

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
RADIO STATION WSLC-FM
ROANOKE, VIRGINIA

MARCH 20, 2011

CH 235C 100 KW 598 M

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Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit for radio station WSLC-FM on Channel 235C assigned to Roanoke, Virginia. The applicant proposes, via this minor-change application, to slightly relocate its transmitter site location and radiation center. Electrical beamtilt will be provided, with 95.5 kW at the horizontal plane and 100 kW at 0.75° below the horizontal plane. See the Appendix for the vertical pattern specifications.

Proposed Transmitter Location

A sketch showing the proposed antenna and supporting structure is shown on Figure 1. The transmitting antenna will be diplexed with WSLQ(FM) on Channel 256C assigned to Roanoke Virginia.

Interference Concerns

The 115 dBu predicted "blanketing" contour of the proposed station would extend radially 3 kilometers from the transmitting site. No interference is expected. However, the applicant recognizes its responsibility to resolve complaints of interference, including blanketing and receiver-induced interference, as required by Sections 73.315(b), 73.316(e) and 73.318.

Determination of Overall Antenna HAAT

The overall antenna height above average terrain (HAAT) was determined from NASA's SRTM (Shuttle Radar Topography Mission) 90 m Digital Elevation Data for the world.

Predicted Coverage Contours

The predicted coverage contours were calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the aforementioned terrain database. The distances to the predicted coverage contours were determined using the average elevations of 3-16 km portions of radials spaced every 10-degrees of azimuth. The antenna radiation center HAAT in each radial direction and the ERP were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to contours.

Figure 2 is a map showing the predicted coverage contours.

Allocation Study

As discussed below, no new short-spacing to any station or allotment would be created this modification of WSLC-FM. There are five stations to which WSLC-FM does not satisfy the Section 73.207(b) minimum distance separation requirements as tabulated in Sheet 1 of Figure 3. Each is discussed separately below.

Section 73.213(a) processing is requested toward WPTI(FM) on Channel 233C1 at Eden, North Carolina.¹ As there is a second channel relationship between WSLC-FM and WPTI(FM), no additional allocation analysis is necessary. Therefore, the proposed facility satisfies the requirements of Section 73.213(a) of the Commission's Rules to WPTI(FM).

Section 73.213(a) processing is requested toward WQDR-FM on Channel 234C at Raleigh, North Carolina.² As shown on Sheet 2 of Figure 3, there is no prohibited contour overlap between WQDR-FM and WSLC-FM. Therefore, the proposed facility satisfies the requirements of Section 73.213(a) of the Commission's Rules to WQDR-FM.

¹ Stations WPTI(FM) and WSLC-FM were operating before 1964 and appear to have been continuously short-spaced since that time.

² Stations WQDR-FM and WSLC-FM were operating before 1964 and appear to have been continuously short-spaced since that time.

Section 73.213(a) processing is requested toward WAEZ(FM) on Channel 235C0 at Greenville, Tennessee.³ As shown on Sheet 3 of Figure 3, there is no additional (or new) interference is predicted to WAEZ(FM) from the proposed WSLC-FM.⁴ As also shown, no additional (or new) interference is predicted to WSLC-FM from WAEZ(FM).⁵ Therefore, the proposed facility satisfies the requirements of Section 73.213(a) of the Commission's Rules to WAEZ(FM).

Section 73.213(a) processing is requested toward WNKS(FM) on Channel 236C at Charlotte, North Carolina.⁶ As shown on Sheet 4 of Figure 3, there is no prohibited contour overlap between WNKS(FM) and WSLC-FM. Therefore, the proposed facility satisfies the requirements of Section 73.213(a) of the Commission's Rules to WNKS(FM).

As for WRLB(FM) on Channel 237B1 at Rainelle, West Virginia, there is no allocation issue. WRLB(FM) is already authorized under Section 73.215 to WSLC-FM and as WSLC-FM is not decreasing the separation distance to WRLB(FM), this short-spacing is not an allocation concern for WSLC-FM.

³ Stations WAEZ(FM) and WSLC-FM were operating before 1964 and appear to have been continuously short-spaced since that time.

⁴ The existing WSLC-FM causes interference to WAEZ(FM) to 9,100 persons over 301 square kilometers. The proposed WSLC-FM causes interference to WAEZ(FM) to 8,900 persons over 288 square kilometers. All populations are based upon the 2000 Census.

⁵ WAEZ(FM) causes interference to the existing WSLC-FM to 860 persons over 70 square kilometers. WAEZ(FM) causes interference to the proposed WSLC-FM to 760 persons over 64 square kilometers.

⁶ Stations WNKS(FM) and WSLC-FM were operating before 1964 and appear to have been continuously short-spaced since that time.

