

# Technical Report Supporting a New NCE-FM Construction Permit Application

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

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*for*  
*Washington, Indiana*  
*CH211A (90.1 MHz)*  
*(Facility ID: 762135)*

*as filed by*  
*Bible Broadcasting Network, Inc.*

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*This Application is being filed in response to*  
***PUBLIC NOTICE: DA 21-885**; issued*  
*July 23, 2021; “Media Bureau announces NCE-FM*  
*new station filing procedures and requirements for*  
*November 2 - 9, 2021, window”.*

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RF Appendix 1 - Radio Frequency Radiation Compliance Showing

**EXPLANATION OF PROPOSAL:** This New NCE-FM Construction Permit Application and accompanying Technical Report supports a request for a new noncommercial FM (NCE-FM) station pursuant to ***PUBLIC NOTICE: DA 21-885***; issued July 23, 2021; “Media Bureau announces NCE-FM new station filing procedures and requirements for November 2 - 9, 2021, window”. This FCC Schedule 340-NCE-FM filing requests a new facility for CH211A(90.1 MHz) - Washington, IN with operating parameters of 0.420 kW ERP (Circular Polarization) utilizing a non-directional antenna.

**FACILITY COMPLIANCE SHOWINGS:** A map of the proposed 60 dBμ service contour has been included in ***Exhibit 1***. This exhibit demonstrates NCE-FM grade service of 1.0 mV/m, or 60 dBμ F(50:50), to the entire 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 1279856. In support of this filing, a copy of the current 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 certifies it has reasonable assurance in good faith that the above structure will be available to the applicant for the applicant’s intended purpose. As this reasonable assurance is not based on the applicant’s ownership of the structure, the applicant certifies that it has obtained such reasonable assurance by contacting the owner or person possessing control of the site or structure. The name of the person contacted, the person’s telephone number, and status of the contact as the tower owner, agent, or authorized representative is as follows:*

<b>Name:</b>	Kathryn Campbell Downing (Vertical Bridge Tower)
<b>Contact Telephone Number:</b>	(561) 948-6362
<b>Contact Status:</b>	Agent

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

**ALLOCATION COMPLIANCE SHOWINGS:** The proposed full service NCE-FM site will meet all contour protection requirements of 47 C.F.R. Section 73.509 toward each allocation protection. A tabulation of the proposed NCE-FM allocation is found in ***Exhibit 6***. There are two (2) allocation concerns deemed close enough to require further study. Therefore, maps and/or tabulations of the relevant protected and interference contours toward these concerns have been supplied in ***Exhibit(s) 7(a-b)***. It is believed sufficient clearance exists precluding the need for further study. However, additional tabulations or maps will be supplied upon request.

The transmitter site is located more than 320 km from the common border of the United States and Canada or Mexico. As a result, full protection will be afforded all international concerns as noted in the **Exhibit 6** allocation study.

The transmitter site is located within the affected radius of multiple TV6 facilities. However, full protection will be afforded all TV6 concerns as noted in **Exhibit 6**.

The remainder of this report is responsive to the Rules of the Commission, and provides the data for the FCC's online master LMS (Licensing and Management System) form.

**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 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 and feedline are being added to an existing structure. However, should the Commission determine 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 twenty-two 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 herein. 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 herein is believed accurate to the date reported below.*



Justin W. Asher  
Technical Consultant  
October 6, 2021

**Exhibit 1**  
**Service Contour Study:**  
**Present vs Proposed Operations**

**CH211A.P**  
Washington, IN  
Proposed Operation  
Facility ID: 762135  
Latitude: 38-36-11.50 N  
Longitude: 087-10-28.20 W  
ERP: 0.42 kW  
Channel: 211A (90.1 MHz)  
AMSL Height: 185.0 m  
Horiz. Pattern: Omni

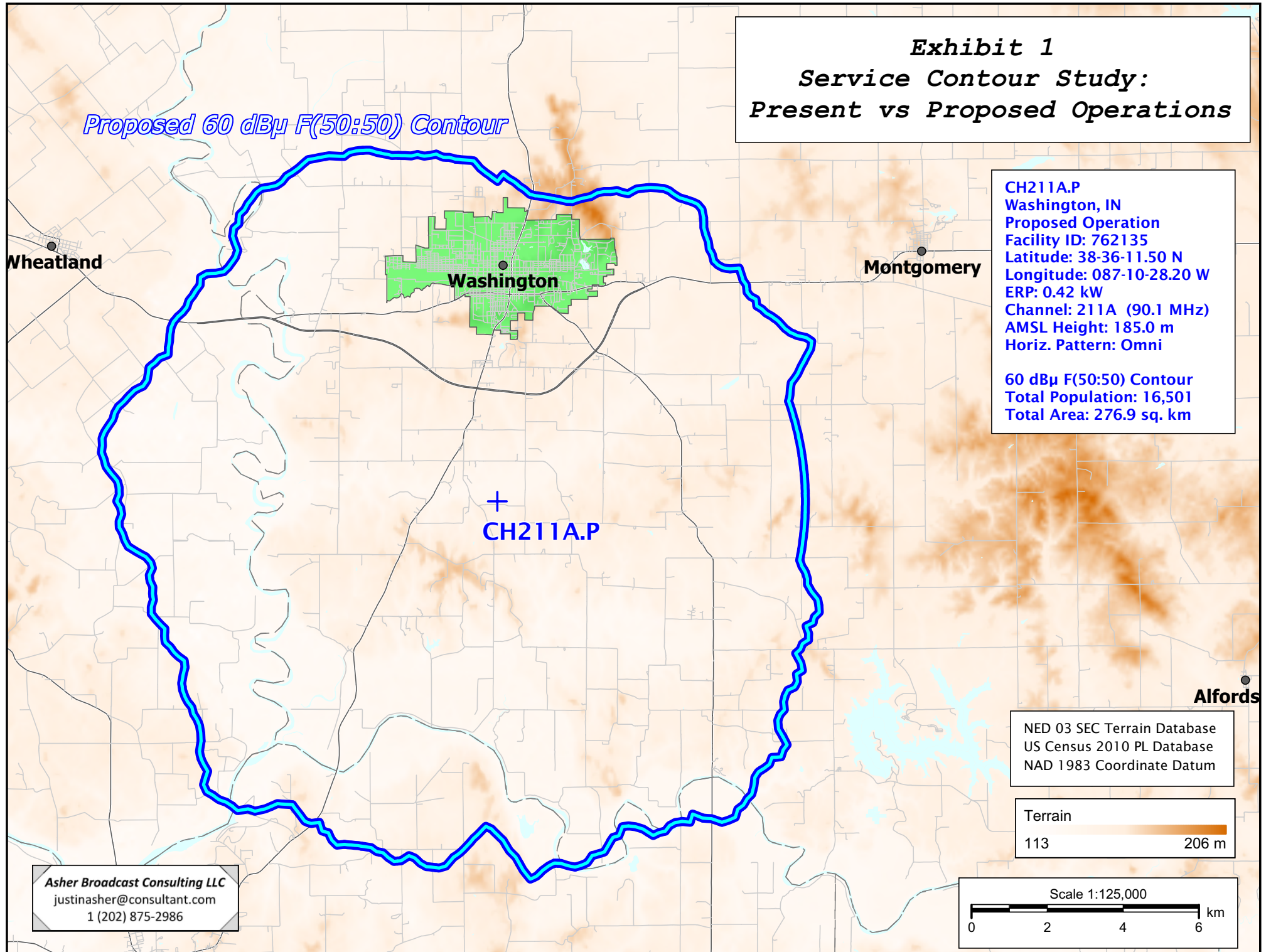
**60 dBμ F(50:50) Contour**  
Total Population: 16,501  
Total Area: 276.9 sq. km

NED 03 SEC Terrain Database  
US Census 2010 PL Database  
NAD 1983 Coordinate Datum

