

Technical Report Supporting a Form 301-FM Minor Change Construction Permit Application

Pursuant to 47 C.F.R. Section 73:

*WUVA(FM).L - Charlottesville, VA
(Facility ID: 74161)*

*"Minor Site Change and Request to
Relocate to an Adjacent Tower"*

*as a
Class A FM Facility on
CH224A (92.7 MHz)*

January, 2017

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RF Appendix 1 - Radio Frequency Radiation Compliance Showing

EXPLANATION OF PROPOSAL: This Form 301-FM filing and accompanying technical report supports a Minor Change Construction Permit Application for FM station WUVA(FM) - Charlottesville, VA (Facility ID: 74161). This FCC Form 301-FM filing requests a new adjacent site location within the same Carter's Mountain antenna farm complex. Continued operation on CH224A (92.7 MHz) with a new power of 0.610 kW ERP (Circular Polarization) at a new height of 478 meters AMSL is requested. WUVA(FM) will continue to employ a non-directional antenna. WUVA(FM) will continue to serve the community of Charlottesville, VA.

FACILITY COMPLIANCE SHOWINGS: A map of the proposed 60 dBμ service contour in relation to the present 60 dBμ service contour has been included in ***Exhibit 1***. The minor change proposed service area will overlap a portion of the present service area as noted in the exhibit. In addition, this exhibit demonstrates city grade service of 3.16 mV/m, or 70 dBμ F(50:50), to 100% of the community of license.

A Longley-Rice coverage map of the proposed operation has been plotted in ***Exhibit 2***. The applicant acknowledges this map has been provided for illustrative purposes only.

The proposed facility will be located on the tower bearing Antenna Structure Registration Number 1015412. In support of the requested site location, a copy of the existing ASRN has been included in ***Exhibit 3***. A depiction of the tower and antenna configuration has been included in ***Exhibit 4***. Further notification to the FAA or ASR governing authorities is not required as this proposal will not increase the overall tower height.

The applicant would like to note use of the NED 03 second terrain database for all allocation, contour and HAAT showings contained here-in. A copy of the proposed HAAT calculation has been included in ***Exhibit 5***.

As no change in frequency, class or community of license is proposed here-in, the existing Special Allotment Reference Point of 37° 59' 6.00 " NL; 78° 28' 51.00" WL (NAD 27) remains valid for this WUVA(FM) - Charlottesville VA; CH224A (92.7 MHz) filing. These coordinates of record (*FA USED Allotment Record; CDBS Application ID: 290731*) represent a continued viable site location which meets both the current allocation restrictions and completely encompasses the community of license city limits with a 16.2 km Class A city grade reference arc.

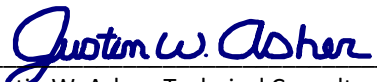
ALLOCATION COMPLIANCE SHOWINGS: The proposed full service site will meet all Class A spacing requirements of 47 C.F.R. Section 73.207 toward each allocation protection. A tabulation of the existing spacing toward each relevant allocation protection is found in ***Exhibit 6***. In this instance the proposed facility will remain fully spaced with no need for any 47 C.F.R. Section 73.215 short-spacing or 47 C.F.R. Section 73.213 grandfathered short-spacing requests. As a result, no further allocation showings are believed required.

The remainder of the information in this report is responsive to the Rules of the Commission, and provides the data for FCC Online Form 301, Section III-B.

ENVIRONMENTAL COMPLIANCE SHOWINGS: The proposed facility complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments as set forth under §1.1310 and/or §1.1307(b)(3) of the Commission's rules and the guidelines for RF radiation protection guidelines as set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01). Compliance has been demonstrated in the attached ***RF Appendix 1*** of this filing. The facility is, or will be, properly marked with signs. Entry is, or will be, restricted by means of fencing with locked doors or gates. In addition, coordination with other users of the site will be secured to reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.

Regarding compliance with the NEPA, Nationwide Programmatic Agreement and NHPA Section 106 for tower co-location, compliance with the Agreement is not required where no new tower construction is being proposed and the tower is not being substantially altered. Specifically, compliance is not necessary where only an antenna is being replaced on an existing structure. However, should the Commission determine that compliance is necessary, upon notification to the applicant, the applicant will file FCC Form 621.