Radiofrequency Electromagnetic Field Exposure Analysis

A radiofrequency electromagnetic field measurement survey will be undertaken after construction and operation of WSLC-FM with its modified facility. As this transmitter site is the location of several FM radio stations, this survey will ensure that the ground level electromagnetic emissions due to the modification of WSLC-FM at this transmitter site are below the Commission's guideline values in both the appropriate controlled and uncontrolled radiofrequency environments.

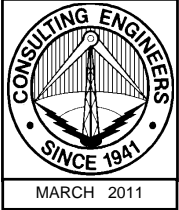
Access to the transmitting site is restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines. WXLK(FM) will also coordinate with the other co-located users of the towers to reduce or shut down power when workers representing any station ascend the tower.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.

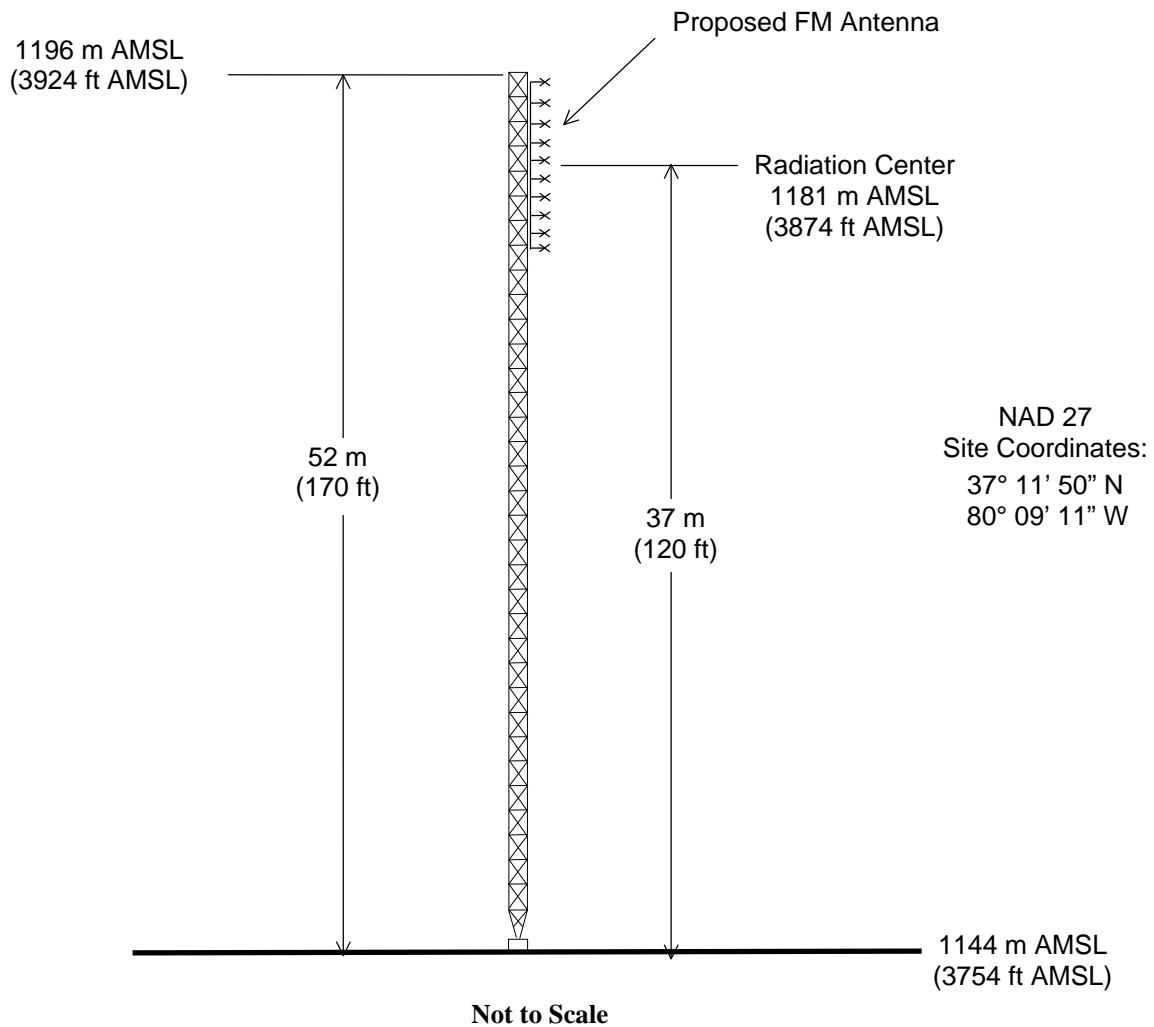
Charles A. Cooper

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
