOR CONDUIT STUB-UP LOCATIONS AND INSTALLATION REQUIREMENTS.
4. LABEL ALL CABLES AT EACH END WITH PROPER CABLE NUMBERS USING WIRE MARKERS (ITEM 008).
5. TAG ALL GROUND AND NEUTRAL CONDUCTORS IN ACCORDANCE WITH LOCAL CODES AND PRACTICES.
6. (C000) INDICATES CONDUIT IDENTIFICATION NUMBER. REFERENCE CONDUIT SCHEDULE FOR INFORMATION.

   (W000) INDICATES CABLE IDENTIFICATION NUMBER. REFERENCE CABLE SCHEDULE FOR INFORMATION.
7. PULL CABLES THROUGH CONDUIT FROM POWER CONTROL UNIT TO THE REFLECTOR USING THE PROPER AZIMUTH/ELEVATION AXIS CROSSOVER CONDUIT. REFERENCE DRAWING FOR DEICE CONDUIT INSTALLATION.
8. ROUTE CABLES IN REFLECTOR ALONG RADIAL BEAMS TO HEATERS USING CABLE CLAMPS AND SCREWS (ITEM 009 AND 010) AS REQUIRED. REFERENCE VERTEX DRAWING FOR REFLECTOR HEATER INSTALLATION.
9. INSTALL CABLE FROM THE REFLECTOR TO PROBE ALONG RADIAL BEAMS AND SUPPORT USING CABLE CLAMPS AND SCREWS (ITEMS 009 AND 010).
10. INSTALL CABLE THRU HUB WALL USING CABLE CONNECTOR (ITEM 012) AND EXISTING ø7/8 HOLE. ROUTE CABLE INSIDE HUB TO BACK OF FEED TUBE USING CLAMP (ITEM 009) AND SCREW (ITEM 010) AND TERMINATE TO FEED DEICE TERMINAL BLOCK. PROVIDE SUFFICIENT CABLE LOOP FOR ROTATION OF FEED TUBE.
11. CABLE LENGTHS TO BE DETERMINED BY THE CUSTOMER'S 'IFL' REQUIREMENTS. REFER TO CABLE SCHEDULE FOR APPROXIMATE LENGTHS. VERIFY LENGTHS PRIOR TO INSTALLATION.
12. APPLY HEAT TO HEATSHRINK CONNECTOR AFTER INSTALLATION TO SHRINK INSULATION AND PROVIDE ENVIRONMENTAL PROTECTION.
13. CABLE TO BE SIZED AND SUPPLIED BY CUSTOMER ACCORDING TO VOLTAGE DROP AND CURRENT DRAW. REFERENCE VERTEX POWER REQUIREMENTS DOCUMENT FOR CORRECT VOLTAGE AND CURRENT DRAW.
14. FOR NORMAL OPERATION, PLACE SELECTOR SWITCH IN "AUTO" POSITION.
15. MANUALLY LEVEL AND ADJUST PROBE ASSEMBLY IN UPRIGHT POSITION AT MOST COMMON LOOK ANGLE. TIGHTEN SCREWS TO LOCK PROBE IN PLACE. ASSEMBLY WILL NOT AUTOMATICALLY ADJUST TO LEVEL POSITION.
16. CONFIGURATION OPTIONS DETERMINED BY CONTRACT REQUIREMENTS. CABLING FURNISHED AND INSTALLED AS THE CONTRACT REQUIRES.
17. INSTALL CABLE FROM THE REFLECTOR TO THE SUBREFLECTOR HEATER JUNCTION BOX ALONG APEX QUADRAPOD LEG USING TIE WRAPS (ITEM 034).

___ # EA
– EST. WEIGHT –

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:
FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN JE DINES	10/01/98
MECHANICAL N/R		CHECKED HL KREWSON	10/23/98
STRUCTURAL N/R		DESIGNER JE DINES	10/01/98
ELECTRICAL JE DINES	10/26/98	MANUFACTURING RG HUGHEY	10/26/98
-		PROJECT JR KING	10/26/98
-		PRODUCT MGR MJ RABENHORST	10/26/98
-		-	

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VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

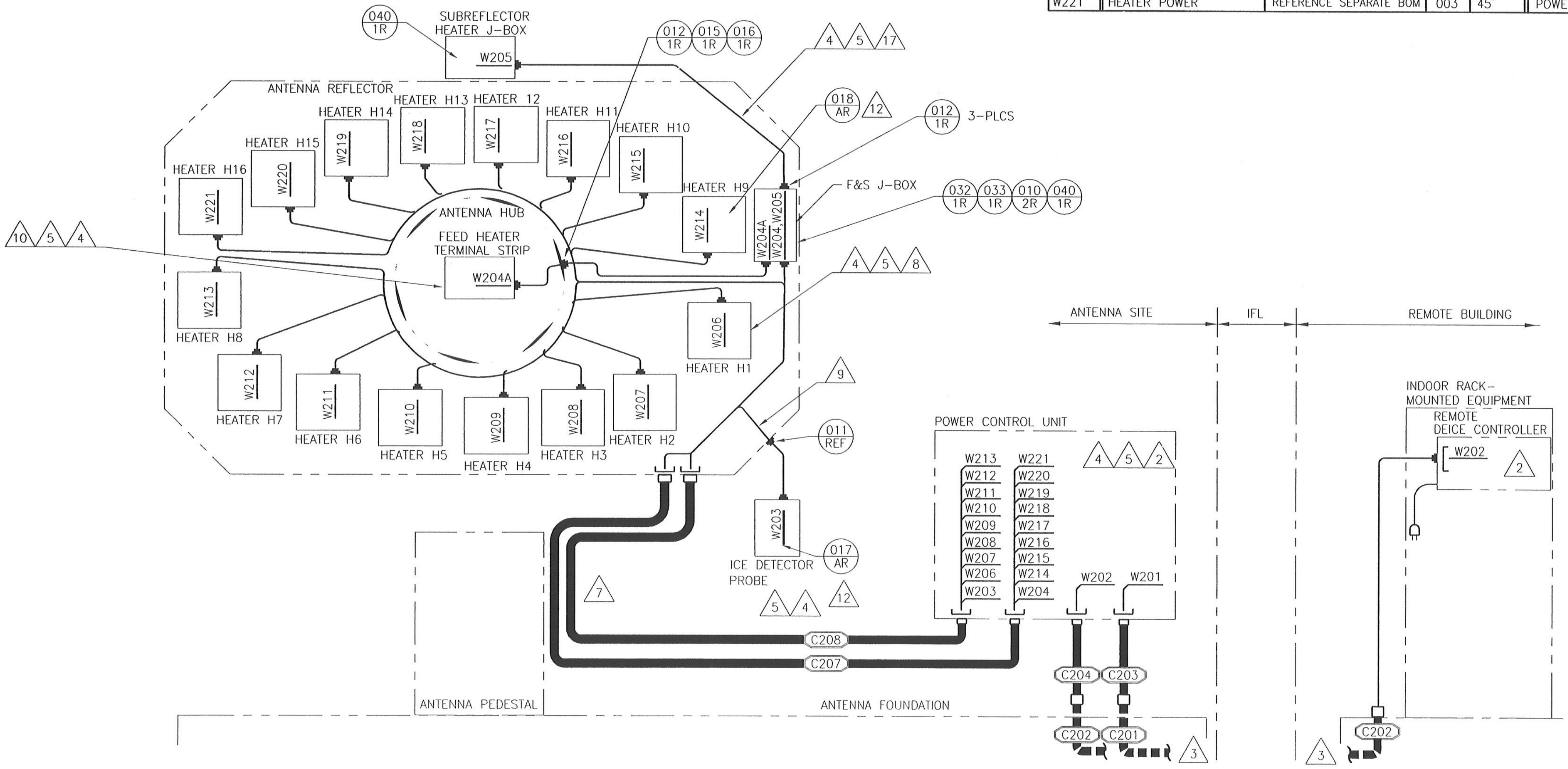
TITLE: CABLE INSTL ADS 4.8KP STANDARD CONFIGURATION

CODE ID NO.	SIZE	DWG NO.	REV
1GD22	D	019437	A
SCALE 1/1	CONTRACT NO 9853	SHEET 1 OF 5	

DFORM1D1

CONDUIT SCHEDULE – ANTENNA DEICE SYSTEM				MODEL 4.8 KP CC	
ID#	SIZE	ORIGINATION POINT	TERMINATION POINT	CONDUIT FILL	NOTES
C201	2"PVC	CUSTOMER POWER SOURCE	FNDTN TEMPLATE @ POWER CONTROL UNIT	W201	3
C202	2"PVC	CUSTOMER CONTROL SOURCE	FNDTN TEMPLATE @ POWER CONTROL UNIT	W202	3
C203	2"PVC	C201 STUB-UP @ POWER CONTROL UNIT	BOTTOM OF POWER CONTROL UNIT	W201	3
C204	2"PVC	C202 STUB-UP @ POWER CONTROL UNIT	BOTTOM OF POWER CONTROL UNIT	W202	3
C207	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W204,W214–W221	–
C208	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W203,W206–W213	–

CABLE SCHEDULE – ANTENNA DEICE SYSTEM						VERTEX CONTROLLER	
ID#	FUNCTION	CABLE DESCRIPTION	ITEM#	LENGTH	ORIGINATION POINT	TERMINATION POINT	NOTES
W201	POWER FEEDER	5 CONDUCTOR CABLE	CFE	IFLP	CUSTOMER PWR SOURCE	POWER CONTROL UNIT	2,11,13
W202	CONTROL	REFERENCE SEPARATE BOM	001	IFLC	DEICE REMOTE UNIT	POWER CONTROL UNIT	11
W203	SYSTEM CONTROL	REFERENCE SEPARATE BOM	002	50'	POWER CONTROL UNIT	DEICE PROBE	9
W204	F&S HEATER POWER	REFERENCE SEPARATE BOM	003	30'	POWER CONTROL UNIT	F&S J-BOX	–
W204A	FEED HEATER POWER	REFERENCE SEPARATE BOM	003	20'	FEED HEATER T-BOX	F&S J-BOX	10
W205	SUBREFL. HEATER POWER	REFERENCE SEPARATE BOM	003	30'	SUB REFL J-BOX	F&S J-BOX	–
W206	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #1	–
W207	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #2	–
W208	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #3	–
W209	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #4	–
W210	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #5	–
W211	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #6	–
W212	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #7	–
W213	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #8	–
W214	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #9	–
W215	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #10	–
W216	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #11	–
W217	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #12	–
W218	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #13	–
W219	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #14	–
W220	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #15	–
W221	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #16	–



ANTENNA DEICE SYSTEM – ROUTING DIAGRAM

STANDARD CONFIGURATION

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ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019437	A
SCALE: 1/1	CONTRACT NO. 9853	SHEET 2 OF 5	