Terrain  
113 206 m

Scale 1:125,000  
0 2 4 6 km

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



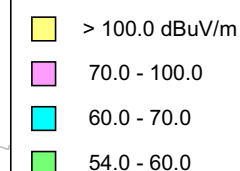


non-FCC-sanctioned coverage map  
for illustrative purposes only

NED 03 SEC Terrain Database  
US Census 2010 PL Database  
NAD 1983 Coordinate Datum

## Exhibit 2

### Service Contour Study: Proposed Longley-Rice Method

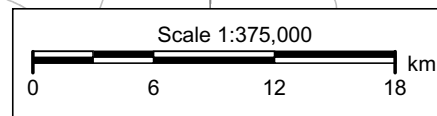


**CH211A.P**  
Washington, IN  
Proposed Operation  
Facility ID: 762135  
Latitude: 38-36-11.50 N  
Longitude: 087-10-28.20 W  
ERP: 0.42 kW  
Channel: 211A (90.1 MHz)  
AMSL Height: 185.0 m  
Horiz. Pattern: Omni  
Prop Model: Longley-Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.1 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast

60 dBμ Longley-Rice Contour  
Total Population: 27,834

+

**CH211A.P**



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	1279856	Status	Constructed
File Number	A1169634	Constructed	09/09/2011
EMI	No	Dismantled	
NEPA	No		

### Antenna Structure

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

#### Location (in NAD83 Coordinates)

Lat/Long	38-36-11.5 N 087-10-28.2 W	Address	456 W 375 S,
City, State	Washington , IN		
Zip	47501	County	DAVIESS
Center of AM Array		Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
142.0	144.8
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
286.8	137.1

#### 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	2011-agl-4196-oe	FAA Issue Date	07/25/2011
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#### Owner & Contact Information

FRN	0027277458	Owner Entity Type	Limited Liability Company
Assignor FRN	0011158532	Assignor ID	L00884824

#### Owner

Vertical Bridge Towers III, LLC  
750 Park of Commerce Dr., #200  
Boca Raton , FL 33487

P: (561)406-4015  
F:  
E: fcc-faa@verticalbridge.com

#### Contact

Hickey , Richard  
750 Park of Commerce Dr., #200  
Boca Raton , FL 33487

P: (561)406-4015  
F:  
E: fcc-faa@verticalbridge.com

#### Last Action Status

Status	Constructed	Received	06/30/2020
Purpose	Change Owner	Entered	06/26/2020
Mode	Interactive		

#### Related Applications

06/30/2020	A1169634 - Change Owner (OC)
09/20/2011	A0737202 - Notification (NT)
07/27/2011	A0733155 - New (NE)

#### Comments

##### Comments

None

#### History

##### Date

07/01/2020  
07/01/2020  
06/30/2020  
All History (6)

##### Event

Registration Printed  
Change of Ownership Letter Sent  
Change of Ownership Received

#### Pleadings

##### Pleading Type

None

##### Filer Name

##### Description

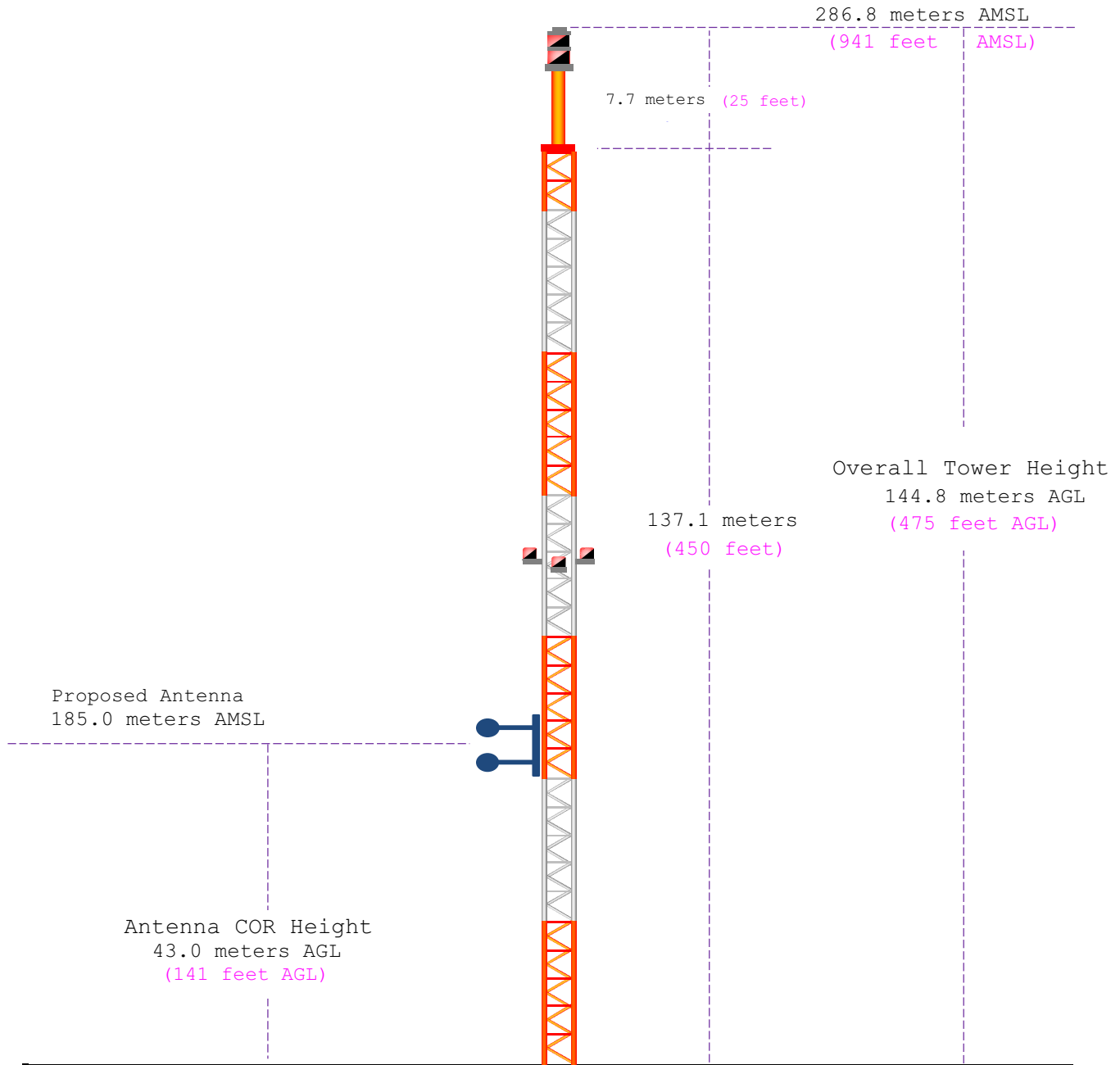
##### Date Entered

#### Automated Letters

07/01/2020	Ownership Change, Reference 1104409
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# Exhibit 4

## Vertical Plan of Antenna System and Support Tower



Ground Elevation: 142.0 meters AMSL (466 feet AMSL)		
<b>Address:</b> 456 W 375 S <b>City:</b> Washington <b>County:</b> Daviess <b>State:</b> Indiana		
<b>Latitude (D M S)</b> --- <b>Lat/Long</b> 38-36-11.5 N 087-10-28.2 W (NAD 1983)		<b>Longitude (D M S)</b> --- (NAD 1927)
<b>Antenna Structure Registration</b> 1279856	Drawing Is Not To Scale	<b>Asher Broadcast Consulting, LLC</b> justinasher@consultant.com 1(202)875-2986



## ***Exhibit 5***

### **HAAT and Miscellaneous Coordinate Information**

#### **HAAT Calculation (NAD 1983):**

N. Lat. = 383611.5    W. Lng. = 871028.2  
 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
000	152.4	32.6	0.4200	-3.77	1.000	8.43
045	150.6	34.4	0.4200	-3.77	1.000	8.66
090	164.0	21.0	0.4200	-3.77	1.000	8.11
135	140.3	44.7	0.4200	-3.77	1.000	9.94
180	149.7	35.3	0.4200	-3.77	1.000	8.78
225	132.5	52.5	0.4200	-3.77	1.000	10.83
270	139.6	45.4	0.4200	-3.77	1.000	10.03
315	140.9	44.1	0.4200	-3.77	1.000	9.87

