Technical Report Supporting a Form 318 Minor Change Construction Permit Application

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

KYTF-LP(FM) - BLAIR, NE
(FACILITY ID: 196817)

MINOR SITE CHANGE,
INCREASE IN ANTENNA COR,
&
REDUCTION IN POWER

FOR CONTINUED OPERATION
ON THE FREQUENCY OF

CH234L1 (94.7 MHZ)

September, 2017

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Supplemental Appendix(s):

Explanation of Technical Report 1

EXPLANATION OF PROPOSAL: This Form 318 Filing and accompanying technical report supports a Minor Change Construction Permit Application for LPFM Station KYTF-LP(FM) - Blair, NE (Facility ID: 196817). This Filing requests a minor site relocation, increase in antenna COR and associated decrease in ERP. Continued operation on CH234L1 (94.7 MHz) with 0.012 kW ERP (circular polarization) at 434 meters AMSL is requested. The LPFM Station will remain licensed to the community of Blair, NE.

FACILITY COMPLIANCE SHOWINGS: A map of the proposed 60 dBµ service contour has been included in ***Exhibit 1***. The proposed 60 dBµ contour serves a portion of the present 60 dBµ contour as noted in the exhibit.

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 LPFM facility will be located on an existing 54.9 meter (180 ft) tower which does not require Antenna Structure Registration. In support of the requested site location, a copy of topographic aerial photomapping for the site coordinates has been included in ***Exhibit 3***. A depiction of the tower and antenna configuration has been included in ***Exhibit 4***. Notification to the FAA is not required as this proposal will not increase the overall tower height.

The applicant would like to note use of the FCC 30 second terrain database for all allocation, contour and HAAT showings contained herein. A copy of the proposed HAAT calculations has been included in ***Exhibit 5***. In this instance, a waiver of C.F.R. 47 Section 73.811(a) is respectfully requested concerning use of the FCC 30 second terrain database for calculation of the HAAT value. Pursuant to the procedures as detailed in C.F.R. Section 73.313(d), an HAAT value of 87.15 meters (nominal rounded value of 87 meters HAAT) is returned utilizing the FCC 30 second terrain database. This calculated HAAT value results in an operational power of 0.012 kW.

ALLOCATION COMPLIANCE SHOWINGS: The proposed Translator remains in compliance with C.F.R. 47 Section 73.807 toward all allocation protection concerns. General allocation details are found in ***Exhibit 6***. The proposed facility will remain fully spaced to all allocation concerns, therefore it is believed sufficient clearance exists precluding the need for additional allocation protection showings.

Regarding protection of international concerns, the facility is and will remain more than 320 km from the common border between the United States and Canada or Mexico. As a result, no further international showings are believed required.

