

ENGINEERING STATEMENT  
RE APPLICATION FOR CONSTRUCTION PERMIT  
TO SPECIFY CORRECTION OF COORDINATES  
ON BEHALF OF  
KRTV COMMUNICATIONS, INC.  
KRTV-DT, GREAT FALLS, MONTANA  
CHANNEL 7 28.5 KW MAX DA ERP 153.5 METERS HAAT

JUNE 2013

COHEN, DIPPELL AND EVERIST, P.C.  
CONSULTING ENGINEERS  
RADIO AND TELEVISION  
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington            )  
  ) ss  
District of Columbia         )

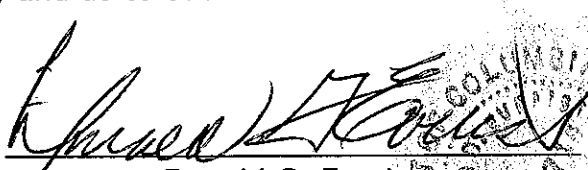
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

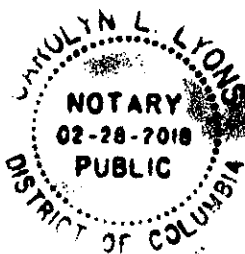
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

  
Donald G. Everist  
District of Columbia  
Professional Engineer  
Registration No. 5714

Subscribed and sworn to before me this 12<sup>th</sup> day of June, 2013.

  
Notary Public

My Commission Expires: 2/28/2018



This engineering statement has been prepared on behalf of KRTV Communications, Inc. ("KRTV-DT"), licensee of KRTV-DT, Channel 7, Great Falls, Montana. The purpose of this engineering statement is to accompany its request to correct the transmitter site coordinates for the digital television ("DTV") facilities.

The KRTV-DT tower has been licensed with the current coordinates for over 30 years. There is no change in location but this submission requests an updating of the transmitter coordinates and the ground elevation on which the existing tower is located. The sole purpose of this request is to correct transmitter coordinates and update the ground elevation, there is no requirement to coordinate with Canada<sup>1</sup> nor redetermine the effective radiated power since this is below the maximum 160 kW ERP at 305 meters HAAT per Section 73.622(f) of the FCC Rules for a Zone 2 high-band VHF operation.

The existing DTV antenna is side-mounted on the existing KRTV-DT tower located on Highway 87, 1 mile North. The existing tower has an overall structure height above ground of 169.8 meters (557 feet). Exhibit E-1 shows a vertical sketch and the arrangement of the side-mounted antenna on the tower. The tower registration number is 1000138. The tower registration's updated information is based on the FAA's Determination of No Hazard contained in 2012-ANM-2514-OE.

The geographic coordinates of the site are:

North Latitude: 47° 32' 7.7"  
West Longitude: 111° 17' 2.6"  
NAD-27

#### Equipment Data

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<sup>1</sup>Out of an abundance of caution, Table I provides an OET Bulletin 69 analysis

(No Change)

Antenna: Dielectric, TLS-V8-R horizontally polarized antenna with 0.5° electrical beam tilt. The vertical plane pattern information required by Section 73.625(c) is herein included as Exhibit E-2.

Power Data  
(No Change)

Transmitter output	3.5 kW	5.44 dBk
Transmission line efficiency loss FLEXLine, 1-5/8", 50 ohm or equivalent, length: 228.6 meters (750 feet)	59.8%	2.23 dB
Input power to the antenna	2.1 kW	3.21 dBk
Antenna power gain, Main lobe	13.6	11.34 dB
Effective Radiated Power	28.5 kW	14.55 dBk

Elevation Data

Vertical dimension of side-mounted Channel 7 antenna including appurtenances	14.7 meters 48.3 feet
Overall height above ground of existing antenna structure (including appurtenances)	169.8 meters 557 feet
Center of radiation of Channel 7 antenna above ground	129.5 meters 425 feet
Elevation of site above mean sea level	1085.1 meters 3560 feet
Center of radiation of Channel 7 antenna above mean sea level	1214.6 meters 3985 feet
Overall height above mean sea level of existing tower (including beacon)	1254.9 meters 4117 feet
Antenna height above average terrain	153.5 meters

### Coverage

The average elevation data for 3.2 to 16.1 km along the standard eight radials has been determined from the NGDC 3-second database. The F(50,90) DTV coverage contours have been computed with reference to the propagation data for Channel 7, as published by the FCC in Figure 10 and 10a, Section 73.699 of the FCC Rules and Regulations.

Table II lists the average elevation 3.22 to 16.1 km along every 10 degrees, the antenna height above average terrain, the effective radiated power, and the predicted distance to the 43 and 36 dBu F(50,90) coverage contours. The map in Exhibit E-3 shows the existing 43 dBu and 36dBu F(50,90) coverage contours.

### Other Licensed Broadcast Facilities

There are no AM stations located within 3.2 km and no authorized FM translator stations within 100 meters of the existing KRTV-DT site. KRTV-DT operates on the existing tower on channel 7 with 28.5 kW ERP at 129.5 meters above ground. Station KFBB-DT operates on an adjacent tower and is licensed for Channel 8 facilities with center of radiation of 122 meters above ground. No adverse technical effect is anticipated by the proposed DTV operation to any other FCC licensed facility.