Ave El= 146.26 M    HAAT= 38.74 M    AMSL= 185.0

#### **NAD 1983 to NAD 1927 Conversion:**

#### **Various Coordinate Conversion Calculations (NAD 1983):**

<b>Position Type</b>	Lat Lon
<b>Degrees Lat Long</b>	38.6031944°, -087.1745000°
<b>Degrees Minutes</b>	38°36.19167', -087°10.47000'
<b>Degrees Minutes Seconds</b>	38°36'11.5000", -087°10'28.2000"
<b>UTM</b>	16S 484805mE 4272758mN
<b>UTM centimeter</b>	16S 484805.70mE 4272758.58mN
<b>MGRS</b>	16SDH8480572758
<b>Grid North</b>	-0.1°
<b>GARS</b>	186LT44
<b>Maidenhead</b>	EM68JO94BS43
<b>GEOREF</b>	GJCJ49533619

# ***Exhibit 6***

## ***Tabulation of Proposed Allocation***

Blue Text indicates contour protection studies toward select stations as included in ***Exhibit(s) 7(a-b)***.

Bible Broadcasting Network, Inc.											
REFERENCE	CH#	211A	-	90.1	MHz,	Pwr= 0.42 kW,	HAAT= 38.7 M,	COR= 185 M	DISPLAY DATES		
38 36 11.50 N.						Average Protected F(50-50)= 9.21 km			DATA	08-11-21	
87 10 28.20 W.						Omni-directional			SEARCH	08-11-21	
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR (kW)	INT (km)	PRO (km)	*IN*	*OUT*
CITY	STATE			<--	FILE #	LNG	HAAT (M)	COR (M)	LICENSEE	(Overlap in km)	
210A WATI	LIC_CN	294.2	25.34	38 41 47.20	0.500	15.5	10.7	0.1	1.0		
Vincennes	IN	114.1	BLED20001024ABK	87 26 27.10	48	190	American Family Associatio				
211C1 WJCR-FM	LIC_CN	142.1	164.25	37 25 57.10	100.000	147.7	52.2	6.1	76.2		
Upton	KY	322.8	BLED19920310KA	86 01 49.80	117	327	Fm 90.1, Inc.				
211A WSDM	LIC DVN	221.7	99.19	37 56 03.20	6.000	80.8	23.7	7.6	37.9		
Wadesville	IN	41.2	BLED20061013AAA	87 55 35.10	87	199	The Innovation Center Inc				
212B WUSI	LIC_CN	287.8	86.86	38 50 18.10	25.000	67.3	44.9	9.2	27.9		
Olney	IL	107.2	BLED19921113KD	88 07 46.10	144	294	Board Of Trustees Of South				
208C1 WKPB	CP_CN	189.2	84.60	37 51 07.00	85.000	5.9	50.9	68.9	31.9		
Henderson	KY	9.1	0000130151	87 19 44.00	109	230	Western Kentucky Universit				
208C2 WKPB	LIC_CN	189.2	84.62	37 51 06.10	43.000	5.0	45.0	69.9	37.9		
Henderson	KY	9.1	BLED19921102KB	87 19 43.00	115	231	Western Kentucky Universit				
265B1 WBDC«	LIC_CN	151.3	49.93	38 12 31.10	11.000	54.3	14.7	11.5R	38.4M		
Huntingburg	IN	331.5	BLH19940824KP	86 53 59.90	150	305	Dubois County Broadcasting				
214B1 WPSR	LIC_CN	209.1	72.97	38 01 44.20	14.000	2.2	22.2	60.3	47.6		
Evansville	IN	28.8	BLED20100818AAN	87 34 47.10	50	179	Evansville-Vanderburgh Sch				
211B WFYI-FM	LIC_CN	29.9	166.77	39 53 59.10	10.000	107.2	41.6	50.2	93.7		
Indianapolis	IN	210.5	BLED1574	86 12 00.90	171	418	Metropolitan Indianapolis				
210A WOMB	LIC DCN	35.9	76.45	39 09 33.90	4.000	12.8	9.1	54.2	53.7		
Ellettsville	IN	216.2	BLED20110802AAI	86 39 18.40	65	294	Mary's Children, Inc.				
06 -- W06DG-D«	CP_CY	189.2	84.60	37 51 07.00	3.000	6.3	21.0	27.3R	57.3M		
Evansville	IN	9.1	BNPDTL-20090825AZX	87 19 44.00		214					
209B WISU	LIC_CN	343.1	105.10	39 30 26.10	13.500	4.4	43.4	90.7	60.1		
Terre Haute	IN	162.9	BLED19891011KC	87 31 50.00	156	326	Indiana State University B				
212A WKWC	LIC_CN	177.4	95.82	37 44 32.10	5.000	22.4	15.0	63.4	67.3		
Owensboro	KY	357.4	BLED20020409AAG	87 07 26.90	25	147	Kentucky Wesleyan College				
210C2 WSOF	LIC_CN	191.0	141.05	37 21 26.10	39.000	65.2	41.9	66.0	85.5		
Madisonville	KY	10.8	BLED19920304KA	87 28 40.90	86	220	Madisonville Baptist Templ				

Terrain database is NED 03 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= - Zone 1, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
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.

***Exhibit 7a***  
**Contour Protection Studies Toward Select Allocation Concern(s)**

Bible Broadcasting Network, Inc.

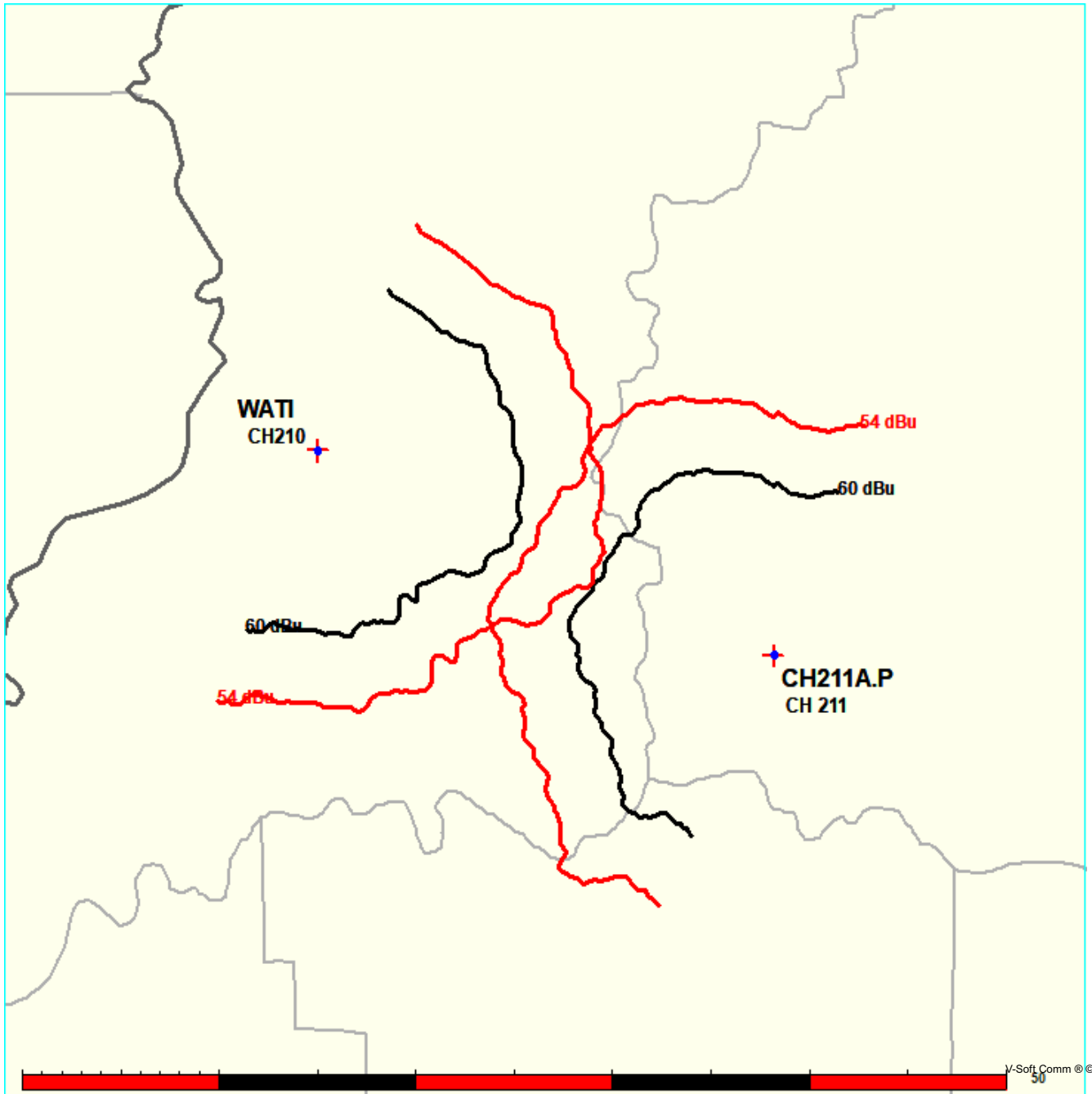
FMCommander Single Allocation Study - 08-11-2021 - NED 03 SEC  
CH211A.P's Overlaps (In= 0.08 km, Out= 0.96 km)

