

Exhibit 13.1a Copy of USGS Topographic Map

Existing WHNP(AM) Site

	Latitude (D M S)	Longitude (D M S)
NAD 27 datum values:	42 04 25.45796	72 31 28.98794
NAD 83 datum values:	42 04 25.80000	72 31 27.30000

▲ 211 ft (64 m)



Exhibit 13.1b Copy of USGS Aerial Photograph

Existing WHNP(AM) Site

	Latitude (D M S)	Longitude (D M S)
NAD 27 datum values:	42 04 25.45796	72 31 28.98794
NAD 83 datum values:	42 04 25.80000	72 31 27.30000

▲ 211 ft / 64 m

MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339

USGS
The National Map

Exhibit 13.2

Vertical Plan of Antenna System

THE SITE IS LOCATED AT 45 FISHER AVENUE;

THE CITY OF EAST LONGMEADOW; HAMPDEN COUNTY; THE STATE OF MASSACHUSETTS.

Antenna Structure Registration No.

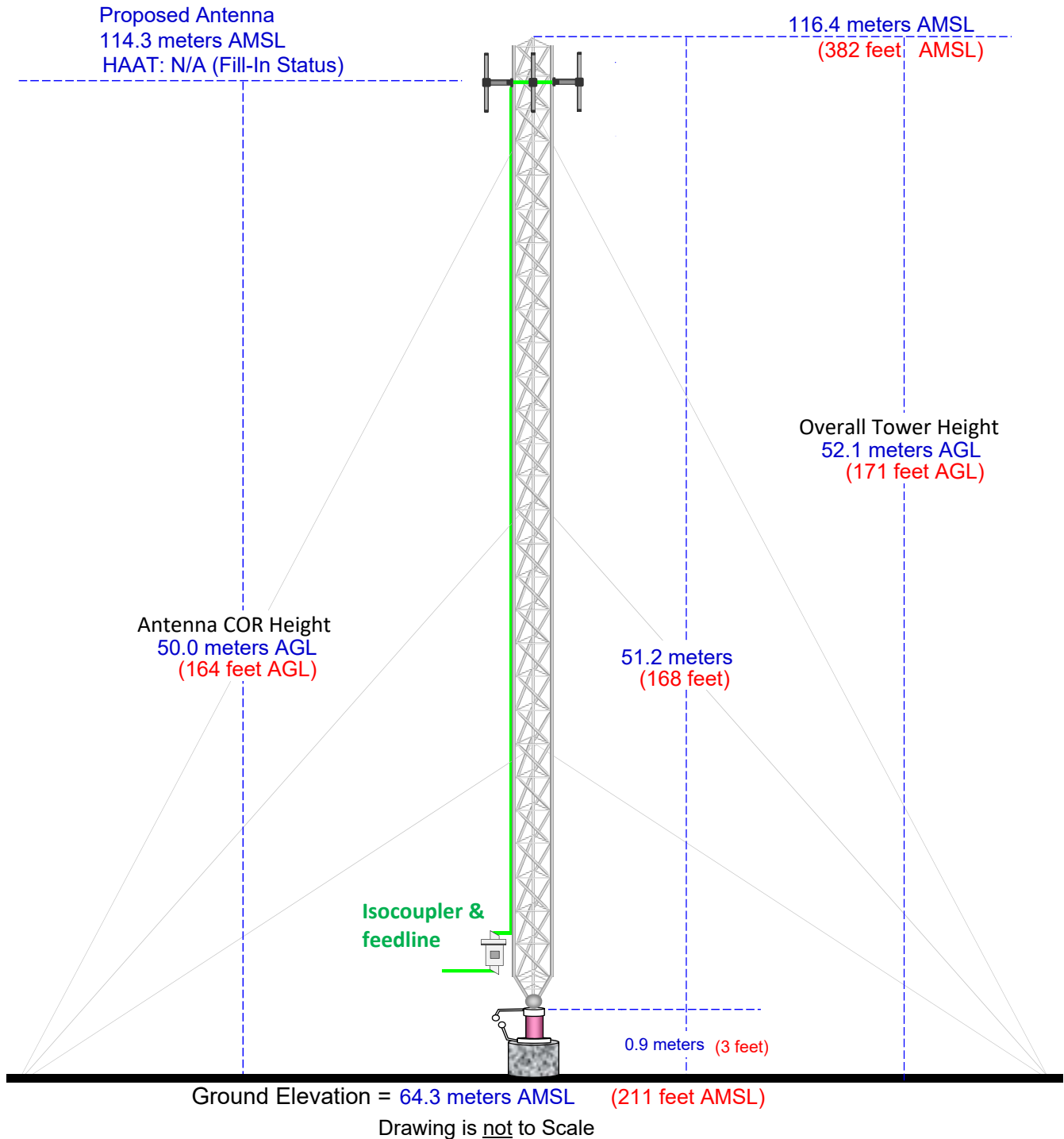
Not Required

Latitude (D M S)

Longitude (D M S)

NAD 27 datum values: 42 04 25.45796 72 31 28.98794

NAD 83 datum values: 42 04 25.80000 72 31 27.30000



Munn-Reese

Broadcast Engineering Consultants
Coldwater, MI 49036

Exhibit 13.3 Proposed Service Contour Map

Proposed 60 dBμ F(50:50) Contour

CH286D.P
East Longmeadow, MA
Proposed Operation
Facility ID: 156452
Latitude: 42-04-25 N
Longitude: 072-31-29 W
ERP: 0.25 kW
Channel: 286D (105.1 MHz)