DFORM1D2

CONDUIT SCHEDULE – ANTENNA DEICE SYSTEM

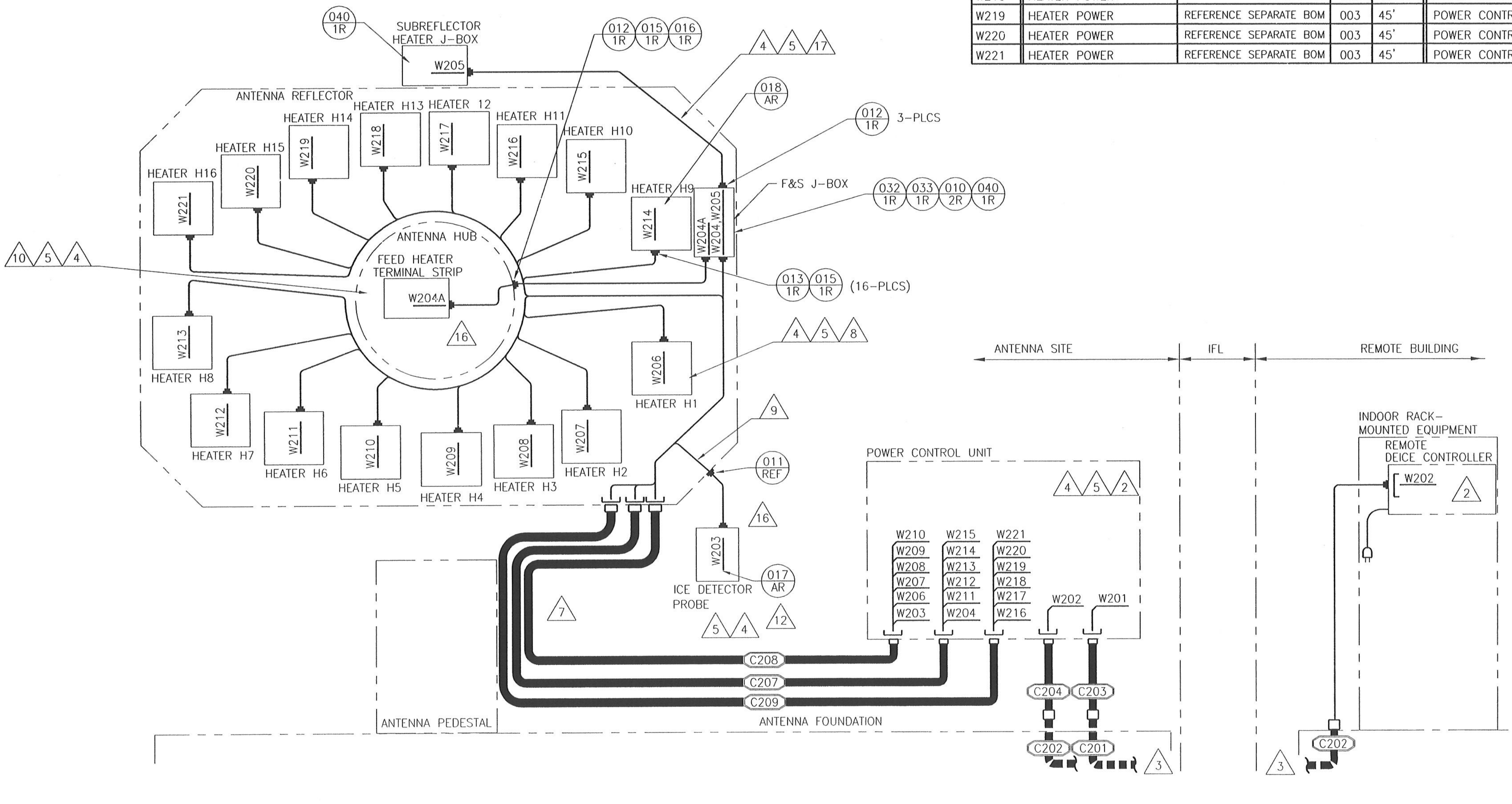
MODEL 4.8 KP CC

ID#	SIZE	ORIGINATION POINT	TERMINATION POINT	CONDUIT FILL	NOTES
C201	2"PVC	CUSTOMER POWER SOURCE	FNDTN TEMPLATE @ POWER CONTROL UNIT	W201	3
C202	2"PVC	CUSTOMER CONTROL SOURCE	FNDTN TEMPLATE @ POWER CONTROL UNIT	W202	3
C203	2"PVC	C201 STUB-UP @ POWER CONTROL UNIT	BOTTOM OF POWER CONTROL UNIT	W201	3
C204	2"PVC	C202 STUB-UP @ POWER CONTROL UNIT	BOTTOM OF POWER CONTROL UNIT	W202	3
C207	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W204,W211–W215	–
C208	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W203,W206–W210	–
C209	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W216–W221	–

CABLE SCHEDULE – ANTENNA DEICE SYSTEM

VERTEX CONTROLLER

ID#	FUNCTION	CABLE DESCRIPTION	ITEM#	LENGTH	ORIGINATION POINT	TERMINATION POINT	NOTES
W201	POWER FEEDER	5 CONDUCTOR CABLE	CFE	IFLP	CUSTOMER PWR SOURCE	POWER CONTROL UNIT	2,11,13
W202	CONTROL	REFERENCE SEPARATE BOM	001	IFLC	DEICE REMOTE UNIT	POWER CONTROL UNIT	11
W203	SYSTEM CONTROL	REFERENCE SEPARATE BOM	002	50'	POWER CONTROL UNIT	DEICE PROBE	9
W204	F&S HEATER POWER	REFERENCE SEPARATE BOM	003	30'	POWER CONTROL UNIT	F&S J-BOX	–
W204A	FEED HEATER POWER	REFERENCE SEPARATE BOM	003	20'	FEED HEATER T-BOX	F&S J-BOX	10
W205	SUBREFL. HEATER POWER	REFERENCE SEPARATE BOM	003	30'	SUB REFL J-BOX	F&S J-BOX	–
W206	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #1	–
W207	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #2	–
W208	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #3	–
W209	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #4	–
W210	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #5	–
W211	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #6	–
W212	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #7	–
W213	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #8	–
W214	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #9	–
W215	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #10	–
W216	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #11	–
W217	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #12	–
W218	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #13	–
W219	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #14	–
W220	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #15	–
W221	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #16	–



ANTENNA DEICE SYSTEM – ROUTING DIAGRAM

LO-TEMP/EURO CONFIGURATION

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019437	A
SCALE: 1/1	CONTRACT NO	9853	SHEET 3 OF 5

DFORM1D2

CONDUIT SCHEDULE – ANTENNA DEICE SYSTEM

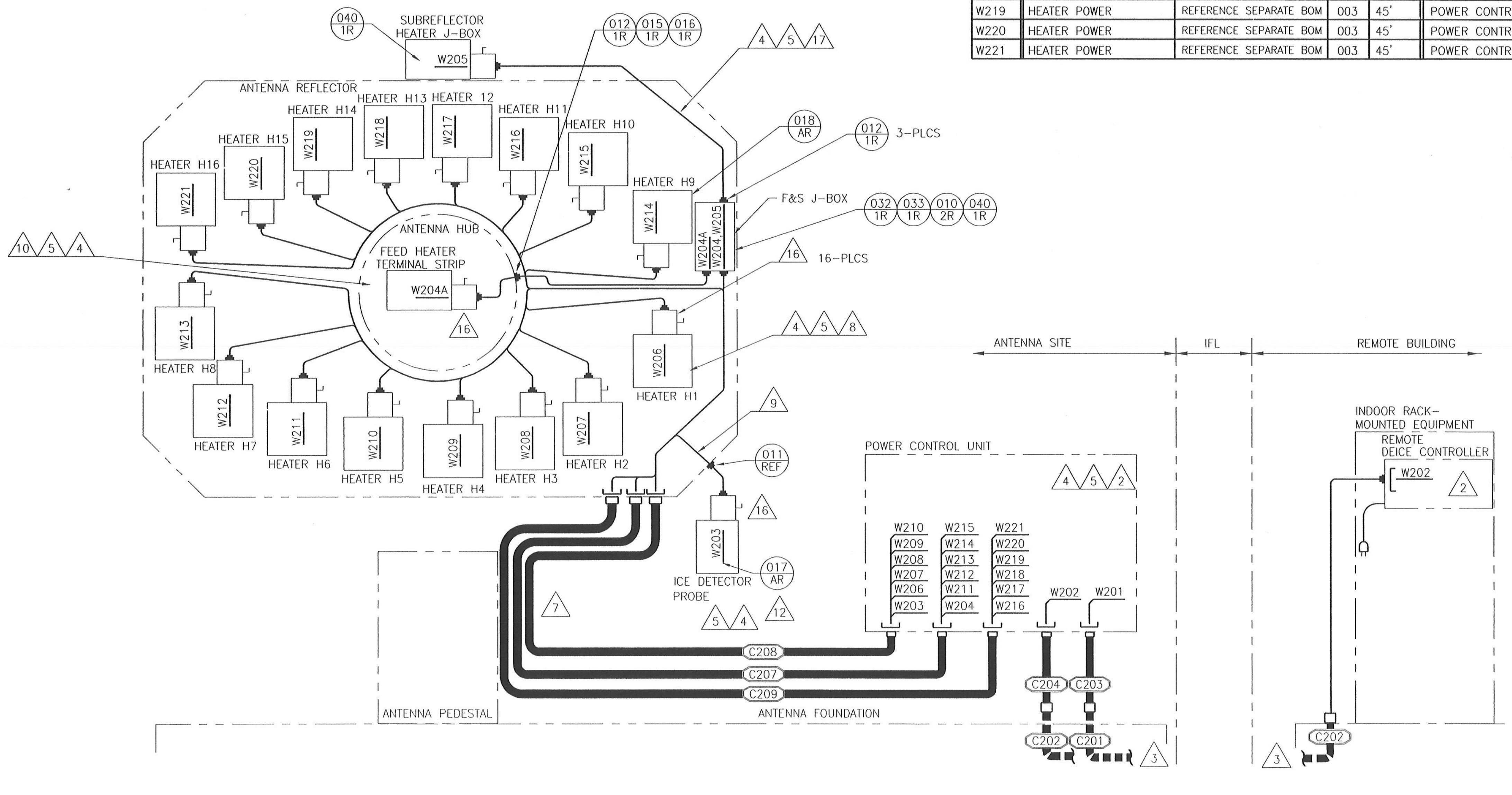
MODEL 4.8 KP CC

ID#	SIZE	ORIGINATION POINT	TERMINATION POINT	CONDUIT FILL	NOTES
C201	2"PVC	CUSTOMER POWER SOURCE	FNDTN TEMPLATE @ POWER CONTROL UNIT	W201	3
C202	2"PVC	CUSTOMER CONTROL SOURCE	FNDTN TEMPLATE @ POWER CONTROL UNIT	W202	3
C203	2"PVC	C201 STUB-UP @ POWER CONTROL UNIT	BOTTOM OF POWER CONTROL UNIT	W201	3
C204	2"PVC	C202 STUB-UP @ POWER CONTROL UNIT	BOTTOM OF POWER CONTROL UNIT	W202	3
C207	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W204,W211-W215	–
C208	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W203,W206-W210	–
C209	2" FLEX	BOTTOM OF POWER CONTROL UNIT	ANTENNA REFLECTOR	W216-W221	–

CABLE SCHEDULE – ANTENNA DEICE SYSTEM

VERTEX CONTROLLER

ID#	FUNCTION	CABLE DESCRIPTION	ITEM#	LENGTH	ORIGINATION POINT	TERMINATION POINT	NOTES
W201	POWER FEEDER	5 CONDUCTOR CABLE	CFE	IFLP	CUSTOMER PWR SOURCE	POWER CONTROL UNIT	2,11,13
W202	CONTROL	REFERENCE SEPARATE BOM	001	IFLC	DEICE REMOTE UNIT	POWER CONTROL UNIT	11
W203	SYSTEM CONTROL	REFERENCE SEPARATE BOM	002	50'	POWER CONTROL UNIT	DEICE PROBE	9
W204	F&S HEATER POWER	REFERENCE SEPARATE BOM	003	30'	POWER CONTROL UNIT	F&S J-BOX	–
W204A	FEED HEATER POWER	REFERENCE SEPARATE BOM	003	20'	FEED HEATER T-BOX	F&S J-BOX	10
W205	SUBREFL. HEATER POWER	REFERENCE SEPARATE BOM	003	30'	SUB REFL J-BOX	F&S J-BOX	–
W206	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #1	–
W207	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #2	–
W208	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #3	–
W209	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #4	–
W210	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #5	–
W211	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #6	–
W212	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #7	–
W213	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #8	–
W214	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #9	–
W215	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #10	–
W216	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #11	–
W217	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #12	–
W218	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #13	–
W219	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #14	–
W220	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #15	–
W221	HEATER POWER	REFERENCE SEPARATE BOM	003	45'	POWER CONTROL UNIT	REFL HEATER UNIT #16	–