CH211A.P CH 211 A

Lat= 38 36 11.50, Lng= 87 10 28.20  
0.42 kW 38.7 m HAAT, 185 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

WATI CH 210 A BLED20001024ABK

Lat= 38 41 47.20, Lng= 87 26 27.10  
0.5 kW 48 m HAAT, 190 m COR  
Prot.= 60 dBu, Intef.= 54 dBu



# ***Exhibit 7a***

## **Contour Protection Studies Toward Select Allocation Concern(s)**

08-11-2021

Terrain Data: NED 03 SEC

FMOver Analysis

CH211A.P

WATI BLED20001024ABK

Channel = 211A  
 Max ERP = 0.42 kW  
 RCAMSL = 185 m  
 N. Lat. 38 36 11.50  
 W. Lng. 87 10 28.20  
 Protected  
 60 dBu

Channel = 210A  
 Max ERP = 0.5 kW  
 RCAMSL = 190 m  
 N. Lat. 38 41 47.20  
 W. Lng. 87 26 27.10  
 Interfering  
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
253.0	000.4200	0041.3	009.5	133.1	000.5000	0034.1	019.2	47.47	
254.0	000.4200	0040.4	009.4	132.6	000.5000	0034.0	019.1	47.52	
255.0	000.4200	0040.3	009.4	132.3	000.5000	0034.6	019.0	47.77	
256.0	000.4200	0039.8	009.4	131.9	000.5000	0035.4	018.9	48.05	
257.0	000.4200	0040.1	009.4	131.7	000.5000	0035.9	018.8	48.31	
258.0	000.4200	0040.0	009.4	131.4	000.5000	0036.8	018.6	48.63	
259.0	000.4200	0039.0	009.3	130.8	000.5000	0038.5	018.6	49.07	
260.0	000.4200	0039.2	009.3	130.5	000.5000	0039.4	018.4	49.40	
261.0	000.4200	0040.0	009.4	130.4	000.5000	0039.6	018.2	49.61	
262.0	000.4200	0041.8	009.6	130.6	000.5000	0039.0	018.0	49.70	
263.0	000.4200	0043.5	009.8	130.7	000.5000	0038.6	017.7	49.82	
264.0	000.4200	0044.1	009.9	130.5	000.5000	0039.3	017.5	50.13	
265.0	000.4200	0044.3	009.9	130.2	000.5000	0040.2	017.4	50.46	
266.0	000.4200	0045.0	010.0	130.0	000.5000	0040.9	017.2	50.77	
267.0	000.4200	0045.0	010.0	129.6	000.5000	0041.6	017.1	51.03	
268.0	000.4200	0044.3	009.9	128.9	000.5000	0042.6	017.0	51.30	
269.0	000.4200	0044.5	009.9	128.6	000.5000	0043.3	016.9	51.58	
270.0	000.4200	0045.4	010.0	128.3	000.5000	0043.2	016.7	51.72	
271.0	000.4200	0044.8	010.0	127.7	000.5000	0043.6	016.7	51.86	
272.0	000.4200	0044.9	010.0	127.2	000.5000	0043.9	016.6	52.00	
273.0	000.4200	0045.3	010.0	126.8	000.5000	0043.8	016.4	52.12	
274.0	000.4200	0046.7	010.2	126.6	000.5000	0043.8	016.2	52.31	
275.0	000.4200	0048.2	010.4	126.4	000.5000	0043.9	015.9	52.54	
276.0	000.4200	0048.8	010.4	126.0	000.5000	0044.1	015.8	52.71	
277.0	000.4200	0049.6	010.5	125.6	000.5000	0043.9	015.6	52.81	
278.0	000.4200	0049.6	010.5	125.0	000.5000	0043.7	015.5	52.86	
279.0	000.4200	0049.9	010.5	124.4	000.5000	0043.1	015.4	52.82	
280.0	000.4200	0049.6	010.5	123.7	000.5000	0042.8	015.4	52.78	
281.0	000.4200	0048.9	010.4	123.0	000.5000	0042.8	015.4	52.80	
282.0	000.4200	0048.2	010.4	122.3	000.5000	0043.2	015.4	52.87	
283.0	000.4200	0048.1	010.3	121.6	000.5000	0043.2	015.3	52.91	
284.0	000.4200	0047.7	010.3	120.9	000.5000	0043.8	015.3	53.06	