AMSL Height: 114.0 m
Horiz. Pattern: Directional

60 dBμ F(50:50) Contour
Total Population: 175,369
Coverage Area: 206.8 sq. km

CH286D.P +

NGDC 30 SEC Terrain Database
U.S. Census 2010 PL Database

Terrain
6 363 m

Scale 1:125,000

0 3 6 9 km



WHNP 1600 kHz
East Longmeadow, Massachusetts
Station Class: D
Region 2 Class: B
Facility ID: 58546
File Number: BL-19960111AG
Site Location: 42-04-25.0 N 72-31-28.0 W (NAD 27)
Site Location: 42-04-25.3 N 72-31-26.3 W (NAD 83)
Power: 2.5 kW, Non-Directional
Hours: Daytime
Pattern Type: Theoretical
Towers: 1 Augmentations: 0
Tower Electrical Height: 98.4 Deg; 51.21 m
RMS Theoretical: 491.1 mV/meter at 2.5 kW

NGDC 30 SEC Terrain Database
U.S. Census 2010 PL Database

Exhibit 13.4 Proposed vs. Primary Contour & §74.1233(a)(1) Relocation Showing ("250 Mile Window Application")

W249CD.L
Ithaca, NY
BLFT20150310AJE
Facility ID: 156452
Latitude: 42-23-31 N
Longitude: 076-28-30 W
ERP: 0.175 kW
Channel: 249D (97.7 MHz)
AMS L Height: 529.0 m
Horiz. Pattern: Directional

CH286D.P
East Longmeadow, MA
Proposed Operation
Facility ID: 156452
Latitude: 42-04-25 N
Longitude: 072-31-29 W
ERP: 0.25 kW
Channel: 286D (105.1 MHz)
AMS L Height: 114.0 m
Horiz. Pattern: Directional