941.329.6000

March 20, 2011



ASRN: N/A



ANTENNA AND SUPPORTING STRUCTURE

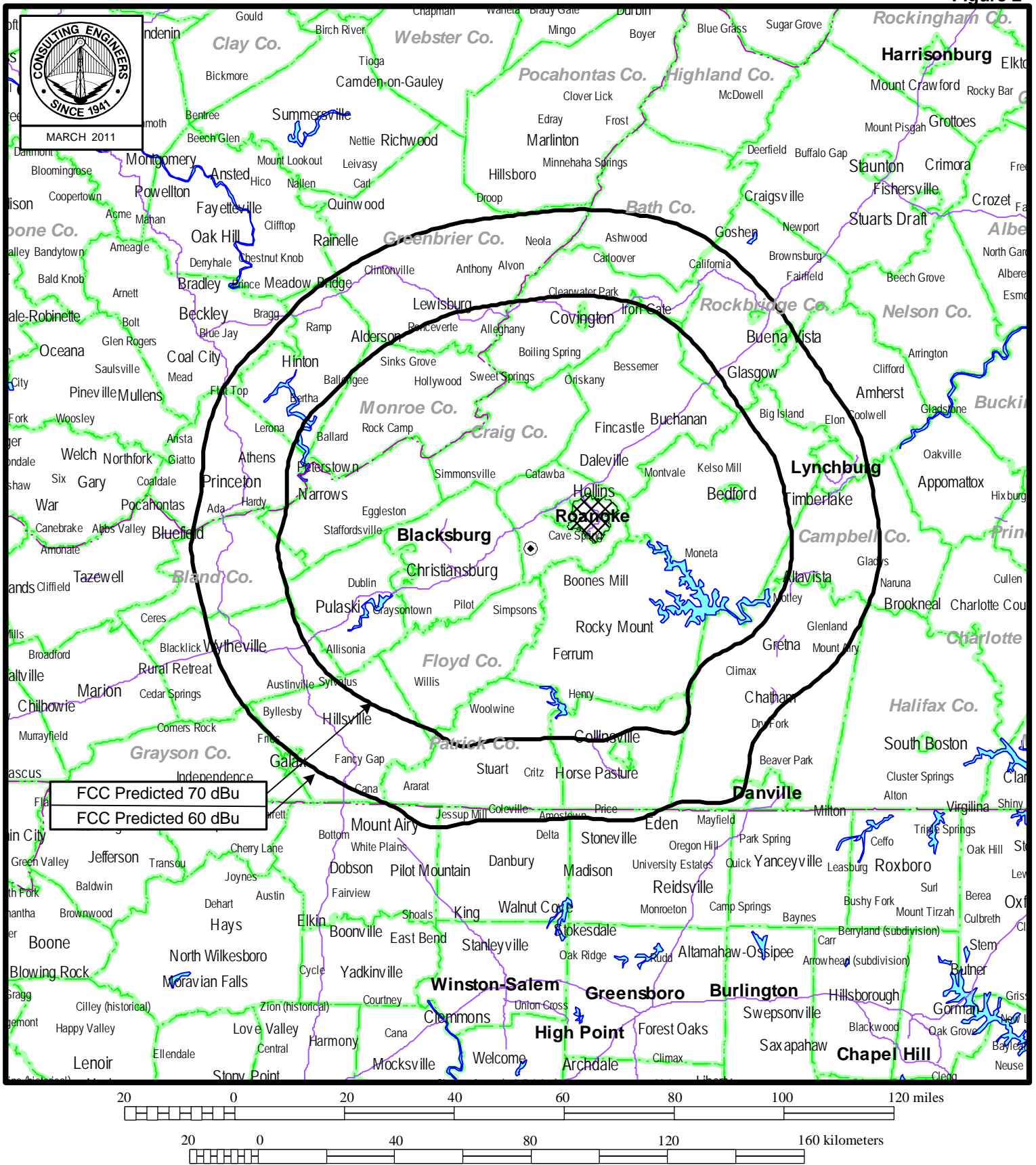
RADIO STATION WSLC-FM

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 2



FCC PREDICTED COVERAGE CONTOURS

STATION WSLC-FM

ROANOKE, VIRGINIA

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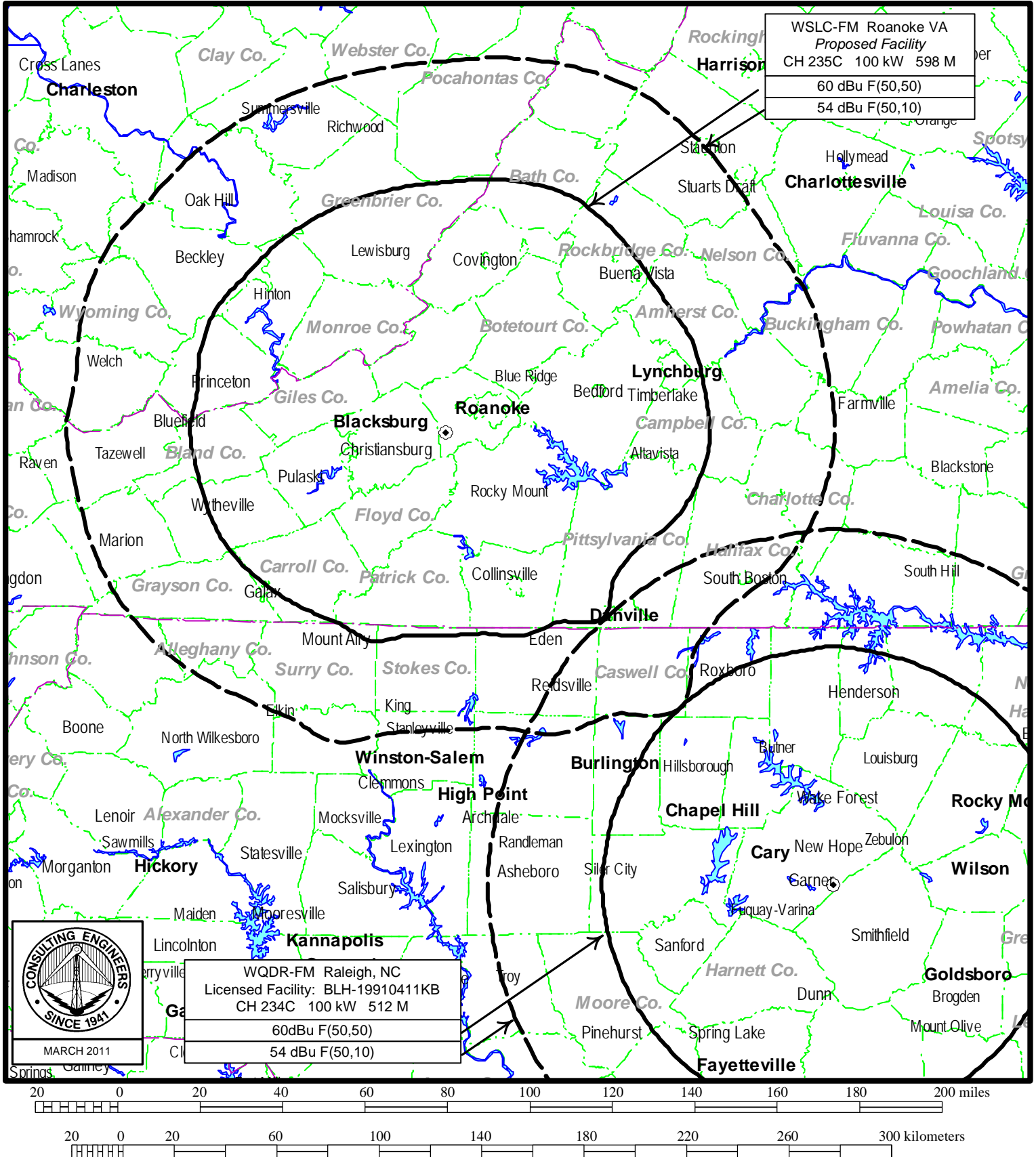
du Treil, Lundin & Rackley, Inc Sarasota, Florida

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Proposed Site Allocation Study