## ***Exhibit 7a***

### **Contour Protection Studies Toward Select Allocation Concern(s)**

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
285.0	000.4200	0046.6	010.2	120.1	000.5000	0044.9	015.4	53.24
286.0	000.4200	0045.9	010.1	119.4	000.5000	0045.6	015.4	53.36
287.0	000.4200	0045.1	010.0	118.7	000.5000	0046.1	015.5	53.40
288.0	000.4200	0043.6	009.8	118.0	000.5000	0046.9	015.6	53.44
289.0	000.4200	0043.2	009.8	117.3	000.5000	0048.0	015.6	53.65
290.0	000.4200	0043.4	009.8	116.7	000.5000	0048.7	015.6	53.83
291.0	000.4200	0043.8	009.8	116.1	000.5000	0048.9	015.5	53.93
292.0	000.4200	0042.9	009.7	115.4	000.5000	0048.7	015.6	53.82
293.0	000.4200	0042.4	009.7	114.8	000.5000	0048.1	015.7	53.65
294.0	000.4200	0041.0	009.5	114.2	000.5000	0047.6	015.9	53.39
295.0	000.4200	0041.5	009.6	113.6	000.5000	0048.1	015.8	53.55
296.0	000.4200	0041.9	009.6	113.0	000.5000	0047.9	015.7	53.54
297.0	000.4200	0042.5	009.7	112.4	000.5000	0048.4	015.7	53.71
298.0	000.4200	0043.0	009.7	111.7	000.5000	0048.0	015.6	53.67
299.0	000.4200	0043.1	009.8	111.1	000.5000	0048.0	015.6	53.66
300.0	000.4200	0042.9	009.7	110.5	000.5000	0048.5	015.7	53.70
301.0	000.4200	0042.4	009.7	109.9	000.5000	0048.8	015.8	53.69
302.0	000.4200	0042.2	009.6	109.3	000.5000	0048.3	015.8	53.55
303.0	000.4200	0042.6	009.7	108.7	000.5000	0048.0	015.8	53.48
304.0	000.4200	0042.5	009.7	108.1	000.5000	0047.4	015.9	53.32
305.0	000.4200	0042.6	009.7	107.5	000.5000	0046.5	015.9	53.10
306.0	000.4200	0042.5	009.7	107.0	000.5000	0046.0	016.0	52.95
307.0	000.4200	0043.5	009.8	106.2	000.5000	0045.7	015.9	52.92
308.0	000.4200	0042.9	009.7	105.8	000.5000	0045.5	016.1	52.78
309.0	000.4200	0041.4	009.5	105.5	000.5000	0045.3	016.3	52.52
310.0	000.4200	0040.3	009.4	105.1	000.5000	0044.9	016.5	52.27
311.0	000.4200	0040.2	009.4	104.6	000.5000	0045.0	016.6	52.24
312.0	000.4200	0040.3	009.4	104.1	000.5000	0045.2	016.6	52.22
313.0	000.4200	0040.5	009.4	103.6	000.5000	0045.4	016.7	52.20
314.0	000.4200	0041.2	009.5	102.9	000.5000	0045.1	016.7	52.15
315.0	000.4200	0044.1	009.9	101.8	000.5000	0045.4	016.5	52.38
316.0	000.4200	0045.2	010.0	101.1	000.5000	0045.2	016.5	52.35
317.0	000.4200	0045.1	010.0	100.6	000.5000	0045.5	016.6	52.32
318.0	000.4200	0046.5	010.2	099.7	000.5000	0045.3	016.6	52.30
319.0	000.4200	0046.6	010.2	099.3	000.5000	0045.3	016.7	52.22
320.0	000.4200	0047.2	010.2	098.6	000.5000	0045.0	016.7	52.10
321.0	000.4200	0047.5	010.3	098.1	000.5000	0044.9	016.8	51.99
322.0	000.4200	0048.0	010.3	097.5	000.5000	0045.0	016.9	51.93
323.0	000.4200	0047.9	010.3	097.1	000.5000	0045.0	017.0	51.82
324.0	000.4200	0047.1	010.2	096.9	000.5000	0045.0	017.2	51.65
325.0	000.4200	0046.4	010.2	096.7	000.5000	0044.9	017.4	51.49
326.0	000.4200	0046.5	010.2	096.3	000.5000	0044.8	017.5	51.35
327.0	000.4200	0047.0	010.2	095.8	000.5000	0044.6	017.6	51.22
328.0	000.4200	0046.9	010.2	095.5	000.5000	0044.5	017.8	51.08
329.0	000.4200	0047.0	010.2	095.1	000.5000	0044.3	017.9	50.93

# ***Exhibit 7a***

## **Contour Protection Studies Toward Select Allocation Concern(s)**

08-11-2021      Terrain Data: NED 03 SEC      FMOver Analysis

WATI    BLED20001024ABK

CH211A.P

Channel = 210A  
 Max ERP = 0.5 kW  
 RCAMSL = 190 m  
 N. Lat. 38 41 47.20  
 W. Lng. 87 26 27.10  
 Protected  
     60   dBu

Channel = 211A  
 Max ERP = 0.42 kW  
 RCAMSL = 185 m  
 N. Lat. 38 36 11.50  
 W. Lng. 87 10 28.20  
 Interfering  
     54   dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
071.0	000.5000	0038.4	009.6	313.9	000.4200	0041.0	019.5	48.15	
072.0	000.5000	0038.0	009.5	313.5	000.4200	0040.4	019.3	48.12	
073.0	000.5000	0038.5	009.6	313.4	000.4200	0040.4	019.2	48.26	
074.0	000.5000	0038.2	009.6	313.1	000.4200	0040.4	019.0	48.37	
075.0	000.5000	0037.9	009.5	312.7	000.4200	0040.8	018.9	48.55	
076.0	000.5000	0037.5	009.5	312.3	000.4200	0040.5	018.8	48.59	
077.0	000.5000	0037.8	009.5	312.1	000.4200	0040.3	018.7	48.67	
078.0	000.5000	0038.7	009.6	312.1	000.4200	0040.3	018.5	48.84	
079.0	000.5000	0039.9	009.8	312.2	000.4200	0040.4	018.2	49.05	
080.0	000.5000	0040.7	009.9	312.1	000.4200	0040.3	018.0	49.20	
081.0	000.5000	0040.9	009.9	311.8	000.4200	0040.3	017.9	49.32	
082.0	000.5000	0041.4	010.0	311.6	000.4200	0040.4	017.7	49.48	
083.0	000.5000	0041.0	009.9	311.1	000.4200	0040.3	017.6	49.54	
084.0	000.5000	0040.8	009.9	310.7	000.4200	0040.1	017.5	49.59	
085.0	000.5000	0040.4	009.9	310.2	000.4200	0040.2	017.4	49.69	
086.0	000.5000	0040.7	009.9	309.9	000.4200	0040.5	017.3	49.88	
087.0	000.5000	0040.5	009.9	309.4	000.4200	0041.0	017.2	50.08	
088.0	000.5000	0040.5	009.9	308.9	000.4200	0041.5	017.0	50.29	
089.0	000.5000	0040.7	009.9	308.5	000.4200	0042.3	016.9	50.57	
090.0	000.5000	0040.9	009.9	308.2	000.4200	0042.7	016.8	50.78	
091.0	000.5000	0040.8	009.9	307.7	000.4200	0043.1	016.7	50.95	
092.0	000.5000	0041.5	010.0	307.3	000.4200	0043.2	016.5	51.13	
093.0	000.5000	0042.7	010.1	307.2	000.4200	0043.4	016.3	51.37	
094.0	000.5000	0043.9	010.3	306.9	000.4200	0043.4	016.1	51.56	
095.0	000.5000	0044.3	010.3	306.5	000.4200	0042.9	015.9	51.57	
096.0	000.5000	0044.7	010.4	306.0	000.4200	0042.5	015.8	51.59	
097.0	000.5000	0045.0	010.4	305.5	000.4200	0042.3	015.7	51.66	
098.0	000.5000	0045.0	010.4	304.9	000.4200	0042.6	015.6	51.79	
099.0	000.5000	0045.3	010.5	304.3	000.4200	0042.3	015.5	51.82	
100.0	000.5000	0045.3	010.5	303.7	000.4200	0042.5	015.4	51.94	
101.0	000.5000	0045.2	010.4	303.1	000.4200	0042.6	015.4	52.01	



