

MINOR CHANGE LONG FORM APPLICATION
MILLER COMMUNICATIONS, INC.
NEW FM TRANSLATOR STATION
CH 235D - 94.9 MHZ - 0.25 KW ND
SAINT MATTHEWS, SOUTH CAROLINA
September 2013

EXHIBIT C

As indicated on Exhibit C1, the proposed new FM translator will operate with an effective radiated power of 0.25 kilowatt at 106.7 meters (350.0 feet) above ground level and will not cause interference to any existing, applied for, or proposed facility.

As indicated on Exhibit C1, the proposed facility will be located within the 60 dBu contour of 2nd adjacent channel station WSPX, Channel 233A, Bowman, South Carolina. Due to the relationship between the proposed translator and WSPX, a 40 db ratio of the protected and interfering contours applies. We have, therefore, calculated the level of signal of WSPX at the proposed new translator site. Exhibit C2 is a map showing the WSPX contour at the proposed site. The WSPX contour at the proposed new translator site is 70.4 dBu (50/50), and the corresponding interfering contour for the proposed translator is 110.4 dBu (50/10). It is proposed to utilize an Electronics Research 100-2(F)HW, half-wavelength spaced antenna. Exhibit C3 is the tabulated elevation pattern data for this antenna. Calculations of the proposed 110.4 dBu interference contour (Exhibit C4) indicate the interfering contour will not be closer than 12.8 meters (42 feet) from the ground. Exhibit C5 is a "Google Earth" view of the proposed site showing there are no structures or roads within the immediate area where interference from the proposed translator will be delivered to WSPX. The predicted interfering contour never reaches ground level. As such, WSPX will not receive interference from the proposed translator.

Based on the foregoing, it is believed that the proposed new FM translator is in compliance with §74.1204(d) of the Commission's rules.

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EXHIBIT C1

Interference Study for New FM Translator
Using Proposed Site as Reference

Miller Communications, Inc.											
REFERENCE		CH# 235D - 94.9 MHz, Pwr= 0.25 kW, HAAT= 110.4 M,						COR= 161.6 M		DISPLAY DATES	
33 26 35.0 N.		Average Protected F(50-50)= 13.5 km								DATA 09-27-13	
80 48 16.0 W.		Omni-directional								SEARCH 09-29-13	
CH CITY	CALL	TYPE	ANT STATE	AZI. <---	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
235D St. Matthews	633752	APP DC	SC	2.3 182.3	17.86 BNPFT20030317CCY	33 36 13.0 80 47 48.0	0.250 101	22.4 170	6.7 Miller Communications, Inc	-17.3*<	-32.6<
233A Bowman	WSPX	LIC CX	SC	153.5 333.5	15.25 BLH20040818AAI	33 19 13.0 80 43 52.0	3.500 132	2.6 172	27.5 Glory Communications, Inc.	-1.2<	-13.4*<
236C0 Charleston	WSSX-FM	LIC CN	SC	128.5 309.0	115.03 BLH19900924KC	32 47 44.0 79 50 27.0	100.000 305	105.6 306	72.8 Radio License Holding Cbc,	-4.5<	21.2
235C3 Millen	WHKN	LIC NCN	GA	231.6 51.0	126.27 BLH19920214KC	32 43 57.0 81 51 43.0	14.500 122	103.6 181	36.5 Georgia Eagle Media, Inc.	8.8	42.8
234C3 Sumter	WWBD	LIC CX	SC	38.8 219.2	86.68 BLH20040112ADC	34 02 56.0 80 12 51.0	8.100 174	58.9 222	39.9 Miller Communications, Inc	14.1	26.2
234A Williston	WAAW	LIC C	SC	275.7 95.3	76.36 BLH20040109ACF	33 30 31.0 81 37 27.0	2.550 155	43.1 273	28.5 Wisdom, LLC	20.8	29.3
237A South Congaree	WFMV	CP ZCX	SC	332.6 152.5	54.24 BPH20120319ABG	33 52 34.0 81 04 28.0	6.000 80	2.4 160	24.4 Glory Communications, Inc.	39.1	28.7
232A Forest Acres	WWNQ	LIC NCX	SC	341.1 161.0	65.59 BLH20041208AAN	34 00 04.0 81 02 05.0	2.550 136	2.6 207	29.6 Hometown Columbia, LLC	50.5	34.9
237A South Congaree	WFMV	LIC ZC	SC	322.7 142.4	63.92 BLH20010725AEF	33 53 58.0 81 13 29.0	6.000 100	2.6 213	27.0 Glory Communications, Inc.	48.6	35.9
238A Wedgfield	WIBZ	LIC CX	SC	34.0 214.2	67.91 BLH20020606AAY	33 56 56.0 80 23 34.0	4.400 118	2.7 174	29.0 Miller Communications, Inc	51.5	37.8