Present 60 dBu F(50:50) Contour

§74.1233(a)(1) Relocation Distance: 329 km

25 mile AM site Radius

2 mV/m Daytime Contour

Proposed 60 dBu F(50:50) Contour

WHNP(AM)
CH286D.P

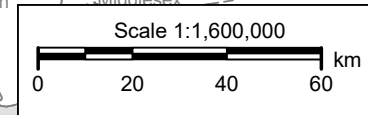


Exhibit 13.5

Tabulation of Proposed Allocation

Saga Communications Of New England, LIc																	
REFERENCE		CH#	286D	-	105.1	MHz,	Pwr=	0.25	kW	DA,	HAAT=	31.4	M,	COR=	114	M	DISPLAY DATES
42 04 25.0 N.		Average Protected F(50-50)= 7.23 km										DATA		10-06-16			
72 31 29.0 W.		Standard Directional										SEARCH		10-07-16			
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kW)	INT(km)	PRO(km)	*IN*	*OUT*						
CITY	STATE	STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)							
286B	WWLI	LIC CX	108.4	92.11	41 48 24.0	50.000	131.6	58.3	-45.8*	3.2							
Providence	RI	289.1	BMLH20070206ABO	71 28 13.0	152	214	Radi o Li cense Hol di ng Cbc,										
286A	WAMQ	LIC ZCN	277.3	79.36	42 09 36.0	0.730	84.0	30.1	-12.1*	24.1							
Great Barrington	MA	96.6	BLED19970827KA	73 28 48.0	280	594	Wamc										
Commercial Channel	Operating	Educational															
288A	WWEI	LIC ZEX	331.2	21.28	42 14 29.0	0.720	0.9	20.6	14.3	0.2							
Easthampton	MA	151.2	BMLH20141103AER	72 38 57.0	280	377	Entercom License, LIc										
285L1	WREA-LP	LIC	322.7	15.91	42 11 15.0	0.048			0.4	1.1							
Holyoke	MA	142.7	BLL20051207ADP	72 38 30.0	43	121	Radi o Redentor										
283D	W283CK	LIC DC	314.3	10.00	42 08 11.0	0.250	1.1	7.1	3.5	2.6							
West Springfield	MA	134.2	BLFT20160411ABN	72 36 42.0	92		Red Wolf Broadcasting Corp										
285A	WIHS	LIC CN	190.0	64.18	41 30 18.0	3.100	45.6	30.2	7.6	18.3							
Middletown	CT	9.9	BLH19891024KI	72 39 32.0	96	193	Connecticut Radio Fellowsh										
287D	W287CS	LIC DC	184.7	33.18	41 46 34.0	0.247	9.9	6.9	12.5	11.0							
Manchester	CT	4.7	BLFT20160503ABE	72 33 27.0	81		Gois Broadcasting Of Conne										
287D	W287CS	CP DC	184.7	33.18	41 46 34.0	0.247	9.6	6.7	12.8	11.2							
Manchester	CT	4.7	BMPFT20160328AAH	72 33 27.0	81		Gois Broadcasting Of Conne										
285A	WYRY	LIC DC	4.2	78.28	42 46 33.0	4.100	56.3	37.8	13.2	28.2							
Hinsdale	NH	184.2	BLH20010402AAV	72 27 17.0	122	344	Tri-valley Broadcasting Co										
286D	W286AP	LIC C	238.7	57.92	41 48 04.0	0.100	18.6	5.6	28.8	16.5							
Torrington	CT	58.3	BLFT20160324ABS	73 07 18.0	195		Torrington Community Radi o										
283B	WXLO	LIC CN	49.7	74.96	42 30 27.0	37.000	4.0	50.0	63.9	23.3							
Fitchburg	MA	230.2	BMLH19910920KB	71 49 37.0	172	404	Radi o Li cense Hol di ng Cbc,										
287L1	WJYC-LP	LIC	221.7	58.58	41 40 45.0	0.076			35.5	33.6							
Terryville	CT	41.4	BMLL20160926AAC	72 59 38.0	18	203	Riverside Baptist Church										
288D	W288AZ	LIC ?HN	349.9	56.15	42 34 15.0	0.005	0.2	7.4	48.2	47.9							
Bernardston, Etc.	MA	169.8	BLFT19881108TE	72 38 42.0	117	310	Harvest Broadcasting Assn.										
TRANSLATOR FOR WGLY, WATERBURY, VT.																	
286D	W286CL	CP C	211.9	92.98	41 21 43.0	0.010	19.5	5.9	62.2	48.7							
Shelton	CT	31.5	BNPFT20130829AAX	73 06 48.0	110	219	Town Of Monroe, Connecticu										

Terrain database is 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.
 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.
 Reference station has protected zone issue: AM tower

Blue Highlighted Text denotes supplemental contour protection studies toward select facilities as included in **Exhibit(s) 13.6(a-d)**.