Radio Frequency Field Level Calculations

<u>Station</u>	<u>Channel</u>	<u>ERP</u> <u>kW</u>	<u>Field</u>	<u>RCAGL*</u> <u>(meters)</u>	<u>S-Calculated</u> <u><math>\mu\text{W}/\text{cm}^2</math></u>	<u>S-Limit</u> <u><math>\mu\text{W}/\text{cm}^2</math></u>	<u>% of Limit**</u>
KFBB-DT (existing)	8	31	0.25	120	0.5	200	0.25
KRTV-DT (application)	7	28.5	0.25	129.5	3.7	200	1.8

Based on the elevation pattern from the manufacturer's antenna data, a maximum downward field of 0.2 would create a field level of  $3.7 \mu\text{W}/\text{cm}^2$  at the base of the tower. Therefore, the existing 28.5 kW operation of KRTV-DT would contribute approximately 1.8% of the Maximum Permissible Exposure Limit for an uncontrolled environment and general population.

Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. The tower site is located inside a chain link fence with a locked gate to prevent unauthorized access to the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

The proposed operation based upon the current OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A meets the provisions of the FCC RFF guidelines, and thus, complies with Section 1.1307 of the FCC Rules.

Environmental Statement

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the permittee indicates:

- (a)(1) The existing facilities are not located in an officially designated wilderness area.
- (a)(2) The existing facilities are not located in an officially designated wildlife preserve.
- (a)(3) The existing facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The existing facilities were built prior to the adoption of WT Docket 03-128 and is grandfathered and has not affected any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The existing facilities are not located near any known Indian religious sites.
- (a)(6) The existing facilities are not located in a flood plain.
- (a)(7) The use of an existing tower at an existing site will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) No change in lighting is proposed.

- (b) Workers and the general public will not be subjected to RFF levels in excess of FCC guidelines. Authorized personnel will be alerted to areas of the tower where potential radiation levels are in excess of the FCC guidelines set forth in OET Bulletin No. 65, Edition 97-01, and Supplement A. A security fence with a locked gate deters unauthorized access to the tower site.



COHEN, DIPPELL AND EVERIST, P.C.

TABLE I  
LONGLEY-RICE INTERFERENCE  
FOR THE OPERATION OF  
KRTV-DT, GREAT FALLS, MONTANA  
CHANNEL 7 28.5 KW ERP MAX 153.5 METERS HAAT  
JUNE 2013

N 47° 32' 07.7"  
W 111° 17' 02.6"  
NAD-27

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
7	CFACTV7	LETHBRIDGE AB	275.3	GRANT	NULL-305128NULL	No interference
7	CISA-DT	LETHBRIDGE AB	275.3	OP	CANADA-364	No interference
7	CISA-PT	LETHBRIDGE AB	275.3	AL	CANADA-1552612NULL	No interference
7	CISA-TV	LETHBRIDGE AB	275.3	GRANT	BPFS-20081103ABY	No interference
7		BAYNES LAKE BC	345	APP	NULL-303586NULL	No interference
7	KPAX-TV	MISSOULA MT	213.7	APP	BPCDT-20120427ABI	No interference
7	KPAX-TV	MISSOULA MT	213.5	LIC	BLCDT-20070209AAZ	No interference
7	CBCPTV1	SHAUNAVON SK	306	GRANT	NULL-305162NULL	No interference
7	CBCP-TV-	SHAUNAVON SK	306	GRANT	BPFS-20081223ABS	No interference
7	SK-PT-24	SHAUNAVON SK	305.9	AL	CANADA-1551336NULL	No interference
8	KUSM-TV	BOZEMAN MT	209.4	LIC	BLEDT-20050926ALC	No interference
8	KFBB-TV	GREAT FALLS MT	0	LIC	BLCDT-20071108ADA	No interference