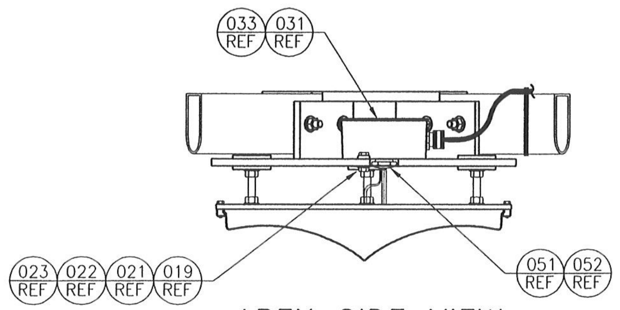
ANTENNA DEICE SYSTEM – ROUTING DIAGRAM

EURO W/ISOLATORS CONFIGURATION

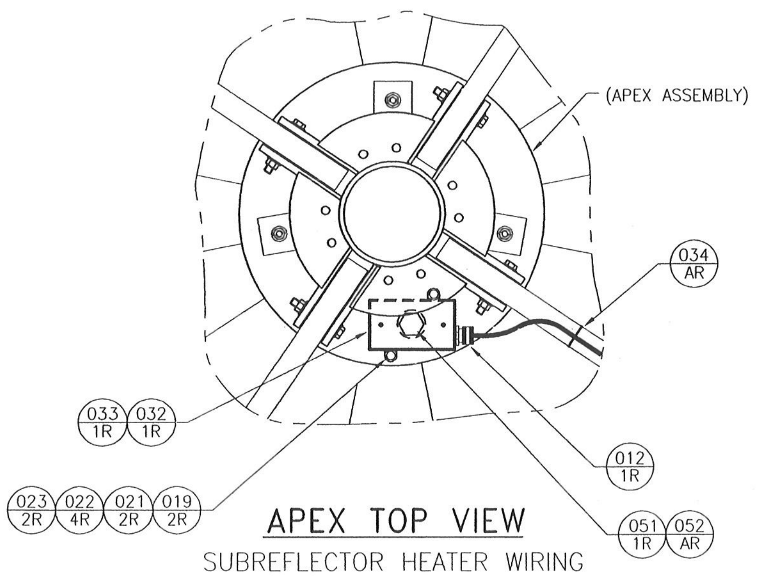
VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019437	A
SCALE: 1/1	CONTRACT NO. 9853	SHEET 4 OF 5	

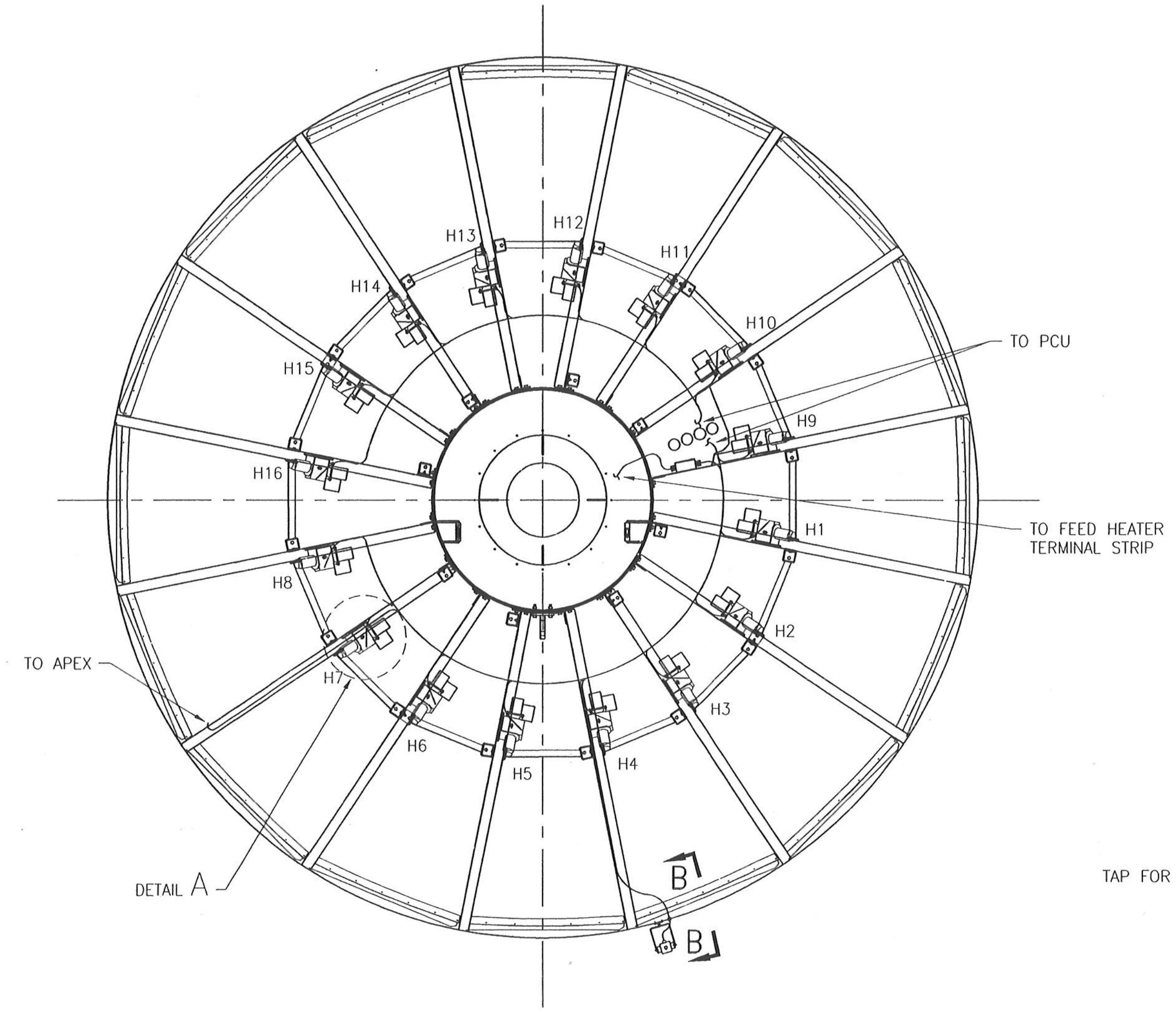
DFORM102



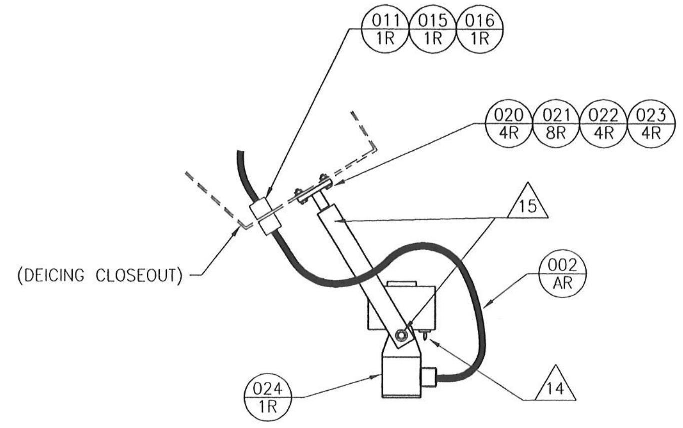
APEX SIDE VIEW
SUBREFLECTOR HEATER WIRING
SCALE: 1/10



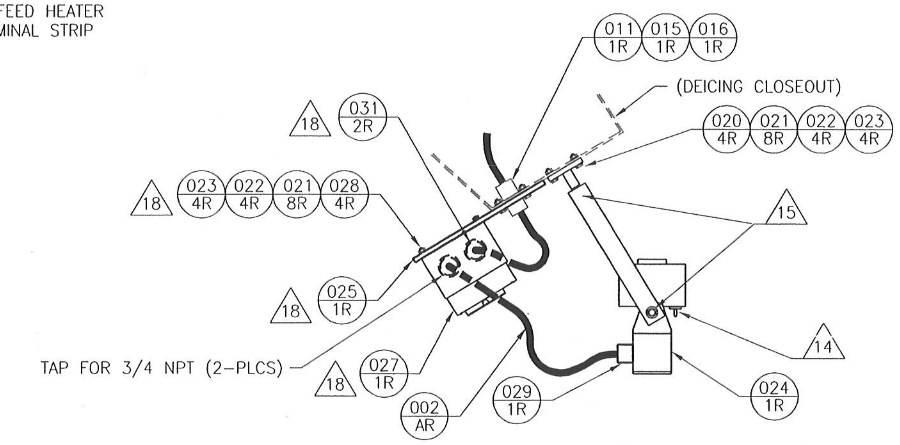
APEX TOP VIEW
SUBREFLECTOR HEATER WIRING
SCALE: 1/10



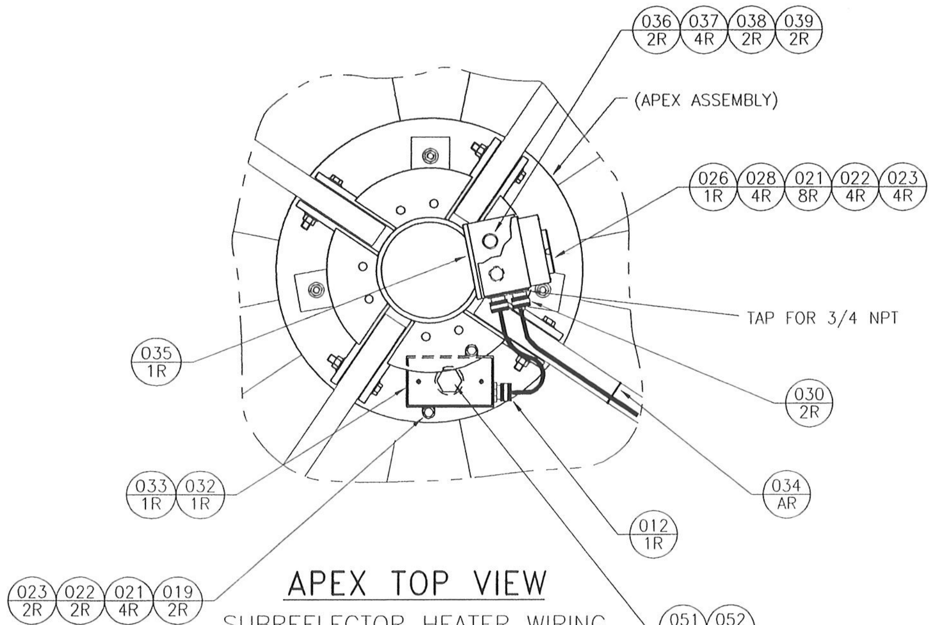
HEATER AND PROBE LOCATION
VIEW FROM REAR OF REFLECTOR



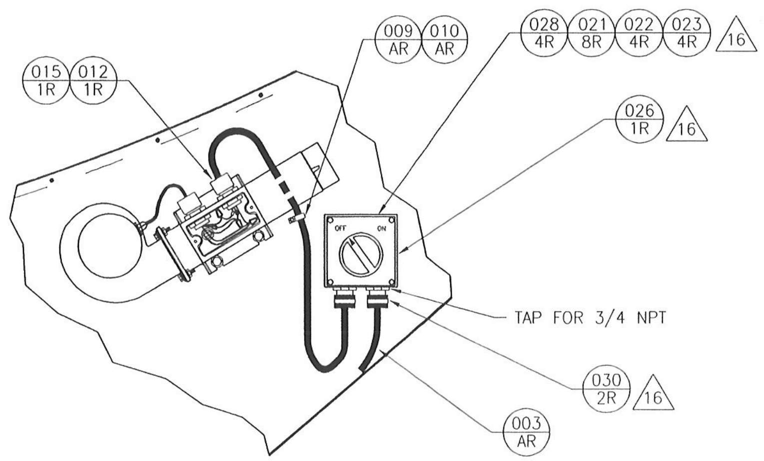
VIEW B–B
DEICE PROBE INSTALLATION
SCALE: 1/5