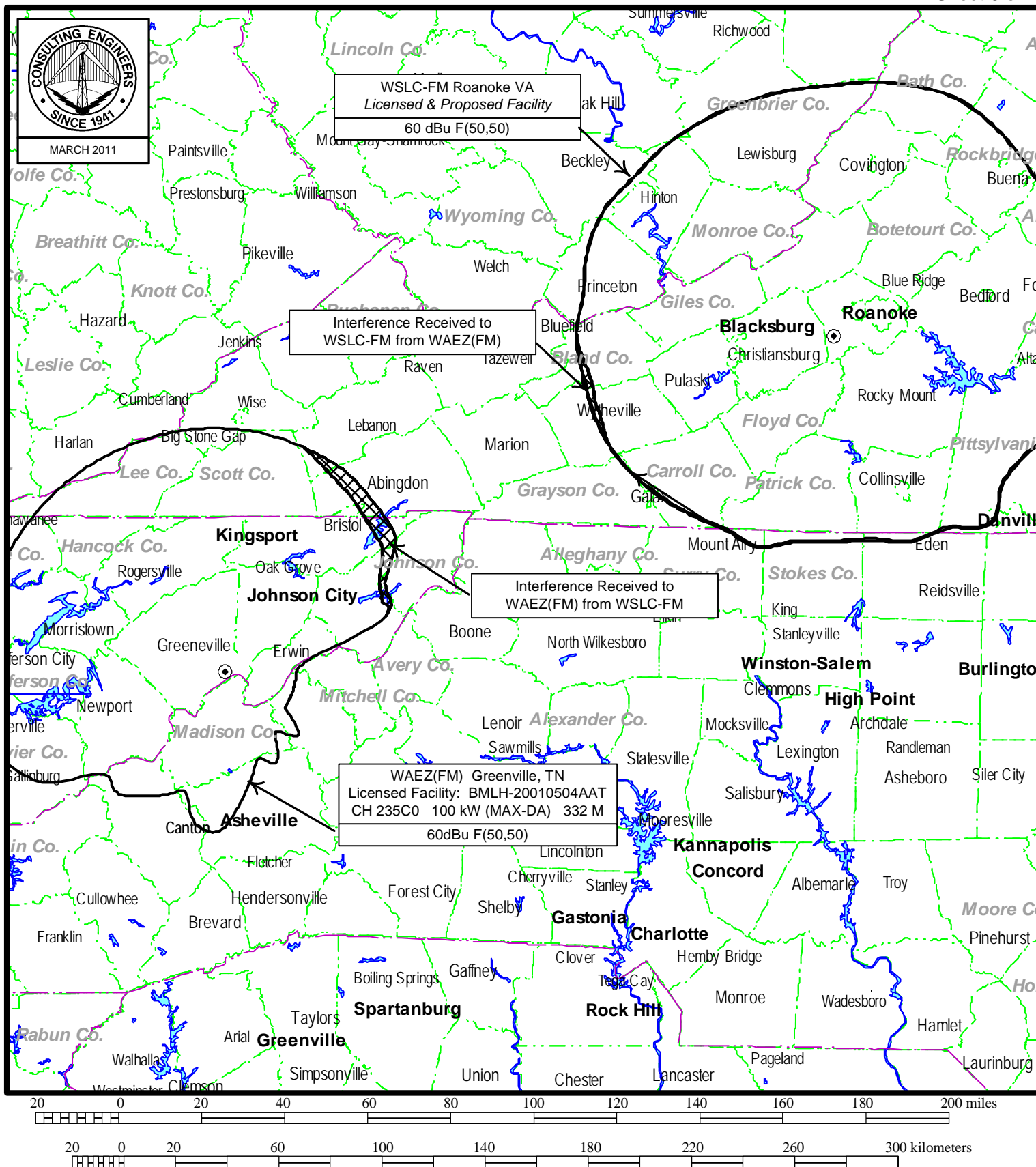
37° 11' 50" North Latitude
80° 09' 11" West Longitude

Callsign	Status	Chan.	Serv.	Freq.	City			State	Latitude	Dist.(km)	Sep.(km)	Spacing(km)
Fac. ID	ARN			Class	DA	Ant. ID	ERP(kW)	HAAT(m)	Longitude	Bear.(deg)	73.215	Comment
WTON-FM	LIC	232	FM	94.3	STAUNTON			VA	038-09-55	130.46	105	25.46
50078	BLH	19901127KB		B1	N		0.34	680	079-18-51	34.19	99 Y	
WPTI	LIC	233	FM	94.5	EDEN			NC	036-20-48	96.88	105	-8.12
55754	BMLH	20010514AAN		C1	D	14048	100	299	079-54-30	166.95	99 N	SHORT
<i>(Section 73.213(a) processing requested.)</i>												
WQDR-FM	LIC	234	FM	94.7	RALEIGH			NC	035-40-35	222.5	241	-18.5
9076	BLH	19910411KB		C	N		100	512	078-32-09	138.97	209 N	
<i>(Section 73.213(a) processing requested.)</i>												
WELK	LIC	234	FM	94.7	ELKINS			WV	038-54-43	193	193	0
19369	BLH	19910809KD		B1	N		5	222	079-47-19	9.39	165 N	
WSLC-FM	LIC	235	FM	94.9	ROANOKE			VA	037-11-50	0		
30156	BMLH	19841003CR		C	N		100	604	080-09-11	180	270	
<i>(Applicant's existing authorization)</i>												
WAEZ	LIC	235	FM	94.9	GREENEVILLE			TN	036-04-34	258.85	281	-22.15
54601	BMLH	20010504AAT		C0	D	13478	100	332	082-41-28	241.93	270 N	
<i>(Section 73.213(a) processing requested.)</i>												
WNKS	LIC	236	FM	95.1	CHARLOTTE			NC	035-21-44	222.64	241	-18.36
53975	BMLH	20030619AAE		C	N		100	470	081-09-19	204.06	209 N	
<i>(Section 73.213(a) processing requested.)</i>												
WQMZ	LIC	236	FM	95.1	CHARLOTTESVILLE			VA	038-02-54	176.07	165	11.07
10653	BLH	20000120AAT		A	N		6	99	078-28-12	56.93	142 N	
WRLB	LIC	237	FM	95.3	RAINELLE			WV	037-57-28	100.12	105	-4.88
54410	BMLH	20080513ABO		B1	D	14642	13	139	080-45-45	327.77	99 Y	
<i>(WRLB(FM) is authorized for Section 73.215 processing to WSLC-FM. As WSLC-FM is not decreasing the separation distance, there is no allocation issue.)</i>												
WXBX	LIC	237	FM	95.3	RURAL RETREAT			VA	036-55-17	101.64	95	6.64
27189	BLH	19910910KC		A	N		6	58	081-14-34	252.73	89 Y	
WHLF	LIC	237	FM	95.3	SOUTH BOSTON			VA	036-42-24	122.23	95	27.23
31178	BLH	20060313ADI		A	D	70166	6	75	078-55-28	116.18	89 Y	