**ABOVE GROUND**

**ABOVE MEAN SEA LEVEL**

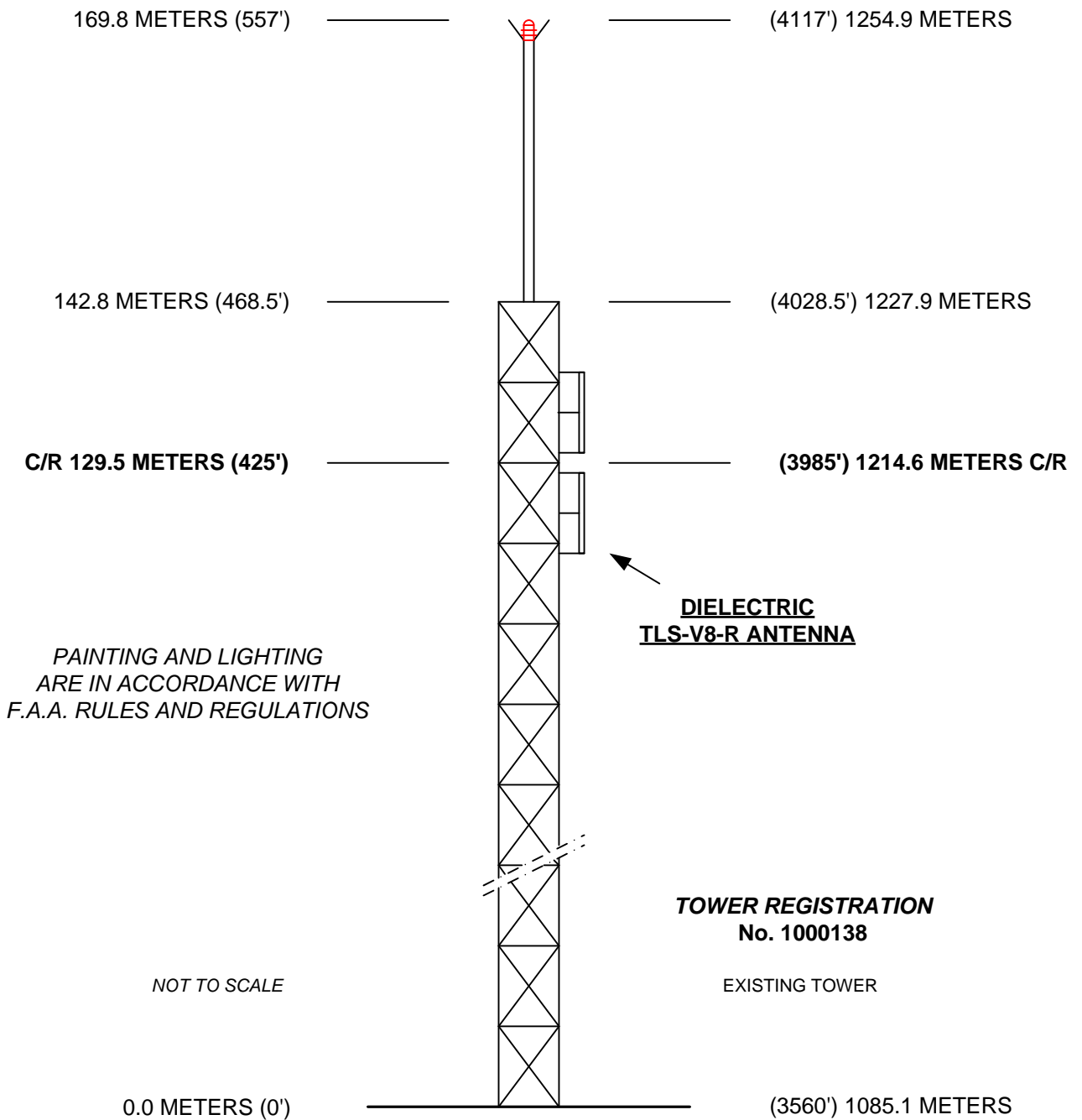


EXHIBIT E-1  
VERTICAL SKETCH  
FOR THE DTV OPERATION OF  
**KRTV-DT, GREAT FALLS, MONTANA**  
JUNE 2013

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

KRTV-DT, GREAT FALLS, MONTANA

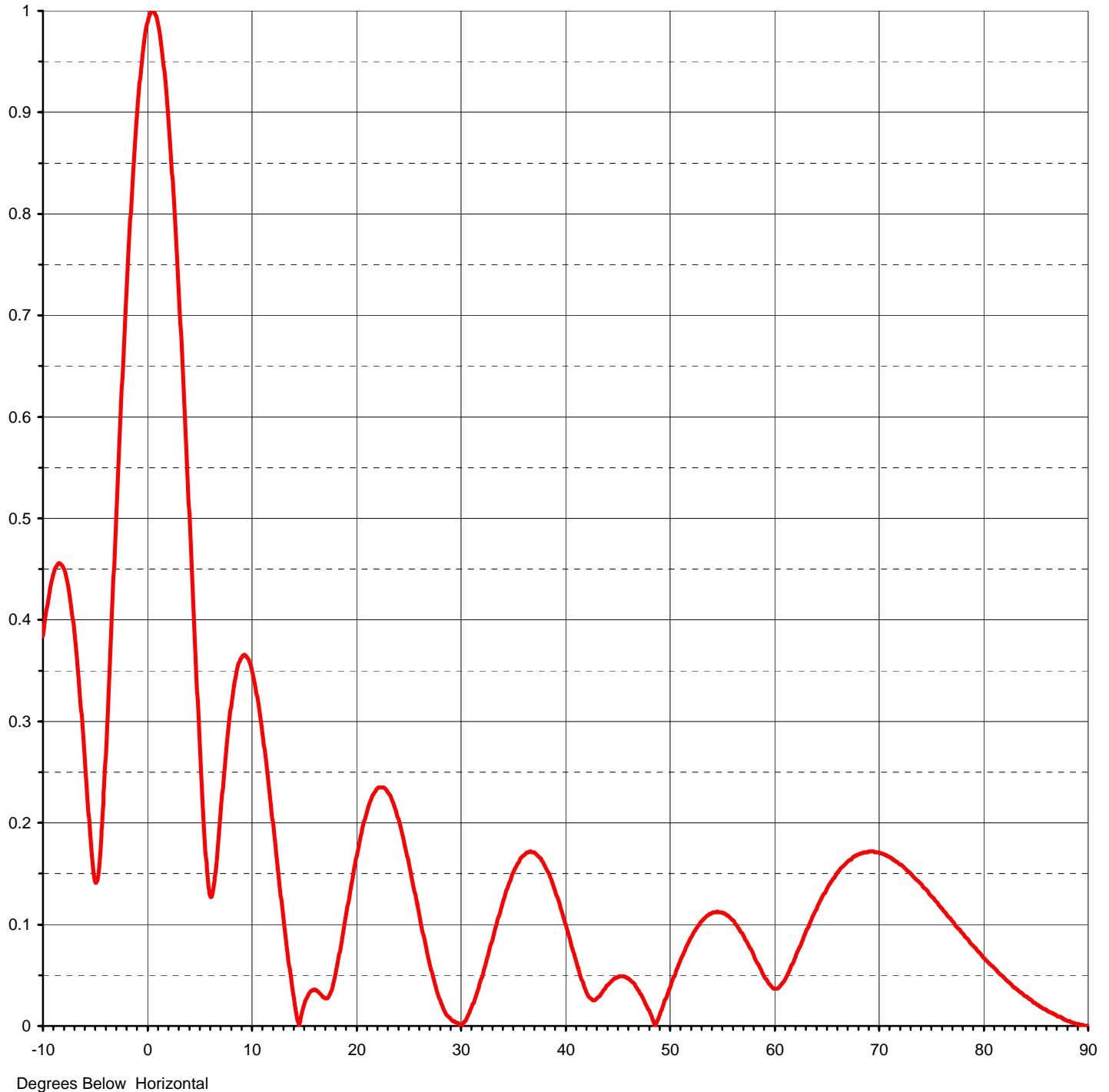


Proposal Number	<b>DCA-11119</b>		
Date	<b>9-Aug-05</b>		
Call Letters	<b>KRTV-DT</b>	Channel	<b>7</b>
Location	<b>Great Falls, MT</b>		
Customer	<b>Cordillera</b>		
Antenna Type	<b>TLS-V8-R</b>		

## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>8.00</b>	<b>( 9.03 dB )</b>
RMS Gain at Horizontal	<b>7.80</b>	<b>( 8.92 dB )</b>
Calculated / Measured	<b>Calculated</b>	

Beam Tilt	<b>0.50 deg</b>
Frequency	<b>177.00 MHz</b>
Drawing #	<b>08S080050-90</b>





Proposal Number **DCA-11119**  
 Date **9-Aug-05**  
 Call Letters **KRTV-DT** Channel **7**  
 Location **Great Falls, MT**  
 Customer **Cordillera**  
 Antenna Type **TLS-V8-R**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **08S080050-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.384	2.4	0.833	10.6	0.324	30.5	0.005	51.0	0.062	71.5	0.163
-9.5	0.420	2.6	0.799	10.8	0.311	31.0	0.016	51.5	0.074	72.0	0.159
-9.0	0.445	2.8	0.762	11.0	0.297	31.5	0.029	52.0	0.085	72.5	0.155
-8.5	0.456	3.0	0.723	11.5	0.255	32.0	0.045	52.5	0.094	73.0	0.150
-8.0	0.450	3.2	0.682	12.0	0.209	32.5	0.063	53.0	0.102	73.5	0.145
-7.5	0.428	3.4	0.639	12.5	0.162	33.0	0.082	53.5	0.107	74.0	0.140
-7.0	0.388	3.6	0.595	13.0	0.115	33.5	0.100	54.0	0.111	74.5	0.134
-6.5	0.332	3.8	0.550	13.5	0.072	34.0	0.118	54.5	0.112	75.0	0.128
-6.0	0.263	4.0	0.504	14.0	0.034	34.5	0.135	55.0	0.112	75.5	0.122
-5.5	0.190	4.2	0.458	14.5	0.004	35.0	0.149	55.5	0.109	76.0	0.116
-5.0	0.142	4.4	0.411	15.0	0.018	35.5	0.160	56.0	0.105	76.5	0.109
-4.5	0.173	4.6	0.365	15.5	0.031	36.0	0.167	56.5	0.099	77.0	0.103
