

**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

**EXHIBIT B**

**Interference Study for Channel 291D**  
**Using Proposed Site as Reference**

The proposed Channel 291, operating with an effective radiated power of 0.25 kilowatt, will not cause interference to any existing, applied for or proposed full service facility. As noted on Exhibit B1, the proposed W291DD is within the predicted 60 dBu contour of the second adjacent stations, WVBZ, Channel 289C1, Clemmons, North Carolina and WEND, Channel 293C1, Salisbury, North Carolina. Due to the relationship between the proposed W291DD, a 40 db ratio of the protected and interfering contours applies. Further, this proposal will deliver interference to FM translator W291DM. W291DM has accepted interference from the outstanding W291DD construction permit, and this proposal will reduce that interference as shown in Exhibit B5.

**Proposed W291DD vs WVBZ**

The WVBZ contour at the proposed W291DD antenna site is in excess of 77.7 dBu (50/50). The corresponding interfering contour for Channel 291 is 117.7 dBu (50/10). As shown in the tabulation of desired to undesired contours (Exhibit B3), the W291DD interfering contour (117.7 dBu, FCC 50/10) will not reach ground level. Since the W291DD antenna will be mounted 86.9 meters (285 feet) above ground and there are no structures of comparable height in

the vicinity of the proposed W291DD, this contour never reaches any potentially occupied space. As such, WVBZ will not receive interference from the proposed translator.

#### **Proposed W291DD vs WEND**

The WEND contour at the proposed W291DD antenna site is in excess of 63.0 dBu (50/50). The corresponding interfering contour for W291DD is 103.0 dBu (50/10). As shown in the tabulation of desired to undesired contours (Exhibit B4), the proposed W291DD interfering contour (103.0 dBu, FCC 50/10) will not reach ground level. Since the W291DD antenna will be mounted 86.9 meters (285 feet) above ground and there are no structures of comparable height in the vicinity of the proposed W291DD antenna, this contour never reaches any potentially occupied space. As such, WEND will not receive interference from the proposed translator.

#### **Proposed W291DD vs W291DM**

W291DM is located in Greensboro, North Carolina and has been issued a construction permit (BNPFT-20180418ABT). W291DM accepted interference from W291DD (outstanding Construction Permit BMPFT-20170707AAV). The relocation of W291DD actually reduces the signal in the direction of W291DM as demonstrated in Exhibit B5. If necessary, a waiver of interference delivered to W291DM is requested.

There are no AM non-directional stations within 0.8 kilometer of this proposal. There are no AM directional stations within 3.2 kilometers of this proposal. Based on the foregoing, it is believed that the proposed W291DD is in compliance with §74.1204(d) of the Commission's rules. If a waiver of the rule is needed to address WVBZ, WEND and W291DM, one is respectfully requested.

**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

**EXHIBIT B1**

Clearance Study for W291DD Translator  
Using Proposed Site as Reference

REFERENCE CH# 291D - 106.1 MHz, Pwr= 0.25 kW DA, HAAT= 103.3 M, COR= 359.7 M DISPLAY DATES  
36 05 24.6 N, Average Protected F(50-50)= 13.1 km DATA 06-27-18  
80 15 05.9 W. Standard Directional SEARCH 06-27-18