CERTIFICATION OF TECHNICAL CONSULTANT: *I declare, under penalty of perjury, that the contents of this report are true and accurate to the best of my knowledge and belief. I further certify I have over seventeen years of experience as a broadcast technical consultant before the Federal Communications Commission (“the FCC”); and am familiar with the Code of Federal Regulations Title 47 (“the Rules”) as pertaining to this report and its contents here-in. The underlying data utilized in this report was taken directly from FCC databases or indirectly through third party software vendors securing data directly from FCC databases. This firm cannot be held liable for errors or omissions resulting from the underlying data. The information contained here-in is believed accurate to the date reported below.*



Justin W. Asher, Technical Consultant
January 17, 2017

Exhibit 1

Service Contour Study: Present vs Proposed Operations

NED 03 SEC Terrain Database
US Census 2010 PL Database

WUVA.P
Charlottesville, VA
Proposed Operation
Facility ID: 74161
Latitude: 37-59-06 N
Longitude: 078-28-48 W
ERP: 0.61 kW
Channel: 224A (92.7 MHz)
AMSL Height: 478.0 m
Horiz. Pattern: Omni

70 dBμ F(50:50) Contour
Total Population: 123,773
Coverage Area: 834.4 sq. km

60 dBμ F(50:50) Contour
Total Population: 178,023
Coverage Area: 2,579.1 sq. km

WUVA.L
Charlottesville, VA
BLH19981119KC
Facility ID: 74161
Latitude: 37-59-08 N
Longitude: 078-28-47 W
ERP: 0.75 kW
Channel: 224A (92.7 MHz)
AMSL Height: 441.0 m
Horiz. Pattern: Omni