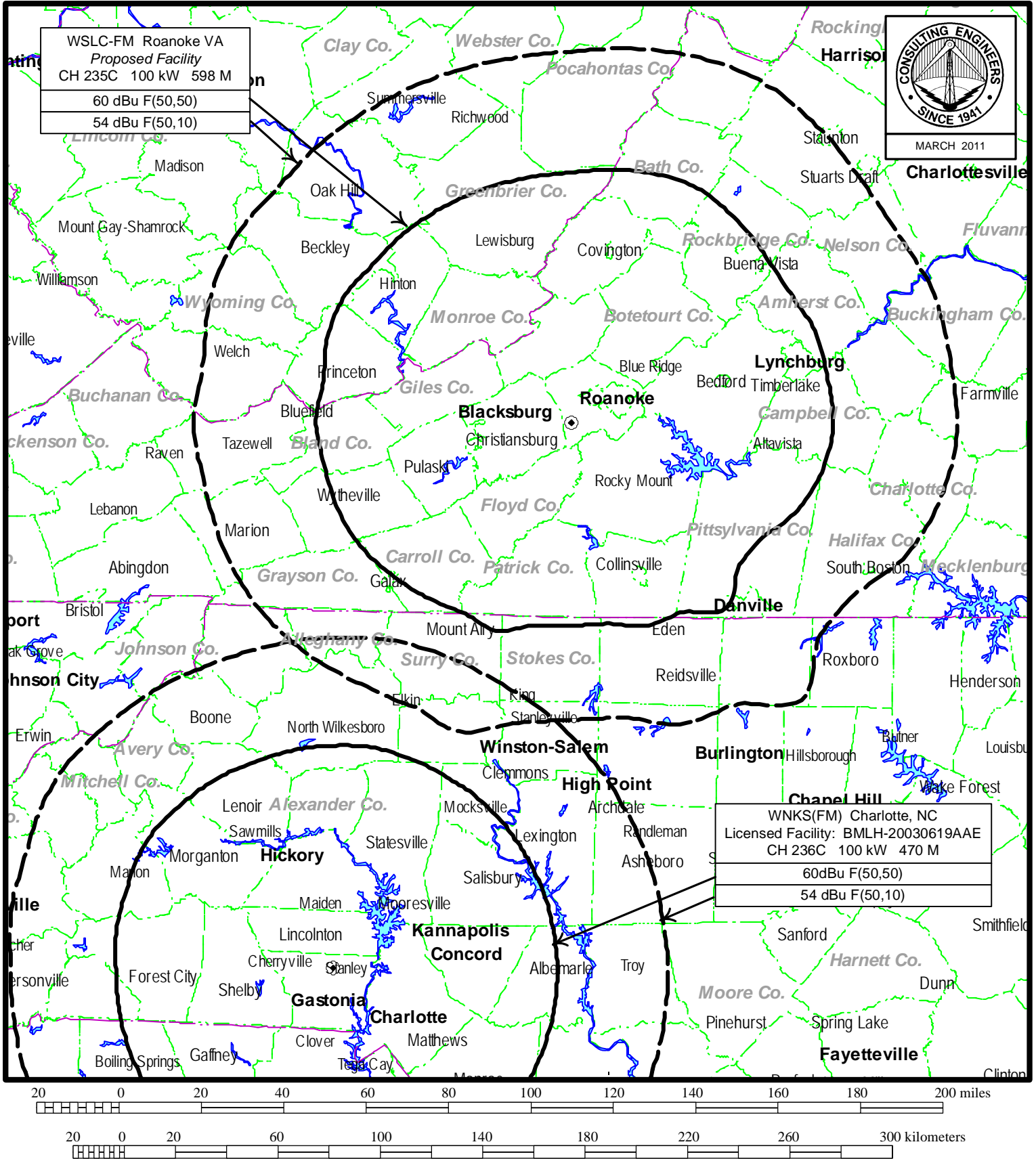
WQDR-FM ALLOCATION ANALYSIS

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WAEZ(FM) ALLOCATION ANALYSIS