CH CITY	CALL	TYPE STATE	ANT	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
291D W291DD! Lexington		CP DC NC		41.9 222.0	12.75 BMPFT20170707AAV	36 10 31.7 80 09 24.0	0.250		---Reference--- 417 Clearcast, Inc.		
289C1 WVBZ Clemmons		LIC NCX NC		341.7 161.7	33.55 BLH20110902AAJ	36 22 36.4 80 22 08.6	30.000 472	8.6 794	72.5 Clear Chan. B/casting Lice	12.5	-40.1*
291C1 WTKK Knightdale		LIC C NC		106.1 287.1	162.01 BLH20090601APS	35 40 28.0 78 31 40.0	27.500 489	162.1 567	71.5 Capstar Tx, Llc, As Debtor	-12.6*	47.5
291C3 WMMY Jefferson		LIC NCN NC		283.0 102.2	122.84 BLH20000104ABR	36 19 53.0 81 35 17.0	10.500 155	120.1 1226	49.0 High Country Adventures, L	-10.2	26.7
291D W291DM Greensboro		CP DV NC		109.2 289.4	40.62 BNPFT20180418ABT	35 58 10.2 79 49 30.4	0.099	9.9 543	1.9 Rcr Of Randolph County, Lt	18.1	-9.5*
293C1 WEND Salisbury		LIC CN NC		211.7 31.4	64.96 BLH19990302KD	35 35 32.0 80 37 44.0	84.000 319	10.0 552	72.1 Capstar Tx, Llc, As Debtor	40.2	-8.3*
291L1 WEJM-LP Mount Zion		LIC NC		90.4 270.7	48.69 BLL20060215AAL	36 05 10.0 79 42 35.0	0.100 21			17.9	3.7
291D W291DL China Grove		CP DH NC		208.0 27.8	65.11 BNPFT20180316AAN	35 34 21.0 80 35 22.0	0.250	40.0 299	11.4 South Rowan Broadcasting C	11.0	4.5
291C2 WOLS Waxhaw		LIC NCX NC		200.2 19.9	142.83 BLH20081014ADN	34 53 01.0 80 47 37.0	21.000 188	122.8 358	48.1 Ghb Of Waxhaw, Inc.	5.6	46.3
238C1 WHPE-FM High Point		LIC CX NC		133.4 313.6	27.53 BMLED20140602AZZ	35 55 11.0 80 01 47.0	100.000 159	95.1 399	34.7 Bible Broadcasting Network	9.5R	18.0M
291D W291AN Eden		LIC V NC		42.8 223.1	63.12 BLFT20001222ACG	36 30 21.0 79 46 18.0	0.020 -19	12.0 188	3.7 Calvary Chapel Of Twin Fal	39.3	19.2
292D W292DF Bassett Forks		LIC C VA		27.1 207.3	65.39 BLFT20070328AFG	36 36 48.0 79 55 04.0	0.010 233	12.3 493	8.8 Educational Information Co	41.2	39.7

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM

In & Out distances between contours are shown at closest points. Reference Zone= East Zone, Co to 3<sup>rd</sup> adjacent.

All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"-"affixed to 'IN' or 'OUT' values = site inside restricted contour.

< = Station meets FCC minimum distance spacing for its class.

# - WEJM-LP holds a construction permit BPL-20180517AET to change frequency to Channel 260.



**GRAHAM BROCK, INC.**  
BROADCAST TECHNICAL CONSULTANTS



**W291DD - Lexington, NC - Proposed**  
Latitude: 36-05-24.60 N - Longitude: 080-15-05.90 W  
Channel: 291D - Frequency: 106.1 MHz  
ERP: 0.25 kW - Height (m) AMSL: 359.7

**WVBZ - Clemmons, NC - BLH20110902AAJ**  
Latitude: 36-22-36.40 N - Longitude: 080-22-08.60 W  
Channel: 289C1 - Frequency: 105.7 MHz  
ERP: 30.00 kW - Height (m) AMSL: 794.0

**WEND - Salisbury, NC - BLH19990302KD**  
Latitude: 35-35-32 N - Longitude: 080-37-44 W  
Channel: 293C1 - Frequency: 106.5 MHz  
ERP: 84.00 kW - Height (m) AMSL: 552.0

**W291DD Transmitter Site**

**EXHIBIT B2**  
**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

 WVBZ 77.7 dBu (50/50)  
 WEND 63.0 dBu (50/50)

Scale 1:50,000  
0 0.57 1.13 1.7 km

V-Soft Communications LLC ©



**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

**EXHIBIT B3**

**W291DD vs WVBZ**

W291DD Lexington, NC, Showing Protection to WVBZ  
 Geographic Coordinates: N.36 05 24.60 W.80 15 05.9  
 74.1204(d) Study - Using FCC 30 SEC Terrain Database  
 Translator or LPFM Maximum Licensed ERP = 0.25  
 Translator or LPFM Antenna Height AG = 86.9 Meters  
 W291DD.C Antenna Model = 6 BAY HW

Protected Station's Contour = 77.76223 dBu  
 Translator's or LPFM's full Interference contour 117.76223