-4.0	0.266	4.8	0.320	16.0	0.036	36.5	0.171	57.0	0.091	77.5	0.097
-3.5	0.381	5.0	0.276	16.5	0.033	37.0	0.171	57.5	0.082	78.0	0.091
-3.0	0.501	5.2	0.235	17.0	0.028	37.5	0.167	58.0	0.072	78.5	0.085
-2.8	0.548	5.4	0.197	17.5	0.030	38.0	0.160	58.5	0.061	79.0	0.079
-2.6	0.594	5.6	0.164	18.0	0.047	38.5	0.150	59.0	0.051	79.5	0.073
-2.4	0.640	5.8	0.140	18.5	0.073	39.0	0.136	59.5	0.042	80.0	0.067
-2.2	0.683	6.0	0.128	19.0	0.103	39.5	0.121	60.0	0.037	80.5	0.062
-2.0	0.725	6.2	0.129	19.5	0.133	40.0	0.104	60.5	0.038	81.0	0.057
-1.8	0.765	6.4	0.141	20.0	0.161	40.5	0.086	61.0	0.044	81.5	0.052
-1.6	0.802	6.6	0.161	20.5	0.187	41.0	0.067	61.5	0.054	82.0	0.047
-1.4	0.837	6.8	0.185	21.0	0.208	41.5	0.050	62.0	0.066	82.5	0.042
-1.2	0.868	7.0	0.210	21.5	0.223	42.0	0.036	62.5	0.078	83.0	0.038
-1.0	0.897	7.2	0.234	22.0	0.233	42.5	0.027	63.0	0.090	83.5	0.033
-0.8	0.922	7.4	0.257	22.5	0.235	43.0	0.026	63.5	0.102	84.0	0.029
-0.6	0.944	7.6	0.279	23.0	0.232	43.5	0.032	64.0	0.113	84.5	0.026
-0.4	0.963	7.8	0.298	23.5	0.222	44.0	0.039	64.5	0.126	85.0	0.022
-0.2	0.978	8.0	0.315	24.0	0.207	44.5	0.044	65.0	0.135	85.5	0.019
0.0	0.989	8.2	0.330	24.5	0.188	45.0	0.048	65.5	0.143	86.0	0.016
0.2	0.996	8.4	0.342	25.0	0.165	45.5	0.049	66.0	0.151	86.5	0.013
0.4	1.000	8.6	0.352	25.5	0.140	46.0	0.047	66.5	0.157	87.0	0.010
0.6	0.999	8.8	0.359	26.0	0.115	46.5	0.043	67.0	0.162	87.5	0.008
0.8	0.995	9.0	0.363	26.5	0.089	47.0	0.036	67.5	0.166	88.0	0.005
1.0	0.987	9.2	0.365	27.0	0.066	47.5	0.027	68.0	0.169	88.5	0.003
1.2	0.976	9.4	0.365	27.5	0.045	48.0	0.017	68.5	0.171	89.0	0.002
1.4	0.960	9.6	0.362	28.0	0.028	48.5	0.005	69.0	0.172	89.5	0.001
1.6	0.941	9.8	0.360	28.5	0.015	49.0	0.008	69.5	0.172	90.0	0.000
1.8	0.919	10.0	0.354	29.0	0.008	49.5	0.022	70.0	0.171		
2.0	0.893	10.2	0.346	29.5	0.004	50.0	0.036	70.5	0.169		
2.2	0.865	10.4	0.336	30.0	0.001	50.5	0.049	71.0	0.166		