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

Contour distances are on direct line to and from reference station. Reference Zone= East Zone, Co to 3rd adjacent.

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 protected contour.

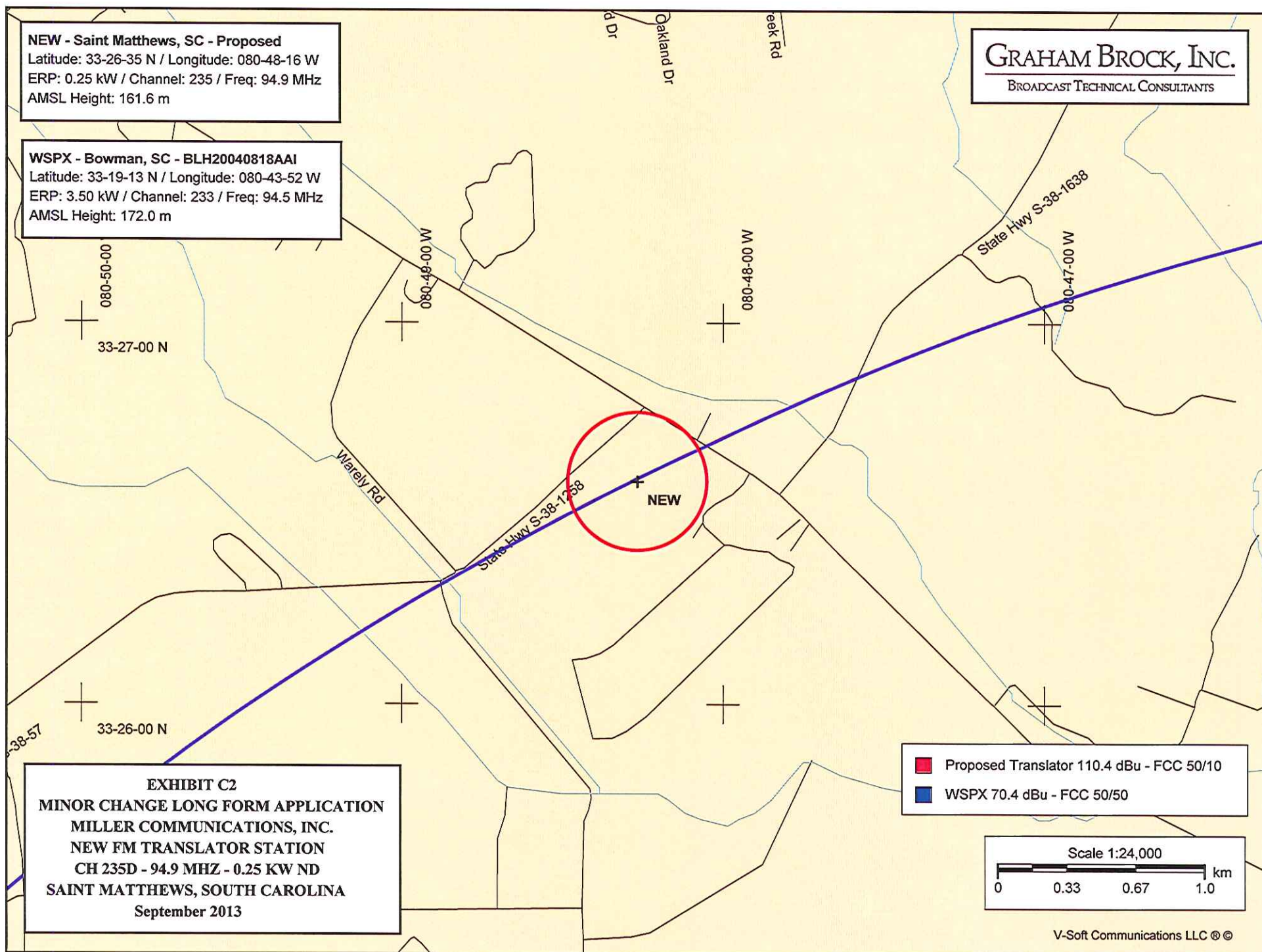
< = Contour Overlap

*< - WSPX non-interference determined by 2nd adjacent channel desired to undesired 40 dBu Ration - Exhibit C2

NEW - Saint Matthews, SC - Proposed
Latitude: 33-26-35 N / Longitude: 080-48-16 W
ERP: 0.25 kW / Channel: 235 / Freq: 94.9 MHz
AMSL Height: 161.6 m

WSPX - Bowman, SC - BLH20040818AAI
Latitude: 33-19-13 N / Longitude: 080-43-52 W
ERP: 3.50 kW / Channel: 233 / Freq: 94.5 MHz
AMSL Height: 172.0 m