Review Azimuth = 0 Degrees True  
 Relative Field on the horizon at Review Azimuth = 1.000  
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW  
 Distance between stations = 33.6 km  
 Protected Station= WVBZ, 30 kW, 794 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.2500	143.5022	143.5022	086.900
05.00	0.892	1.0	0.1989	128.0039	127.5169	075.744
10.00	0.612	1.0	0.0936	087.8233	086.4891	071.650
15.00	0.268	1.0	0.0180	038.4586	037.1481	076.946
20.00	0.021	1.0	0.0001	003.0135	002.8318	085.869
25.00	0.183	1.0	0.0084	026.2609	023.8005	075.802
30.00	0.209	1.0	0.0109	029.9920	025.9738	071.904
35.00	0.141	1.0	0.0050	020.2338	016.5746	075.294
40.00	0.039	1.0	0.0004	005.5966	004.2872	083.303
45.00	0.048	1.0	0.0006	006.8881	004.8706	082.029
50.00	0.097	1.0	0.0024	013.9197	008.9474	076.237
55.00	0.108	1.0	0.0029	015.4982	008.8894	074.205
60.00	0.092	1.0	0.0021	013.2022	006.6011	075.467
65.00	0.066	1.0	0.0011	009.4711	004.0027	078.316
70.00	0.04	1.0	0.0004	005.7401	001.9632	081.506
75.00	0.021	1.0	0.0001	003.0135	000.7800	083.989
80.00	0.008	1.0	0.0000	001.1480	000.1994	085.769
85.00	0.002	1.0	0.0000	000.2870	000.0250	086.614
90.00	0.001	1.0	0.0000	000.1435	000.0000	086.756

**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

**EXHIBIT B4**

**W291DD vs WEND**

W291DD Lexington, NC, Showing Protection to WEND  
 Geographic Coordinates: N.36 05 24.60 W.80 15 05.9  
 74.1204(d) Study - Using FCC 30 SEC Terrain Database  
 Translator or LPFM Maximum Licensed ERP = 0.25  
 Translator or LPFM Antenna Height AG = 86.9 Meters  
 W291DD.C Antenna Model = 6 BAY HW

Protected Station's Contour = 63.0 dBu  
 Translator's or LPFM's full Interference contour 103

Review Azimuth = 0 Degrees True  
 Relative Field on the horizon at Review Azimuth = 1.000  
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW  
 Distance between stations = 65.0 km  
 Protected Station= WEND, 84 kW, 552 M Meters COR AMSL