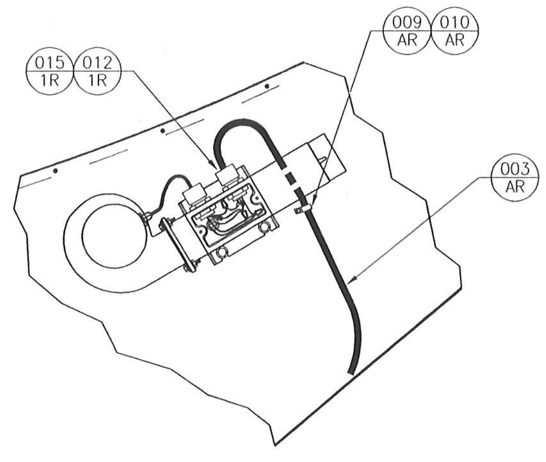
VIEW B–B (ALTERNATE)
DEICE PROBE WITH ISOLATOR
SCALE: 1/5



APEX TOP VIEW
SUBREFLECTOR HEATER WIRING
EURO/ISOLATOR CONFIGURATION
SCALE: 1/10



DETAIL A (ALTERNATE)
HEATER WIRING WITH ISOLATOR
(TYPICAL 16–PLCS)
SCALE: 1/5



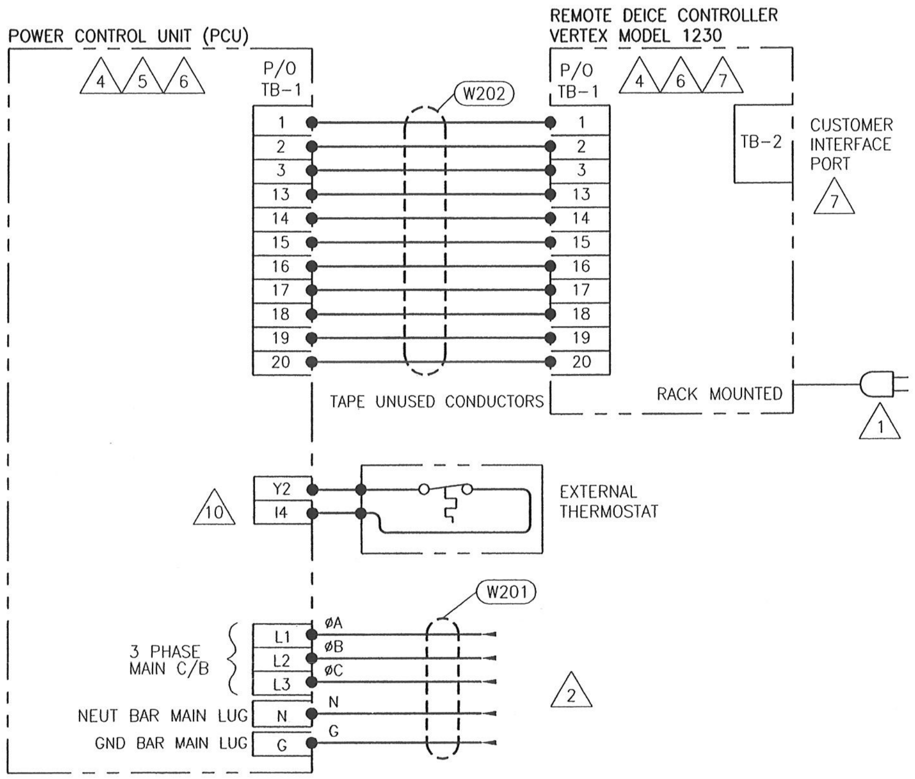
DETAIL A
HEATER WIRING
(TYPICAL 16–PLCS)
SCALE: 1/5

VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019437	A
SCALE: 1/20	CONTRACT NO. 9856	SHEET 5 OF 5	

DFORM1D2

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	10/01/98	JED/HLK



DEICE CONTROLLER CONNECTIONS

NOTES:

1. UNIT IS PROVIDED WITH POWER CORD FOR 120VAC, 1Ø, 60Hz OR 230VAC NOMINAL, 1Ø, 50Hz OPERATION AS REQUIRED PER CONTRACT. CUSTOMER TO PROVIDE PLUG AND MATING RECEPTACLE AT EQUIPMENT RACK FOR POWER.
2. CUSTOMER SUPPLIED POWER FEEDER FROM CUSTOMER POWER SOURCE TO POWER CONTROL UNIT. FEEDER SHALL BE 3 PHASE, 4 WIRE (WYE) PLUS GROUND. REFER TO SYSTEM DRAWING FOR DEICE POWER REQUIREMENTS.
3. SIXTEEN HEATER CONNECTIONS ARE REQUIRED FOR THE 4.8 METER COMPACT CASSEGRAIN ANTENNA.
4. REFERENCE VERTEX DEICE CONTROLLER O&M MANUAL FOR TERMINATION LOCATIONS AND CHECK-OUT PROCEDURES. REFERENCE DEICE ELECTRICAL CABLE INSTALLATION DRAWING FOR CABLE IDENTIFICATION AND DESCRIPTION.
5. TAG ALL GROUND AND NEUTRAL CONDUCTORS IN ACCORDANCE WITH LOCAL CODES AND PRACTICES.
6. LABEL ALL CABLES WITH PROPER CABLE NUMBERS, VISIBLE AT BOTH ENDS, USING WIRE MARKERS.
7. REFERENCE VERTEX DEICE O&M MANUAL FOR CUSTOMER INTERFACE CONNECTIONS FOR REMOTE STATUS, MONITOR, AND CONTROL FUNCTIONS.
8. ICE DETECTOR PROBE IS EQUIPPED WITH MANUAL/AUTO/OFF SELECTOR SWITCH. PLACE SWITCH IN AUTO POSITION FOR NORMAL OPERATION.
9. FIELD INSTALLER SHALL FIELD ASSIGN COLOR CODES OF CABLES. ALL PHASE, NEUTRAL, AND GROUND CONDUCTORS ARE TO BE COLOR CODED PER LOCAL CODES. FIELD INSTALLER SHALL PROVIDE AS-BUILT WIRING SCHEMATIC, IDENTIFYING COLOR CODES, TO SITE PERSONNEL PRIOR TO LEAVING SITE.
10. EXTERNAL THERMOSTAT USED WHEN POWER CONTROL UNIT IS PLACED INSIDE A SHELTER. SET THERMOSTAT TO 50 °F (10 °C).

___ # EA
- EST. WEIGHT -

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:
FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

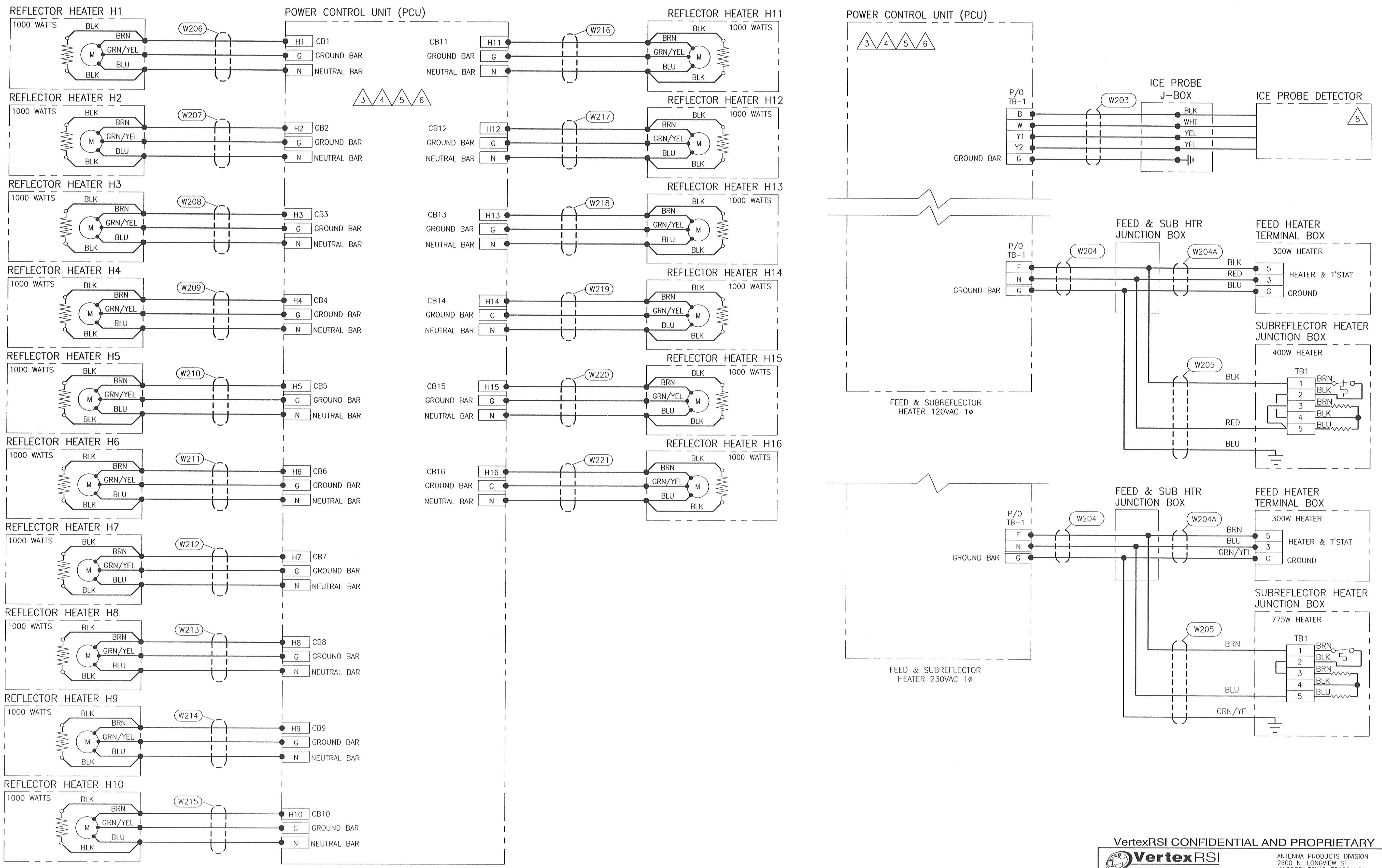
ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN N/R		DRAWN JE DINES	10/01/98
MECHANICAL N/R		CHECKED HL KREWSON	10/23/98
STRUCTURAL N/R		DESIGNER JE DINES	10/01/98
ELECTRICAL JE DINES	10/26/98	MANUFACTURING RG HUGHEY	10/26/98
-		PROJECT JR KING	10/26/98
-		PRODUCT MGR MJ RABENHORST	10/26/98
-		-	

VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE:
WIRING SCHEMATIC, ADS VERTEX 1230 CONTROLLER MODEL 4.8 KPC/KPK STD

CODE ID NO.	SIZE	DWG NO.	REV
1GD22	D	019438	A
SCALE: 1/1	CONTRACT NO. 9853		SHEET 1 OF 2

DFORM1D1



SEE SHEET 1 FOR NOTES.