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS



TABULATED DATA FOR ELEVATION PATTERN

Type: 1002H

Polarization: Circular

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
5.00	0.984	-0.14	-6.75	0.971	-0.25	-27.00	0.621	-4.14	-50.50	0.165	-15.63	-74.00	0.009	-40.92
4.75	0.986	-0.13	-7.00	0.969	-0.27	-27.50	0.609	-4.30	-51.00	0.159	-15.98	-74.50	0.008	-41.76
4.50	0.987	-0.11	-7.25	0.967	-0.29	-28.00	0.598	-4.46	-51.50	0.152	-16.34	-75.00	0.007	-42.63
4.25	0.989	-0.10	-7.50	0.965	-0.31	-28.50	0.587	-4.63	-52.00	0.146	-16.70	-75.50	0.007	-43.52
4.00	0.990	-0.09	-7.75	0.962	-0.33	-29.00	0.576	-4.80	-52.50	0.140	-17.07	-76.00	0.006	-44.43
3.75	0.991	-0.08	-8.00	0.960	-0.36	-29.50	0.564	-4.97	-53.00	0.134	-17.44	-76.50	0.005	-45.37
3.50	0.992	-0.07	-8.25	0.957	-0.38	-30.00	0.553	-5.15	-53.50	0.129	-17.82	-77.00	0.005	-46.33
3.25	0.993	-0.06	-8.50	0.955	-0.40	-30.50	0.542	-5.33	-54.00	0.123	-18.21	-77.50	0.004	-47.32
3.00	0.994	-0.05	-8.75	0.952	-0.43	-31.00	0.530	-5.51	-54.50	0.117	-18.60	-78.00	0.004	-48.33
2.75	0.995	-0.04	-9.00	0.949	-0.45	-31.50	0.519	-5.69	-55.00	0.112	-19.00	-78.50	0.003	-49.38
2.50	0.996	-0.03	-9.25	0.947	-0.48	-32.00	0.508	-5.88	-55.50	0.107	-19.40	-79.00	0.003	-50.45
2.25	0.997	-0.03	-9.50	0.944	-0.50	-32.50	0.497	-6.07	-56.00	0.102	-19.81	-79.50	0.003	-51.56
2.00	0.997	-0.02	-9.75	0.941	-0.53	-33.00	0.486	-6.27	-56.50	0.097	-20.23	-80.00	0.002	-52.70
1.75	0.998	-0.02	-10.00	0.938	-0.56	-33.50	0.475	-6.47	-57.00	0.093	-20.66	-80.50	0.002	-53.87
1.50	0.999	-0.01	-10.50	0.932	-0.61	-34.00	0.464	-6.67	-57.50	0.088	-21.09	-81.00	0.002	-55.08
1.25	0.999	-0.01	-11.00	0.925	-0.67	-34.50	0.453	-6.88	-58.00	0.084	-21.53	-81.50	0.002	-56.32
1.00	0.999	-0.01	-11.50	0.919	-0.74	-35.00	0.442	-7.09	-58.50	0.080	-21.98	-82.00	0.001	-57.60
0.75	1.000	0.00	-12.00	0.912	-0.80	-35.50	0.431	-7.30	-59.00	0.076	-22.43	-82.50	0.001	-58.91
0.50	1.000	0.00	-12.50	0.905	-0.87	-36.00	0.421	-7.52	-59.50	0.072	-22.89	-83.00	0.001	-60.26
0.25	1.000	0.00	-13.00	0.897	-0.94	-36.50	0.410	-7.74	-60.00	0.068	-23.36	-83.50	0.001	-61.65
0.00	1.000	0.00	-13.50	0.889	-1.02	-37.00	0.400	-7.97	-60.50	0.064	-23.84	-84.00	0.001	-63.08
-0.25	1.000	0.00	-14.00	0.882	-1.09	-37.50	0.389	-8.20	-61.00	0.061	-24.33	-84.50	0.001	-64.53