70 dBμ F(50:50) Contour
Total Population: 123,473
Coverage Area: 816.7 sq. km

60 dBμ F(50:50) Contour
Total Population: 177,455
Coverage Area: 2,511.0 sq. km

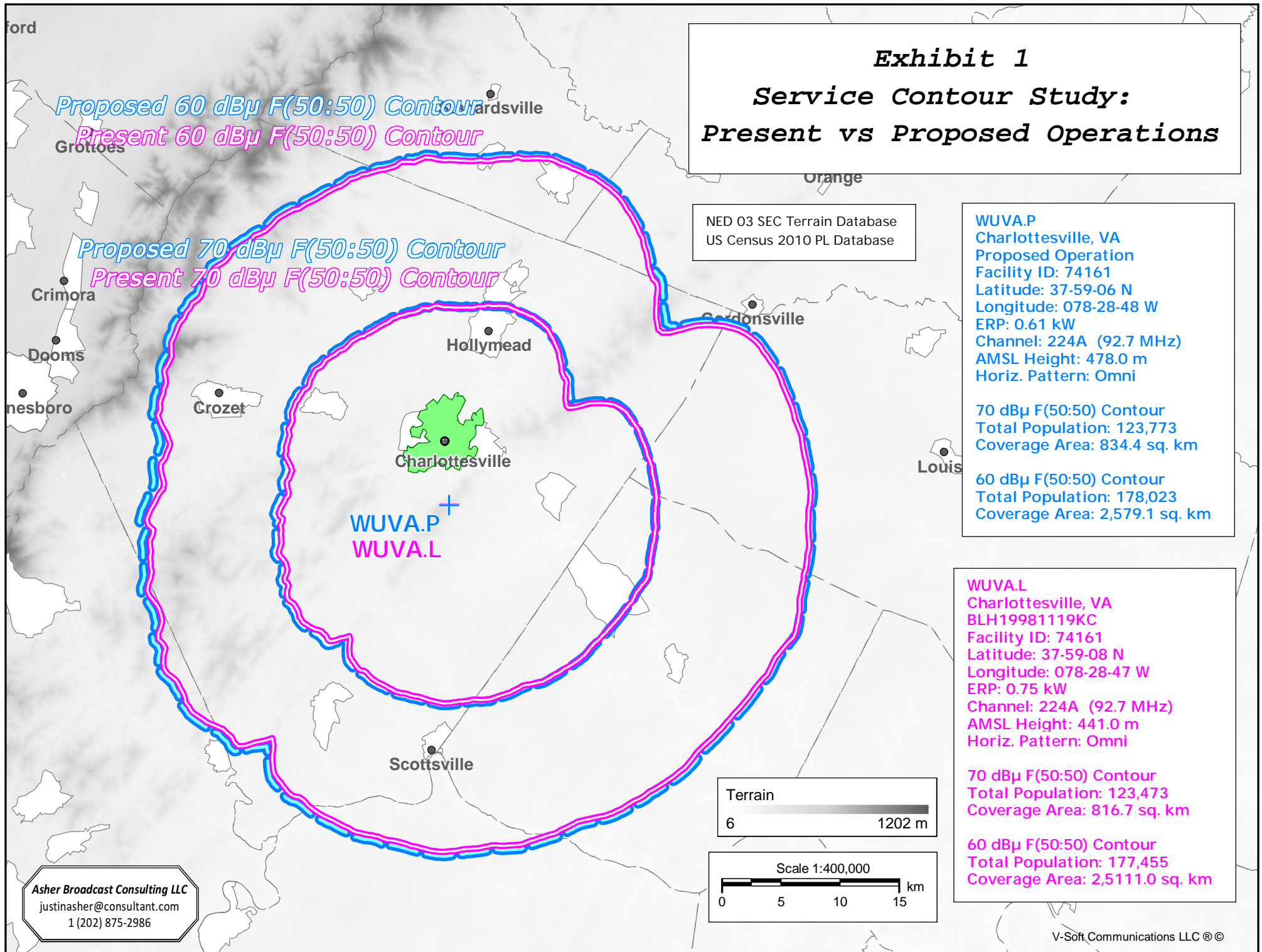


Exhibit 2

Service Contour Study: Proposed Longley-Rice Method

non-FCC-sanctioned coverage map
for illustrative purposes only

WUVA.P
Charlottesville, VA
Proposed Operation
Facility ID: 74161
Latitude: 37-59-06 N
Longitude: 078-28-48 W
ERP: 0.61 kW
Channel: 224A (92.7 MHz)
AMSL Height: 478.0 m
Horiz. Pattern: Omni
Prop Model: Longley-Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 2.0 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

70 dBμ Longley-Rice Contour
Total Population: 147,612

60 dBμ Longley-Rice Contour
Total Population: 195,565

NED 03 SEC Terrain Database
US Census 2010 PL Database

Terrain
-6 1479 m

> 100.0 dBuV/m
70.0 - 100.0
60.0 - 70.0
54.0 - 60.0

Scale 1:675,000
0 10 20 30 km

Asher Broadcast Consulting LLC
justinasher@consultant.com
1 (202) 875-2986

V-Soft Communications LLC ©

Exhibit 3

Copy of Existing Antenna Structure Registration

(public record copy)

Registration Detail

Reg Number	1015412	Status	Constructed
File Number	A0814993	Constructed	07/25/2008
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	37-59-06.4 N 078-28-47.4 W	Address	1840 Carters Mountain Trail (090228)
City, State	CHARLOTTESVILLE , VA		
Zip	22902	County	ALBEMARLE
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
433.7	92.3
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
526.0	83.5

Painting and Lighting Specifications

FAA Chapters 4, 8, 12
Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2008-AEA-1656-OE	FAA Issue Date	07/25/2008
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Owner & Contact Information

FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0005884689	Assignor ID	L00008376

Owner

American Towers, LLC
Attention To: Regulatory Compliance FAA FCC
10 Presidential Way
Woburn , MA 01801

P: (678)564-3236
F:
E: faa-fcc@americantower.com

Contact

Attention To: FAA FCC
10 Presidential Way
Woburn , MA 01801

P: (678)564-3236
F:
E: faa-fcc@americantower.com

Last Action Status

Status	Constructed	Received	01/15/2013
Purpose	Change Owner	Entered	01/15/2013
Mode	Interactive		

Related Applications

01/15/2013	A0814993	- Change Owner (OC)
12/15/2011	A0744722	- Admin Update (AU)
08/14/2009	A0646964	- Admin Update (AU)

Related applications (20)

Comments

Comments

None

History

Date

01/16/2013
01/16/2013
01/15/2013

Event

Registration Printed
Change of Ownership Letter Sent
Change of Ownership Received

All History (40)