# ***Exhibit 7a***

## **Contour Protection Studies Toward Select Allocation Concern(s)**

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
102.0	000.5000	0045.5	010.5	302.5	000.4200	0042.6	015.3	52.10
103.0	000.5000	0045.2	010.4	301.8	000.4200	0042.1	015.2	52.01
104.0	000.5000	0045.3	010.5	301.1	000.4200	0042.2	015.2	52.09
105.0	000.5000	0044.8	010.4	300.4	000.4200	0042.6	015.2	52.17
106.0	000.5000	0045.6	010.5	299.8	000.4200	0043.0	015.0	52.39
107.0	000.5000	0046.0	010.5	299.2	000.4200	0043.2	014.9	52.36
108.0	000.5000	0047.3	010.7	298.6	000.4200	0043.0	014.8	52.52
109.0	000.5000	0048.2	010.8	298.0	000.4200	0043.0	014.6	52.69
110.0	000.5000	0048.7	010.9	297.3	000.4200	0042.7	014.5	52.73
111.0	000.5000	0048.1	010.8	296.5	000.4200	0042.1	014.6	52.54
112.0	000.5000	0048.3	010.8	295.8	000.4200	0041.8	014.5	52.53
113.0	000.5000	0047.9	010.8	295.0	000.4200	0041.5	014.6	52.42
114.0	000.5000	0047.8	010.8	294.3	000.4200	0041.3	014.6	52.34
115.0	000.5000	0048.5	010.8	293.5	000.4200	0041.5	014.5	52.49
116.0	000.5000	0048.9	010.9	292.8	000.4200	0042.6	014.5	52.78
117.0	000.5000	0048.3	010.8	292.0	000.4200	0042.9	014.6	52.75
118.0	000.5000	0046.8	010.6	291.4	000.4200	0043.3	014.8	52.59
119.0	000.5000	0046.2	010.6	290.7	000.4200	0043.7	014.9	52.57
120.0	000.5000	0045.0	010.4	290.1	000.4200	0043.4	015.0	52.49
121.0	000.5000	0043.7	010.3	289.6	000.4200	0043.2	015.2	52.27
122.0	000.5000	0043.1	010.2	289.0	000.4200	0043.2	015.3	52.18
123.0	000.5000	0042.8	010.2	288.3	000.4200	0043.4	015.4	52.15
124.0	000.5000	0042.9	010.2	287.7	000.4200	0044.1	015.4	52.26
125.0	000.5000	0043.7	010.3	287.0	000.4200	0045.1	015.4	52.53
126.0	000.5000	0044.1	010.3	286.3	000.4200	0045.8	015.4	52.65
127.0	000.5000	0043.9	010.3	285.7	000.4200	0046.1	015.5	52.63
128.0	000.5000	0043.2	010.2	285.2	000.4200	0046.6	015.6	52.61
129.0	000.5000	0042.4	010.1	284.7	000.4200	0046.9	015.8	52.53
130.0	000.5000	0040.8	009.9	284.5	000.4200	0047.1	016.1	52.37
131.0	000.5000	0037.6	009.5	284.6	000.4200	0047.0	016.5	51.96
132.0	000.5000	0035.1	009.2	284.6	000.4200	0047.0	016.9	51.64
133.0	000.5000	0033.9	009.0	284.4	000.4200	0047.3	017.1	51.52
134.0	000.5000	0033.8	009.0	283.9	000.4200	0047.8	017.2	51.53
135.0	000.5000	0033.8	009.0	283.5	000.4200	0048.1	017.2	51.53
136.0	000.5000	0032.9	008.9	283.2	000.4200	0048.1	017.4	51.38
137.0	000.5000	0033.0	008.9	282.8	000.4200	0048.3	017.5	51.35
138.0	000.5000	0032.0	008.8	282.6	000.4200	0048.4	017.7	51.20
139.0	000.5000	0031.9	008.7	282.3	000.4200	0048.3	017.8	51.10
140.0	000.5000	0032.1	008.8	281.8	000.4200	0048.2	017.9	51.01
141.0	000.5000	0031.4	008.7	281.6	000.4200	0048.4	018.0	50.91
142.0	000.5000	0030.8	008.6	281.4	000.4200	0048.5	018.2	50.80
143.0	000.5000	0030.4	008.6	281.2	000.4200	0048.7	018.3	50.73
144.0	000.5000	0030.2	008.5	280.9	000.4200	0049.0	018.5	50.68
145.0	000.5000	0031.1	008.6	280.3	000.4200	0049.4	018.5	50.73

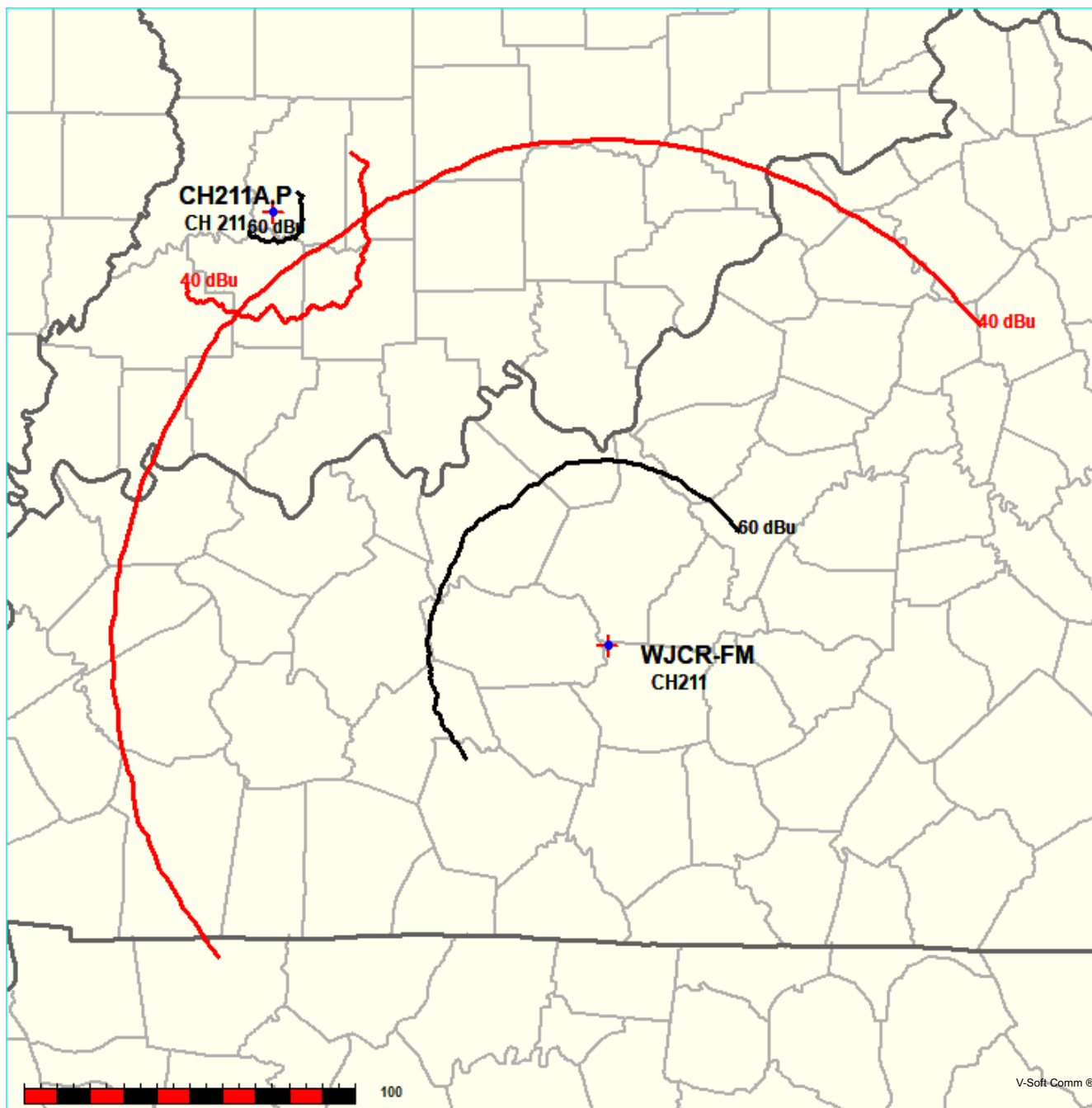
***Exhibit 7b***  
**Contour Protection Studies Toward Select Allocation Concern(s)**

Bible Broadcasting Network, Inc.