Exhibit 13.6a

Contour Protection Studies Toward Select Station(s)

Saga Communications Of New England, LLC

FMCommander Single Allocation Study - 10-07-2016 - NGDC 30 SEC
CH286D.P's Overlaps (In= -45.84 km, Out= 3.23 km)

CH286D.P CH 286 D DA
Lat= 42 04 25.0, Lng= 72 31 29.0
0.25 kW 31.4 m HAAT, 114 m COR
Prot.= 60 dBu, Intef.= 34 dBu

WWLI CH 286 B BMLH20070206ABO
Lat= 41 48 24.0, Lng= 71 28 13.0
50.0 kW 152 m HAAT, 214 m COR
Prot.= 54 dBu, Intef.= 40 dBu

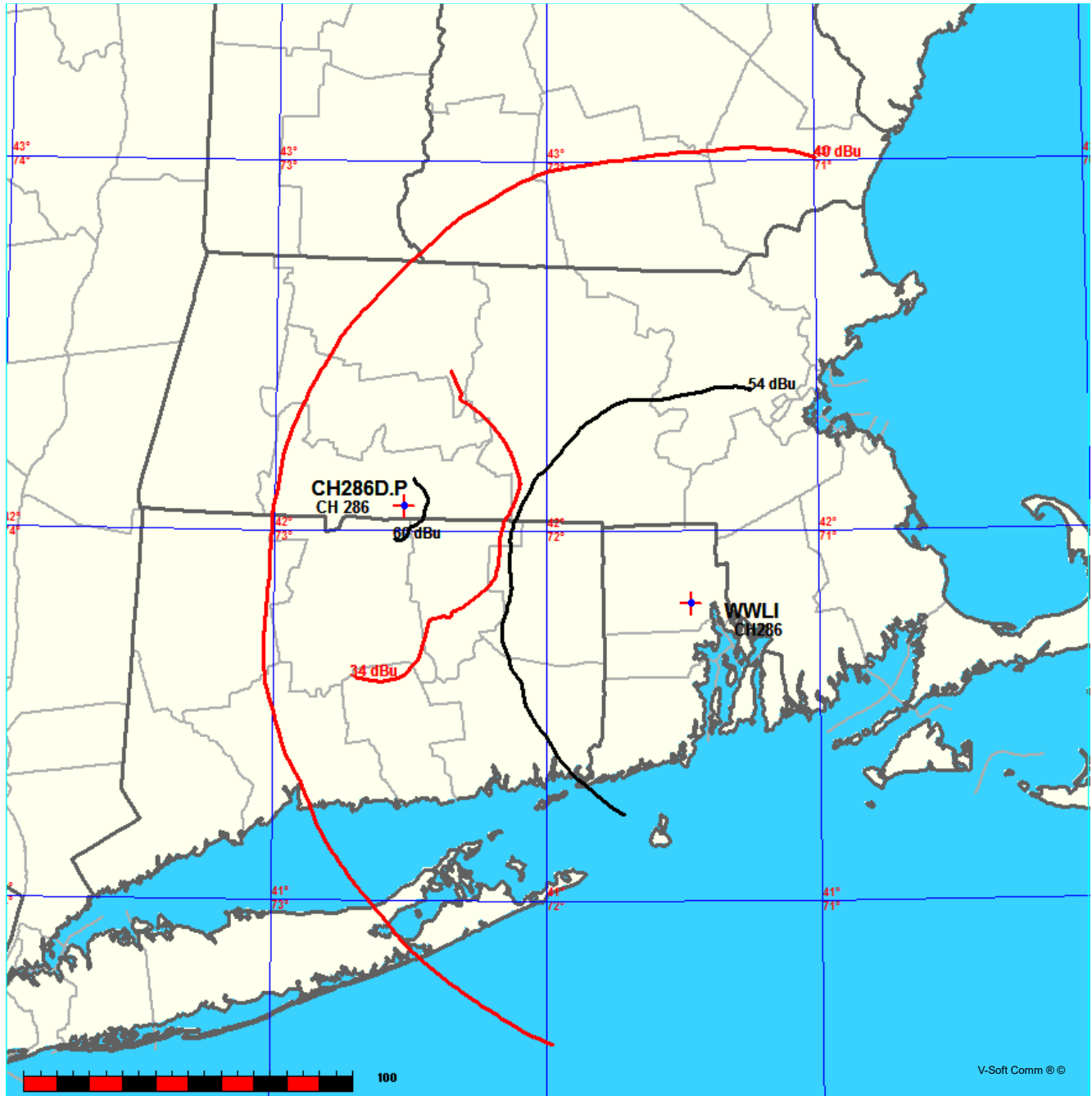


Exhibit 13.6a

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOVer Analysis

CH286D.P

WWLI BMLH20070206ABO

Channel = 286D

Max ERP = 0.25 kW

RCAMSL = 114 m

N. Lat. 42 04 25.0

W. Lng. 72 31 29.0

Protected

60 dBu

Channel = 286B

Max ERP = 50 kW

RCAMSL = 214 m

N. Lat. 41 48 24.0

W. Lng. 71 28 13.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
066.0	000.2500	-0028.7	007.1	292.3	050.0000	0109.7	087.0	49.56*	45.10
067.0	000.2500	-0030.4	007.1	292.2	050.0000	0109.6	086.9	49.58*	45.18
068.0	000.2500	-0032.1	007.1	292.2	050.0000	0109.6	086.8	49.60*	45.26
069.0	000.2500	-0033.9	007.1	292.1	050.0000	0109.6	086.8	49.62*	45.34
070.0	000.2500	-0035.6	007.1	292.1	050.0000	0109.5	086.7	49.64*	45.42
071.0	000.2500	-0037.0	007.1	292.0	050.0000	0109.5	086.6	49.67*	45.49
072.0	000.2500	-0039.1	007.1	291.9	050.0000	0109.5	086.5	49.69*	45.56
073.0	000.2500	-0041.0	007.1	291.9	050.0000	0109.4	086.4	49.71*	45.64
074.0	000.2500	-0042.0	007.1	291.8	050.0000	0109.4	086.4	49.72*	45.71
075.0	000.2500	-0042.9	007.1	291.7	050.0000	0109.3	086.3	49.74*	45.77