POWER CONTROL UNIT CONNECTIONS

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VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	019438	A
SCALE: 1/1	CONTRACT NO.	9853	SHEET 2 OF 2

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL **SUMMARY** **PRINT DATE 11/19/05** **TIME 11:25:55**

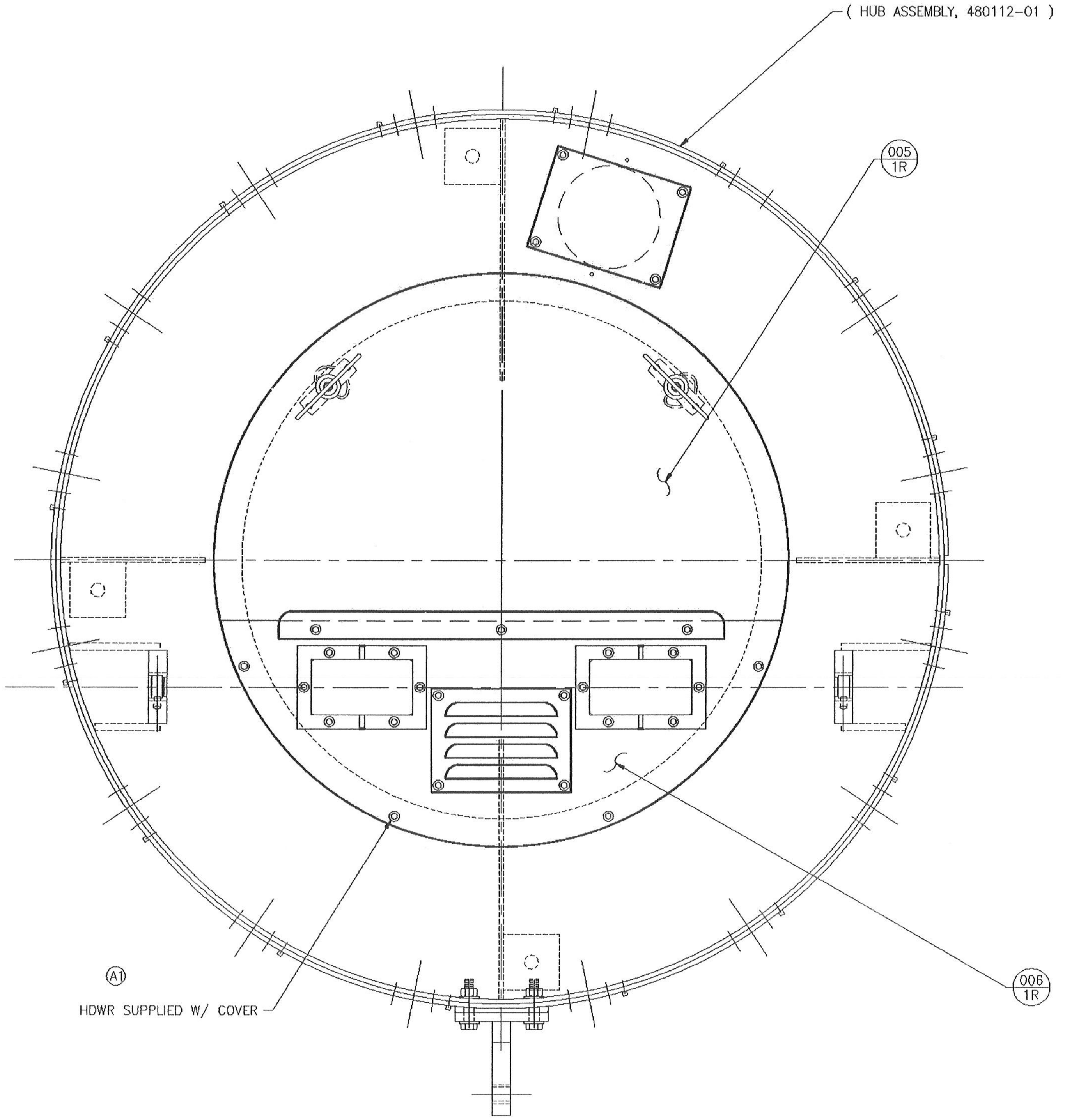
CATALOGUE#:	030661-01P	PSM:	M	STATUS:	RELEASED	DRAWING:	D-030661	REV:	B
DESCRIPTION:	REAR HUB CVR INSTL 4.8			CATEGORY:	ANTENNA	ENTERED:	4/04/2003		
				CLASS:	AACHCL	REVISED:	6/08/2004	REV:	B
				SUBCLASS:	INSTL	APPROVED:	6/08/2004		
				JOB#:		PENDING:		REV	
REVISION:	A 030682 6/12/03 KBN/KLL			OLD CAT#:	NEW 04/03/03 JDH/GPR	SIZE: D	DWG CAT: I	ID:	JDH

BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
005	030660-01P	1.00			R	C	M	HUB CVR ASSY UPR 4.8M		ASSY	D-030659	A
006	030640-01P	1.00			R	C	M	HUB CVR ASSY LWR 4.8		ASSY	D-030640	B

END OF BOM:030661-01P

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	04/04/03	JDH/GPR
A1	EC 03-0682; REMOV'D ITEMS 007-009.	05/12/03	KBN/KLL
B	EC 04-0479; BUMP ALPHA-NUMERIC REV.	06/08/04	KLL



030661-01

	QUANTITY REQUIRED						ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
A1							009			
A1							008			
A1							007			
						1	006	030640-01	HUB COVER, ASSEMBLY LOWER	
						1	005	030660-01	HUB COVER, ASSEMBLY UPPER	
							004			
							003			
							002			
						X	001	030661-01	REAR HUB COVER, INSTALLATION	
						-01	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES

LIST OF MATERIALS OR PARTS LIST

12# EA
– EST. WEIGHT –

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS: DETAILS ± **1/16**, ASSY'S ± **1/8**
DECIMALS: .XX ± **.03**, .XXX ± **.005**
ANGLES ± **1°**

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN		DRAWN JDH	04/04/03
MECHANICAL		CHECKED GPR	04/22/03
STRUCTURAL		DESIGNER JDH	04/23/03
ELECTRICAL		MANUFACTURING RGH	04/28/03
–		PROJECT JBJ	04/30/03
–		PRODUCT MGR SPK	04/30/03
–		–	

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE:
REAR HUB COVER INSTALLATION MODEL 4.8

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	030661	B

SCALE: 1/4 | CONTRACT NO. | SHEET 1 OF 1

DFORM1D1

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL **SUMMARY** **PRINT DATE** 11/19/05 **TIME** 11:25:59

CATALOGUE#: 031842-01 PSM: M STATUS: RELEASED DRAWING: D-031842 REV: A

DESCRIPTION: RAINSHIELD INSTL 4.8M

CATEGORY: ANTENNA ENTERED: 9/09/2003
CLASS: REVISED: 9/09/2003 REV: A
SUBCLASS: APPROVED: 9/22/2003
JOB#: SE38 PENDING: REV

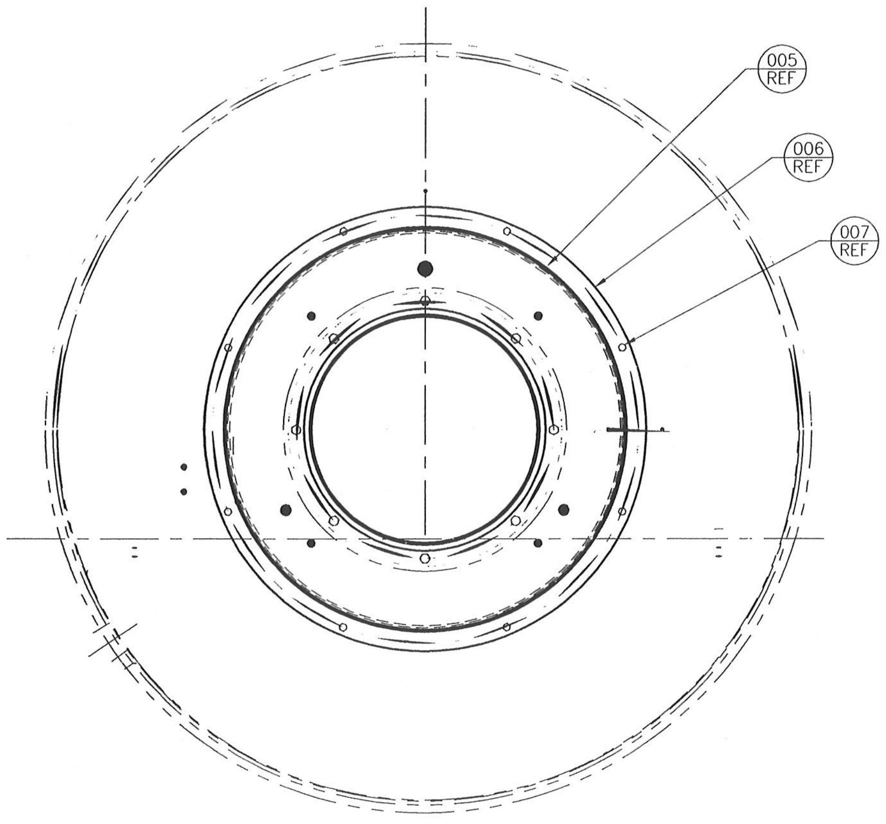
REVISION: A 09/09/03 JDH/GPR OLD CAT#: NEW 09/09/03 JDH/GPR SIZE: D DWG CAT: I ID: JDH

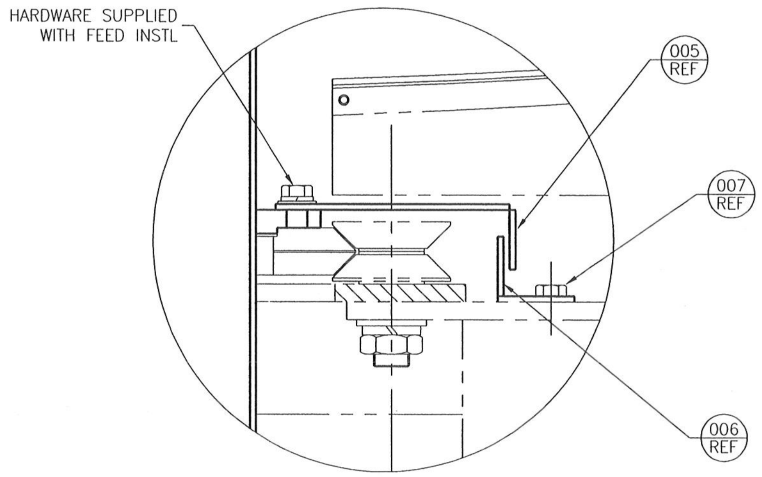
BILL OF MATERIAL

ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
005	031765-01	2.00			R	C	S	UPR RAINSHIELD WLDMNT			D-031765	A
006	031765-02	1.00			R	C	S	LWR RAINSHIELD WLDMNT			D-031765	A
007	H63105-39	8.00		EA	R	P	S	SCR ST HH #10 X 3/4 SS410 BODY	SCR	SS		
007S	H63105-39	2.00		EA	R	P	S	SCR ST HH #10 X 3/4 SS410 BODY	SCR	SS		
008	M91065-19	2.00		EA	R	P	S	SEALANT SILICONE COMPOUND			NONE	00