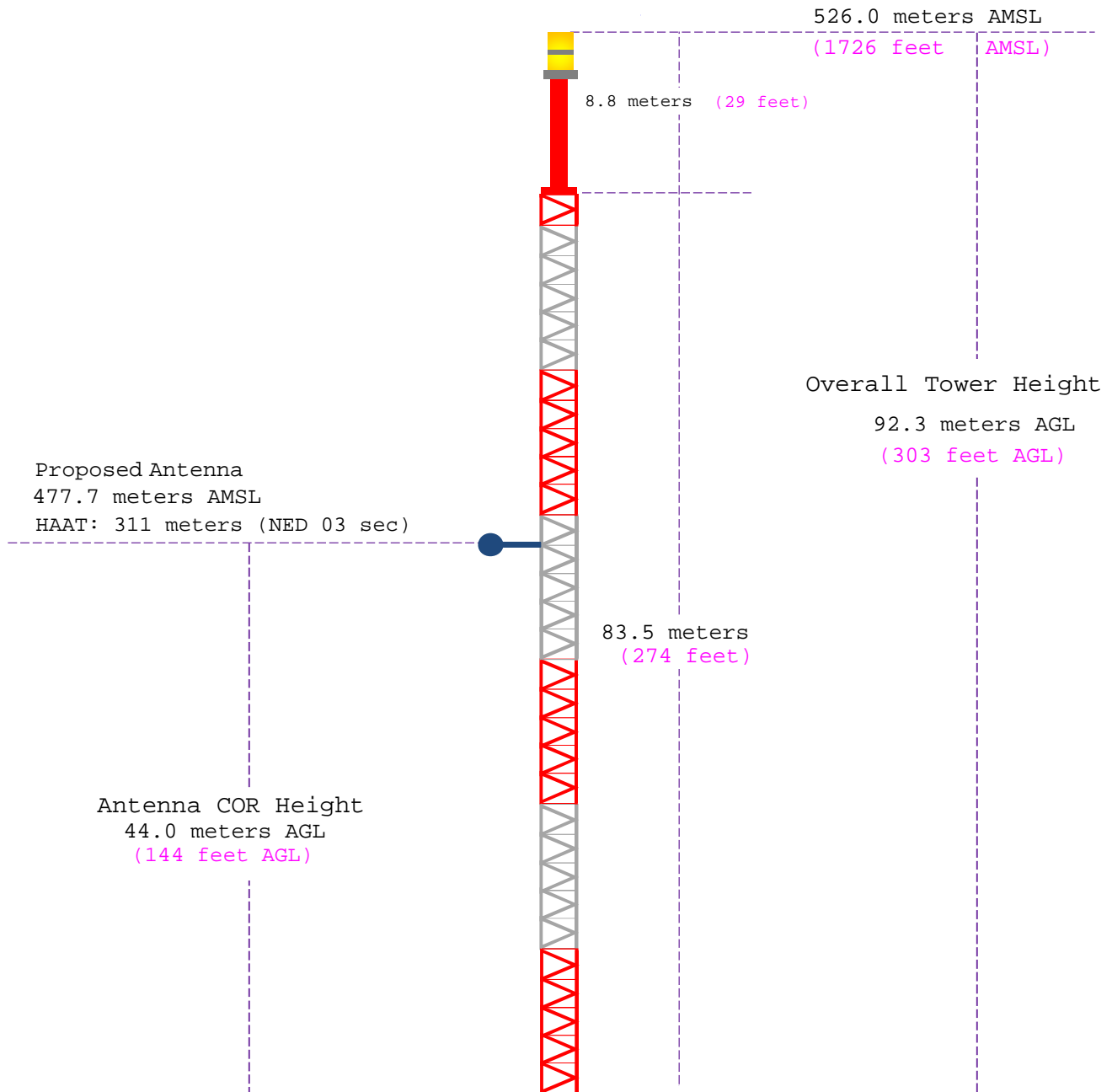
Automated Letters

01/16/2013	Authorization, Reference
01/16/2013	Ownership Change, Reference 741836
08/15/2009	Authorization, Reference

All letters (19)

Exhibit 4

Vertical Plan of Antenna System



Ground Elevation: 433.7 meters AMSL (1423 feet AMSL)		
Address: 1840 Carters Mountain Trail		
City: Charlottesville	Latitude (D M S)	Longitude (D M S)
County: Albemarle	NAD 27 datum values:	37 59 5.89398 78 28 48.35907
State: Virginia	NAD 83 datum values:	37 59 6.40000 78 28 47.40000
Antenna Structure Registration 1015412	Drawing Is Not To Scale	Asher Broadcast Consulting, LLC justinasher@consultant.com 1(202)875-2986

Exhibit 5

HAAT and Miscellaneous Coordinate Information

HAAT Calculation (1927):

N. Lat. = 375906 W. Lng. = 782848
 HAAT and Distance to Contour,
 FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5	70-F5
000	142.9	335.1	0.6100	-2.15	1.000	29.40	16.77
045	229.7	248.3	0.6100	-2.15	1.000	25.43	14.30
090	116.3	361.7	0.6100	-2.15	1.000	30.61	17.42
135	132.0	346.0	0.6100	-2.15	1.000	29.90	17.05
180	139.0	339.0	0.6100	-2.15	1.000	29.58	16.87
225	188.3	289.7	0.6100	-2.15	1.000	27.33	15.52
270	224.6	253.4	0.6100	-2.15	1.000	25.67	14.44
315	162.4	315.6	0.6100	-2.15	1.000	28.50	16.25