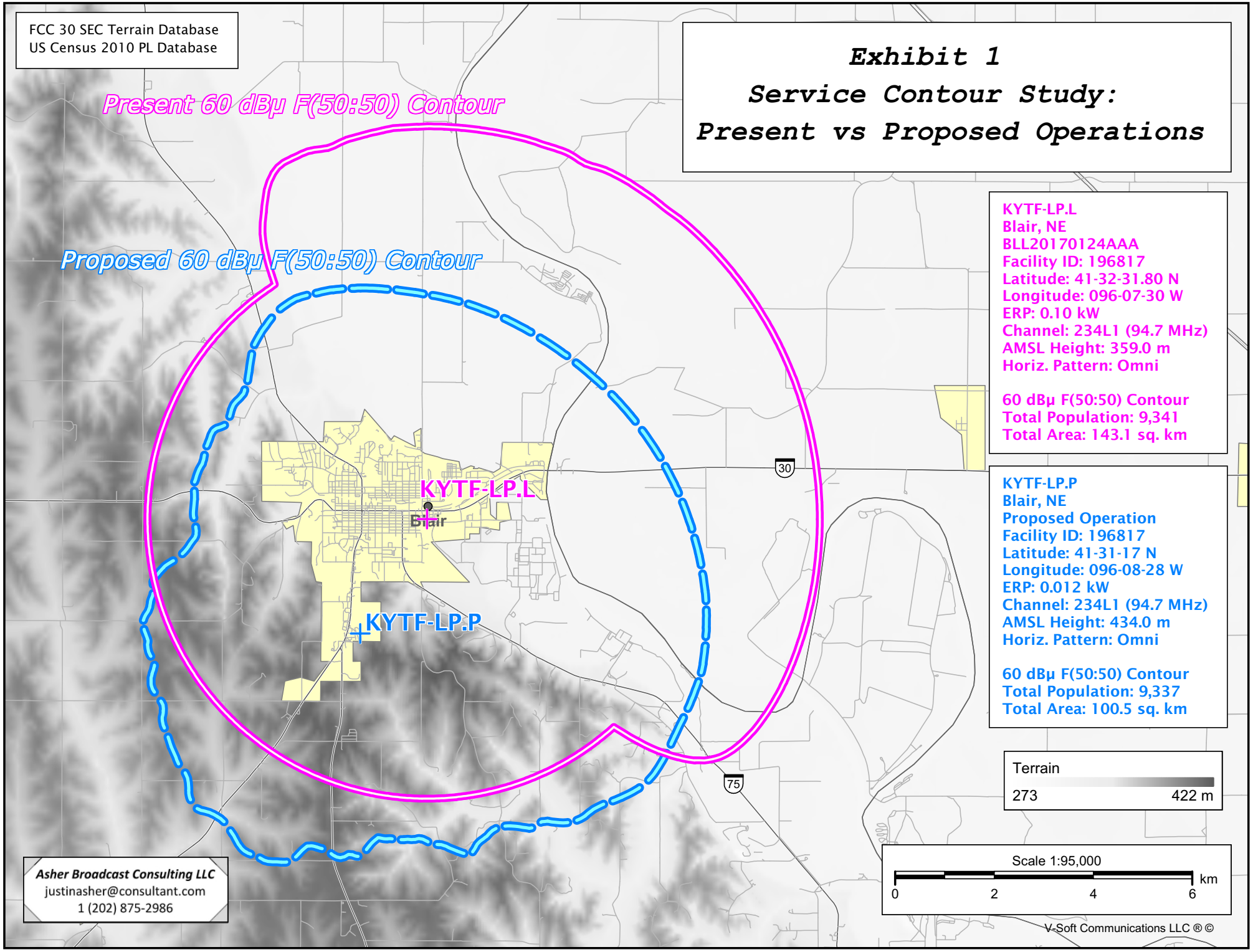
INTERFERENCE TO TRANSLATOR OR BOOSTER INPUT SIGNAL SHOWINGS: The applicant certifies there are no FM Translator or FM Booster facilities operating within a worst case 10 km radius around this proposed LPFM location.

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 and feedline are being added to an existing structure, as here. 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 eighteen 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
September 18, 2017