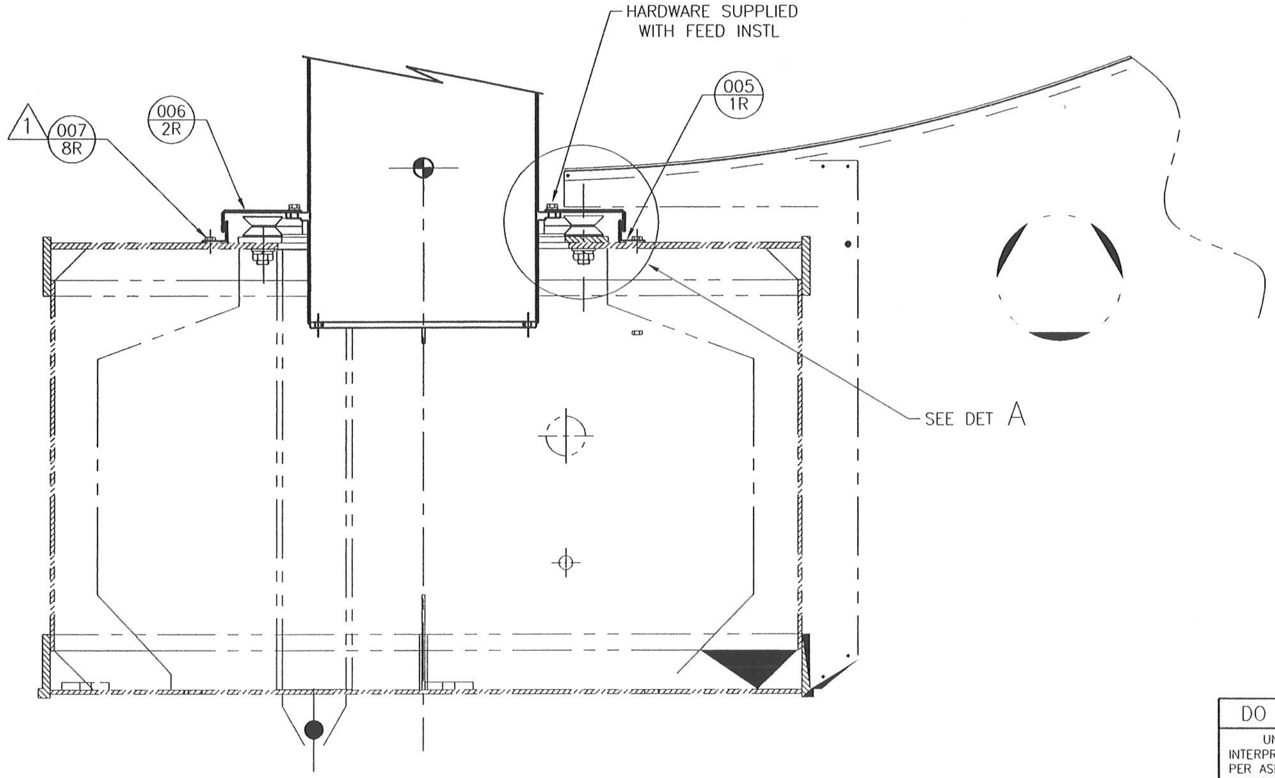
END OF BOM:031842-01

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	09/09/03	JDH/GPR





DETAIL A



031842-01

NOTE

1. ATTACH LOWER RAINSHIELD TO HUB, AND PLACE UPPER RAINSHIELD HALVES IN PLACE PRIOR TO RADIAL BEAM INSTL.

QUANTITY REQUIRED	ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	NOTES
8	007	H63105-39	SCR ST HH #10 X 3/4 SS410	
1	006	031765-02	LOWER RAINSHIELD WLDMNT	
2	005	031765-01	UPPER RAINSHIELD WLDMNT	
	004			
	003			
	002			
X	001	031842-01	RAINSHIELD INSTL	
-01				

LIST OF MATERIALS OR PARTS LIST

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:

FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN		DRAWN JDH	09/09/03
MECHANICAL		CHECKED GPR	09/16/03
STRUCTURAL		DESIGNER JDH	09/16/03
ELECTRICAL		MANUFACTURING TIE	09/18/03
-		PROJECT JBJ	09/19/03
-		PRODUCT MGR SPK	09/19/03
-		-	

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE: RAINSHIELD INSTL 4.8M

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	031842	A
SCALE: 1/6	CONTRACT NO. SE38	SHEET 1 OF 1	

___ # EA
- EST. WEIGHT -

DFORM101

VERTEXRSI-KILGORE,TX FACILITY

SINGLE LEVEL BILL OF MATERIAL   SUMMARY   PRINT DATE 11/19/05   TIME 11:26:04

CATALOGUE#: 030859-01   PSM: M   STATUS: RELEASED   DRAWING: D-030859   REV: B

DESCRIPTION: ELEC KIT LPS 4.8KP LPN   CATEGORY: INTEGRAT   ENTERED: 4/29/2003

CLASS: AACLPN   REVISED: 4/26/2004   REV: B

SUBCLASS: INSTL   APPROVED: 5/06/2004

JOB#: SE38   PENDING: REV

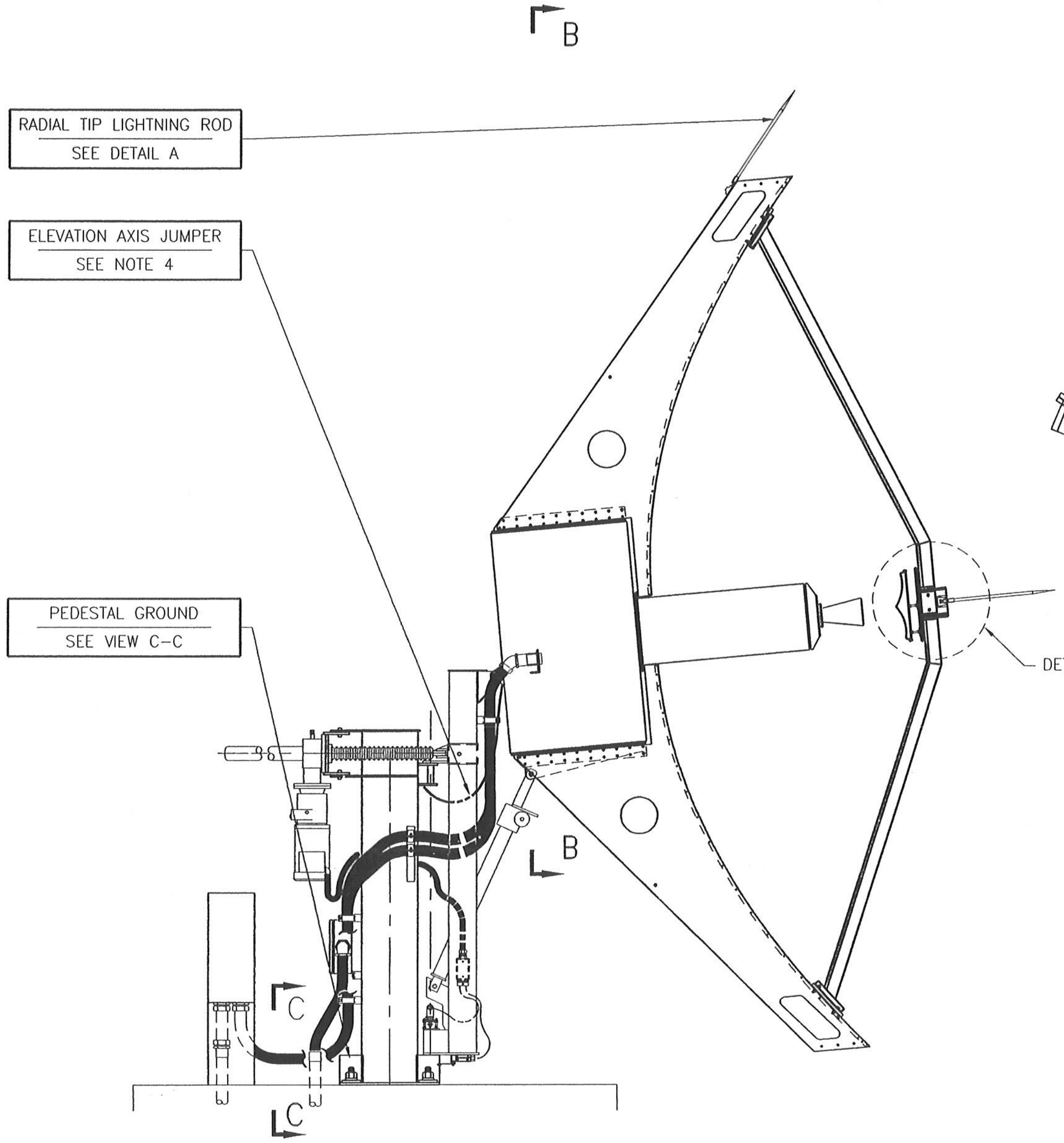
REVISION: B 040385 04/27/04 BH/BS   OLD CAT#: NEW 05/09/03 JED/BHS   SIZE: D   DWG CAT: I   ID: JED