-0.50	1.000	0.00	-14.50	0.874	-1.17	-38.00	0.379	-8.43	-61.50	0.057	-24.82	-85.00	0.001	-66.02
-0.75	1.000	0.00	-15.00	0.865	-1.26	-38.50	0.369	-8.67	-62.00	0.054	-25.33	-85.50	0.000	-67.53
-1.00	0.999	-0.01	-15.50	0.857	-1.34	-39.00	0.359	-8.91	-62.50	0.051	-25.84	-86.00	0.000	-69.05
-1.25	0.999	-0.01	-16.00	0.848	-1.43	-39.50	0.349	-9.15	-63.00	0.048	-26.36	-86.50	0.000	-70.57
-1.50	0.999	-0.01	-16.50	0.839	-1.52	-40.00	0.339	-9.40	-63.50	0.045	-26.89	-87.00	0.000	-72.09
-1.75	0.998	-0.02	-17.00	0.830	-1.62	-40.50	0.329	-9.65	-64.00	0.042	-27.44	-87.50	0.000	-73.58
-2.00	0.997	-0.02	-17.50	0.821	-1.72	-41.00	0.320	-9.91	-64.50	0.040	-27.99	-88.00	0.000	-75.03
-2.25	0.997	-0.03	-18.00	0.811	-1.82	-41.50	0.310	-10.17	-65.00	0.037	-28.55	-88.50	0.000	-76.41
-2.50	0.996	-0.03	-18.50	0.802	-1.92	-42.00	0.301	-10.43	-65.50	0.035	-29.12	-89.00	0.000	-77.71
-2.75	0.995	-0.04	-19.00	0.792	-2.03	-42.50	0.292	-10.70	-66.00	0.033	-29.71	-89.50	0.000	-78.92
-3.00	0.994	-0.05	-19.50	0.782	-2.14	-43.00	0.283	-10.97	-66.50	0.031	-30.30	-90.00	0.000	-80.02
-3.25	0.993	-0.06	-20.00	0.772	-2.25	-43.50	0.274	-11.25	-67.00	0.028	-30.91			
-3.50	0.992	-0.07	-20.50	0.762	-2.36	-44.00	0.265	-11.53	-67.50	0.027	-31.53			
-3.75	0.991	-0.08	-21.00	0.751	-2.48	-44.50	0.256	-11.82	-68.00	0.025	-32.16			
-4.00	0.990	-0.09	-21.50	0.741	-2.60	-45.00	0.248	-12.11	-68.50	0.023	-32.81			
-4.25	0.989	-0.10	-22.00	0.730	-2.73	-45.50	0.240	-12.41	-69.00	0.021	-33.47			
-4.50	0.987	-0.11	-22.50	0.720	-2.86	-46.00	0.232	-12.71	-69.50	0.020	-34.14			
-4.75	0.986	-0.13	-23.00	0.709	-2.99	-46.50	0.224	-13.01	-70.00	0.018	-34.83			
-5.00	0.984	-0.14	-23.50	0.698	-3.12	-47.00	0.216	-13.32	-70.50	0.017	-35.53			
-5.25	0.983	-0.15	-24.00	0.687	-3.26	-47.50	0.208	-13.64	-71.00	0.015	-36.25			
-5.50	0.981	-0.17	-24.50	0.676	-3.40	-48.00	0.201	-13.96	-71.50	0.014	-36.98			
-5.75	0.979	-0.18	-25.00	0.665	-3.54	-48.50	0.193	-14.28	-72.00	0.013	-37.73			
-6.00	0.977	-0.20	-25.50	0.654	-3.69	-49.00	0.186	-14.61	-72.50	0.012	-38.50			
-6.25	0.975	-0.22	-26.00	0.643	-3.84	-49.50	0.179	-14.95	-73.00	0.011	-39.29			
-6.50	0.973	-0.23	-26.50	0.632	-3.99	-50.00	0.172	-15.29	-73.50	0.010	-40.09			