Ave El= 166.90 M HAAT= 311.10 M AMSL= 478 M

NAD 1983 to NAD 1927 Conversion:

	<u>Latitude</u>	<u>Longitude</u>
NAD 27 datum values:	37 59 5.89398	78 28 48.35907
NAD 83 datum values:	37 59 6.40000	78 28 47.40000

Various Coordinate Conversion Calculations (NAD 1983):

Position Type	Lat Lon
Degrees Lat Long	37.98511111°, -078.4798333°
Degrees Minutes	37°59.10667', -078°28.79000'
Degrees Minutes Seconds	37°59'06.4000", -078°28'47.4000"
UTM	17S 721326mE 4207159mN
UTM centimeter	17S 721326.09mE 4207159.91mN
MGRS	17SQC2132607159
Grid North	1.6°
GARS	204LR11
Maidenhead	FM07SX26KK02
GEOREF	GJMH31215910

Exhibit 6

Tabulation of Proposed Commercial Spacings Study

Grey Text denotes the facility to be modified by this proposal. This facility need not be protected.

REFERENCE		DISPLAY DATES
37 59 06.0 N.	CLASS = A	DATA 01-16-17
78 28 48.0 W.	Current Spacings to 3rd Adj.	SEARCH 01-16-17
----- Channel 224 - 92.7 MHz -----		

Call	Channel	Location	Azi	Dist	FCC	Margin
Lat.	Lng.	Ant	Power	HAAT		
WUVA	LIC 224A	Charlottesville	VA 21.9	0.06	114.5	-114.4
37 59 08.0	78 28 47.0	CN	0.750 kW	274 M		
Wuva, Inc. BLH19981119KC						
WINC-FM	LIC 223B	Winchester	VA 20.0	114.86	112.5	2.4
38 57 21.0	78 01 28.0	CN	22.000 kW	434 M		
Centennial Licensing Ii, L BLH19910930KD						
WVHL	LIC 225A	Farmville	VA 180.9	77.70	71.5	6.2
37 17 06.0	78 29 39.0	CN	6.000 kW	100 M		
North Street Enterprises, BLH19970904KA						
WWMY	LIC 278A	Crozet	VA 260.1	22.25	9.5	12.8
37 57 02.0	78 43 46.0	CN	0.280 kW	446 M		
James Madison University B BLED19950524KC						
Commercial channel operating educational						
WSVO	LIC 226A	Staunton	VA 302.8	53.07	30.5	22.6
38 14 33.0	78 59 24.0	CX	3.900 kW	125 M		
Cc Licenses, Llc BLH20121113ABR						
WFLS-FM	LIC 227B	Fredericksburg	VA 67.9	98.24	68.5	29.7
38 18 46.0	77 26 20.0	CN	50.000 kW	150 M		
Alpha Media Licensee Llc BLH19880809LD						
WYFL	LIC-D 223C0	Henderson	NC 172.8	196.86	151.5	45.4
36 13 30.0	78 12 10.0	DCX	100.000 kW	308 M		
Bible Broadcasting Network BLED20140723ACU						
WCDX	LIC-N 221B1	Mechanicsville	VA 115.6	94.37	47.5	46.9
37 36 52.0	77 30 56.0	NCN	4.500 kW	235 M		
Radio One Licenses, Llc BLH19960117KA						
WWXT	LIC 224A	Prince Frederick	MD 64.4	181.72	114.5	67.2
38 40 26.0	76 35 41.0	C	2.850 kW	145 M		
Red Zebra Broadcasting Lic BMLH20050228AAV						
WXLK	LIC-D 222C	Roanoke	VA 239.8	171.65	94.5	77.2
37 11 51.0	80 09 10.0	DCX	100.000 kW	605 M		
Mel Wheeler, Inc. BLH20110722ADP						
WCWV	LIC 225B	Summersville	WV 283.1	194.43	112.5	81.9
38 21 37.9	80 38 50.4	CX	14.000 kW	286 M		
Summit Media Broadcasting, BLH20140630AAI						
WWLB	LIC 226A	Ettrick	VA 134.3	112.95	30.5	82.5
37 16 21.0	77 33 59.0	C	5.200 kW	106 M		
Alpha Media Licensee Llc BLH20000918AAA						

All separation margins include rounding