076.0	000.2500	-0044.5	007.1	291.7	050.0000	0109.3	086.2	49.76*	45.84
077.0	000.2500	-0046.5	007.1	291.6	050.0000	0109.3	086.1	49.78*	45.90
078.0	000.2500	-0048.3	007.1	291.5	050.0000	0109.2	086.1	49.80*	45.97
079.0	000.2500	-0050.5	007.1	291.5	050.0000	0109.2	086.0	49.81*	46.03
080.0	000.2500	-0052.4	007.1	291.4	050.0000	0109.1	085.9	49.83*	46.08
081.0	000.2450	-0053.7	007.1	291.3	050.0000	0109.1	085.9	49.84*	46.11
082.0	000.2401	-0055.1	007.0	291.2	050.0000	0109.0	085.9	49.84*	46.12
083.0	000.2352	-0055.4	007.0	291.1	050.0000	0109.0	085.9	49.85*	46.14
084.0	000.2304	-0054.4	006.9	291.1	050.0000	0108.9	085.8	49.85*	46.15
085.0	000.2256	-0053.3	006.9	291.0	050.0000	0108.8	085.8	49.85*	46.16
086.0	000.2209	-0051.3	006.9	290.9	050.0000	0108.8	085.8	49.85*	46.17
087.0	000.2162	-0048.7	006.8	290.8	050.0000	0108.7	085.8	49.85*	46.17
088.0	000.2116	-0046.1	006.8	290.7	050.0000	0108.6	085.8	49.85*	46.17
089.0	000.2070	-0043.5	006.8	290.7	050.0000	0108.5	085.8	49.85*	46.17
090.0	000.2025	-0041.2	006.7	290.6	050.0000	0108.4	085.8	49.85*	46.16
091.0	000.1980	-0038.9	006.7	290.5	050.0000	0108.4	085.8	49.85*	46.15
092.0	000.1936	-0036.6	006.7	290.4	050.0000	0108.3	085.8	49.84*	46.14
093.0	000.1892	-0034.1	006.6	290.3	050.0000	0108.2	085.8	49.84*	46.12
094.0	000.1849	-0032.7	006.6	290.2	050.0000	0108.1	085.8	49.83*	46.10
095.0	000.1806	-0031.7	006.5	290.2	050.0000	0108.0	085.8	49.82*	46.08
096.0	000.1764	-0031.3	006.5	290.1	050.0000	0107.9	085.8	49.82*	46.05
097.0	000.1722	-0031.0	006.5	290.0	050.0000	0107.8	085.8	49.81*	46.02
098.0	000.1681	-0031.0	006.4	289.9	050.0000	0107.7	085.8	49.80*	45.99