FMCommander Single Allocation Study - 08-11-2021 - NED 03 SEC  
CH211A.P's Overlaps (In= 6.1 km, Out= 76.15 km)

CH211A.P CH 211 A  
Lat= 38 36 11.50, Lng= 87 10 28.20  
0.42 kW 38.7 m HAAT, 185 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

WJCR-FM CH 211 C1 BLED19920310KA  
Lat= 37 25 57.10, Lng= 86 01 49.80  
100.0 kW 117 m HAAT, 327 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



## Exhibit 7b

### Contour Protection Studies Toward Select Allocation Concern(s)

08-11-2021

Terrain Data: NED 03 SEC

FMOver Analysis

CH211A.P

WJCR-FM BLED19920310KA

Channel = 211A

Max ERP = 0.42 kW

RCAMSL = 185 m

N. Lat. 38 36 11.50

W. Lng. 87 10 28.20

Protected

60 dBu

Channel = 211C1

Max ERP = 100 kW

RCAMSL = 327 m

N. Lat. 37 25 57.10

W. Lng. 86 01 49.80

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
101.0	000.4200	0028.9	008.1	324.7	100.0000	0101.8	158.2	38.06	
102.0	000.4200	0030.7	008.2	324.7	100.0000	0101.8	158.1	38.09	
103.0	000.4200	0031.8	008.3	324.7	100.0000	0101.8	157.9	38.13	
104.0	000.4200	0032.4	008.4	324.6	100.0000	0101.8	157.7	38.15	
105.0	000.4200	0032.7	008.5	324.6	100.0000	0101.8	157.6	38.18	
106.0	000.4200	0033.9	008.6	324.6	100.0000	0101.8	157.4	38.21	
107.0	000.4200	0035.6	008.8	324.6	100.0000	0101.8	157.1	38.26	
108.0	000.4200	0036.3	008.9	324.6	100.0000	0101.9	157.0	38.28	
109.0	000.4200	0036.8	009.0	324.5	100.0000	0101.9	156.8	38.31	
110.0	000.4200	0036.1	008.9	324.5	100.0000	0101.9	156.8	38.31	
111.0	000.4200	0036.3	008.9	324.4	100.0000	0101.9	156.7	38.33	
112.0	000.4200	0035.2	008.8	324.4	100.0000	0102.0	156.7	38.33	
113.0	000.4200	0036.3	008.9	324.3	100.0000	0102.0	156.5	38.36	
114.0	000.4200	0036.8	009.0	324.3	100.0000	0102.0	156.4	38.38	
115.0	000.4200	0036.0	008.9	324.2	100.0000	0102.1	156.4	38.38	
116.0	000.4200	0036.1	008.9	324.2	100.0000	0102.2	156.3	38.40	
117.0	000.4200	0035.6	008.8	324.1	100.0000	0102.3	156.3	38.41	
118.0	000.4200	0037.5	009.1	324.1	100.0000	0102.4	156.0	38.46	
119.0	000.4200	0038.5	009.2	324.1	100.0000	0102.5	155.8	38.49	
120.0	000.4200	0037.8	009.1	324.0	100.0000	0102.7	155.9	38.50	
121.0	000.4200	0038.8	009.2	324.0	100.0000	0102.9	155.7	38.53	
122.0	000.4200	0038.9	009.2	323.9	100.0000	0103.0	155.6	38.55	
123.0	000.4200	0038.0	009.1	323.9	100.0000	0103.3	155.7	38.55	
124.0	000.4200	0038.2	009.1	323.8	100.0000	0103.5	155.6	38.57	
125.0	000.4200	0038.7	009.2	323.8	100.0000	0103.6	155.5	38.59	
126.0	000.4200	0039.8	009.3	323.7	100.0000	0103.8	155.3	38.62	
127.0	000.4200	0039.7	009.3	323.7	100.0000	0104.0	155.3	38.64	
128.0	000.4200	0040.0	009.4	323.6	100.0000	0104.3	155.2	38.66	
129.0	000.4200	0041.3	009.5	323.6	100.0000	0104.4	155.0	38.69	
130.0	000.4200	0044.9	010.0	323.5	100.0000	0104.5	154.5	38.78	
131.0	000.4200	0045.0	010.0	323.5	100.0000	0104.7	154.5	38.79	
132.0	000.4200	0045.6	010.1	323.4	100.0000	0104.9	154.4	38.81	

# ***Exhibit 7b***

## ***Contour Protection Studies Toward Select Allocation Concern(s)***

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
133.0	000.4200	0044.2	009.9	323.3	100.0000	0105.2	154.5	38.80
134.0	000.4200	0044.9	010.0	323.3	100.0000	0105.4	154.4	38.82
135.0	000.4200	0044.7	009.9	323.2	100.0000	0105.7	154.4	38.83
136.0	000.4200	0044.3	009.9	323.1	100.0000	0105.9	154.4	38.84
137.0	000.4200	0044.7	009.9	323.1	100.0000	0106.2	154.3	38.85
138.0	000.4200	0046.0	010.1	323.0	100.0000	0106.4	154.2	38.89
139.0	000.4200	0047.0	010.2	323.0	100.0000	0106.7	154.1	38.92
140.0	000.4200	0047.2	010.2	322.9	100.0000	0107.0	154.0	38.93
141.0	000.4200	0047.7	010.3	322.8	100.0000	0107.3	154.0	38.95
142.0	000.4200	0047.6	010.3	322.8	100.0000	0107.6	154.0	38.96
143.0	000.4200	0048.8	010.4	322.7	100.0000	0107.8	153.8	38.99
144.0	000.4200	0048.4	010.4	322.6	100.0000	0108.1	153.9	38.99
145.0	000.4200	0047.9	010.3	322.6	100.0000	0108.2	154.0	38.98
146.0	000.4200	0045.9	010.1	322.5	100.0000	0108.4	154.2	38.95
147.0	000.4200	0044.7	009.9	322.4	100.0000	0108.4	154.3	38.92
148.0	000.4200	0042.8	009.7	322.4	100.0000	0108.5	154.6	38.88
149.0	000.4200	0044.0	009.9	322.3	100.0000	0108.5	154.5	38.91
150.0	000.4200	0043.0	009.7	322.3	100.0000	0108.5	154.6	38.88
151.0	000.4200	0042.4	009.7	322.2	100.0000	0108.5	154.7	38.86
152.0	000.4200	0042.4	009.7	322.1	100.0000	0108.4	154.7	38.86
153.0	000.4200	0043.1	009.8	322.1	100.0000	0108.3	154.7	38.86
154.0	000.4200	0042.8	009.7	322.0	100.0000	0108.4	154.8	38.85
155.0	000.4200	0042.8	009.7	322.0	100.0000	0108.5	154.8	38.85
156.0	000.4200	0040.6	009.5	321.9	100.0000	0108.6	155.1	38.80
157.0	000.4200	0039.5	009.3	321.9	100.0000	0108.7	155.3	38.78
158.0	000.4200	0038.8	009.2	321.8	100.0000	0108.7	155.4	38.76
159.0	000.4200	0038.5	009.2	321.8	100.0000	0108.7	155.5	38.74
160.0	000.4200	0040.0	009.4	321.7	100.0000	0108.8	155.4	38.77
161.0	000.4200	0039.9	009.4	321.6	100.0000	0108.9	155.4	38.76
162.0	000.4200	0041.0	009.5	321.6	100.0000	0109.0	155.4	38.77
163.0	000.4200	0042.3	009.7	321.5	100.0000	0109.1	155.3	38.79
164.0	000.4200	0042.3	009.7	321.4	100.0000	0109.2	155.3	38.78
165.0	000.4200	0042.4	009.7	321.4	100.0000	0109.3	155.4	38.78
166.0	000.4200	0043.6	009.8	321.3	100.0000	0109.5	155.3	38.79
167.0	000.4200	0043.8	009.8	321.2	100.0000	0109.5	155.4	38.78
168.0	000.4200	0043.9	009.9	321.2	100.0000	0109.4	155.5	38.77
169.0	000.4200	0043.3	009.8	321.1	100.0000	0109.4	155.6	38.74
170.0	000.4200	0042.6	009.7	321.1	100.0000	0109.3	155.8	38.72
171.0	000.4200	0042.2	009.6	321.0	100.0000	0109.2	155.9	38.69
172.0	000.4200	0042.7	009.7	321.0	100.0000	0109.2	155.9	38.68
173.0	000.4200	0043.5	009.8	320.9	100.0000	0109.1	155.9	38.68
174.0	000.4200	0044.5	009.9	320.8	100.0000	0109.2	155.9	38.69
175.0	000.4200	0045.1	010.0	320.8	100.0000	0109.3	156.0	38.68
176.0	000.4200	0043.0	009.7	320.8	100.0000	0109.3	156.3	38.63
177.0	000.4200	0040.1	009.4	320.8	100.0000	0109.2	156.7	38.56

