

**Bill Harland**  
**Vice President of Marketing**

EMAIL: [bharland@eriinc.com](mailto:bharland@eriinc.com)  
TEL: +1 (812) 925-6000 x. 214

October 1, 2012

Corporate:  
7777 Gardner Road  
Chandler, Indiana 47610-9219  
USA

TEL: +1 (812) 925-6000  
FAX: +1 (812) 925-4030

Ms. Connie Oswald  
State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
P.O. Box 50130  
Charleston, WV 25305-0130

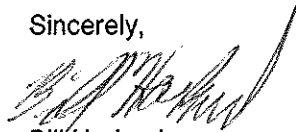
Dear Ms. Oswald:

Please find enclosed the ERI response to the West Virginia Educational Broadcasting Authority's solicitation for a new UHF television antenna for W28DR, licensed to Cedarville. We believe the bid document to be filled out completely and correctly. Please note that beginning on page 3 of Section 5 of the ERI response is an item by item reply to the bid specifications and exceptions are indicated clearly.

Also, we ask that you accept this letter to fulfill the requirement of General Requirements Section 3.1.2 and waive the requirement for a West Virginia Worker's Compensation Certificate. ERI does not employ any West Virginia residents.

If you have questions or require additional information would you please contact me by telephone (+1 (812) 925-6000, Ext.214) or by e-mail ([bharland@eriinc.com](mailto:bharland@eriinc.com)).

Sincerely,



Bill Harland  
Vice President of Marketing  
Phone: +1 (812) 925-6000, ext. 214  
Facsimile: +1 (812) 925-4026  
Cell: +1 (812) 455-1823  
E-mail: [bharland@eriinc.com](mailto:bharland@eriinc.com)

RECEIVED

2012 OCT -3 AM 9:12

WV PURCHASING  
DIVISION





**State of West Virginia  
Department of Administration  
Purchasing Division**

**NOTICE**

Due to the size of this bid, it was impractical to scan every page for online viewing. We have made an attempt to scan and publish all pertinent bid information. However, it is important to note that some pages were necessarily omitted.

If you would like to review the bid in its entirety, please contact the buyer. Thank you.

\*\*\*

# SECTION CONTENTS

**State of West Virginia  
Solicitation Number EBA427  
Antenna System for W28DR,  
Cedarville, West Virginia**

**Prepared For:**

State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
P.O. Box 50130  
Charleston, WV 25305-0130  
ATTN: Connie Oswald  
+1 (304) 558-3970  
connie.s.oswald@wv.gov

Proposal Number: WAH-2012100401-TV-WV  
Date Submitted: October 4, 2012

**Prepared by:**

Bill Harland  
Vice President of Marketing  
ELECTRONICS RESEARCH, INC.  
Telephone: +1 (812) 925-6000  
Facsimile: +1 (812) 925-4030  
E- mail: bharland@erinc.com

1

Solicitation Number EBA427  
Signed and Completed Bid  
Document

2

Solicitation Number EBA427  
Pricing Page

3

Solicitation Number EBA427  
Signed Purchasing Affidavit,  
Certification and Signature Page,  
and Addendum Acknowledgement  
Form

4

Solicitation Number EBA427  
Signed and Completed Addendum  
One Document

5

Solicitation Number EBA427  
Product Information

Electronics Research, Inc. • 7777 Gardner Road • Chandler, IN 47610-9219 • USA  
+1 812 925-6000 (tel) • +1 812 925-4030 (fax)

Your Single Source for Broadcast Solutions™ • Call Toll-free at 877 ERI-LINE • Visit Online at [www.erinc.com](http://www.erinc.com)



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**Solicitation**

NUMBER
EBA427

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
CONNIE OSWALD 304-558-2157

VENDOR

Electronics Research, Inc.  
 7777 Gardner Road  
 Chandler, IN 47610

SHIP TO

EDUCATIONAL BROADCASTING  
 AUTHORITY  
 VARIOUS LOCALES AS INDICATED  
 BY ORDER

DATE PRINTED
09/06/2012

BID OPENING DATE: 10/04/2012 BID OPENING TIME: 1:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		840-10		\$30,289.64
<p>THE STATE OF WEST VIRGINIA AND ITS AGENCY THE WEST VIRGINIA EDUCATIONAL BROADCASTING AUTHORITY (WVEBA) REQUEST A QUOTE TO PROVIDE A CHANNEL 28 DIGITAL TELEVISION ANTENNA SYSTEM AND ACCESSORIES FOR THE CEDARVILLE, WV AREA ACCORDING TO THE ATTACHED SPECIFICATIONS.</p> <p>BID OPENING OCTOBER 4, 2012 AT 1:30 PM</p> <p>REFERENCE ATTACHED INSTRUCTIONS TO BIDDERS.</p> <p>ANTENNAS AND ACCESSORIES, TELEVISION</p> <p>TO PROVIDE A CHANNEL 28 DIGITAL TELEVISION ANTENNA SYSTEM AND ASSOCIATED HARDWARE FOR THE CEDARVILLE, WEST VIRGINIA AREA ACCORDING TO THE ATTACHED SPECIFICATIONS.</p> <p>REFERENCE ATTACHED INSTRUCTIONS TO BIDDERS.</p>						

SIGNATURE	William A. Harland	TELEPHONE	+1 (812) 925-6000, Ext. 214	DATE	October 1, 2012
TITLE	Vice President of Marketing	FEIN	35-1083384	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
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LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
	*****			THIS IS THE END OF RFQ	EBA427 ***** TOTAL	\$30,289.64

SIGNATURE	William A. Harland <i>William A. Harland</i>	TELEPHONE	+1 (812) 925-6000, Ext. 214	DATE	October 1, 2012
TITLE	Vice President of Marketing	FEIN	35-1083384	ADDRESS CHANGES TO BE NOTED ABOVE	

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**INSTRUCTIONS TO VENDORS SUBMITTING BIDS**

- 1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
  
- 2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
  
- 3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.

A pre-bid meeting will not be held prior to bid opening.

A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

A **MANDATORY PRE-BID** meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required

information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. **VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are non-binding.

Question Submission Deadline:

Submit Questions to:

Fax:

Email:

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including that made at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.
6. **BID SUBMISSION:** All bids must be signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The bid delivery address is:

Department of Administration, Purchasing Division  
2019 Washington Street East  
P.O. Box 50130,  
Charleston, WV 25305-0130



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
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TITLE	Vice President of Marketing	FEIN	35-1083384	ADDRESS CHANGES TO BE NOTED ABOVE	

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State of West Virginia  
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**EXHIBIT 1**

EXHIBIT 1

APPURTENANCE LOADING

POS.	DESCRIPTION	QTY	ELEVATION	MOUNT TYPE
1	18"x3 Dowl	4	190.00 Ft	12" FSS
2	18"x3 Dowl	4	190.00 Ft	12" FSS
3	18"x3 Dowl	4	190.00 Ft	12" FSS
4	PL6 w/o redone	1	160.00 Ft	Pipe Mount
5	PL6 w/o redone	1	160.00 Ft	Pipe Mount
6	18"x3 Dowl	1	170.00 Ft	6' Side Arm
7	18"x3 Dowl	1	157.25 Ft	6' Side Arm
8	PL6 w/o redone	1	150.00 Ft	Pipe Mount
9	PL6 w/o redone	1	150.00 Ft	Pipe Mount
10	18"x2 Dowl	1	145.50 Ft	6' Side Arm
11	18"x3 Dowl	4	133.25 Ft	6' Side Arm
12	18"x3 Dowl	1	120.00 Ft	6' Side Arm
13	PL6 w/o redone	1	120.00 Ft	Pipe Mount
14	PL6 w/o redone	1	120.00 Ft	Pipe Mount
15	18"x3 Dowl	1	99.75 Ft	6' Side Arm
16	18"x3 Dowl	1	87.50 Ft	6' Side Arm
17	PL6 w/o redone	1	80.00 Ft	Pipe Mount
18	PL6 w/o redone	1	80.00 Ft	Pipe Mount
19	18"x3 Dowl	1	75.25 Ft	6' Side Arm
20	18"x3 Dowl	1	72.00 Ft	6' Side Arm
21	18"x3 Dowl	1	50.00 Ft	6' Side Arm

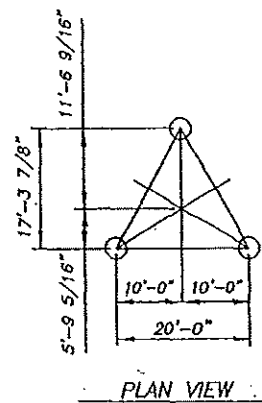
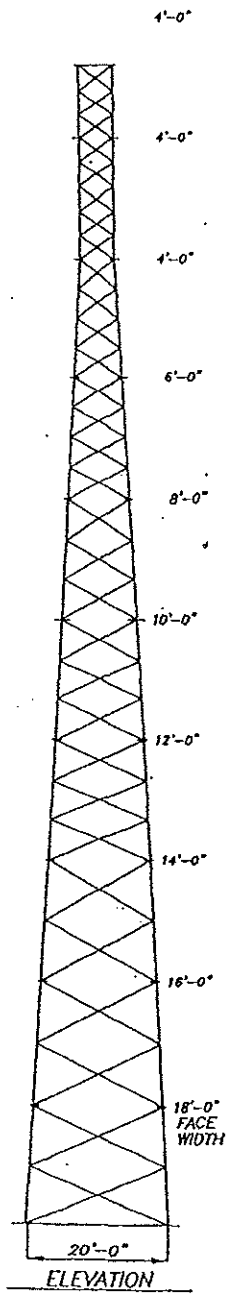
TOWER DESIGN LOADING

1. TOWER IS DESIGNED PER EA/TIA-222F FOR 70 MPH WIND LOAD WITH 1/2" ICE, 90 MPH (3) SEC. GUST.
2. TRANSMISSION LADDERS AND LINES MUST BE EVENLY DISTRIBUTED ON ALL (3) FACES.

REFERENCE DRAWINGS

1. FOUNDATION DRAWINGS
  - TOWER BASE A-AB20
  - ANCHOR BOLT N/A
  - BASE GROUT A-SSTGR71
  - GROUNDING N/A
2. CELL MOUNT N/A
3. DISH MOUNTS N/A
4. BRACING LACING A-INST1
5. SAFETY CLUMB B-SAFETY
6. ICE SHIELD N/A
7. LIGHTNING ROD A-LTOD71
8. WAVEGUIDE LADDER N/A
9. TX-LINE GROUNDING B-COAX-SST
10. WAVEGUIDE BRIDGE N/A
11. BEACON MOUNT N/A
12. LIGHTING DIAGRAM N/A
13. SIDE LIGHTS N/A
14. FOR SECTION ASSEMBLIES SEE DRAWING A-"ASSY NO."