MUNN-REESE, INC.

Broadcast Engineering Consultants

COLDWATER, MI 49036

Exhibit 13.6a

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	
099.0	000.1640	-0031.2	006.4	289.8	050.0000	0107.5	085.8	49.79*	45.96
100.0	000.1600	-0031.1	006.3	289.8	050.0000	0107.4	085.8	49.78*	45.92
101.0	000.1600	-0030.3	006.3	289.7	050.0000	0107.3	085.8	49.78*	45.92
102.0	000.1600	-0029.9	006.3	289.6	050.0000	0107.2	085.8	49.78*	45.92
103.0	000.1600	-0030.5	006.3	289.5	050.0000	0107.1	085.8	49.78*	45.91
104.0	000.1600	-0032.5	006.3	289.5	050.0000	0107.0	085.8	49.77*	45.90
105.0	000.1600	-0035.3	006.3	289.4	050.0000	0106.9	085.8	49.77*	45.89
106.0	000.1600	-0039.5	006.3	289.3	050.0000	0106.7	085.8	49.77*	45.88
107.0	000.1600	-0045.1	006.3	289.3	050.0000	0106.6	085.8	49.76*	45.86
108.0	000.1600	-0050.6	006.3	289.2	050.0000	0106.5	085.8	49.76*	45.85
109.0	000.1600	-0055.1	006.3	289.1	050.0000	0106.3	085.8	49.75*	45.82
110.0	000.1600	-0057.6	006.3	289.0	050.0000	0106.2	085.8	49.74*	45.80
111.0	000.1640	-0058.6	006.4	289.0	050.0000	0106.1	085.7	49.75*	45.81
112.0	000.1681	-0058.7	006.4	288.9	050.0000	0105.9	085.7	49.75*	45.82
113.0	000.1722	-0058.7	006.5	288.8	050.0000	0105.7	085.7	49.75*	45.82
114.0	000.1764	-0058.9	006.5	288.7	050.0000	0105.6	085.7	49.75*	45.83
115.0	000.1806	-0058.9	006.5	288.6	050.0000	0105.4	085.6	49.75*	45.83
116.0	000.1849	-0058.5	006.6	288.6	050.0000	0105.2	085.6	49.75*	45.82
117.0	000.1892	-0057.4	006.6	288.5	050.0000	0105.0	085.6	49.74*	45.81
118.0	000.1936	-0055.9	006.7	288.4	050.0000	0104.9	085.6	49.74*	45.80
119.0	000.1980	-0053.5	006.7	288.3	050.0000	0104.7	085.5	49.74*	45.79
120.0	000.2025	-0050.9	006.7	288.2	050.0000	0104.5	085.5	49.73*	45.77
121.0	000.2070	-0047.9	006.8	288.2	050.0000	0104.3	085.5	49.72*	45.75
122.0	000.2116	-0043.6	006.8	288.1	050.0000	0104.1	085.5	49.72*	45.73
123.0	000.2162	-0039.4	006.8	288.0	050.0000	0103.9	085.5	49.71*	45.70
124.0	000.2209	-0036.1	006.9	287.9	050.0000	0103.7	085.5	49.70*	45.68
125.0	000.2256	-0034.3	006.9	287.8	050.0000	0103.6	085.5	49.69*	45.65
126.0	000.2304	-0033.7	006.9	287.7	050.0000	0103.4	085.5	49.68*	45.61
127.0	000.2352	-0033.3	007.0	287.7	050.0000	0103.2	085.5	49.67*	45.58
128.0	000.2401	-0032.8	007.0	287.6	050.0000	0103.0	085.5	49.66*	45.54
129.0	000.2450	-0032.4	007.1	287.5	050.0000	0102.8	085.5	49.65*	45.50
130.0	000.2500	-0032.5	007.1	287.4	050.0000	0102.7	085.6	49.64*	45.46
131.0	000.2500	-0031.8	007.1	287.3	050.0000	0102.5	085.6	49.62*	45.39
132.0	000.2500	-0029.4	007.1	287.3	050.0000	0102.4	085.7	49.60*	45.31
133.0	000.2500	-0025.7	007.1	287.2	050.0000	0102.3	085.7	49.58*	45.23
134.0	000.2500	-0021.3	007.1	287.1	050.0000	0102.1	085.8	49.55*	45.16
135.0	000.2500	-0016.3	007.1	287.0	050.0000	0102.0	085.8	49.53*	45.08
136.0	000.2500	-0010.6	007.1	287.0	050.0000	0101.9	085.9	49.51*	45.00
137.0	000.2500	-0004.6	007.1	286.9	050.0000	0101.7	086.0	49.49*	44.91
138.0	000.2500	0000.5	007.1	286.8	050.0000	0101.6	086.0	49.46*	44.83
139.0	000.2500	0003.8	007.1	286.7	050.0000	0101.5	086.1	49.44*	44.75
140.0	000.2500	0005.4	007.1	286.7	050.0000	0101.4	086.2	49.41*	44.66
141.0	000.2500	0005.9	007.1	286.6	050.0000	0101.3	086.2	49.39*	44.57
142.0	000.2500	0005.9	007.1	286.5	050.0000	0101.2	086.3	49.37*	44.48
143.0	000.2500	0005.2	007.1	286.5	050.0000	0101.1	086.4	49.34*	44.39
144.0	000.2500	0003.6	007.1	286.4	050.0000	0101.0	086.4	49.31*	44.30
145.0	000.2500	0002.5	007.1	286.4	050.0000	0100.9	086.5	49.29*	44.21