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WNKS(FM) ALLOCATION ANALYSIS

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APPENDIX

TRANSMITTING ANTENNA VERTICAL ELEVATION PATTERN AND TABULATION

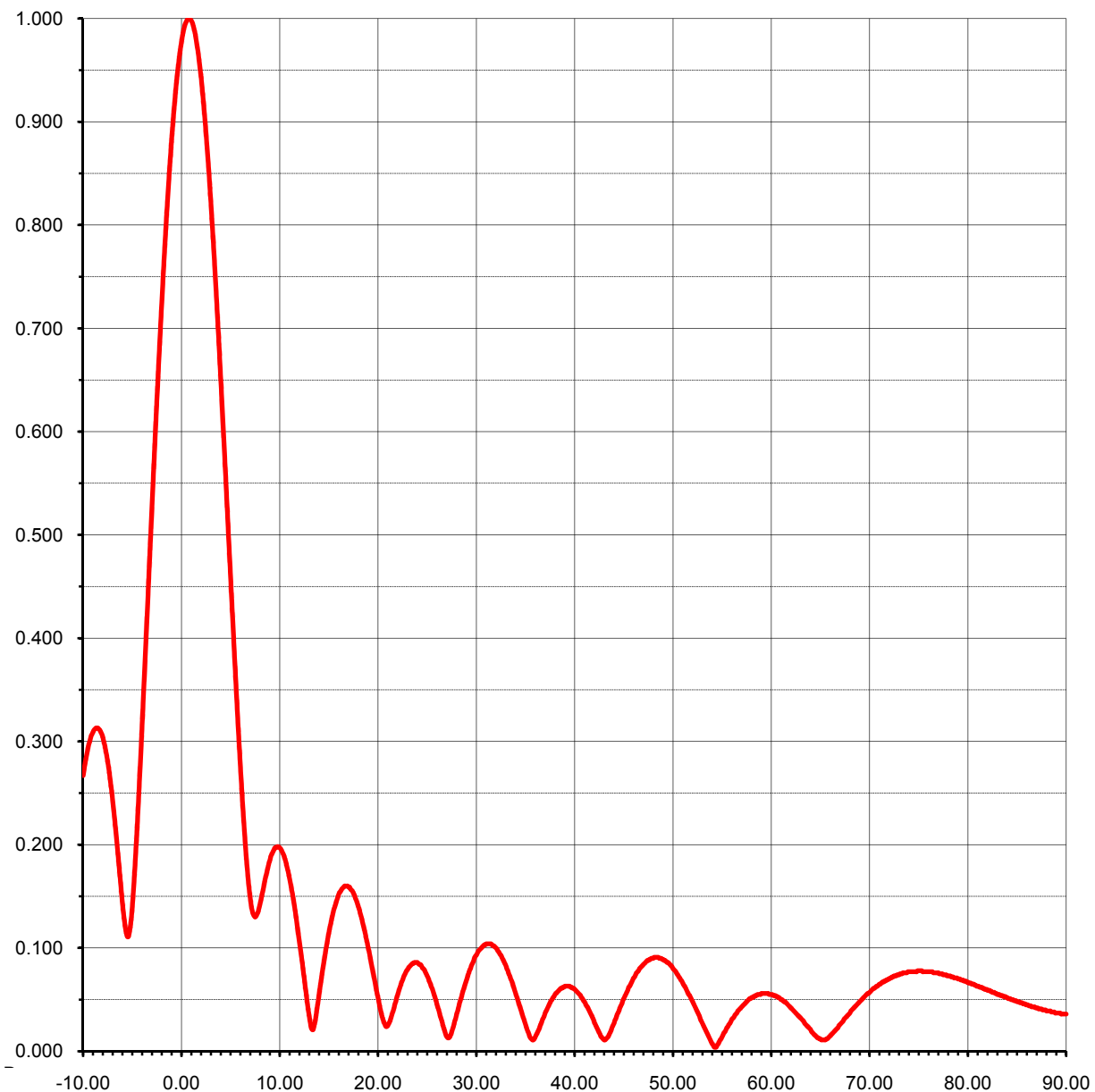


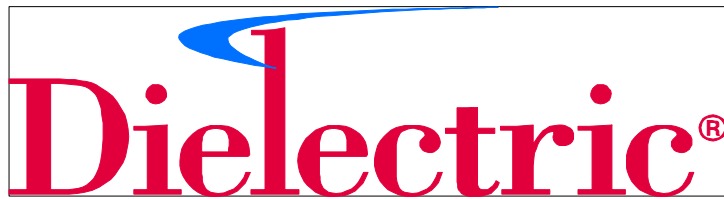
Proposal Number	C-04256
Date	7/23/2010
Call Letters	WSLC
Location	Roanoke, VA
Antenna Type	DCRM10CFER
Frequency	94.9
Drawing #	3