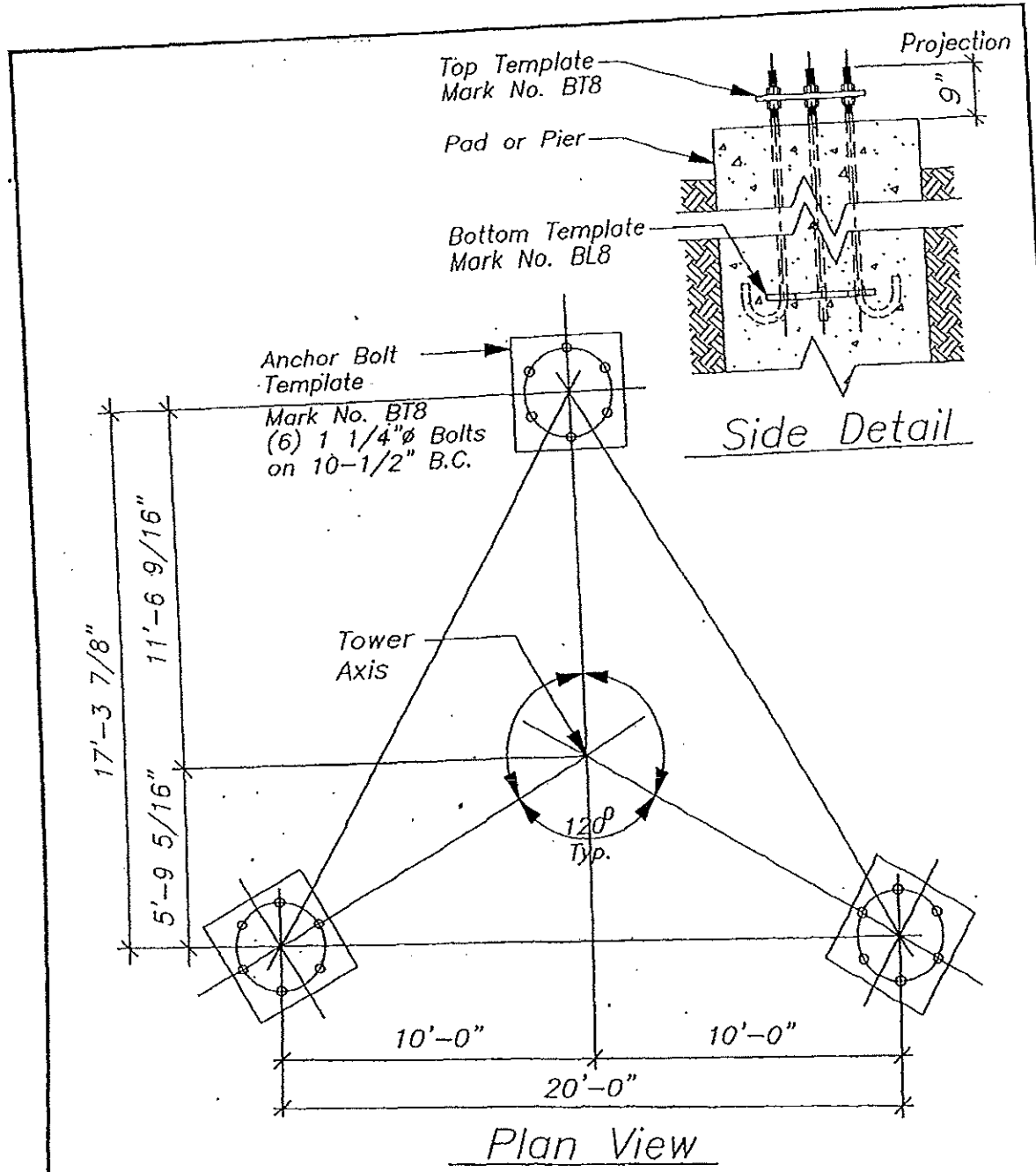
SECTION ASSY NO.	LEGS	DIAGONALS	2nd Diag.	2nd Horiz.	WIND BR.	PAINT	LIGHTING
1SG	185'	15G	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2T	170'	2T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
3T	160'	3T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
4T	150'	4T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
5T	140'	5T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
6T	130'	6T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
7T	120'	7T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
8T	113.5'	8T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
9T	100'	9T	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
10TB	80'	10TB	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	60'		Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	40'		Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	20'		Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	0'		Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable



BASE REACTIONS

Overtum	K-FT
Shear	KIPS
Weight	KIPS
Uplift	KIPS
Compression	KIPS

Rev.	Description	Date	By
Title 100' SST		Date	
Client West Virginia		Scale none	
Site Flatwood, WV		Proj No. 11543	
Drawn by BM		Date 8/1/04	
Checked by		Proj No. 11543	



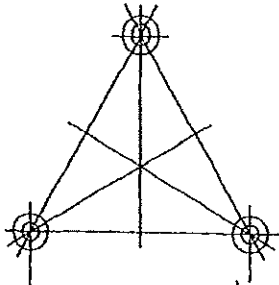
- Note:**
1. Anchor bolt orientation always is as shown for (6) bolt flanges.
  2. Anchor bolts must be set plumb within  $\pm 0.5'$

Rev.	Description	Date	By
	Title Bolt Layout		
	Cust. Standard		
	Site Standard		
	Own. By BM	Job No. Standard	
	Chk. By	Scale None	
	Date 02/01/01	Dwg. No. A-AB20	

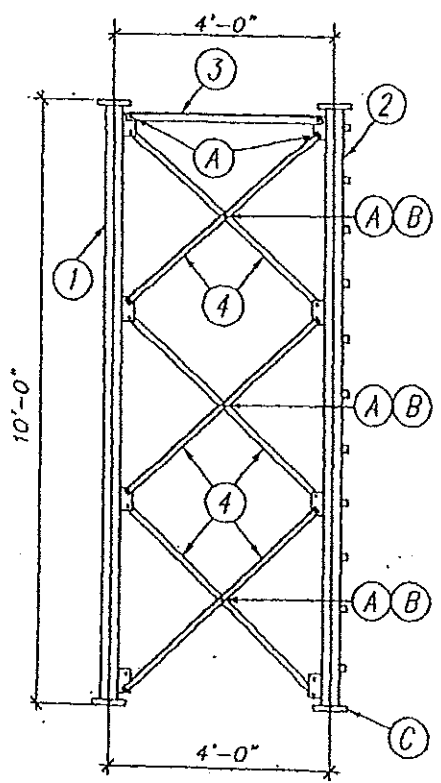


Tower Division

PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	33L01	2	Leg: Pipe 2" Sch 40 x 10'-0"		192
(2)	33L01L	1	Leg: Pipe 2" Sch 40 x 10'-0"		98
(3)	70G1	3	Girt: L1 3/4 x 1 3/4 x 3/16 x 3'-6 7/8"		24
(4)	7001A	18	Diag: L1 3/4 x 1 3/4 x 3/16 x 4'-6 3/4"		180
(A)		51	Bolt: 5/8ø x 1 3/4 w/ HH Nut		8
(B)	RF1	9	Ringfill: PL3/8x2sqr w/ 13/16 Hole		4
(C)		18	Bolt: 5/8ø x 3 1/4 w/ HH Nut		6
Total Section Wt.					512



PLAN VIEW



1SG  
ELEVATION

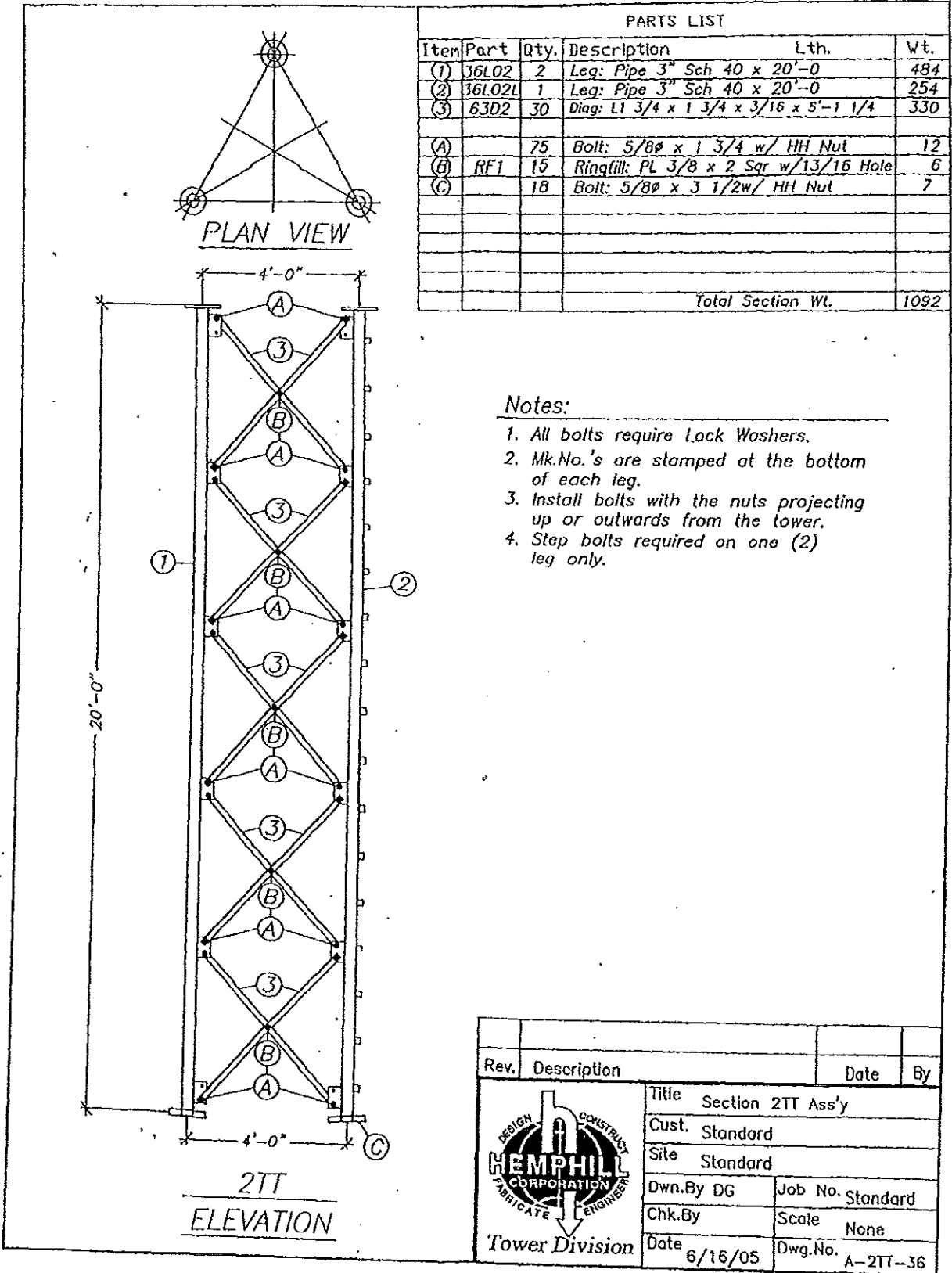
Notes:

1. All bolts require Lock Washers.
2. Mk.No.'s are stamped at the bottom of each leg.
3. Install bolts with the nuts projecting up or outwards from the tower.
4. Step bolts required on one (2) leg only.

Rev.	Description	Date	By
	Title Section 1SG Ass'y		
	Cust. Standard		
	Site Standard		
	Dwn.By TDB	Job No. 1433	
	Chk.By	Scale None	
	Date 9/26/06	Dwg.No. A-1SG-33	



Tower Division



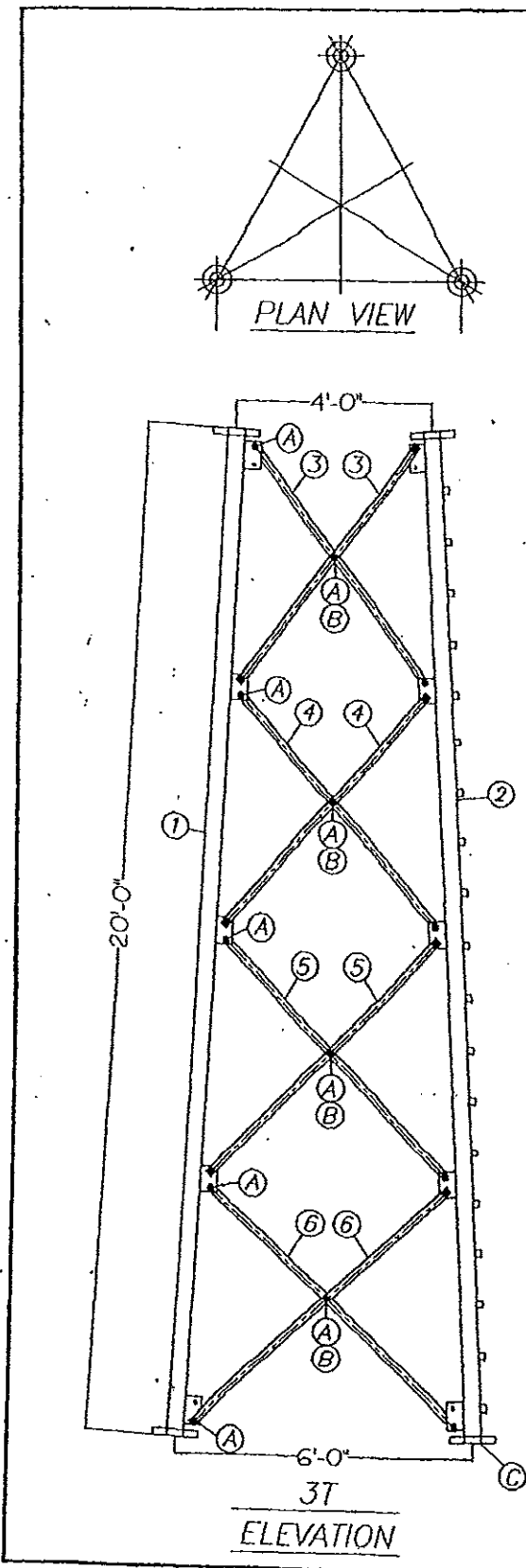
PARTS LIST

Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L02	2	Leg: Pipe 3" Sch 40 x 20'-0		484
(2)	36L02L	1	Leg: Pipe 3" Sch 40 x 20'-0		254
(3)	63D2	30	Diag: L1 3/4 x 1 3/4 x 3/16 x 5'-1 1/4		330
(A)		75	Bolt: 5/8ø x 1 3/4 w/ HH Nut		12
(B)	RF1	15	Ringfill: PL 3/8 x 2 Sqr w/13/16 Hole		6
(C)		18	Bolt: 5/8ø x 3 1/2w/ HH Nut		7
Total Section Wt.					1092

Notes:

1. All bolts require Lock Washers.
2. Mk.No.'s are stamped at the bottom of each leg.
3. Install bolts with the nuts projecting up or outwards from the tower.
4. Step bolts required on one (2) leg only.