Proposal Number

**DCA-11119**

Date

**9-Aug-05**

Call Letters

**KRTV-DT**

Channel

**7**

Location

**Great Falls, MT**

Customer

**Cordillera**

Antenna Type

**TLS-V8-R**

## AZIMUTH PATTERN

Gain

**1.70**

**( 2.30 dB)**

Calculated / Measured

**Calculated**

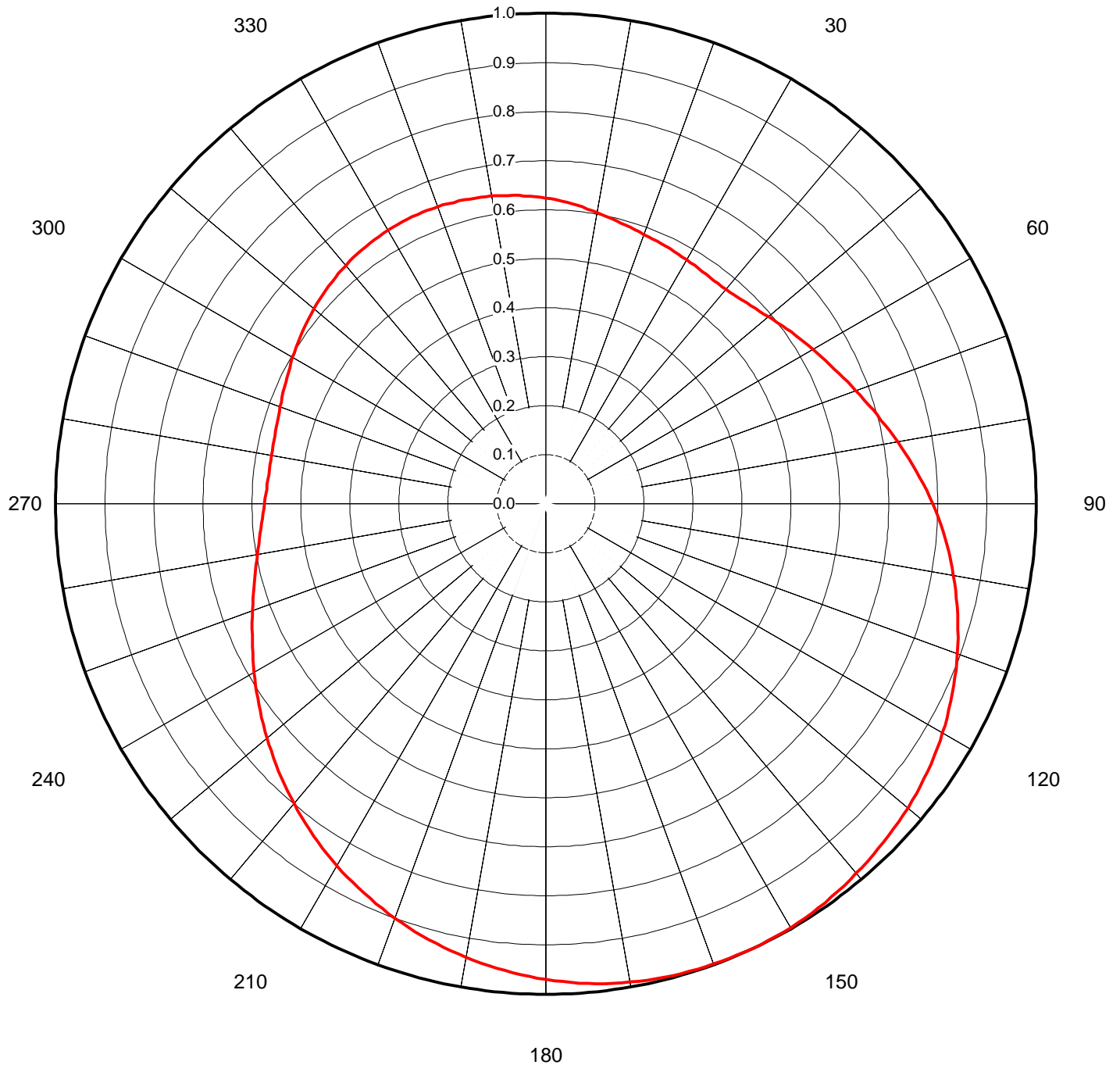
Frequency

**177.00 MHz**

Drawing #

**TLS-S170**

True North





Proposal Number **DCA-11119**  
 Date **9-Aug-05**  
 Call Letters **KRTV-DT** Channel **7**  
 Location **Great Falls, MT**  
 Customer **Cordillera**  
 Antenna Type **TLS-V8-R**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLS-S170**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.623	45	0.579	90	0.789	135	0.975	180	0.970	225	0.771	270	0.574	315	0.627
1	0.621	46	0.581	91	0.795	136	0.977	181	0.967	226	0.765	271	0.573	316	0.628
2	0.619	47	0.584	92	0.801	137	0.979	182	0.964	227	0.759	272	0.571	317	0.630
3	0.618	48	0.587	93	0.806	138	0.980	183	0.961	228	0.754	273	0.570	318	0.632
4	0.616	49	0.590	94	0.812	139	0.982	184	0.958	229	0.748	274	0.569	319	0.633
5	0.613	50	0.593	95	0.817	140	0.984	185	0.955	230	0.742	275	0.569	320	0.634
6	0.611	51	0.596	96	0.823	141	0.986	186	0.952	231	0.737	276	0.568	321	0.636
7	0.609	52	0.600	97	0.828	142	0.988	187	0.949	232	0.731	277	0.568	322	0.637
8	0.607	53	0.603	98	0.834	143	0.990	188	0.946	233	0.726	278	0.568	323	0.638
9	0.605	54	0.607	99	0.839	144	0.991	189	0.942	234	0.720	279	0.568	324	0.639
10	0.602	55	0.610	100	0.844	145	0.993	190	0.939	235	0.714	280	0.568	325	0.640
11	0.600	56	0.614	101	0.849	146	0.994	191	0.935	236	0.709	281	0.568	326	0.641
12	0.598	57	0.618	102	0.854	147	0.995	192	0.932	237	0.703	282	0.569	327	0.642
13	0.596	58	0.622	103	0.859	148	0.996	193	0.928	238	0.698	283	0.569	328	0.643
14	0.594	59	0.625	104	0.864	149	0.997	194	0.924	239	0.692	284	0.570	329	0.643
15	0.592	60	0.629	105	0.869	150	0.998	195	0.920	240	0.687	285	0.571	330	0.644
16	0.590	61	0.633	106	0.874	151	0.999	196	0.916	241	0.682	286	0.572	331	0.644
17	0.589	62	0.637	107	0.879	152	0.999	197	0.912	242	0.676	287	0.573	332	0.645