Preliminary, subject to final design and review.

EXHIBIT C3

Interference to: WSPX
 Contour at tower: 70.4 dBu - FCC 50/50
 Interference Ratio: 40 db

CALL: NEW Channel 235D
 POWER (Watts): 250
 ANTENNA AGL (m): 106.7
 Desired Contour (dBu - FCC 50/10) 110.4

Antenna ERI 100A-2F-HW
 Azimuth: Worst Case
 Relative field: 1.000
 ERP (Watts) at Azimuth: 250

DEPRESSION ANGLE	ANTENNA RELATIVE FIELD FROM MFG	ERP (WATTS)	dBk	DISTANCE TO INTERFERING CONTOUR (m)	HORIZONTAL DISTANCE FROM TOWER (m)	VERTICAL DISTANCE FROM GROUND (m)
0	1.000	250.0	-6.02	334.2	334.2	106.7
5	0.984	242.1	-6.16	328.8	327.6	78.0
10	0.938	220.0	-6.58	313.5	308.7	52.3
15	0.865	187.1	-7.28	289.1	279.2	31.9
20	0.772	149.0	-8.27	258.0	242.4	18.5
25	0.665	110.6	-9.56	222.2	201.4	12.8
30	0.553	76.5	-11.17	184.8	160.0	14.3
35	0.442	48.8	-13.11	147.7	121.0	22.0
40	0.339	28.7	-15.42	113.3	86.8	33.9
45	0.248	15.4	-18.13	82.9	58.6	48.1
50	0.172	7.4	-21.31	57.5	36.9	62.7
55	0.112	3.1	-25.04	37.4	21.5	76.0
60	0.068	1.2	-29.37	22.7	11.4	87.0
65	0.037	0.3	-34.66	12.4	5.2	95.5
70	0.018	0.1	-40.92	6.0	2.1	101.0
75	0.007	0.0	-49.12	2.3	0.6	104.4
80	0.002	0.0	-60.00	0.7	0.1	106.0
85	0.001	0.0	-66.02	0.3	0.0	106.4
90	0.000	0.0	-86.02	0.0	0.0	106.7

WORST CASE HEIGHT AGL (m) 12.8

EXHIBIT C4
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Google earth

feet
km 1 5000



EXHIBIT #C5
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EXHIBIT C6

Predicted contours:

N. Lat. = 33 26 35 - Tabulated Protected and Interfering Contour Data
W. Lng. = 80 48 16 - New FM Translator - Saint Matthews, South Carolina