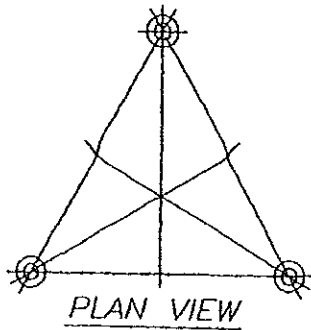
Rev.	Description	Date	By
		Title	Section 2TT Ass'y
		Cust.	Standard
		Site	Standard
		Job No.	Standard
		Scale	None
		Dwg.No.	A-2TT-36
Tower Division		Date	6/16/05



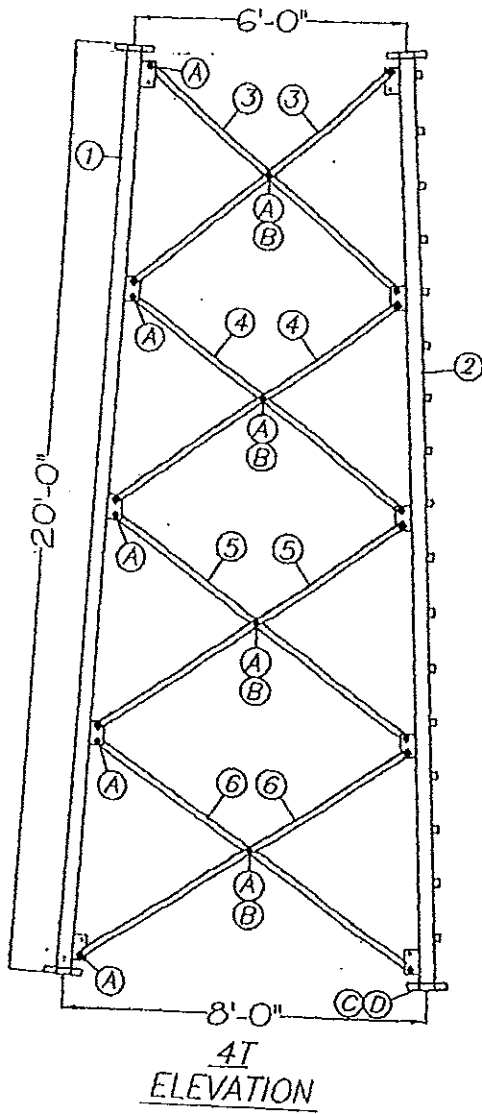
PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	33L03	2	Leg: Pipe 3 1/2" Sch 40 x20'-0		520
(2)	33L03L	1	Leg: Pipe 3 1/2" Sch 40 x20'-0		272
(3)	33D3	6	Diag: L 1 3/4 x 1 3/4 x 3/16 x 5'-11 1/2"		78
(4)	33D4	6	Diag: L 1 3/4 x 1 3/4 x 3/16 x 6'-3 1/4"		84
(5)	33D5	6	Diag: L 1 3/4 x 1 3/4 x 3/16 x 6'-7 1/4"		84
(6)	33D6	6	Diag: L 1 3/4 x 1 3/4 x 3/16 x 6'-11 1/2"		90
(A)		60	Bolt: 5/8" x 1 3/4 w/ HH Nut		9
(B)	RF1	12	Ringfill: PL 3/8 x 2 Sqr w/ 13/16 Hole		5
(C)		18	Bolt: 5/8" x 3 1/2 w/ HH Nut		6
Total Section Wt.					1148

- Notes:**
1. All bolts require Lock Washers.
  2. Mk.No.'s are stamped at the bottom of each leg.
  3. Install bolts with the nuts projecting up or outwards from the tower.
  4. Maintain step bolt and safety climb run with (2) leg.

Rev.	Description	Date	By
		Title	Section 3T Ass'y
		Cust.	Hemphill Corporation
		Site	Morris, AL
		Dwn.By	TDI
		Job No.	1433
		Scale	None
Chk.By			
Date	10/01/08	Dwg.No.	A-3T-33



PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L04	2	Leg: Pipe 3-1/2" Sch 40 x 20'-0"		532
(2)	36L04L	1	Leg: Pipe 3-1/2" Sch 40 x 20'-0"		278
(3)	69D7	6	Diag: 1 3/4 x 1 3/4 x 3/16 x 7'-4 11/16"		90
(4)	69D8	6	Diag: 1 3/4 x 1 3/4 x 3/16 x 7'-8"		96
(5)	69D9	6	Diag: 1 3/4 x 1 3/4 x 3/16 x 8'-0 11/16"		102
(6)	69D10	6	Diag: 1 3/4 x 1 3/4 x 3/16 x 8'-6 11/16"		108
(A)		60	Bolt: 5/8ø x 1 3/4 w/ HH Nut		9
(B)	RF1	12	Ringfill: PL 3/8 x 2 Sqr w/ 13/16 Hole		5
(C)		17	Bolt: 5/8ø x 3 1/2 w/ HH Nut		5
(D)		1	Bolt: 5/8ø x 3 3/4 w/ HH Nut		1
Total Section Wt.					1226



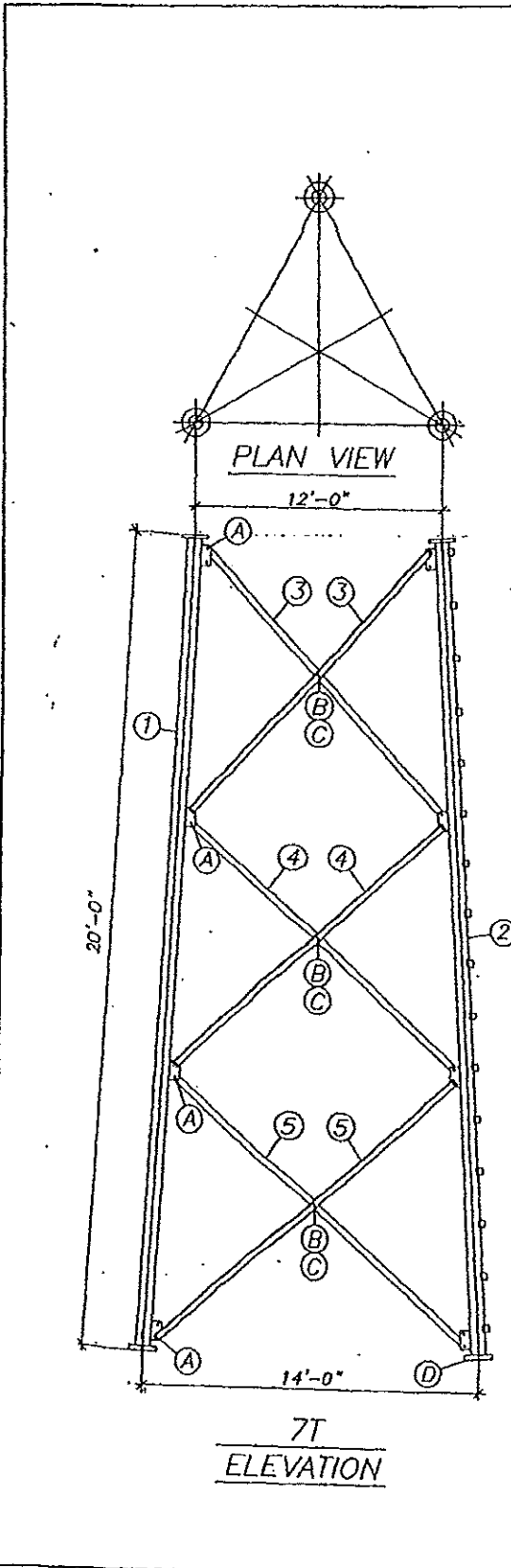
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  2. Mk.No.'s are stamped at the bottom of each leg.
  3. Install bolts with the nuts projecting up or outwards from the tower.
  4. Maintain step bolt and safety climb run with (2) leg.

Rev.	Description	Date	By

	Title	Section 4T Ass'y
	Cust.	Standard
	Site	Standard
	Dwn.By	TDB Job No. Standard
	Chk.By	Scale None
	Date	10/9/06 Dwg.No. A-4T-36

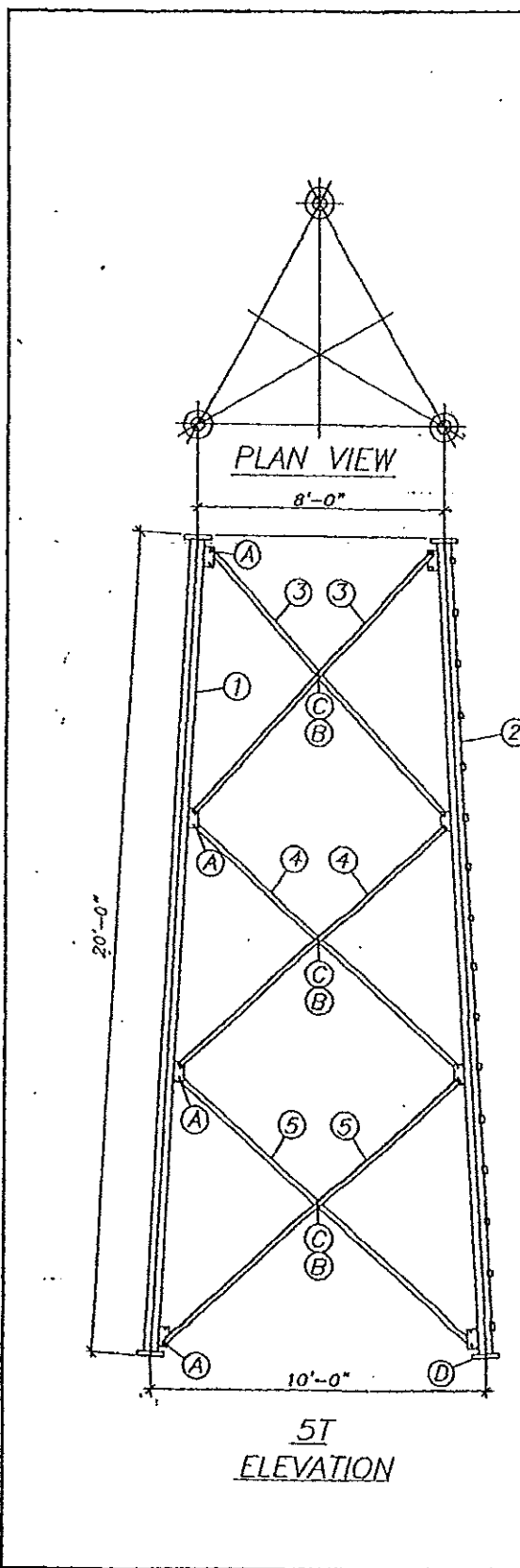




PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L07	2	Leg: Pipe 5 Sch 40 x 20'-0"		756
(2)	36L07L	1	Leg: Pipe 5 Sch 40 x 20'-0"		390
(3)	70D17	6	Diag: L2-1/2 x 2-1/2 x 1/4 x 13'-2 1/8		252
(4)	70D18	6	Diag: L2-1/2 x 2-1/2 x 1/4 x 13'-8 1/16		258
(5)	70D19	6	Diag: L2-1/2 x 2-1/2 x 1/4 x 14'-3 7/8		270
(A)		36	Bolt: 5/8ø x 1-3/4 w/ HH Nut		5
(B)		9	Bolt: 5/8ø x 2 w/ HH Nut		2
(C)	RF1	9	Ringfill: PL 3/8 x 2 Sar. w/ 13/16 Hole		4
(D)		18	Bolt 3/4ø x 4" w/ HH Nut		9
Total Section Wt.					1,947


- Notes:**
1. All bolts require Lock Washers.
  2. Mk.No.'s are stamped at the bottom of each leg.
  3. Install bolts with the nuts projecting up or outwards from the lower.
  4. Maintain step bolt and safety climb run with (2) leg.