18	0.587	63	0.641	108	0.883	153	0.999	198	0.908	243	0.671	288	0.574	333	0.645
19	0.586	64	0.646	109	0.888	154	1.000	199	0.904	244	0.666	289	0.575	334	0.645
20	0.584	65	0.650	110	0.893	155	1.000	200	0.899	245	0.661	290	0.577	335	0.645
21	0.583	66	0.654	111	0.897	156	1.000	201	0.895	246	0.656	291	0.578	336	0.645
22	0.582	67	0.659	112	0.902	157	0.999	202	0.890	247	0.651	292	0.580	337	0.645
23	0.581	68	0.663	113	0.906	158	0.999	203	0.886	248	0.646	293	0.582	338	0.645
24	0.580	69	0.668	114	0.910	159	0.999	204	0.881	249	0.641	294	0.584	339	0.645
25	0.579	70	0.673	115	0.914	160	0.998	205	0.876	250	0.637	295	0.586	340	0.644
26	0.578	71	0.678	116	0.919	161	0.998	206	0.872	251	0.632	296	0.588	341	0.644
27	0.577	72	0.683	117	0.923	162	0.998	207	0.867	252	0.628	297	0.590	342	0.643
28	0.576	73	0.688	118	0.927	163	0.997	208	0.862	253	0.624	298	0.592	343	0.643
29	0.575	74	0.694	119	0.930	164	0.996	209	0.857	254	0.619	299	0.594	344	0.642
30	0.574	75	0.699	120	0.934	165	0.996	210	0.852	255	0.615	300	0.596	345	0.641
31	0.573	76	0.705	121	0.938	166	0.995	211	0.847	256	0.612	301	0.598	346	0.640
32	0.572	77	0.711	122	0.941	167	0.994	212	0.842	257	0.608	302	0.600	347	0.640
33	0.572	78	0.716	123	0.944	168	0.993	213	0.836	258	0.604	303	0.603	348	0.639
34	0.571	79	0.722	124	0.948	169	0.992	214	0.831	259	0.601	304	0.605	349	0.638
35	0.570	80	0.728	125	0.951	170	0.990	215	0.826	260	0.597	305	0.607	350	0.637
36	0.570	81	0.734	126	0.954	171	0.989	216	0.820	261	0.594	306	0.609	351	0.636
37	0.570	82	0.740	127	0.956	172	0.987	217	0.815	262	0.591	307	0.611	352	0.634
38	0.570	83	0.747	128	0.959	173	0.985	218	0.810	263	0.589	308	0.614	353	0.633
39	0.570	84	0.753	129	0.962	174	0.983	219	0.804	264	0.586	309	0.616	354	0.632
40	0.571	85	0.759	130	0.964	175	0.981	220	0.799	265	0.583	310	0.618	355	0.631
41	0.572	86	0.765	131	0.966	176	0.979	221	0.793	266	0.581	311	0.619	356	0.629
42	0.573	87	0.771	132	0.968	177	0.977	222	0.787	267	0.579	312	0.621	357	0.628
43	0.575	88	0.777	133	0.971	178	0.975	223	0.782	268	0.577	313	0.623	358	0.626
44	0.577	89	0.783	134	0.973	179	0.972	224	0.776	269	0.575	314	0.625	359	0.625