FCC 30 SEC Terrain Database
US Census 2010 PL Database
Present 60 dBµ F(50:50) Contour
Proposed 60 dBµ F(50:50) Contour
Exhibit 1
Service Contour Study:
Present vs Proposed Operations
KYTF-LP.L
Blair, NE
BLL20170124AAA
Facility ID: 196817
Latitude: 41-32-31.80 N
Longitude: 096-07-30 W
ERP: 0.10 kW
Channel: 234L1 (94.7 MHz)
AMSL Height: 359.0 m
Horiz. Pattern: Omni
60 dBµ F(50:50) Contour
Total Population: 9,341
Total Area: 143.1 sq. km
KYTF-LP.P
Blair, NE
Proposed Operation
Facility ID: 196817
Latitude: 41-31-17 N
Longitude: 096-08-28 W
ERP: 0.012 kW
Channel: 234L1 (94.7 MHz)
AMSL Height: 434.0 m
Horiz. Pattern: Omni
60 dBµ F(50:50) Contour
Total Population: 9,337
Total Area: 100.5 sq. km
KYTF-LP.L
Blair
KYTF-LP.P
30
75
Terrain
273
422 m
Scale 1:95,000
0
2
4
6
km
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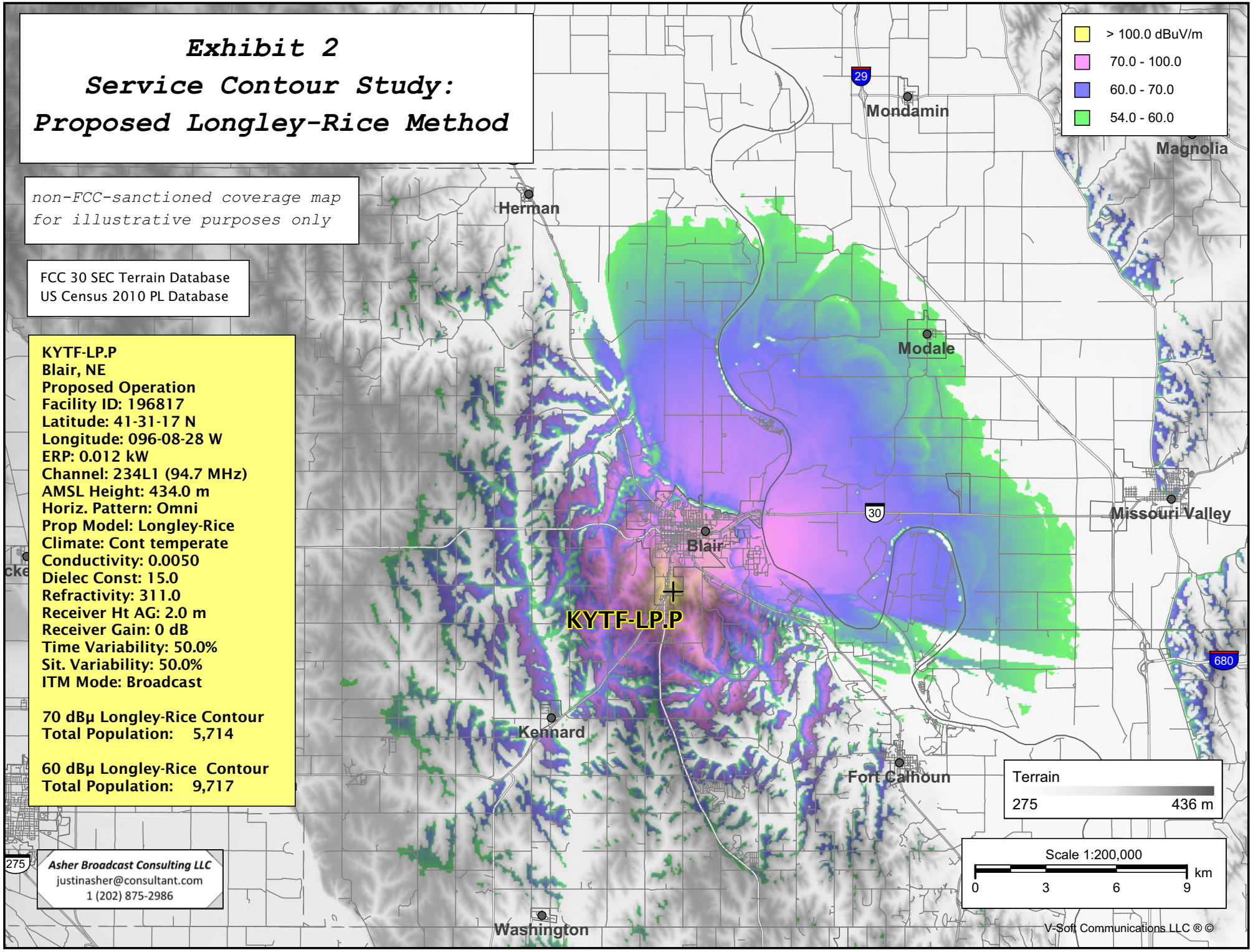
Exhibit 2
Service Contour Study:
Proposed Longley-Rice Method
non-FCC-sanctioned coverage map
for illustrative purposes only
FCC 30 SEC Terrain Database
US Census 2010 PL Database
KYTF-LP.P
Blair, NE
Proposed Operation
Facility ID: 196817
Latitude: 41-31-17 N
Longitude: 096-08-28 W
ERP: 0.012 kW
Channel: 234L1 (94.7 MHz)
AMSL Height: 434.0 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: 5,714
60 dBµ Longley-Rice Contour
Total Population: 9,717