# ***Exhibit 7b***

## **Contour Protection Studies Toward Select Allocation Concern(s)**

08-11-2021      Terrain Data: NED 03 SEC      FMOver Analysis

WJCR-FM    BLED19920310KA

CH211A.P

Channel = 211C1  
 Max ERP = 100 kW  
 RCAMSL = 327 m  
 N. Lat. 37 25 57.10  
 W. Lng. 86 01 49.80  
 Protected  
 60 dBu

Channel = 211A  
 Max ERP = 0.42 kW  
 RCAMSL = 185 m  
 N. Lat. 38 36 11.50  
 W. Lng. 87 10 28.20  
 Interfering  
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
281.0	100.0000	0113.8	053.3	158.0	000.4200	0038.8	129.5	17.00	
282.0	100.0000	0112.8	053.1	157.7	000.4200	0039.0	128.8	17.15	
283.0	100.0000	0112.9	053.1	157.5	000.4200	0039.2	128.0	17.30	
284.0	100.0000	0110.7	052.8	157.1	000.4200	0039.4	127.5	17.41	
285.0	100.0000	0110.3	052.7	156.8	000.4200	0039.8	126.8	17.57	
286.0	100.0000	0111.0	052.8	156.6	000.4200	0040.0	126.0	17.73	
287.0	100.0000	0110.9	052.8	156.3	000.4200	0040.1	125.3	17.86	
288.0	100.0000	0110.9	052.8	156.0	000.4200	0040.5	124.6	18.02	
289.0	100.0000	0112.4	053.1	155.8	000.4200	0041.0	123.7	18.20	
290.0	100.0000	0111.6	052.9	155.5	000.4200	0041.9	123.1	18.36	
291.0	100.0000	0109.3	052.5	155.1	000.4200	0042.7	122.7	18.48	
292.0	100.0000	0107.6	052.3	154.7	000.4200	0042.9	122.3	18.57	
293.0	100.0000	0108.0	052.3	154.4	000.4200	0042.8	121.6	18.69	
294.0	100.0000	0108.1	052.3	154.1	000.4200	0042.8	121.0	18.80	
295.0	100.0000	0108.5	052.4	153.8	000.4200	0042.8	120.4	18.92	
296.0	100.0000	0110.6	052.8	153.5	000.4200	0042.9	119.5	19.08	
297.0	100.0000	0109.4	052.6	153.1	000.4200	0043.0	119.1	19.16	
298.0	100.0000	0109.0	052.5	152.7	000.4200	0043.0	118.6	19.25	
299.0	100.0000	0108.3	052.4	152.3	000.4200	0042.7	118.2	19.32	
300.0	100.0000	0108.7	052.4	152.0	000.4200	0042.4	117.7	19.41	
301.0	100.0000	0108.3	052.4	151.6	000.4200	0042.0	117.2	19.46	
302.0	100.0000	0109.0	052.5	151.2	000.4200	0042.4	116.7	19.59	
303.0	100.0000	0110.7	052.8	150.9	000.4200	0042.5	116.0	19.73	
304.0	100.0000	0111.2	052.9	150.5	000.4200	0042.7	115.5	19.83	
305.0	100.0000	0114.0	053.3	150.2	000.4200	0042.7	114.6	19.99	
306.0	100.0000	0117.1	053.8	149.9	000.4200	0043.2	113.8	20.17	
307.0	100.0000	0119.2	054.1	149.5	000.4200	0043.9	113.1	20.33	
308.0	100.0000	0118.1	054.0	149.0	000.4200	0044.0	112.9	20.37	
309.0	100.0000	0121.8	054.5	148.7	000.4200	0043.8	112.1	20.52	
310.0	100.0000	0121.0	054.4	148.2	000.4200	0043.1	111.9	20.52	

***Exhibit 7b***  
**Contour Protection Studies Toward Select Allocation Concern(s)**

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
311.0	100.0000	0115.8	053.6	147.6	000.4200	0043.3	112.3	20.45
312.0	100.0000	0115.2	053.5	147.2	000.4200	0044.4	112.1	20.54
313.0	100.0000	0116.8	053.8	146.7	000.4200	0045.0	111.6	20.65
314.0	100.0000	0118.7	054.0	146.3	000.4200	0045.2	111.1	20.76
315.0	100.0000	0114.2	053.4	145.8	000.4200	0046.4	111.6	20.73
316.0	100.0000	0112.2	053.0	145.3	000.4200	0047.5	111.8	20.75
317.0	100.0000	0111.0	052.8	144.8	000.4200	0047.8	111.8	20.75
318.0	100.0000	0110.4	052.7	144.3	000.4200	0048.1	111.8	20.77
319.0	100.0000	0111.1	052.8	143.8	000.4200	0048.5	111.6	20.83
320.0	100.0000	0109.3	052.5	143.4	000.4200	0048.8	111.8	20.80
321.0	100.0000	0109.2	052.5	142.9	000.4200	0048.8	111.8	20.81
322.0	100.0000	0108.4	052.4	142.4	000.4200	0048.2	111.9	20.76
323.0	100.0000	0106.5	052.1	141.9	000.4200	0047.6	112.2	20.68
324.0	100.0000	0102.8	051.4	141.5	000.4200	0047.8	112.9	20.56
325.0	100.0000	0101.6	051.2	141.0	000.4200	0047.7	113.1	20.50
326.0	100.0000	0100.1	050.9	140.6	000.4200	0047.6	113.5	20.44
327.0	100.0000	0100.9	051.0	140.1	000.4200	0047.3	113.4	20.43
328.0	100.0000	0101.1	051.1	139.7	000.4200	0047.0	113.5	20.41
329.0	100.0000	0103.4	051.5	139.2	000.4200	0047.0	113.2	20.46
330.0	100.0000	0105.3	051.9	138.7	000.4200	0046.9	113.0	20.49
331.0	100.0000	0106.5	052.1	138.3	000.4200	0046.2	113.0	20.46
332.0	100.0000	0109.8	052.6	137.8	000.4200	0045.5	112.6	20.50
333.0	100.0000	0111.3	052.9	137.3	000.4200	0045.0	112.6	20.48
334.0	100.0000	0113.3	053.2	136.8	000.4200	0044.2	112.6	20.45
335.0	100.0000	0110.6	052.8	136.4	000.4200	0044.1	113.2	20.31
336.0	100.0000	0110.3	052.7	136.0	000.4200	0044.4	113.6	20.26
337.0	100.0000	0108.4	052.4	135.6	000.4200	0044.4	114.2	20.15
338.0	100.0000	0110.3	052.7	135.1	000.4200	0044.6	114.2	20.15
339.0	100.0000	0112.3	053.0	134.6	000.4200	0044.8	114.3	20.15
340.0	100.0000	0114.6	053.4	134.1	000.4200	0044.9	114.3	20.15
341.0	100.0000	0119.0	054.1	133.5	000.4200	0044.3	114.1	20.16
342.0	100.0000	0119.4	054.1	133.1	000.4200	0044.2	114.5	20.08
343.0	100.0000	0116.2	053.7	132.8	000.4200	0044.4	115.4	19.93
344.0	100.0000	0120.5	054.3	132.2	000.4200	0045.3	115.3	19.99
345.0	100.0000	0124.5	054.9	131.7	000.4200	0045.5	115.3	19.99
346.0	100.0000	0125.9	055.1	131.2	000.4200	0045.2	115.7	19.91
347.0	100.0000	0127.8	055.4	130.8	000.4200	0044.8	116.0	19.83
348.0	100.0000	0129.6	055.6	130.3	000.4200	0044.8	116.4	19.76
349.0	100.0000	0129.2	055.6	129.9	000.4200	0044.9	117.0	19.65
350.0	100.0000	0129.2	055.6	129.6	000.4200	0044.4	117.6	19.51
351.0	100.0000	0128.3	055.4	129.2	000.4200	0042.7	118.4	19.29
352.0	100.0000	0129.1	055.6	128.9	000.4200	0040.9	118.9	19.09
353.0	100.0000	0129.5	055.6	128.5	000.4200	0040.4	119.5	18.95
354.0	100.0000	0127.4	055.3	128.3	000.4200	0040.2	120.4	18.77