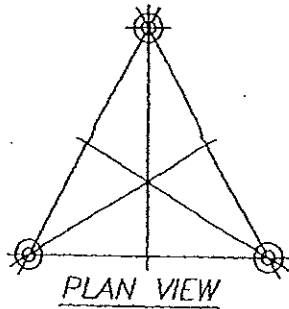
Rev.	Description	Date	By		
		Title	Section 7T Ass'y		
		Cust. Standard	Standard		
		Site Standard	Standard		
		Dwn. By	TDB	Job No.	Standard
		Chk. By		Scale	None
Date	10/9/06	Dwg. No.	A-7T-36		



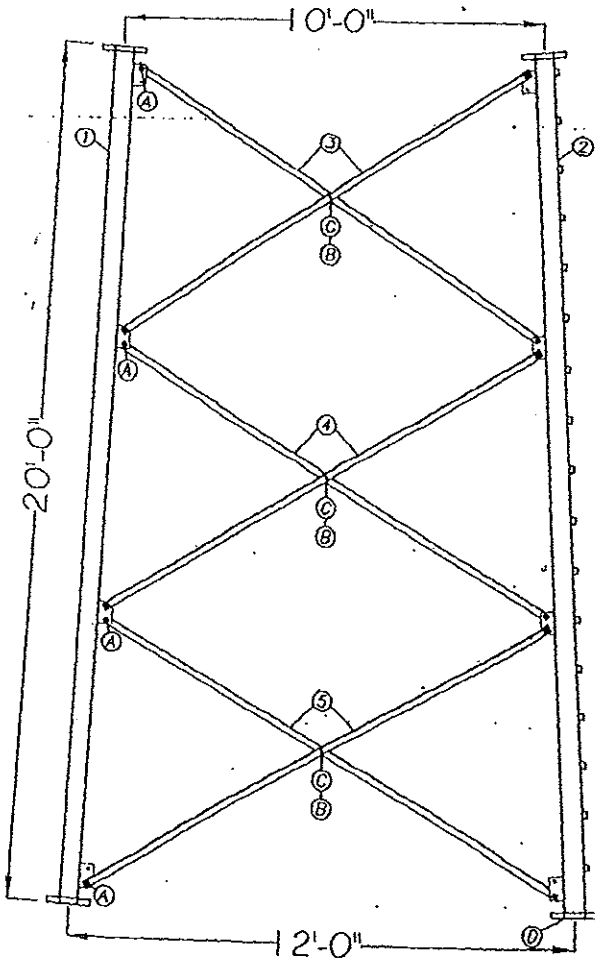
PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L05	2	Leg: Pipe 4" Sch 40 x 20'-0"		580
(2)	36L05L	1	Leg: Pipe 4" Sch 40 x 20'-0"		302
(3)	70D11	6	Diag: L 2 x 2 x 1/4 x 9'-11 3/8		192
(4)	70D12	6	Diag: L 2 x 2 x 1/4 x 10'-4 1/4		198
(5)	70D13	6	Diag: L 2 x 2 x 1/4 x 10'-11 5/8		204
(A)		36	Bolt: 5/8ø x 1 3/4 w/ HH Nut		5
(B)		9	Bolt: 5/8ø x 2 w/ HH Nut		2
(C)	RF1	9	Ringfill: PL 3/8 x 2 Sag w/ 13/16 Hole		4
(D)		18	Bolt: 5/8ø x 3 3/4" w/ HH Nut		6
Total Section Wt.					1493

- Notes:**
1. All bolts require Lock Washers.
  2. Mk.No.'s are stamped at the bottom of each leg.
  3. Install bolts with the nuts projecting up or outwards from the tower.
  4. Maintain step bolt and safety climb run with (2) leg.

Rev.	Description	Date	By
		Title	Section 5T Ass'y
		Cust.	Standard
		Site	Standard
		Dwn.By	TDB
		Job No.	Standard
		Chk.By	Scale None
		Date	10/9/06
		Dwg.No.	A-5T-36
Tower Division			



PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36106	2	Leg: Pipe 5" Sch 40 x 20'-0"		722
(2)	36106L	1	Leg: Pipe 5" Sch 40 x 20'-0"		373
(3)	23D14	6	Diag: L 2 x 2 x 1/4 x 11'-5 7/8"		216
(4)	23D15	6	Diag: L 2 x 2 x 1/4 x 11'-11 3/8"		228
(5)	23D16	6	Diag: L 2 x 2 x 1/4 x 12'-7 1/16"		240
(A)		36	Bolt: 5/8# x 1 3/4 w/ HH Nut		6
(B)		9	Bolt: 5/8# x 2 w/ HH Nut		2
(C)	RF1	9	Ringsh: PL 3/8 x 2 Sar w/ 13/16 Hole		4
(D)		18	Bolt: 3/4# x 4 w/ HH Nut		10
Total Section Wt.					1,801



6T  
ELEVATION

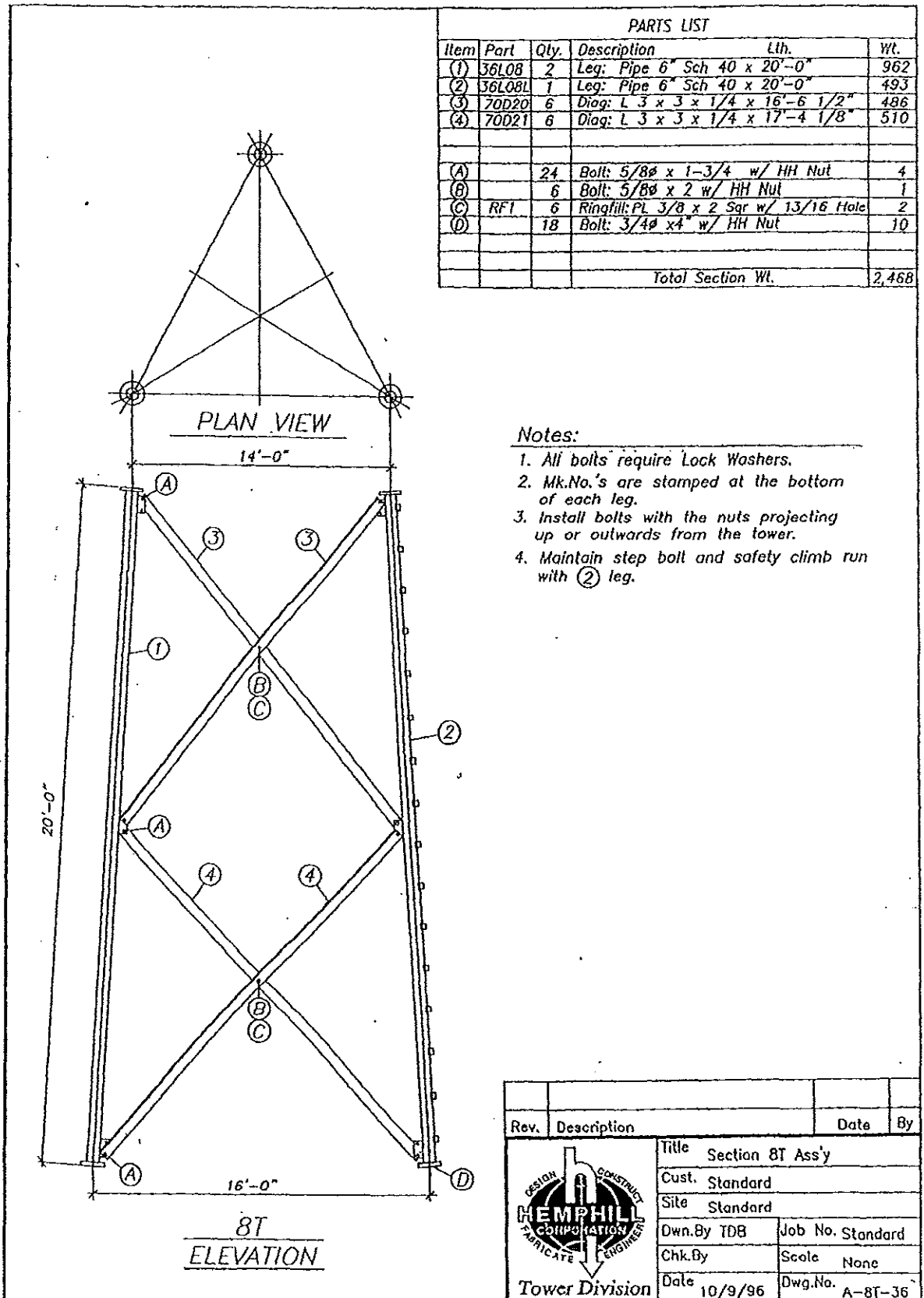
Notes:

1. All bolts require Lock Washers.
2. Mk.No.'s are stamped at the bottom of each leg.
3. Install bolts with the nuts projecting up or outwards from the tower.
4. Maintain step bolt and safety climb run with (2) leg.
5. Flange bolt (E) provided for safety climb cable guide bracket. (1/4" longer)

Rev.	Description	Date	By

<p><b>HEMPHILL ENGINEERS</b></p> <p>Tower Division</p>	Title	Section 6T Ass'y	
	Cust.	Standard	
	Site	Standard	
	Dwn.By	TDB	Job No. Standard
	Chk.By		Scale None
	Date	10/9/06	Dwg.No. A-6T-36

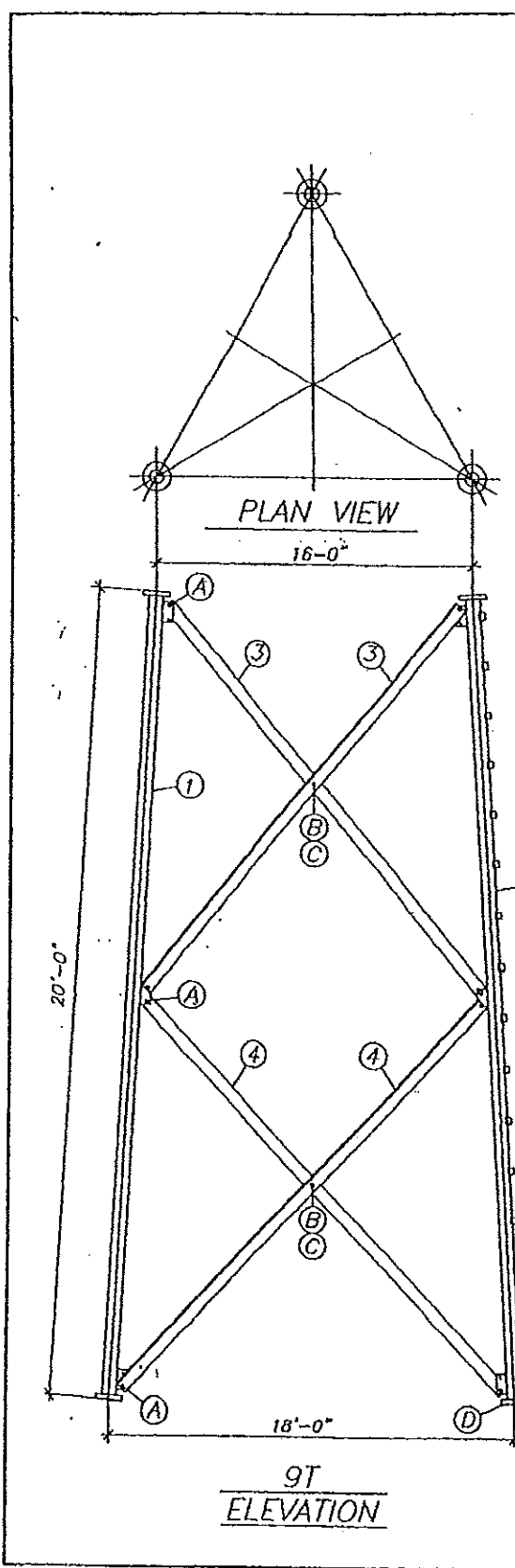


PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L08	2	Leg: Pipe 6" Sch 40 x 20'-0"		962
(2)	36L08L	1	Leg: Pipe 6" Sch 40 x 20'-0"		493
(3)	70D20	6	Diag: L 3 x 3 x 1/4 x 16'-6 1/2"		486
(4)	70D21	6	Diag: L 3 x 3 x 1/4 x 17'-4 1/8"		510
(A)		24	Bolt: 5/8ø x 1-3/4 w/ HH Nut		4
(B)		6	Bolt: 5/8ø x 2 w/ HH Nut		1
(C)	RF1	6	Ringfill: Pl 3/8 x 2 Sqr w/ 13/16 Hole		2
(D)		18	Bolt: 3/4ø x 4" w/ HH Nut		10
Total Section Wt.					2,468

Notes:

1. All bolts require Lock Washers.
2. Mk.No.'s are stamped at the bottom of each leg.
3. Install bolts with the nuts projecting up or outwards from the tower.
4. Maintain step bolt and safety climb run with (2) leg.