> 100.0 dBuV/m
70.0 - 100.0
60.0 - 70.0
54.0 - 60.0
Mondamin
Magnolia
Herman
Modale
Missouri Valley
Blair
KYTF-LP.P
Kennard
Fort Calhoun
Washington
29
30
680
275
Terrain
275
436 m
Scale 1:200,000
km
0
3
6
9
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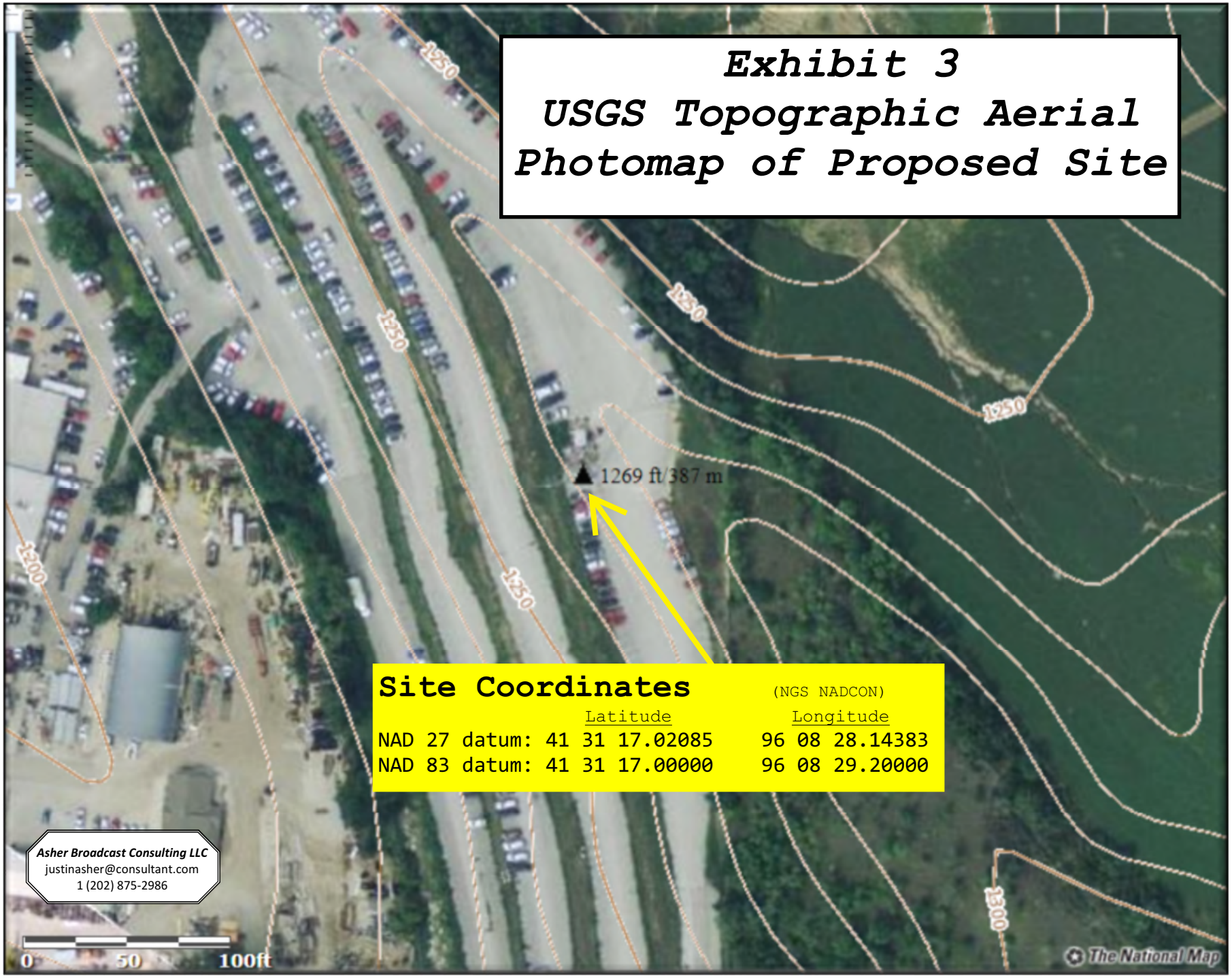
Exhibit 3
USGS Topographic Aerial
Photomap of Proposed Site
1269 ft/387 m
1250
1200
1300
Site Coordinates (NGS NADCON)
Latitude Longitude
NAD 27 datum: 41 31 17.02085 96 08 28.14383
NAD 83 datum: 41 31 17.00000 96 08 29.20000
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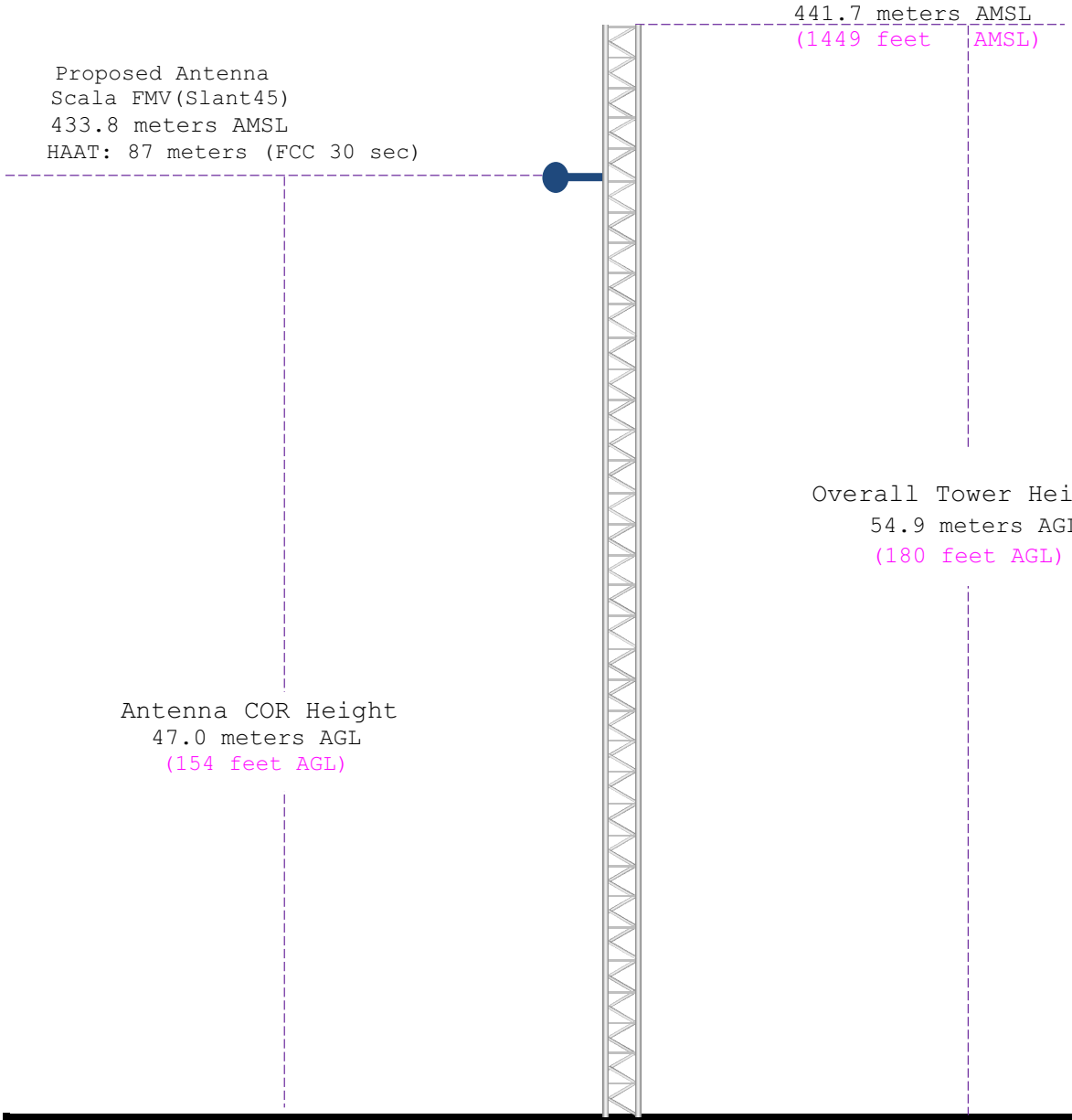
0 50 100ft
The National Map