ELEVATION PATTERN

RMS Gain at Main Lobe **5.05 (7.03 dB)**
Per Polarization
Calculated / Measured **Calculated**

Beam Tilt **0.00 deg**
Frequency **94.9 MHz**





Proposal Number	C-04256
Date	28-Jul-10
Call Letters	WSLC
Location	Roanoke, VA
Customer	0
Antenna Type	DCRM10CFER
Frequency	94.90 MHz
Drawing #:	3

TABULATION OF ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.267	10.5	0.187	31.0	0.104	51.5	0.057	72.0	0.070
-9.5	0.294	11.0	0.167	31.5	0.104	52.0	0.048	72.5	0.073
-9.0	0.309	11.5	0.140	32.0	0.100	52.5	0.038	73.0	0.074
-8.5	0.313	12.0	0.106	32.5	0.093	53.0	0.027	73.5	0.076
-8.0	0.304	12.5	0.070	33.0	0.083	53.5	0.017	74.0	0.077
-7.5	0.280	13.0	0.034	33.5	0.070	54.0	0.007	74.5	0.077
-7.0	0.243	13.5	0.025	34.0	0.056	54.5	0.006	75.0	0.078
-6.5	0.195	14.0	0.055	34.5	0.041	55.0	0.014	75.5	0.077
-6.0	0.143	14.5	0.087	35.0	0.026	55.5	0.023	76.0	0.077
-5.5	0.111	15.0	0.115	35.5	0.013	56.0	0.031	76.5	0.076
-5.0	0.140	15.5	0.137	36.0	0.014	56.5	0.037	77.0	0.076
-4.5	0.218	16.0	0.152	36.5	0.025	57.0	0.043	77.5	0.074
-4.0	0.316	16.5	0.159	37.0	0.037	57.5	0.048	78.0	0.073
-3.5	0.421	17.0	0.159	37.5	0.047	58.0	0.052	78.5	0.072
-3.0	0.527	17.5	0.153	38.0	0.055	58.5	0.054	79.0	0.070
-2.5	0.630	18.0	0.140	38.5	0.060	59.0	0.056	79.5	0.069
-2.0	0.725	18.5	0.122	39.0	0.063	59.5	0.056	80.0	0.067
-1.5	0.811	19.0	0.100	39.5	0.063	60.0	0.055	80.5	0.065
-1.0	0.883	19.5	0.076	40.0	0.060	60.5	0.053	81.0	0.063
-0.5	0.939	20.0	0.052	40.5	0.055	61.0	0.050	81.5	0.061
0.0	0.977	20.5	0.031	41.0	0.048	61.5	0.047	82.0	0.059
0.5	0.997	21.0	0.025	41.5	0.039	62.0	0.042	82.5	0.057
1.0	0.998	21.5	0.038	42.0	0.028	62.5	0.037	83.0	0.055
1.5	0.979	22.0	0.055	42.5	0.018	63.0	0.032	83.5	0.054
2.0	0.943	22.5	0.069	43.0	0.011	63.5	0.026	84.0	0.052
2.5	0.889	23.0	0.079	43.5	0.016	64.0	0.021	84.5	0.050
3.0	0.821	23.5	0.085	44.0	0.027	64.5	0.015	85.0	0.048
3.5	0.740	24.0	0.086	44.5	0.039	65.0	0.012	85.5	0.047
4.0	0.651	24.5	0.081	45.0	0.051	65.5	0.011	86.0	0.045
4.5	0.556	25.0	0.073	45.5	0.062	66.0	0.015	86.5	0.043
5.0	0.459	25.5	0.061	46.0	0.071	66.5	0.020	87.0	0.042
5.5	0.364	26.0	0.045	46.5	0.078	67.0	0.026	87.5	0.041
6.0	0.275	26.5	0.029	47.0	0.084	67.5	0.032	88.0	0.039
6.5	0.200	27.0	0.014	47.5	0.088	68.0	0.037	88.5	0.038
7.0	0.148	27.5	0.019	48.0	0.090	68.5	0.043	89.0	0.037
7.5	0.130	28.0	0.036	48.5	0.091	69.0	0.048	89.5	0.036
8.0	0.143	28.5	0.053	49.0	0.089	69.5	0.053	90.0	0.036
8.5	0.166	29.0	0.069	49.5	0.086	70.0	0.057		
9.0	0.185	29.5	0.083	50.0	0.080	70.5	0.061		
9.5	0.197	30.0	0.093	50.5	0.074	71.0	0.065		
10.0	0.197	30.5	0.100	51.0	0.066	71.5	0.068		