Rev.	Description	Date	By
		Title Section 8T Ass'y	
		Cust. Standard	
		Site Standard	
		Dwn.By IDB	Job No. Standard
		Chk.By	Scale None
		Date 10/9/96	Dwg.No. A-8T-36
Tower Division			

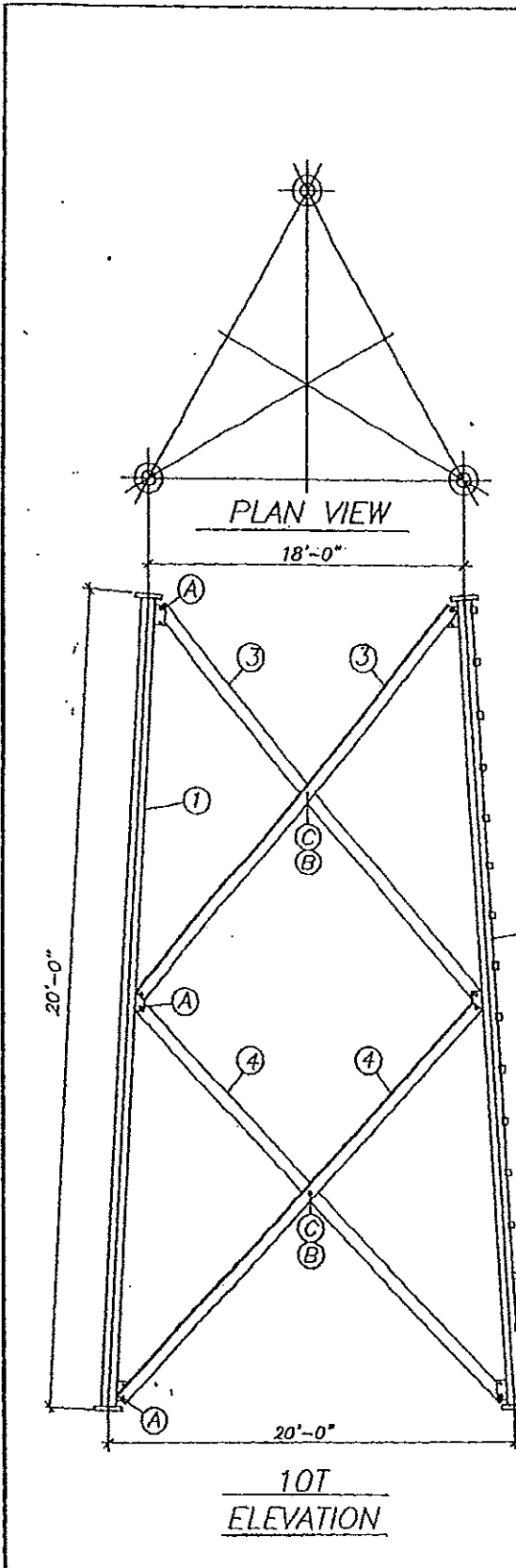


PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L09	2	Leg: Pipe 6" Sch 40 x 20'-0"		960
(2)	36L09L	1	Leg: Pipe 6" Sch 40 x 20'-0"		492
(3)	70D22	6	Diag: L3 1/2 x 3 1/2 x 1/4 x 18'-2 11/16		630
(4)	70D23	6	Diag: L3 1/2 x 3 1/2 x 1/4 x 19'-0 3/4		660
(A)		24	Bolt: 5/8" x 1-3/4 w/ HH Nut		4
(B)		6	Bolt: 5/8" x 2 w/ HH Nut		1
(C)	RF1	6	Ringfill: PL 3/8 x 2 Sqr w/ 13/16 Hole		2
(D)		18	Bolt: 3/4" x 4" w/ HH Nut		9
Total Section Wt.					2,759

Notes:

1. All bolts require Lock Washers.
2. Mk.No.'s are stamped at the bottom of each leg.
3. Install bolts with the nuts projecting up or outwards from the tower.
4. Maintain step bolt and safety climb run with (2) leg.

Rev.	Description	Date	By
		Title Section 9T Ass'y	
		Cust. Standard	
		Site Standard	
		Dwn.By TOB	Job No. Standard
		Chk.By	Scale None
Date 10/9/06	Dwg.No. A-9T-36		



PARTS LIST					
Item	Part	Qty.	Description	Lth.	Wt.
(1)	36L10	2	Leg: Pipe 6" Sch 40 x 20'-0"		1,018
(2)	36L10L	1	Leg: Pipe 6" Sch 40 x 20'-0"		521
(3)	70024	6	Diag:L 3 1/2 x 3 1/2 x 1/4 x 19'-11 9/16		690
(4)	70025	6	Diag:L 3 1/2 x 3 1/2 x 1/4 x 20'-9 7/8"		720
(A)		24	Bolt: 5/8" x 1-3/4" w/ HH Nut		4
(B)		6	Bolt: 5/8" x 2" w/ HH Nut		1
(C)	RF1	6	Ringfill: PL 3/8 x 2 Sqr w/13/16" Hole		2
Total Section Wt.					2,954

- Notes:**
1. All bolts require Lock Washers.
  2. Mk.No.'s are stamped at the bottom of each leg.
  3. Install bolts with the nuts projecting up or outwards from the tower.
  4. Maintain step bolt and safety climb run with (2) leg.
  5. Flange bolt (E) provided for safety climb cable guide bracket. (1/4" longer)

Rev.	Description	Date	By
		Title Section 10T Ass'y Cust. Standard Site Standard Dwn.By TDB Job No. Standard Chk.By Scale None Date 10/9/06 Dwg.No. A-10TB-36	
Tower Division			

PARTS LIST	
Qty.	Description
9	WG1 Waveguide Ladder 2'-7 1/4" x 20"-0"
0	L4 Angle Clamp Bar 1/4" x 2" x 8-1/2"
38	L1 Angle Clamp Bar 1/4" x 2" x 3-3/4"
38	J1 J-Bolt 3/8" Dia. x 5-1/2"
14	L2 Angle Clamp Bar 1/4" x 2" x 5-1/4"
14	J2 J-Bolt 3/8" Dia. x 7"
16	LS1 Splice Plate Bar 3/16"x1-1/2"x0'-6 3/4"
64	Bolt 3/8" Dia. x 1-1/4"

Angle Size	Clamp and J-Bolt
1-3/4" to 2-1/2"	L1 and J1
3" to 4"	L2 and J2
Diamond Brace Sections	L4 and J2

DETAIL

SIDE VIEW

Mk.No. LS1  
Bar 3/16"x1-1/2"  
(4) Bolts 3/8"  
x 1 1/4" Lg.

Proper hole selection

J-BOLT  
CLAMP  
TOWER MEMBER  
LADDER  
SPLICE

**Notes:**

- All bolts require Lock Washers.
- Install bolts with the nuts projecting up or outwards from the tower.
- Ladder attachment remains constant whether sections are tapered or straight, or if section length varies.
- Standard length ladders are 20 feet long. Partial lengths, if supplied, should be installed at the top of the ladder run.
- Drive ladder anchor (WGLANC) into ground and attach ladder with (2) L2's & J2's.

Rev.	Description	Date	By

<p><b>HEMPHILL CORPORATION</b></p> <p>Tower Division</p>	Title Waveguide Ladder Attachment	
	Cust	
	Site	
	Dwn.By BM	Job No. 11499
	Chk.By	Scale None
Date 10/5/07	Dwg.No. A11499WL1	

**EXHIBIT 2**



## EXHIBIT 2

**MECHANICAL SPECIFICATIONS****Antenna:**

Type:  
 Channel: 28  
 Location:

Antenna Length (H2): 23.0 ft

Center of Radiation (H3): 11.5 ft

Weight: 130 lbs

RS-222C Specification  
 per RS-222-C

EIA-222F Specification  
 per EIA 222-F

Area of Flats: 12.9 ft<sup>2</sup>

Force Coef x Projected Area:

18.2 ft<sup>2</sup>

**EXHIBIT 3**

Exhibit No.  
3

Date  
Call Letters  
Location  
Customer  
Antenna Type

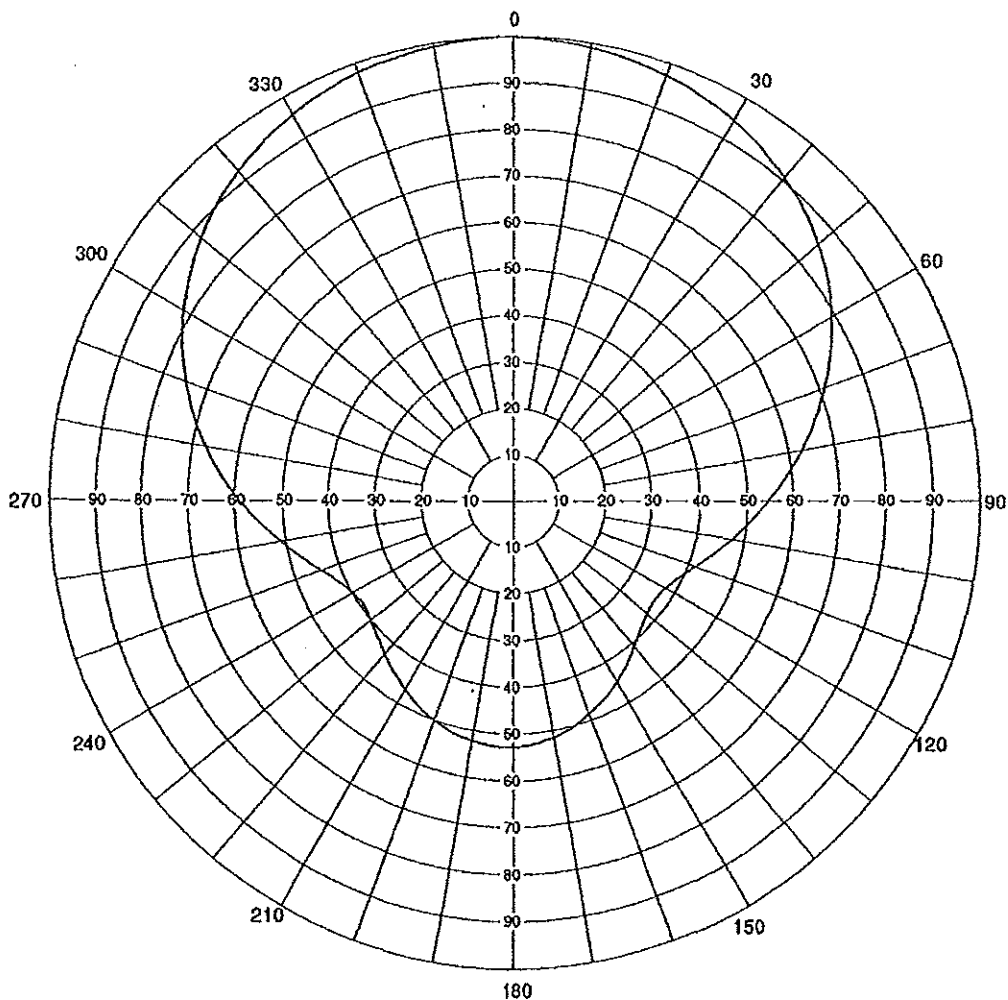
Channel 28

**AZIMUTH PATTERN**

Gain  
Calculated / Measured

**2.1 (3.22 dB)**  
Calculated

Frequency 557 MHz  
Drawing #



Remarks:

**EXHIBIT 4**

## EXHIBIT 4

## W28DR-D

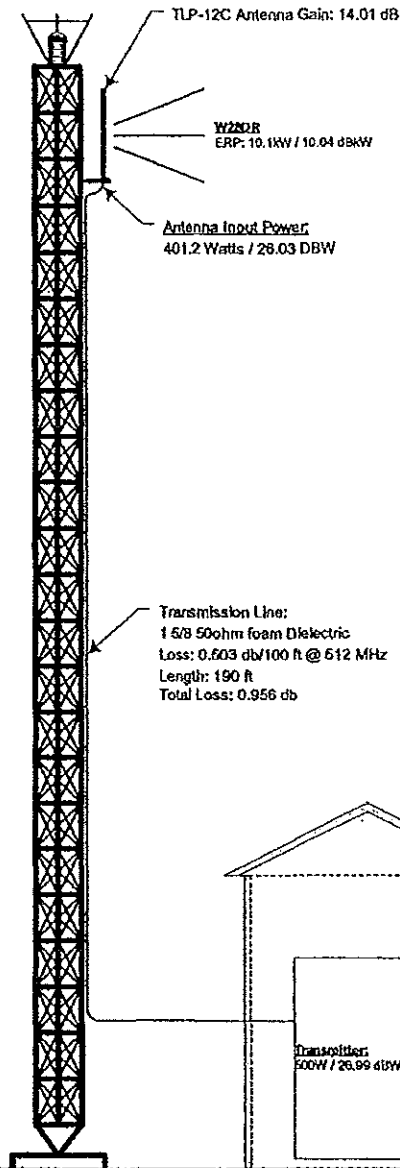
Cedarville, West Virginia

Engineering Specifications

A.	Transmitter Site (NAD 27)		
		North Latitude	38° 43' 42.7"
		West Longitude	80° 39' 49.0"
	Tower Registration Number		1264509
	FAA Study Number:		2008-AEA-2820-OE
B.	Proposed Facility		
	DTV Channel		
		Number	28
		Frequency	554 – 560 MHZ
		Emission Mask	Stringent
C.	Elevations		
	Height of Site Above Mean Sea Level (AMSL)		503.8 m
	Overall height of Structure above Ground		58.7 m
	(including all appurtenances)		
	Overall Height of Structure Above Mean Sea Level		562.5 m
	(including all appurtenances)		
	Effective Height of Antenna Above Ground		45.7 m
	Effective Height of Antenna Above Average Terrain		192.0 m
	Effective Height of Antenna Above Mean Sea Level		549.5 m
D.	Antenna Parameters: -Horizontal Polarization		
	Antenna RMS At Main Lobe		10.79 dB
	Maximum Antenna Peak Gain		14.01 dB

**EXHIBIT 5**

EXHIBIT 5



Ground Level 503.8 m

NAD 27 Coordinates:

N. Latitude: 38° 43' 42.7"

W. Longitude: 80° 39' 49.0"

FAA Aeronautical Study Number: 2008-AEA-2820-OE

FCC Tower Registration Number: 1264509

NOTE: NOT TO SCALE

**KESSLER & GEHMAN**

TELECOMMUNICATIONS CONSULTING ENGINEERS  
507 N.W. 60th Street, Suite C  
Gainesville, Florida 32607

W28DR

CEDARVILLE, WV

20120525

**EXHIBIT 6**



Exhibit No.  
6

Date  
Call Letters Channel 28  
Location  
Customer  
Antenna Type

**TABULATION OF AZIMUTH PATTERN**

Azimuth Pattern Drawing #

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	1.000	45	0.884	90	0.547	135	0.390	180	0.527	225	0.419	270	0.590	315	0.902
1	0.999	46	0.878	91	0.539	136	0.394	181	0.528	226	0.410	271	0.598	316	0.907
2	0.998	47	0.873	92	0.532	137	0.397	182	0.528	227	0.407	272	0.606	317	0.911
3	0.997	48	0.868	93	0.524	138	0.401	183	0.528	228	0.405	273	0.614	318	0.916
4	0.996	49	0.862	94	0.517	139	0.404	184	0.527	229	0.402	274	0.622	319	0.920
5	0.995	50	0.857	95	0.510	140	0.408	185	0.527	230	0.400	275	0.630	320	0.924
6	0.995	51	0.851	96	0.502	141	0.412	186	0.526	231	0.398	276	0.638	321	0.928
7	0.994	52	0.845	97	0.495	142	0.416	187	0.525	232	0.396	277	0.646	322	0.932
8	0.993	53	0.839	98	0.488	143	0.420	188	0.524	233	0.395	278	0.654	323	0.935
9	0.992	54	0.833	99	0.481	144	0.424	189	0.523	234	0.394	279	0.663	324	0.939
10	0.990	55	0.826	100	0.474	145	0.428	190	0.522	235	0.393	280	0.671	325	0.942
11	0.989	56	0.820	101	0.468	146	0.432	191	0.520	236	0.393	281	0.679	326	0.946
12	0.988	57	0.813	102	0.461	147	0.437	192	0.518	237	0.394	282	0.686	327	0.949
13	0.986	58	0.806	103	0.455	148	0.441	193	0.517	238	0.395	283	0.694	328	0.952
14	0.985	59	0.799	104	0.448	149	0.445	194	0.515	239	0.396	284	0.702	329	0.955
15	0.983	60	0.792	105	0.442	150	0.449	195	0.512	240	0.398	285	0.710	330	0.958
16	0.981	61	0.784	106	0.436	151	0.453	196	0.510	241	0.400	286	0.718	331	0.960
17	0.980	62	0.777	107	0.430	152	0.457	197	0.508	242	0.403	287	0.725	332	0.963
18	0.978	63	0.769	108	0.425	153	0.461	198	0.506	243	0.406	288	0.733	333	0.965
19	0.976	64	0.761	109	0.420	154	0.465	199	0.503	244	0.410	289	0.741	334	0.968
20	0.973	65	0.754	110	0.414	155	0.469	200	0.500	245	0.414	290	0.748	335	0.970
21	0.971	66	0.746	111	0.410	156	0.472	201	0.497	246	0.419	291	0.755	336	0.972
22	0.969	67	0.737	112	0.405	157	0.476	202	0.494	247	0.423	292	0.763	337	0.974
23	0.966	68	0.729	113	0.401	158	0.480	203	0.491	248	0.429	293	0.770	338	0.976
24	0.964	69	0.721	114	0.396	159	0.483	204	0.488	249	0.434	294	0.777	339	0.978
25	0.961	70	0.713	115	0.393	160	0.487	205	0.484	250	0.440	295	0.784	340	0.980
26	0.958	71	0.704	116	0.389	161	0.490	206	0.481	251	0.446	296	0.791	341	0.982
27	0.955	72	0.696	117	0.386	162	0.493	207	0.477	252	0.452	297	0.798	342	0.983
28	0.952	73	0.687	118	0.383	163	0.497	208	0.474	253	0.459	298	0.804	343	0.985
29	0.949	74	0.679	119	0.381	164	0.500	209	0.470	254	0.465	299	0.811	344	0.986
30	0.946	75	0.670	120	0.378	165	0.502	210	0.467	255	0.472	300	0.818	345	0.988
31	0.942	76	0.662	121	0.377	166	0.505	211	0.463	256	0.479	301	0.824	346	0.989
32	0.939	77	0.653	122	0.375	167	0.508	212	0.459	257	0.487	302	0.830	347	0.990
33	0.935	78	0.645	123	0.374	168	0.510	213	0.455	258	0.494	303	0.837	348	0.991
34	0.932	79	0.637	124	0.373	169	0.513	214	0.452	259	0.502	304	0.843	349	0.993
35	0.928	80	0.628	125	0.373	170	0.515	215	0.448	260	0.510	305	0.849	350	0.994
36	0.924	81	0.620	126	0.373	171	0.517	216	0.444	261	0.517	306	0.855	351	0.995
37	0.920	82	0.811	127	0.374	172	0.519	217	0.440	262	0.525	307	0.860	352	0.995
38	0.916	83	0.603	128	0.375	173	0.520	218	0.437	263	0.533	308	0.866	353	0.996
39	0.912	84	0.595	129	0.376	174	0.522	219	0.433	264	0.541	309	0.872	354	0.997
40	0.907	85	0.587	130	0.378	175	0.523	220	0.430	265	0.549	310	0.877	355	0.998
41	0.903	86	0.579	131	0.380	176	0.524	221	0.426	266	0.557	311	0.882	356	0.998
42	0.898	87	0.571	132	0.382	177	0.525	222	0.423	267	0.565	312	0.887	357	0.999
43	0.893	88	0.563	133	0.385	178	0.526	223	0.419	268	0.573	313	0.892	358	0.999
44	0.889	89	0.555	134	0.387	179	0.527	224	0.416	269	0.581	314	0.897	359	0.999

Remarks:

**EXHIBIT 7**

Exhibit No.  
7

Date  
Call Letters Channel 28  
Location  
Customer  
Antenna Type

**TABULATION OF AZIMUTH PATTERN**

Azimuth Pattern Drawing # TLP-C

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	126.0	21.00
10	0.990	123.5	20.92
20	0.973	119.3	20.77
30	0.946	112.8	20.52
40	0.907	103.7	20.16
50	0.857	92.5	19.66
60	0.792	79.0	18.98
70	0.713	64.1	18.07
80	0.628	49.7	16.96
90	0.547	37.7	15.76
100	0.474	28.3	14.52
110	0.414	21.6	13.34
120	0.378	18.0	12.55
130	0.378	18.0	12.56
140	0.408	21.0	13.22
150	0.449	25.4	14.05
160	0.487	29.9	14.75
170	0.515	33.4	15.24
180	0.527	35.0	15.44
190	0.522	34.3	15.36
200	0.500	31.5	14.98
210	0.467	27.5	14.39
220	0.430	23.3	13.67
230	0.400	20.2	13.04
240	0.398	20.0	13.00
250	0.440	24.4	13.87
260	0.510	32.8	15.16
270	0.590	43.9	16.42
280	0.671	56.7	17.54
290	0.748	70.5	18.48
300	0.818	84.3	19.26
310	0.877	96.9	19.86
320	0.924	107.6	20.32
330	0.958	115.6	20.63
340	0.980	121.0	20.83
350	0.994	124.5	20.95

**Maxima**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	126.0	21.00
182	0.528	35.1	15.46

**Minima**

Angle	Field	ERP (kW)	ERP (dBk)
125	0.373	17.5	12.44
236	0.393	19.5	12.89

Remarks:

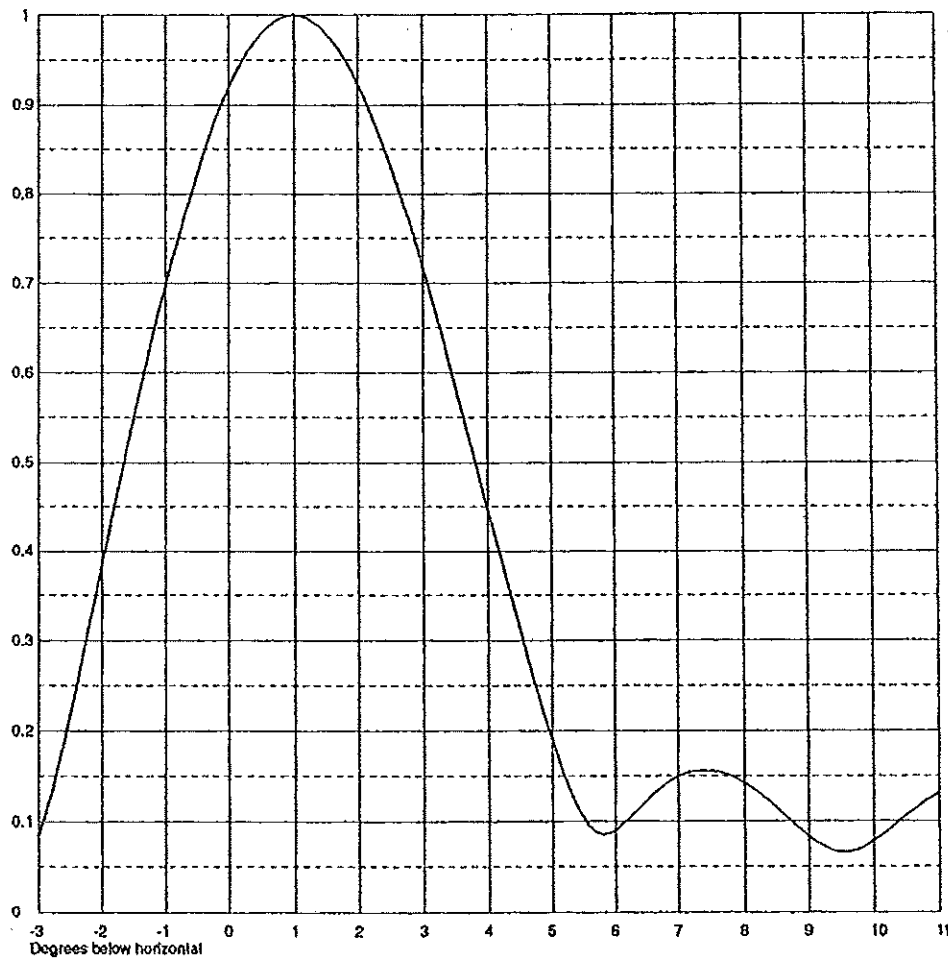
**EXHIBIT 8**

Exhibit No.  
8

Date  
 Call Letters  
 Location  
 Customer  
 Antenna Type  
 Channel 28

**ELEVATION PATTERN**

RMS Gain at Main Lobe	<b>12.0 (10.79 dB)</b>	Beam Tilt	<b>1.00 Degrees</b>
RMS Gain at Horizontal	<b>10.1 (10.04 dB)</b>	Frequency	<b>557.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	