TABLE II  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
KRTV-DT, GREAT FALLS, MONTANA  
CHANNEL 7 28.5 KW ERP 153.5 METERS HAAT  
JUNE 2013

<u>Radial</u> <u>Bearing</u> (N ° E, T)	<u>Average*</u> <u>Elevation</u>	<u>Effective</u> <u>Height</u> meters	<u>Depression</u> <u>Angle</u> degrees	<u>ERP At</u> <u>Radio</u> <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
	<u>3.2 to 16.1 km</u> meters				<u>43 dBu</u> <u>City Grade</u> km	<u>36 dBu</u> <u>Noise-Limited</u> km
0	1108.1	106.5	0.286	11.062	63.5	75.3
10	1095.4	119.2	0.302	10.329	65.0	77.4
20	1084.3	130.3	0.316	9.72	66.2	79.0
30	1062.4	152.2	0.342	9.39	69.2	81.8
40	1048.9	165.7	0.357	9.292	70.8	83.2
50	1022.1	192.5	0.384	10.022	73.7	85.9
60	1021.1	193.5	0.385	11.276	74.7	86.9
70	1005.0	209.6	0.401	12.908	76.9	89.2
80	1002.8	211.8	0.403	15.105	78.3	90.5
90	1019.8	194.8	0.387	17.742	78.3	90.3
100	1036.5	178.1	0.370	20.302	78.1	89.8
110	1043.5	171.1	0.362	22.727	78.4	89.9
120	1049.0	165.6	0.356	24.862	78.6	90.1
130	1051.6	163.0	0.354	26.485	78.8	90.3
140	1046.2	168.4	0.359	27.595	79.6	91.1
150	1049.2	165.4	0.356	28.386	79.6	91.0
155	1053.9	160.7	0.351	28.5	79.1	90.6
160	1057.3	157.3	0.347	28.386	78.7	90.2
170	1057.1	157.5	0.348	27.933	78.6	90.1
180	1046.0	168.6	0.360	26.816	79.4	90.9
190	1041.1	173.5	0.365	25.129	79.4	90.8
200	1043.9	170.7	0.362	23.034	78.5	90.0
210	1053.5	161.1	0.352	20.688	76.7	88.4
220	1064.5	150.1	0.339	18.194	74.3	86.3
230	1081.0	133.6	0.320	15.691	70.5	82.9
240	1074.2	140.4	0.328	13.451	70.4	82.9
250	1061.8	152.8	0.342	11.564	70.9	83.4
260	1042.7	171.9	0.363	10.158	72.1	84.4



TABLE II  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
KRTV-DT, GREAT FALLS, MONTANA  
CHANNEL 7 28.5 KW ERP 153.5 METERS HAAT  
JUNE 2013

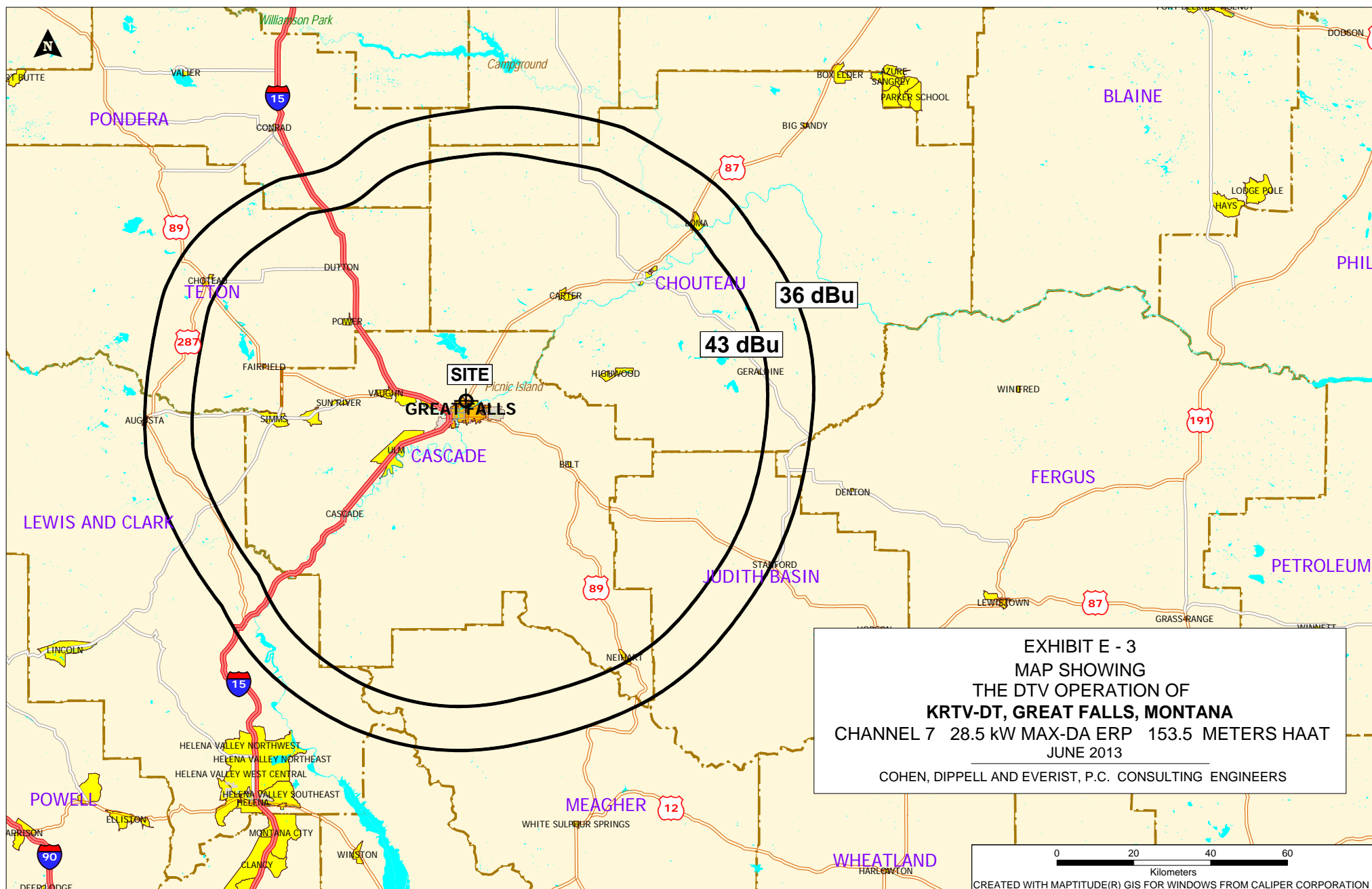
<u>Radial</u> <u>Bearing</u> (N ° E, T)	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u>	<u>Effective</u> <u>Height</u> meters	<u>Depression</u> <u>Angle</u> degrees	<u>ERP At</u> <u>Radio</u> <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
	meters				<u>43 dBu</u> <u>City Grade</u> km	<u>36 dBu</u> <u>Noise-Limited</u> km
270	1047.3	167.3	0.358	9.39	71.0	83.4
280	1051.3	163.3	0.354	9.195	70.4	82.9
290	1047.1	167.5	0.358	9.488	71.1	83.5
300	1063.2	151.4	0.341	10.124	69.7	82.3
310	1089.6	125.0	0.310	10.885	66.3	78.9
320	1110.1	104.5	0.283	11.456	63.5	75.1
330	1133.6	81.0	0.249	11.82	59.2	70.2
340	1122.2	92.4	0.266	11.82	61.5	72.8
350	1114.8	99.8	0.277	11.564	62.7	74.2