HAAT and Distance to Contour - FCC 30 Second Terrain Database

Azi.	AV EL	HAAT	ERP kW	dBk	Field	110.4-F1	100-F1	60-F5	54-F1	40-F1
000	66.7	94.9	0.2500	-6.02	1.000	0.33	1.11	12.54	18.61	43.17
010	56.3	105.3	0.2500	-6.02	1.000	0.33	1.11	13.19	19.78	45.26
020	51.6	110.0	0.2500	-6.02	1.000	0.33	1.11	13.48	20.27	46.11
030	49.2	112.4	0.2500	-6.02	1.000	0.33	1.11	13.63	20.52	46.52
040	47.5	114.1	0.2500	-6.02	1.000	0.33	1.11	13.73	20.68	46.80
050	45.1	116.5	0.2500	-6.02	1.000	0.33	1.11	13.87	20.91	47.18
060	43.6	118.0	0.2500	-6.02	1.000	0.33	1.11	13.95	21.05	47.41
070	44.9	116.7	0.2500	-6.02	1.000	0.33	1.11	13.88	20.93	47.22
080	45.4	116.2	0.2500	-6.02	1.000	0.33	1.11	13.85	20.88	47.13
090	46.8	114.8	0.2500	-6.02	1.000	0.33	1.11	13.77	20.75	46.91
100	48.5	113.1	0.2500	-6.02	1.000	0.33	1.11	13.67	20.59	46.65
110	45.5	116.1	0.2500	-6.02	1.000	0.33	1.11	13.84	20.87	47.11
120	43.7	117.9	0.2500	-6.02	1.000	0.33	1.11	13.95	21.04	47.39
130	44.4	117.2	0.2500	-6.02	1.000	0.33	1.11	13.91	20.98	47.28
140	44.7	116.9	0.2500	-6.02	1.000	0.33	1.11	13.89	20.95	47.24
150	44.9	116.7	0.2500	-6.02	1.000	0.33	1.11	13.88	20.93	47.21
160	45.0	116.6	0.2500	-6.02	1.000	0.33	1.11	13.87	20.92	47.19
170	45.3	116.3	0.2500	-6.02	1.000	0.33	1.11	13.86	20.90	47.15
180	45.5	116.1	0.2500	-6.02	1.000	0.33	1.11	13.85	20.88	47.12
190	45.3	116.3	0.2500	-6.02	1.000	0.33	1.11	13.86	20.90	47.15
200	42.8	118.8	0.2500	-6.02	1.000	0.33	1.11	14.00	21.13	47.53
210	43.1	118.5	0.2500	-6.02	1.000	0.33	1.11	13.98	21.10	47.48
220	42.3	119.3	0.2500	-6.02	1.000	0.33	1.11	14.03	21.17	47.60
230	44.9	116.7	0.2500	-6.02	1.000	0.33	1.11	13.88	20.93	47.21
240	47.9	113.7	0.2500	-6.02	1.000	0.33	1.11	13.70	20.64	46.73
250	48.8	112.8	0.2500	-6.02	1.000	0.33	1.11	13.65	20.55	46.59
260	57.2	104.4	0.2500	-6.02	1.000	0.33	1.11	13.14	19.68	45.09
270	64.5	97.1	0.2500	-6.02	1.000	0.33	1.11	12.68	18.86	43.62
280	67.3	94.3	0.2500	-6.02	1.000	0.33	1.11	12.50	18.54	43.03
290	60.1	101.5	0.2500	-6.02	1.000	0.33	1.11	12.95	19.36	44.53
300	53.3	108.3	0.2500	-6.02	1.000	0.33	1.11	13.38	20.10	45.81
310	50.8	110.8	0.2500	-6.02	1.000	0.33	1.11	13.53	20.36	46.26
320	62.2	99.4	0.2500	-6.02	1.000	0.33	1.11	12.82	19.12	44.10
330	64.5	97.1	0.2500	-6.02	1.000	0.33	1.11	12.68	18.86	43.63
340	67.2	94.4	0.2500	-6.02	1.000	0.33	1.11	12.51	18.55	43.05
350	74.1	87.5	0.2500	-6.02	1.000	0.33	1.11	12.07	17.72	41.49

AMSL= 161.6