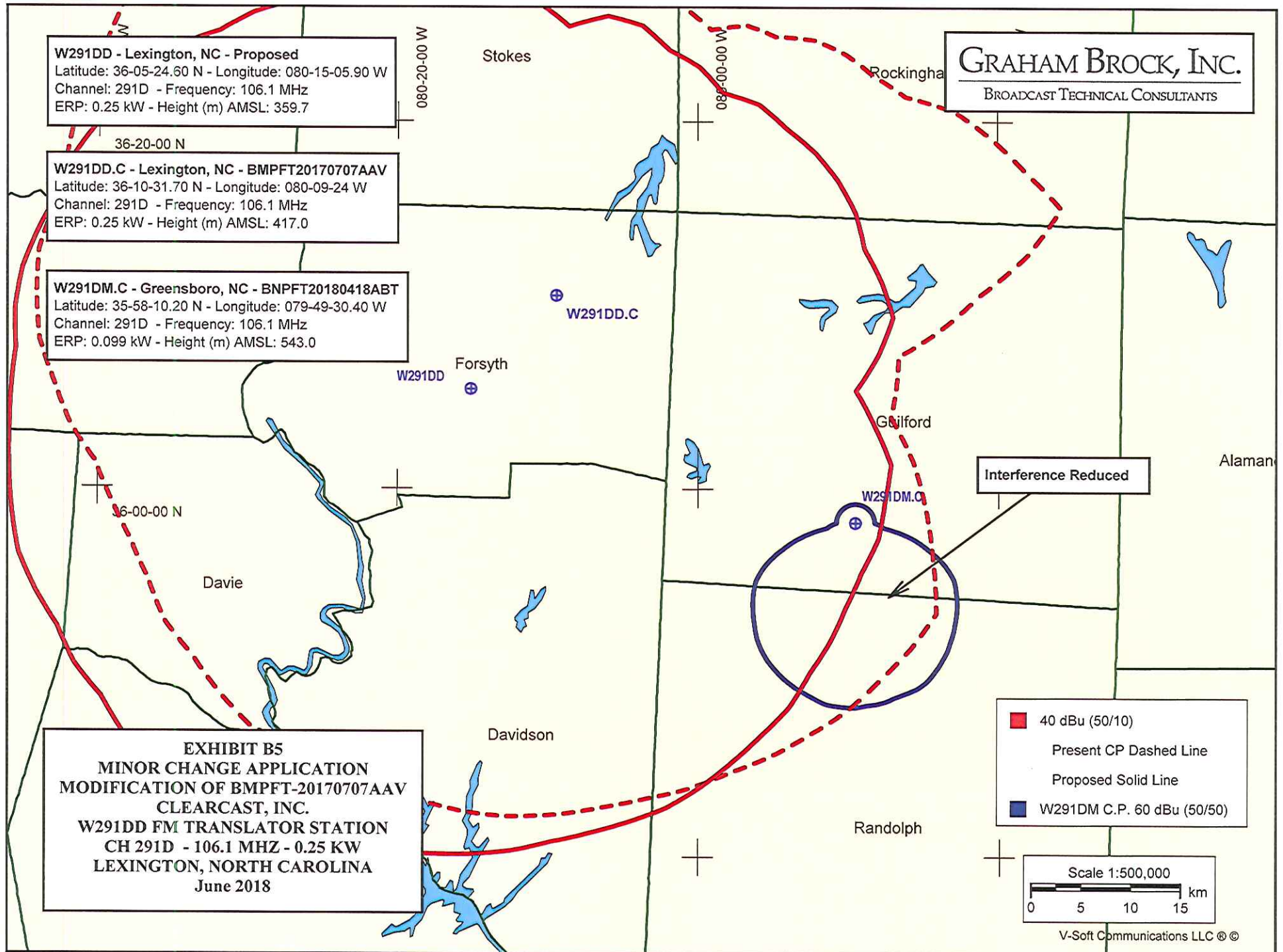
Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.2500	785.1814	785.1814	086.900
05.00	0.892	1.0	0.1989	700.3818	697.7167	025.858
10.00	0.612	1.0	0.0936	480.5310	473.2307	003.457
15.00	0.268	1.0	0.0180	210.4286	203.2584	032.437
20.00	0.021	1.0	0.0001	016.4888	015.4944	081.260
25.00	0.183	1.0	0.0084	143.6882	130.2257	026.175
30.00	0.209	1.0	0.0109	164.1029	142.1173	004.849
35.00	0.141	1.0	0.0050	110.7106	090.6888	023.399
40.00	0.039	1.0	0.0004	030.6221	023.4579	067.217
45.00	0.048	1.0	0.0006	037.6887	026.6499	060.250
50.00	0.097	1.0	0.0024	076.1626	048.9564	028.556
55.00	0.108	1.0	0.0029	084.7996	048.6390	017.436
60.00	0.092	1.0	0.0021	072.2367	036.1183	024.341
65.00	0.066	1.0	0.0011	051.8220	021.9009	039.933
70.00	0.04	1.0	0.0004	031.4073	010.7419	057.387
75.00	0.021	1.0	0.0001	016.4888	004.2676	070.973
80.00	0.008	1.0	0.0000	006.2815	001.0908	080.714
85.00	0.002	1.0	0.0000	001.5704	000.1369	085.336
90.00	0.001	1.0	0.0000	000.7852	000.0000	086.115

**W291DD - Lexington, NC - Proposed**  
Latitude: 36-05-24.60 N - Longitude: 080-15-05.90 W  
Channel: 291D - Frequency: 106.1 MHz  
ERP: 0.25 kW - Height (m) AMSL: 359.7

**W291DD.C - Lexington, NC - BMPFT20170707AAV**  
Latitude: 36-10-31.70 N - Longitude: 080-09-24 W  
Channel: 291D - Frequency: 106.1 MHz  
ERP: 0.25 kW - Height (m) AMSL: 417.0

**W291DM.C - Greensboro, NC - BNPFT20180418ABT**  
Latitude: 35-58-10.20 N - Longitude: 079-49-30.40 W  
Channel: 291D - Frequency: 106.1 MHz  
ERP: 0.099 kW - Height (m) AMSL: 543.0

**EXHIBIT B5**  
**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**



**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

**EXHIBIT B6**

N. Lat. = 36° 05' 24.6" - Protected and Interfering Contour Data  
W. Lng. = 80° 15' 05.9" - W291DD FM Translator, Lexington, North Carolina