Remarks:

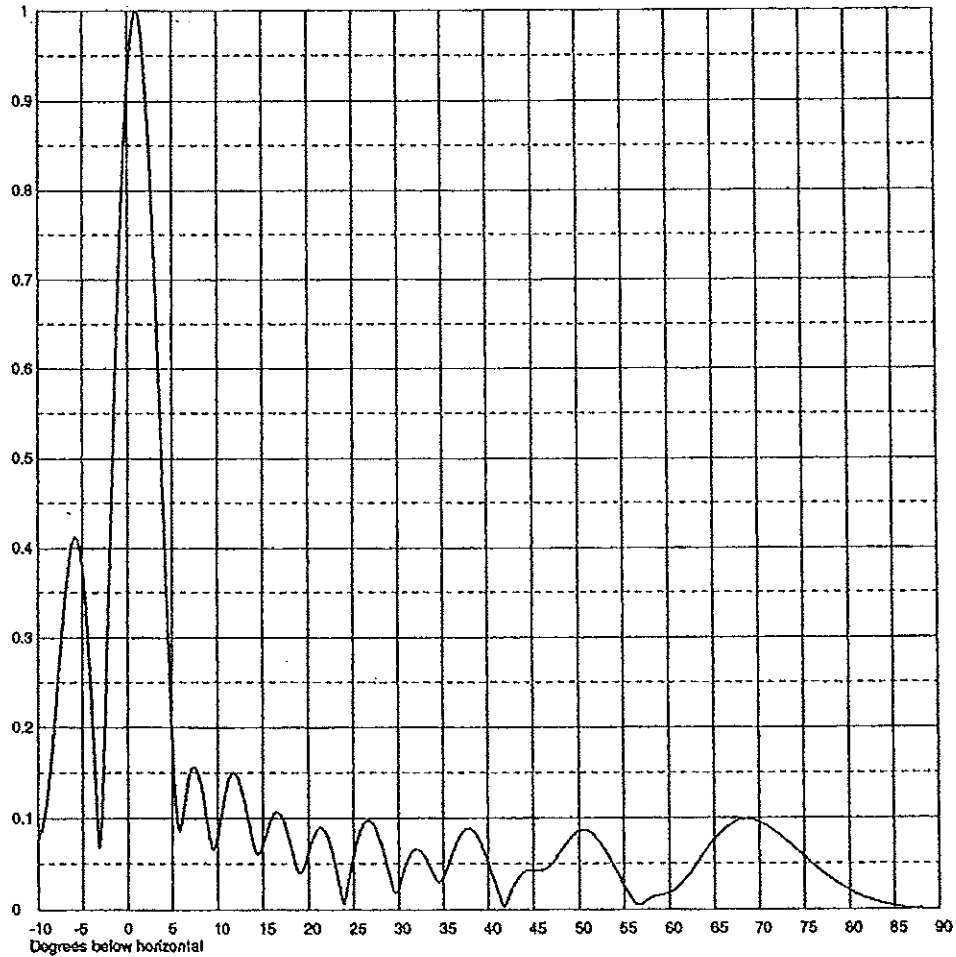
**EXHIBIT 9**

Exhibit No.  
9

Date  
Call Letters  
Location  
Customer  
Antenna Type  
Channel 28

**ELEVATION PATTERN**

RMS Gain at Main Lobe	<b>12.0 (10.79 dB)</b>	Beam Tilt	<b>1.00 Degrees</b>
RMS Gain at Horizontal	<b>10.1 (10.04 dB)</b>	Frequency	<b>557.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	



Remarks:

**EXHIBIT 10**



Exhibit No.  
10

Date  
Call Letters Channel 28  
Location  
Customer  
Antenna Type

**TABULATION OF ELEVATION PATTERN**

Elevation Pattern Drawing #

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.076	2.4	0.854	10.6	0.112	30.5	0.037	51.0	0.086	71.5	0.088
-9.5	0.089	2.6	0.812	10.8	0.123	31.0	0.051	51.5	0.083	72.0	0.084
-9.0	0.117	2.8	0.767	11.0	0.132	31.5	0.061	52.0	0.078	72.5	0.080
-8.5	0.163	3.0	0.718	11.5	0.147	32.0	0.066	52.5	0.072	73.0	0.076
-8.0	0.221	3.2	0.667	12.0	0.149	32.5	0.065	53.0	0.064	73.5	0.072
-7.5	0.282	3.4	0.614	12.5	0.139	33.0	0.059	53.5	0.055	74.0	0.067
-7.0	0.339	3.6	0.559	13.0	0.120	33.5	0.049	54.0	0.045	74.5	0.063
-6.5	0.384	3.8	0.503	13.5	0.094	34.0	0.038	54.5	0.036	75.0	0.058
-6.0	0.409	4.0	0.447	14.0	0.071	34.5	0.031	55.0	0.026	75.5	0.054
-5.5	0.409	4.2	0.392	14.5	0.061	35.0	0.034	55.5	0.018	76.0	0.049
-5.0	0.379	4.4	0.338	15.0	0.070	35.5	0.046	56.0	0.010	76.5	0.046
-4.5	0.317	4.6	0.286	15.5	0.087	36.0	0.060	56.5	0.005	77.0	0.041
-4.0	0.227	4.8	0.237	16.0	0.101	36.5	0.073	57.0	0.006	77.5	0.037
-3.5	0.116	5.0	0.192	16.5	0.107	37.0	0.082	57.5	0.010	78.0	0.034
-3.0	0.084	5.2	0.151	17.0	0.104	37.5	0.088	58.0	0.013	78.5	0.030
-2.8	0.132	5.4	0.118	17.5	0.092	38.0	0.089	58.5	0.015	79.0	0.027
-2.6	0.191	5.6	0.095	18.0	0.074	38.5	0.085	59.0	0.016	79.5	0.024
-2.4	0.264	5.8	0.086	18.5	0.054	39.0	0.078	59.5	0.017	80.0	0.021
-2.2	0.319	6.0	0.090	19.0	0.041	39.5	0.067	60.0	0.018	80.5	0.018
-2.0	0.385	6.2	0.102	19.5	0.045	40.0	0.053	60.5	0.021	81.0	0.016
-1.8	0.451	6.4	0.116	20.0	0.062	40.5	0.038	61.0	0.025	81.5	0.014
-1.6	0.515	6.6	0.130	20.5	0.077	41.0	0.023	61.5	0.030	82.0	0.012
-1.4	0.578	6.8	0.141	21.0	0.087	41.5	0.007	62.0	0.036	82.5	0.010
-1.2	0.639	7.0	0.150	21.5	0.089	42.0	0.008	62.5	0.043	83.0	0.009
-1.0	0.696	7.2	0.155	22.0	0.083	42.5	0.020	63.0	0.050	83.5	0.007
-0.8	0.750	7.4	0.156	22.5	0.069	43.0	0.030	63.5	0.057	84.0	0.006
-0.6	0.800	7.6	0.155	23.0	0.049	43.5	0.037	64.0	0.064	84.5	0.005
-0.4	0.845	7.8	0.150	23.5	0.024	44.0	0.041	64.5	0.071	85.0	0.004
-0.2	0.885	8.0	0.143	24.0	0.008	44.5	0.043	65.0	0.077	85.5	0.003
0.0	0.919	8.2	0.133	24.5	0.032	45.0	0.043	65.5	0.082	86.0	0.002
0.2	0.948	8.4	0.122	25.0	0.056	45.5	0.043	66.0	0.087	86.5	0.002
0.4	0.971	8.6	0.109	25.5	0.076	46.0	0.043	66.5	0.091	87.0	0.001
0.6	0.987	8.8	0.096	26.0	0.090	46.5	0.045	67.0	0.094	87.5	0.001
0.8	0.997	9.0	0.084	26.5	0.097	47.0	0.050	67.5	0.097	88.0	0.001
1.0	1.000	9.2	0.074	27.0	0.096	47.5	0.056	68.0	0.098	88.5	0.000
1.2	0.997	9.4	0.067	27.5	0.089	48.0	0.063	68.5	0.099	89.0	0.000
1.4	0.988	9.6	0.066	28.0	0.075	48.5	0.071	69.0	0.099	89.5	0.000
1.6	0.972	9.8	0.070	28.5	0.057	49.0	0.077	69.5	0.098	90.0	0.000
1.8	0.950	10.0	0.079	29.0	0.037	49.5	0.082	70.0	0.096		
2.0	0.923	10.2	0.089	29.5	0.020	50.0	0.086	70.5	0.094		
2.2	0.891	10.4	0.101	30.0	0.022	50.5	0.087	71.0	0.091		

Remarks:

**PRICING PAGE**

**Basis for Award:** The Contract shall be awarded to the Vendor with the lowest overall cost meeting the specifications.

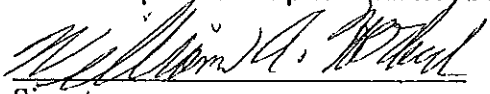
**EBA427 Channel 27 Digital Television Antenna System and Associated Hardware for Cedarville, WV**

NOTE: Shipping and delivery costs shall be included in price.

ITEM NUMBER	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	1	Antenna & Accessories	\$17,829.59	\$17,829.59
2	1	Miscellaneous Hardware (nuts, bolts, washers, etc.)	Included	Included
3	1	Mounting Adapters	\$4,100.61	\$4,100.61
4	1	Dehydrator	\$1,921.54	\$1,921.54
5	1	Transmission Line & Connectors	\$6,437.90	\$6,437.90
<b>TOTAL</b>				\$30,289.64

OPTION ITEM 1 Electrical System check of Antenna and Transmission line \$6,000.00 \$6,000.00

NOTE: Option Item price will not be factored into bid award.

 October 1, 2012  
Signature Date

Electronics Research, Inc.

Company Name

+1 (812) 925-60000

Phone

+1 (812) 925-4030

Fax

bharland@erlinc.com

Email

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application\* is hereby made for Preference in accordance with West Virginia Code, §5A-3-37. (Does not apply to construction contracts). West Virginia Code, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the West Virginia Code. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. Application is made for 5% resident vendor preference for the reason checked: Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules. Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: \_\_\_\_\_ Signed: \_\_\_\_\_
Date: \_\_\_\_\_ Title: \_\_\_\_\_

RFQ No. EBA427

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**MANDATE:** Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**DEFINITIONS:**

**"Debt"** means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

**"Employer default"** means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

**"Related party"** means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Electronics Research, Inc.

Authorized Signature: *William G. Harland* Date: October 1, 2012

State of Indiana

County of Warrick, to-wit:

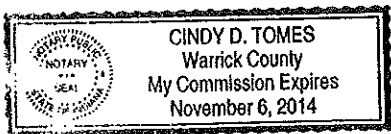
Taken, subscribed, and sworn to before me this 1 day of October, 2012.

My Commission expires 11/06, 2014.