BILL OF MATERIAL

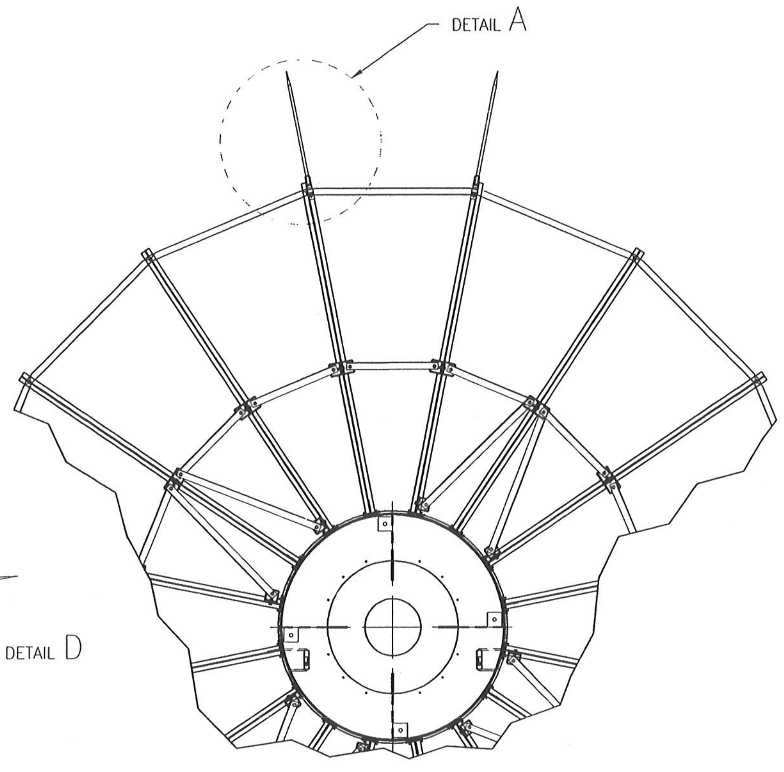
ITEM	SUB PART CATALOGUE	QTY	LNTH	UOM	ST	C/P	PSM	DESCRIPTION	CLASS	SUBCL	DRAWING	REV
001	P60320-19	1.00		EA	R	P	S	CLAMP LIGHTNING ROD	CLAMP		NONE	00
002	P98360-1	3.00		EA	R	P	S	ROD LIGHTNING 5/8 DIA X 24				
003	P60328-19	2.00		EA	R	P	S	BASE VERT LIGHTNING ROD	AACLPN		NONE	00
006	H14006-39	6.00		EA	R	P	S	SCR CAP HH 1/4-20UNC X 1 SSF593	CAPSCR	SS	NONE	00
006S	H14006-39	1.00		EA	R	P	S	SCR CAP HH 1/4-20UNC X 1 SSF593	CAPSCR	SS	NONE	00
007	H40045-39	8.00		EA	R	P	S	FW (AN) 1/4 X 5/8 SS18-8	FW	SS	NONE	00
007S	H40045-39	1.00		EA	R	P	S	FW (AN) 1/4 X 5/8 SS18-8	FW	SS	NONE	00
008	H20011-39	6.00		EA	R	P	S	NUT HEX 1/4-20UNC SSF594	HEXNUT	SS	NONE	00
008S	H20011-39	1.00		EA	R	P	S	NUT HEX 1/4-20UNC SSF594	HEXNUT	SS	NONE	00
009	H30009-39	6.00		EA	R	P	S	LW HELICAL 1/4 SS18-8	LW	SS	NONE	00
009S	H30009-39	1.00		EA	R	P	S	LW HELICAL 1/4 SS18-8	LW	SS	NONE	00
015	E98024-1	1.00		EA	R	P	S	LUG GROUND 2/0-4/0				

END OF BOM:030859-01

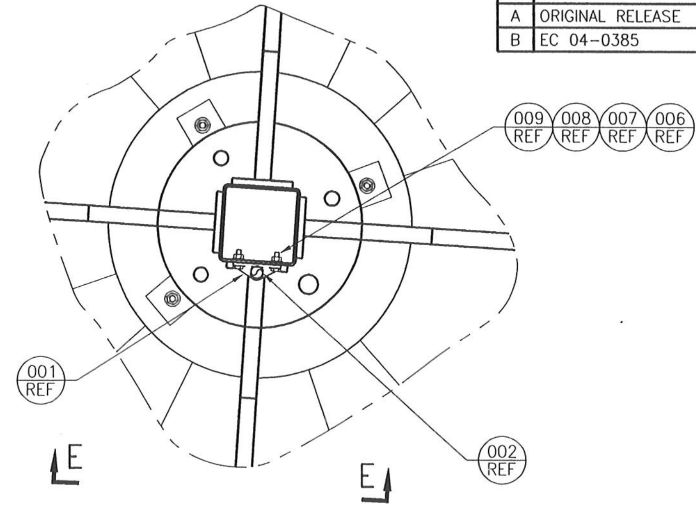
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	04/29/03	JED/BHS
B	EC 04-0385	04/27/04	BIH/BHS



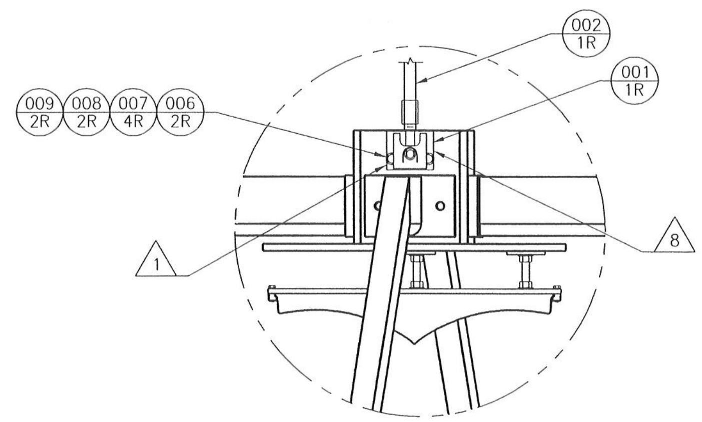
SIDE VIEW
LIGHTNING ROD INSTALLATION



VIEW B-B
RADIAL TIP LIGHTNING ROD

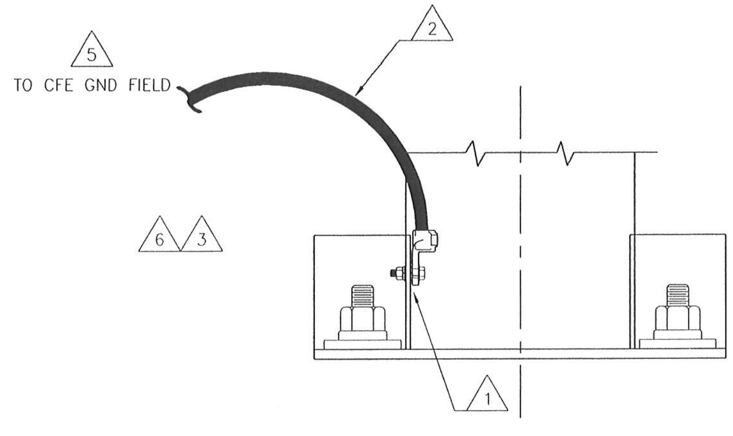


DETAIL D
APEX LIGHTNING ROD INSTL.
SCALE: 1/5

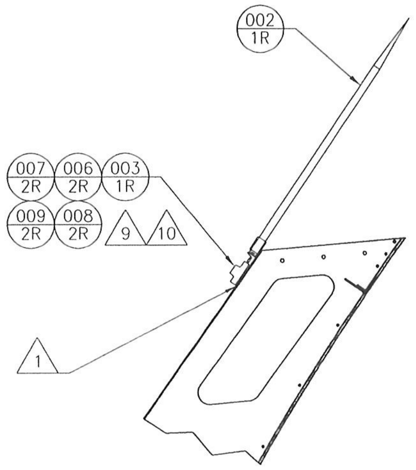


VIEW E-E
APEX LIGHTNING ROD INSTL.
SCALE: 1/5

030859-01



VIEW C-C Ⓑ
CFE GROUND CONNECTION
SCALE: 1/5



DETAIL A
RADIAL LIGHTNING ROD INSTL.
SCALE: 1/8
2-PLCS

NOTES:

1. REMOVE PAINT TO BARE METAL FROM MOUNTING SURFACE AND WIREBRUSH BRACKET. DO NOT REMOVE GALVANIZING.
2. CUSTOMER SHALL PROVIDE A GROUND FIELD AND #2/0 AWG (10.6 mm) MINIMUM GROUND CABLE FOR ANTENNA CONNECTION TO THE GROUND FIELD.
3. CUSTOMER SHALL PROVIDE A MECHANICAL CONNECTOR OR THERMAL WELD TO CONNECT THE GROUND CABLE TO THE ANTENNA. A 7/16" (11.1 mm) ø HOLE IS PROVIDED IN THE WEB OF THE PEDESTAL. CUSTOMER MAY CONNECT THE GROUND CABLE WITH THE AXIS JUMPER, EACH ON OPPOSITE SIDES OF THE WEB, USING 3/8-16UNC x 1 3/4" LG HARDWARE. ALL GROUNDING CONNECTIONS SHALL MEET LOCAL CODES.
4. ELEVATION AND AZIMUTH AXIS JUMPER CABLES ARE PREVIOUSLY INSTALLED ON ANTENNA INSTALLATION DRAWING.
5. REFERENCE FOUNDATION CONDUIT LAYOUT FOR LOCATION OF GROUND FIELD STUB-UPS IN PAD.
6. IF HOLE NOT ALREADY EXISTING, DRILL ø7/16 HOLE THROUGH SUPPORT ANGLE.
7. PLACE EXT. TOOTH WASHER (ITEM 013) BETWEEN LUG AND ANTENNA INSTALLATION.
8. MOUNT TO PRE-DRILLED APEX ASSEMBLY AS SHOWN.
9. WHEN ANTENNA DOES NOT HAVE DOWN CONDUCTORS DRILL SECOND HOLE IN LIGHTNING ROD CLAMP (ITEM 003) FOR 1/4-20 MOUNTING HARDWARE.
10. USING LIGHTNING ROD CLAMP (ITEM 003) MATCH DRILL RADIAL FOR 1/4-20 MOUNTING HARDWARE.
11. CUSTOMER SHALL PROVIDE A MECHANICAL CONNECTION OR THERMAL WELD TO CONNECT THE GROUND CABLE TO THE ANTENNA. A 7/16" (11.1mm) ° HOLE IS PROVIDED IN THE WEB OF THE PINTLE. CUSTOMER MAY CONNECT THE GROUND CABLE WITH THE AXIS JUMPER, EACH ON OPPOSITE SIDES OF THE WEB, USING 3/8-16UNC X 1 3/4"LG HARDWARE. ALL GROUNDING CONNECTIONS SHALL MEET LOCAL CODES.
12. REMOVE CONDUCTOR INSULATION FOR FULL LENGTH OF CLAMP OR LUG.
13. DOWN CONDUCTORS SHOULD BE RUN STRAIGHT AND FOLLOW THE MOST DIRECT PATH TO EARTH. WHEN A BEND IS REQUIRED THE BEND RADIUS SHOULD BE A MINIMUM OF 8 INCHES (200mm).
14. DOWN CONDUCTORS TO BE RUN OUTSIDE CLOSEOUT WHEN CLOSEOUT REQUIRED.

___ # EA
– EST. WEIGHT –

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED ! INTERPRET DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994. DIMENSIONS ARE IN INCHES. DIMENSIONS SHOWN IN ( ) ARE FOR REFERENCE ONLY. TOLERANCES ARE:
FRACTIONS: DETAILS ± 1/16, ASSY'S ± 1/8
DECIMALS: .XX ± .03, .XXX ± .005
ANGLES ± 1°

UNLESS OTHERWISE SPECIFIED ! PART TO BE FREE OF BURRS & SHARP EDGES. COMMERCIAL TOLERANCES TO STOCK SIZES APPLY.

TO CONVERT TO METRIC SYSTEM, MULTIPLY INCHES SHOWN ON DRAWING BY 25.4 TO OBTAIN MILLIMETERS.