Distance to Contour - FCC 30 second terrain database

Azi.	AV EL	HAAT	ERP kW	dBk	Field	117.7-F1	103-F1	100-F1	60-F5	54-F1	40-F1
000	269.4	90.3	0.2500	-6.02	1.000	0.14	0.79	1.11	12.25	18.06	42.14
010	280.7	79.0	0.2500	-6.02	1.000	0.14	0.79	1.11	11.51	16.66	39.40
020	278.3	81.4	0.2500	-6.02	1.000	0.14	0.79	1.11	11.66	16.95	39.99
030	280.3	79.4	0.2500	-6.02	1.000	0.14	0.79	1.11	11.53	16.70	39.49
040	282.0	77.7	0.2500	-6.02	1.000	0.14	0.79	1.11	11.42	16.49	39.06
050	274.0	85.7	0.2500	-6.02	1.000	0.14	0.79	1.11	11.95	17.50	41.05
060	268.8	90.9	0.2500	-6.02	1.000	0.14	0.79	1.11	12.28	18.13	42.26
070	270.9	88.8	0.2500	-6.02	1.000	0.14	0.79	1.11	12.15	17.88	41.80
080	266.4	93.3	0.2500	-6.02	1.000	0.14	0.79	1.11	12.44	18.42	42.82
090	269.7	90.0	0.1777	-7.50	0.843	0.12	0.66	0.93	11.27	16.27	38.49
100	267.1	92.6	0.2500	-6.02	1.000	0.14	0.79	1.11	12.40	18.34	42.66
110	263.7	96.0	0.2500	-6.02	1.000	0.14	0.79	1.11	12.61	18.74	43.40
120	263.7	96.0	0.2500	-6.02	1.000	0.14	0.79	1.11	12.61	18.73	43.39
130	259.5	100.2	0.2500	-6.02	1.000	0.14	0.79	1.11	12.88	19.22	44.28
140	254.2	105.5	0.2500	-6.02	1.000	0.14	0.79	1.11	13.21	19.80	45.31
150	249.8	109.9	0.2500	-6.02	1.000	0.14	0.79	1.11	13.48	20.27	46.11
160	248.9	110.8	0.2500	-6.02	1.000	0.14	0.79	1.11	13.53	20.35	46.25
170	249.3	110.4	0.2500	-6.02	1.000	0.14	0.79	1.11	13.50	20.32	46.19
180	245.9	113.8	0.2500	-6.02	1.000	0.14	0.79	1.11	13.71	20.65	46.75
190	241.5	118.2	0.2500	-6.02	1.000	0.14	0.79	1.11	13.97	21.07	47.44
200	234.8	124.9	0.2500	-6.02	1.000	0.14	0.79	1.11	14.35	21.66	48.39
210	228.2	131.5	0.2500	-6.02	1.000	0.14	0.79	1.11	14.73	22.23	49.29
220	226.4	133.3	0.2500	-6.02	1.000	0.14	0.79	1.11	14.84	22.39	49.53
230	235.7	124.0	0.2500	-6.02	1.000	0.14	0.79	1.11	14.29	21.58	48.26
240	238.9	120.8	0.2500	-6.02	1.000	0.14	0.79	1.11	14.12	21.31	47.82
250	236.0	123.7	0.2500	-6.02	1.000	0.14	0.79	1.11	14.28	21.55	48.21
260	244.6	115.1	0.2500	-6.02	1.000	0.14	0.79	1.11	13.79	20.78	46.96
270	250.1	109.6	0.2500	-6.02	1.000	0.14	0.79	1.11	13.45	20.23	46.04
280	248.2	111.5	0.2500	-6.02	1.000	0.14	0.79	1.11	13.57	20.43	46.37
290	249.4	110.3	0.2500	-6.02	1.000	0.14	0.79	1.11	13.50	20.31	46.17
300	249.3	110.4	0.2500	-6.02	1.000	0.14	0.79	1.11	13.50	20.31	46.18
310	253.4	106.3	0.2500	-6.02	1.000	0.14	0.79	1.11	13.26	19.89	45.46
320	254.8	104.9	0.2500	-6.02	1.000	0.14	0.79	1.11	13.17	19.73	45.18
330	262.5	97.2	0.2500	-6.02	1.000	0.14	0.79	1.11	12.69	18.87	43.65
340	266.0	93.7	0.2500	-6.02	1.000	0.14	0.79	1.11	12.46	18.46	42.89
350	272.8	86.9	0.2500	-6.02	1.000	0.14	0.79	1.11	12.02	17.64	41.33

AMSL= 359.7 M