\*Based on data from FCC 3-second data base.

DTV Channel 7 (174-180 MHz)  
Average Elevation 3.2 to 16.1 km 1059.7 meters AMSL  
Center of Radiation 1214.6 meters AMSL  
Antenna Height Above Average Terrain 153.5 meters  
Effective Radiated Power 28.5 kW (14.55 dBk) Max.

North Latitude: 47° 32' 07.7"  
West Longitude: 111° 17' 02.6"

(NAD-27)



### SECTION III - D - DTV Engineering

**Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.**

**Pre-Transition Certification Checklist:** An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction permit application to modify pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

**Post-Transition Expedited Processing.** An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed on or before March 17, 2008 (45 days of the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91).

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:
  - (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"). ☐ Yes ☐ No  
☐ N/A
  - (e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B. ☐ Yes ☐ No  
☐ N/A
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RIF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☐ Yes ☐ No

Applicant must **submit the Exhibit** called for in Item 13.

3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☐ Yes ☐ No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☐ Yes ☐ No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. ☐ Yes ☐ No

### SECTION III - D DTV Engineering

**TECHNICAL SPECIFICATIONS** Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

#### TECH BOX

1. Channel Number: DTV \_\_\_\_\_ Analog TV, if any \_\_\_\_\_
2. Zone: ☐ I ☐ II ☐ III
3. Antenna Location Coordinates: (NAD 27)
- \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ N ☐ S Latitude  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ E ☐ W Longitude
4. Antenna Structure Registration Number: \_\_\_\_\_
- ☐ Not applicable ☐ FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: \_\_\_\_\_ meters
6. Overall Tower Height Above Ground Level: \_\_\_\_\_ meters
7. Height of Radiation Center Above Ground Level: \_\_\_\_\_ meters
8. Height of Radiation Center Above Average Terrain: \_\_\_\_\_ meters
9. Maximum Effective Radiated Power (average power): \_\_\_\_\_ kW
10. Antenna Specifications:
- a. 

Manufacturer	Model
--------------	-------
- b. Electrical Beam Tilt: \_\_\_\_\_ degrees ☐ Not Applicable
- c. Mechanical Beam Tilt: \_\_\_\_\_ degrees toward azimuth \_\_\_\_\_ degrees True ☐ Not Applicable
- Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). 

Exhibit No.
-------------
- d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical

## TECH BOX

e. Directional Antenna Relative Field Values:

☐

Not applicable (Nondirectional)

Rotation: \_\_\_\_\_

☐

No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616?

☐

Yes

☐

No

If "No," attach as an Exhibit justification therefore, including a summary of any related previously granted waivers.

Exhibit No.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.

- a. If **Certification Checklist Item 2** is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist Item 2**, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radio frequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist Item 2** is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

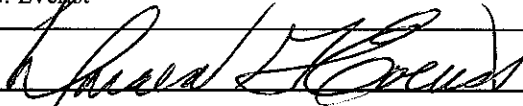
I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in 'good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

### SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name Donald G. Everist		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 		Date 6/12/13	
Mailing Address Cohen, Dippell and Everist, P.C., 1420 N Street, NW, Suite One			
City Washington	State or Country (if foreign address) DC	ZIP Code 20005	
Telephone Number (include area code) 202-898-0111	E-Mail Address (if available) cde@attglobal.net		

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).