Exhibit 4
Vertical Plan of Antenna System



Ground Elevation: 386.8 meters AMSL (1269 feet AMSL)

Address: 1500 feet northeast of the junction of US-30 and State Highway 133
City: Blair
County: Washington
State: Nebraska

Latitude (D M S)	Longitude (D M S)
NAD 27 datum values: 41 31 17.02085	96 08 28.14383
NAD 83 datum values: 41 31 17.00000	96 08 29.20000

Antenna Structure Registration
Not Required

Drawing Is Not To Scale

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Exhibit 5
HAAT and Miscellaneous Coordinate Information

HAAT Calculation (1927):

N. Lat. = 413117 W. Lng. = 960828
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	302.2	131.8	0.0120	-19.21	1.000	6.96
045	301.2	132.8	0.0120	-19.21	1.000	6.99
090	302.0	132.0	0.0120	-19.21	1.000	6.97
135	356.7	77.3	0.0120	-19.21	1.000	5.35
180	380.0	54.0	0.0120	-19.21	1.000	4.49
225	372.0	62.0	0.0120	-19.21	1.000	4.81
270	383.6	50.4	0.0120	-19.21	1.000	4.33
315	377.1	56.9	0.0120	-19.21	1.000	4.62

Ave El= 346.85 M HAAT= 87.15 M AMSL= 434 M

NAD 1983 to NAD 1927 Conversion:

	Latitude	Longitude
NAD 27 datum values:	41 31 17.02085	96 08 28.14383
NAD 83 datum values:	41 31 17.00000	96 08 29.20000

Various Coordinate Conversion Calculations (NAD 1983):

Position Type	Lat Lon
Degrees Lat Long	41.5213889°, -096.1414444°
Degrees Minutes	41°31.28333', -096°08.48667'
Degrees Minutes Seconds	41°31'17.0000", -096°08'29.2000"
UTM	14T 738516mE 4600584mN
UTM centimeter	14T 738516.60mE 4600584.76mN
MGRS	14TQM3851600584
Grid North	1.9°
GARS	168LZ48
Maidenhead	EN11WM35AD61
GEOREF	FJJM51513128

Exhibit 6
Tabulation of Proposed Allocation Spacings Study

Blair Healing Rooms Inc

REFERENCE
41 31 17.0 N.
96 08 28.0 W.

CLASS = L1
Current Spacings to 2nd Adj.

DISPLAY DATES
DATA 09-08-17
SEARCH 09-08-17

---------- Channel 234 - 94.7 MHz ----------

Call	Channel	Location		Azi	Dist	FCC	Margin
Lat.	Lng.	Ant	Power		HAAT		
KYTF-LP	LIC	234L1	Blair	NE	30.1	2.67	23.5	-20.8
41 32 31.8	96 07 30.0		0.100 kW		17 M		
Blair Healing Rooms Inc			BLL20170124AAA				
K235CD	LIC	235D	Omaha	NE	153.3	32.86	27.5	5.4
41 15 26.0	95 57 50.9	C	0.110 kW		0 M		
Capstar Tx, Llc			BLFT20141110ABL				
K233CO	LIC	233D	Omaha	NE	176.4	29.82	20.5	9.3
41 15 12.0	96 07 08.0	C	0.250 kW		0 M		
Salem Media Of Illinois, L			BLFT20161107ABH				
KNEN	LIC	234C1	Norfolk	NE	290.7	129.86	110.5	19.4
41 55 28.0	97 36 22.0	CX	100.000 kW		164 M		
Red Beacon Communications,			BLH20060420ABO				
KRKR	LIC-N	236C2	Waverly	NE	217.8	76.02	52.5	23.5
40 58 48.0	96 41 46.0	NCX	50.000 kW		84 M		
My Bridge Radio			BLED20100427ABY				
KSOA-LP	LIC	233L1	Sloan	IA	354.8	79.28	13.5	65.8
42 13 56.0	96 13 43.0		0.047 kW		43 M		
Iowa Department Of Transpo			BLL20031112ADA				
K233AN	LIC	233D	Lincoln	NE	210.9	91.85	20.5	71.4
40 48 41.0	96 42 09.0	C	0.250 kW		53 M		
Nrg License Sub			BLFT20120515ABL				
K235CA	LIC	235D	Sioux City	IA	348.3	110.40	20.5	89.9
42 29 39.0	96 24 54.0	C	0.250 kW		0 M		
Ksux/kscj Radio Broadcasti			BLFT20150218ABP				
KKEZ	LIC	233C1	Fort Dodge	IA	55.2	193.17	99.5	93.7
42 29 43.0	94 12 33.0	CX	100.000 kW		183 M		
Alpha 3e Licensee Llc			BMLH20151228BCD				
KGGO	LIC	235C0	Des Moines	IA	86.0	224.21	110.5	113.7
41 37 54.0	93 27 24.0	C	100.000 kW		325 M		
Radio License Holding Cbc,			BMLH19870212KB				
1762595	APP	234D	Cherokee	IA	18.8	148.99	31.5	117.5
42 47 21.0	95 33 08.0	C	0.250 kW		0 M		
Better Broadcasting Incorp			BNPFT20170726AAN				
KDAM	LIC-N	232C2	Hartington	NE	322.7	170.06	52.5	117.6
42 43 49.0	97 24 11.8	NCX	50.000 kW		103 M		
Riverfront Broadcasting Ll			BLH20100701AHP				
K234CW	LIC	234D	Beatrice	NE	201.0	149.51	31.5	118.0
40 15 49.0	96 46 27.0	C	0.250 kW		0 M		
Flood Broadcasting, Inc.			BLFT20160930AEX				

All separation margins include rounding

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