REFERENCE SEPARATE BOM FOR SPECIFIC INFO

ADDITIONAL APPROVALS	DATE	APPROVALS	DATE
DESIGN		DRAWN JE DINES	04/29/03
MECHANICAL		CHECKED BH SMITH	05/13/03
STRUCTURAL		DESIGNER JE DINES	04/29/03
ELECTRICAL KB STODDARD	05/13/03	MANUFACTURING RG HUGHEY	05/13/03
-		PROJECT JB JOHNSON	05/13/03
-		PRODUCT MGR JD PANTZER	05/13/03
-		-	

VertexRSI CONFIDENTIAL AND PROPRIETARY

VertexRSI

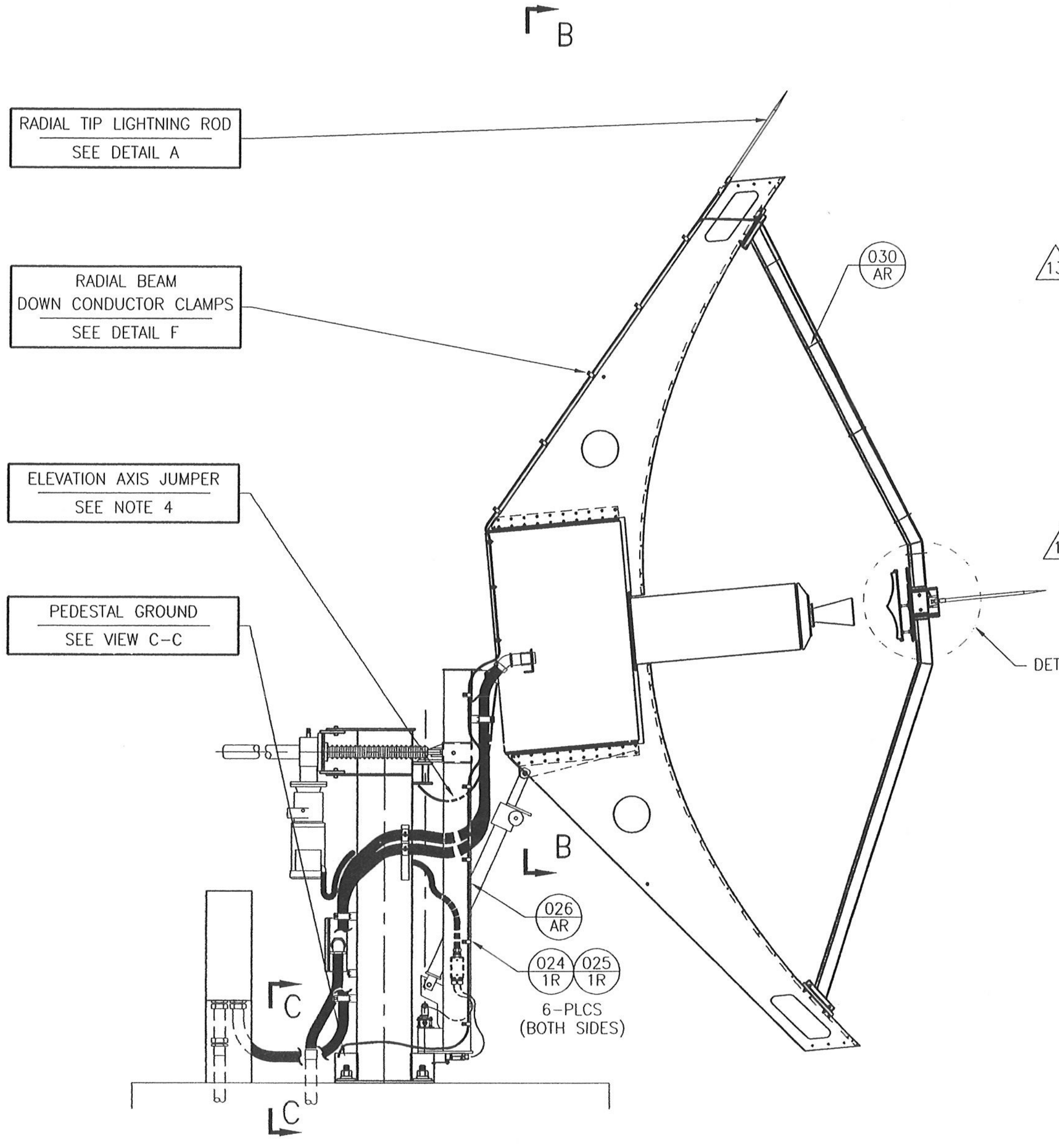
ANTENNA PRODUCTS DIVISION
2600 N. LONGVIEW ST.
KILGORE, TEXAS 75662 USA

TITLE:
ELEC KIT LPS 4.8M
LIGHTNING PROTECTION SYSTEM

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	030859	B

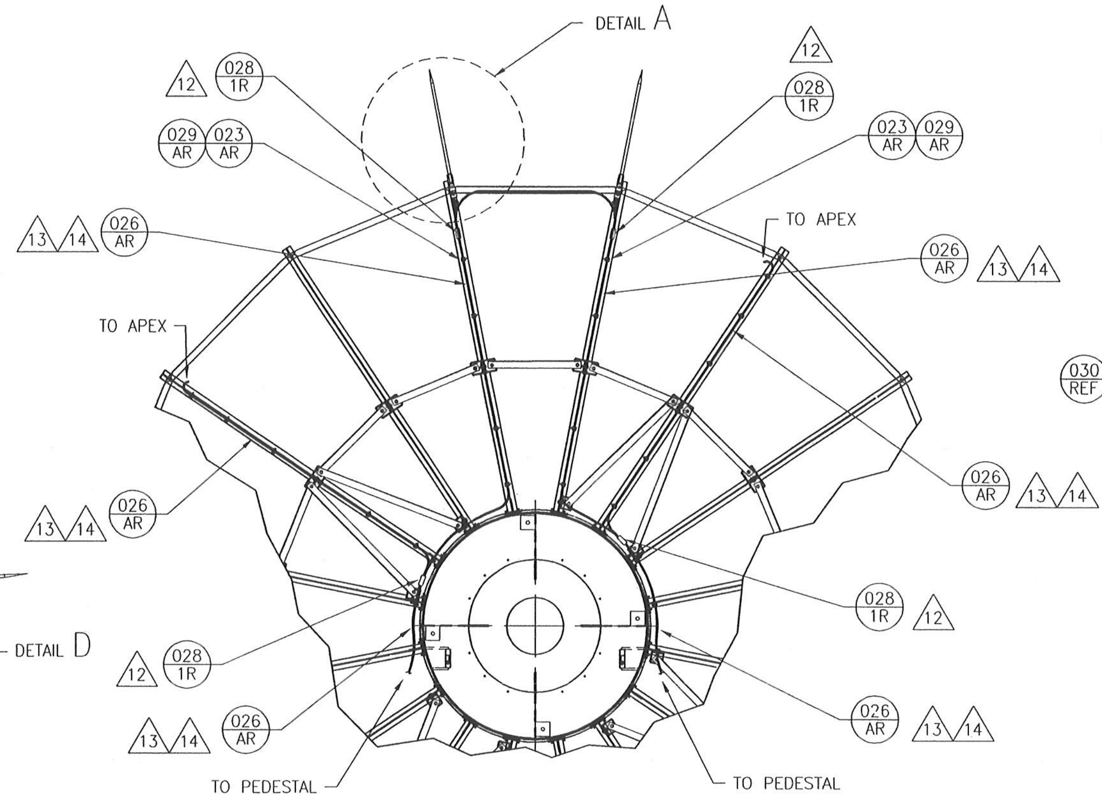
SCALE: 1/20 | CONTRACT NO: SE38 | SHEET 1 OF 2

DFORM1D1



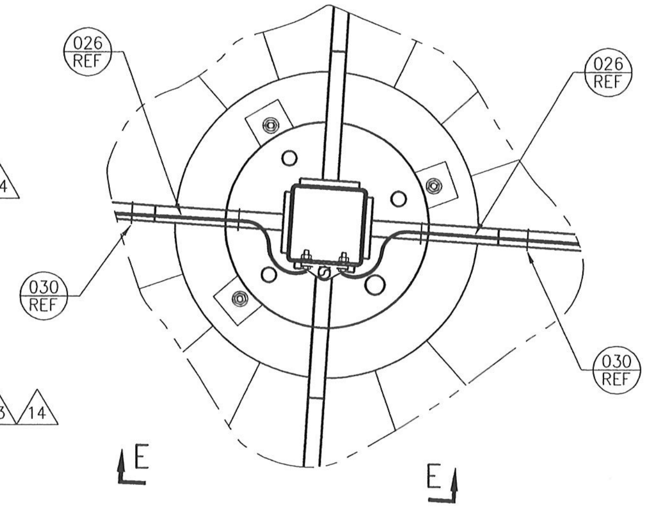
SIDE VIEW

LIGHTNING ROD INSTALLATION



VIEW B–B

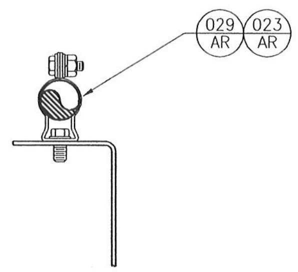
RADIAL TIP LIGHTNING ROD



DETAIL D

APEX LIGHTNING ROD INSTL.

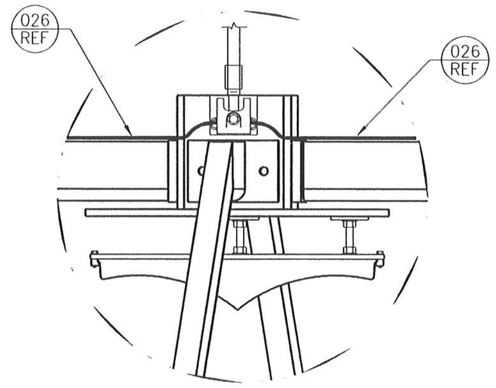
SCALE: 1/5



DETAIL F

RADIAL CROSS SECTION

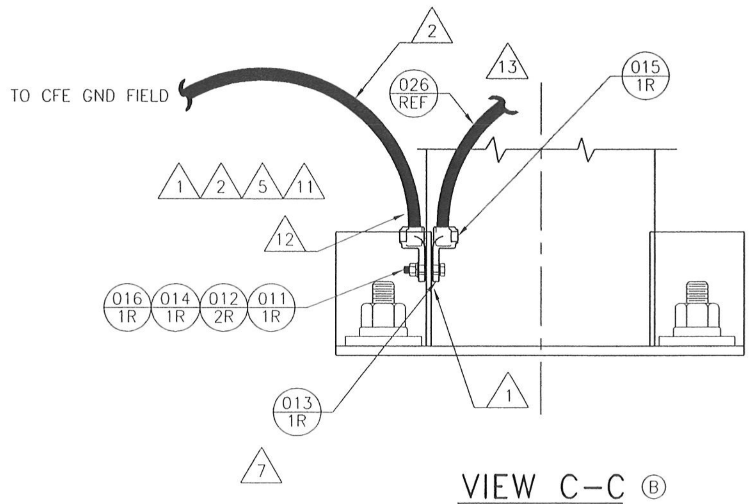
SCALE: 1/10



VIEW E–E

APEX LIGHTNING ROD INSTL.

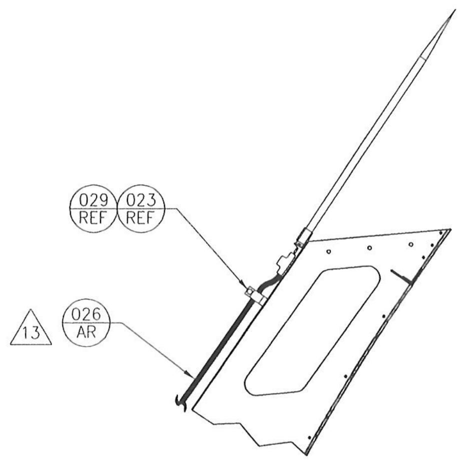
SCALE: 1/5



VIEW C–C Ⓑ

CFE GROUND CONNECTION

SCALE: 1/5



DETAIL A

RADIAL LIGHTNING ROD INSTL.

SCALE: 1/8

2–PLCS

030859–02

OPTIONAL DOWN CONDUCTORS

VertexRSI — ANTENNA PRODUCTS DIVISION, 2600 N. LONGVIEW ST., KILGORE, TEXAS 75662 USA

CODE ID. NO.	SIZE	DWG NO.	REV
1GD22	D	030859	B
SCALE 1/20	CONTRACT NO. SE38	SHEET 2 OF 2	

DFORM102