AFFIX SEAL HERE

NOTARY PUBLIC *Cindy D. Tomes*

*Purchasing Affidavit (Revised 07/01/2012)*

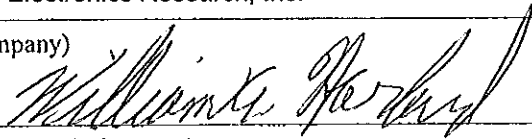


CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Electronics Research, Inc.

(Company)



(Authorized Signature)

William A. Harland, Vice President of Marketing

(Representative Name, Title)

+1 (812) 925-6000

(Phone Number)

+1 (812) 925-6000

(Fax Number)

October 1, 2012

(Date)

**ADDENDUM ACKNOWLEDGEMENT FORM**

**SOLICITATION NO.:** EBA427

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

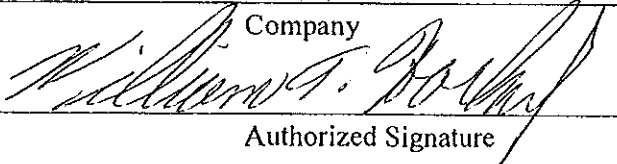
(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Electronics Research, Inc.

Company



Authorized Signature

October 1, 2012

Date

**NOTE:** This addendum acknowledgement should be submitted with the bid to expedite document processing.



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**Solicitation**

NUMBER
EBA427

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
CONNIE OSWALD 304-558-2157

VENDOR

Electronics Research, Inc.  
 7777 Gardner Road  
 Chandler, IN 47610

S P I T O

EDUCATIONAL BROADCASTING  
 AUTHORITY  
 VARIOUS LOCALES AS INDICATED  
 BY ORDER

DATE PRINTED
09/20/2012

BID OPENING DATE: 10/04/2012 BID OPENING TIME: 1:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 1		
				1. TO PROVIDE ANSWERS TO QUESTIONS RECEIVED FOR THIS SOLICITATION.		
				2. TO PROVIDE ADDENDUM ACKNOWLEDGMENT. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID.		
				END OF ADDENDUM NO. 1		

SIGNATURE	William A. Harland	TELEPHONE	+1 (812) 925-6000, Ext. 214	DATE	October 1, 2012
TITLE	Vice President of Marketing	FEIN	35-1083384	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

SOLICITATION NUMBER: EBA427

Addendum Number: 01

---

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- | Modify bid opening date and time
- | Modify specifications of product or service being sought
- | Attachment of vendor questions and responses
- | Attachment of pre-bid sign-in sheet
- | Correction of error
- | Other

**Description of Modification to Solicitation:**

To provide answers to questions received for this solicitation.  
To provide addendum acknowledgment.

**Additional Documentation:** Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.



ATTACHMENT A

## **EBA427 Cedarville Antenna: Questions and Answers**

**Question 1:** Section 4.21 says the antenna beam tilt shall be 1.5 degrees. The patterns shown in Exhibits 8 and 9 show the beam tilt as 1.0 degree. Please clarify

**Answer:** The requested beam tilt is 1.5 degrees. An elevation drawing showing a 1.5 degree tilt was not available at the time the specs were released but was included to show the general elevation pattern.

**Question 2:** Section 5.15.5 says the line run shall be 235 feet.

Section 5.15.6 says the Vertical shall be 200 feet and the horizontal shall be 35 feet. It says to See Exhibit E-5.

Exhibit 4 shows the antenna centerline to be at 45.7 meters (149.9 feet) above Ground. And Exhibit 5 shows the transmission line to be a total of 190 foot long (ie 140'V + 50' H approx.).

Please clarify these conflicting sections.

**Answer:** In the request for total length of transmission line extra was included beyond what was shown in the exhibit to account for unexpected issues with routing of the line that may come up at the time of installation. Total length of transmission line requested is 235 feet.

**This is the end of the Questions and Answers.**

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: EBA427**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

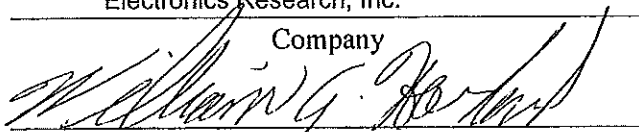
(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Electronics Research, Inc.

Company



Authorized Signature

October 1, 2012

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

Revised 6/8/2012

SUBMITTED BY: Bill Harland  
 +1 812 925-4020 x 214 (direct)  
 +1 812 925-4030 (fax)  
 bharland@eriinc.com

**Quotation**

SUBMITTED TO:  
 State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 P.O. Box 50130  
 Charleston, WV 25305-0130  
 ATTN: Connie Oswald  
 +1 (304) 558-3970  
 connie.s.oswald@wv.gov

QUOTATION NUMBER  
 WAH-2012100401-TV-WV  
 DATE  
 October 4, 2012  
 VALID TO  
 December 4, 2012  
 YOUR REFERENCE  
 EBA427: Antenna system for W28DR, Cedarville, WV  
 F.O.B. POINT  
 Destination  
 PAYMENT TERMS  
 Payable upon receipt of invoice.

PAGE  
 17 of 51

Item	Qty	Part #	Description	List Price	Offer Price
<b>Summary of Groups</b>					
			Total Antenna and Accessories:	\$20,610.00	\$17,829.59
			Total Antenna Mount:	\$3,850.00	\$4,100.61
			Total Dehydrator:	\$2,500.00	\$1,921.54
			Total Transmission Line and Connectors:	\$9,474.64	\$6,437.90
			Freight:	\$2,371.68	\$0.00
			<b>Total all items:</b>	<b>\$38,806.32</b>	<b>\$30,289.64</b>
			Total Electrical Check of Antenna and Transmission Line:	\$6,000.00	\$6,000.00

Item	Qty	Part #	Description	Price	Extended
<b>Antenna and Accessories</b>					
1	1	ATW12H6-HSS-28L	ERI TRASAR UHF Slot Antenna	20,610.00	\$20,610.00
			ERI TRASAR UHF Slotted Coaxial Antenna; Horizontally Polarized; Side Mounted; Skull Pattern; 12-gain, 1.50 deg EBT; Unpressurized Radome Slot Covers; 1 5/8-50 Ohm Input per Specification KO091012-2522.		
			<b>Total Antenna and Accessories:</b>		<b>\$20,610.00</b>

This quotation is based on the terms and conditions indicated in the quotation body and those included on the final five (5) pages of this quotation and subject to our review and written acceptance of your order at our main business office.

Acceptance by buyer  
 Please enter our order for the above items in accordance with this quotation.

**Electronics Research, Inc.**

By Bill Harland  
 Bill Harland  
 Vice President of Marketing

Company \_\_\_\_\_  
 By \_\_\_\_\_  
 Title \_\_\_\_\_ Date \_\_\_\_\_  
 P.O. No. \_\_\_\_\_

# Quotation

SUBMITTED TO:  
 State of West Virginia  
 Department of Administration  
 Purchasing Division

QUOTATION NUMBER  
 WAH-2012100401-TV-WV  
 DATE  
 October 4, 2012

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Item	Qty	Part #	Description	Price	Extended
<b>Antenna Mount</b>					
2	1		Mounts for Antenna Custom mounts for TRASAR Antenna	3,850.00	\$3,850.00
<b>Total Antenna Mount:</b>					<b>\$3,850.00</b>
<b>Dehydrator</b>					
16	1	MOJAVE1	Andrew DryLine® Dehydrator Low-pressure membrane dehydrator, 19-inch rack mountable, 2 to 5 psig, 0 to 60 cubic feet, with summary alarm, 115 VAC, 60 Hz	2,500.00	\$2,500.00
<b>Total Dehydrator:</b>					<b>\$2,500.00</b>
<b>Transmission Line and Connectors</b>					
3	235	HJ7-50A	HELIAX standard air dielectric coaxial cable, 1-5/8 inch, 50 ohm (wideband from 0.5-2700 MHz). Price shown is <b>per foot</b> Vertical run: 200 feet Horizontal run: 35 feet	27.57	\$6,478.95
4	1	87G	Connector, 1-5/8 EIA Flange, gas block for 1-5/8 air HELIAX (HJ7-series), brass body and silver plated pin with tab flared inner contact and tab flaring outer contact.	453.65	\$453.65
5	1	87R	Connector, 1-5/8 EIA Flange, gas pass for 1-5/8 air HELIAX (HJ7-series), brass body and silver plated pin with tab flared inner contact and tab flaring outer contact.	392.74	\$392.74
6	1	ATTACH-AC3	Factory attachment charge for HJ7-50A connectors. Attach Item 5 first off reel. Ship Item 4 loose for field installation.	37.39	\$37.39
7	1	24312A	Hoisting Grip for 1-5/8 inch coaxial cable and EW44, EW52, and EW63 elliptical waveguides	31.42	\$31.42
8	1	HGK0001	Hoisting grip hanger kit to attach HELIAX hoisting grips to tower. Includes 18-inches of chain, 12-inch x 12-inch turnbuckle, and two shackles. One required for each hoisting grip and one hoisting grip required for each 200-feet of vertical run.	150.00	\$150.00
9	4	241088-4	Grounding kit, qty. 1, 24-inch cable with 2-hole factory attached lug for 1-5/8 inch coaxial and EW44, EW52, and EW63 waveguide HELIAX	23.69	\$94.76
10	8	42396A-2	Standard hangers, qty. 10, for 1-5/8 inch coaxial and EW44 waveguide HELIAX	24.48	\$195.84

**Quotation**

SUBMITTED TO:  
 State of West Virginia  
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Item	Qty	Part #	Description	Price	Extended
11	1	SCE-158	Wall/Roof Feed Thru Assembly for 1-5/8 inch cable	67.68	\$67.68
12	1	31768A	Angle adapter qty 10 for all waveguides and coaxial cables 1/2-inch to 4-inch	61.48	\$61.48
13	7	HR30848-1	1-inch standoff adapter kit for 3 to 6 inch legs. Kit of 10. Includes hardware to attach non-insulated butterfly hanger. Requires 31670-* round member adapter kit, one per kit.	155.00	\$1,085.00
14	3	31670-5E	Round member adapter for 5 to 6 inch round members. Kit of 10. Stainless steel clamps to mount 1/2 to 4-inch cable hangers to round support members. Two each are required for 3 and 4-inch cable hangers.	19.16	\$57.48
15	3	31670-3E	Round member adapter for 3 to 4-inch round members. Kit of 10. Stainless steel clamps to mount 1/2 to 4-inch cable hangers to round support members. Two each are required for 3 and 4-inch cable hangers.	17.84	\$53.52
16	1	HR30848-4	1 inch standoff adapter kit for 1 to 3 inch legs. Kit of 10. Includes hardware to attach non-insulated butterfly hanger. Requires 31670-* round member adapter kit, one per kit.	155.00	\$155.00
17	1	31670-2E	Round member adapter for 2 to 3 inch round members. Kit of 10. Stainless steel clamps to mount 1/2 to 4-inch cable hangers to round support members. Two each are required for 3 and 4-inch cable hangers.	15.85	\$15.85
18	3	31771-4	3/8-inch threaded rod kit qty. 5 with 12-inch rod ceiling mounting plate nuts/washers for use with EWG or COAX	47.96	\$143.88
<b>Total Transmission Line and Connectors:</b>					<b>\$9,474.64</b>
<b>Electrical Check of Antenna and Transmission Line</b>					
19	1	TST-001	TV System Sweep (Tune and Test) Price includes travel, local living expense, and daily field service rate for one (1) day on site, \$1,750/day thereafter.	6,000.00	\$6,000.00
<b>Total Electrical Check of Antenna and Transmission Line:</b>					<b>\$6,000.00</b>

### Purchaser Information Page

Business Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ Shipping Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_ Facsimile: \_\_\_\_\_

Name of Individual to Receive all Correspondence regarding this Order:

Contact Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ Shipping Address (for courier shipments): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_ Facsimile: \_\_\_\_\_

Email: \_\_\_\_\_

Special Instructions for  
Equipment Shipment:

Name of Consulting Engineer (if applicable) regarding this Order:

Consultant Name: \_\_\_\_\_

Consultant Mailing Address: \_\_\_\_\_ Consultant Shipping Address (for courier shipments): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_ Facsimile: \_\_\_\_\_

Email: \_\_\_\_\_

SHIP VIA: Normal shipment will be truck or flatbed, per ERI instructions unless otherwise specified:

Other Method: \_\_\_\_\_

Final CP Received?  YES  NO

Desired Ship Date: \_\_\_\_\_

Comments: \_\_\_\_\_