Exhibit 13.6a

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

WWLI BMLH20070206ABO

CH286D.P

Channel = 286B

Max ERP = 50 kW

RCAMSL = 214 m

N. Lat. 41 48 24.0

W. Lng. 71 28 13.0

Protected

54 dBu

Channel = 286D

Max ERP = 0.25 kW

RCAMSL = 114 m

N. Lat. 42 04 25.0

W. Lng. 72 31 29.0

Interfering

34 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
244.0	050.0000	0102.0	057.4	146.7	000.2500	0004.2	065.7	26.67	
245.0	050.0000	0101.0	057.2	146.4	000.2500	0003.7	064.8	26.85	
246.0	050.0000	0100.9	057.2	146.3	000.2500	0003.4	063.8	27.04	
247.0	050.0000	0101.6	057.4	146.3	000.2500	0003.4	062.8	27.23	
248.0	050.0000	0103.1	057.7	146.4	000.2500	0003.5	061.7	27.44	
249.0	050.0000	0104.8	058.0	146.5	000.2500	0003.7	060.7	27.65	
250.0	050.0000	0106.1	058.2	146.5	000.2500	0003.8	059.6	27.86	
251.0	050.0000	0106.6	058.3	146.3	000.2500	0003.5	058.6	28.07	
252.0	050.0000	0106.2	058.2	146.0	000.2500	0003.0	057.7	28.27	
253.0	050.0000	0105.6	058.1	145.6	000.2500	0002.6	056.7	28.47	
254.0	050.0000	0105.6	058.1	145.3	000.2500	0002.4	055.7	28.68	
255.0	050.0000	0105.9	058.2	145.1	000.2500	0002.4	054.8	28.89	
256.0	050.0000	0106.1	058.2	144.7	000.2500	0002.7	053.8	29.10	
257.0	050.0000	0106.4	058.3	144.4	000.2500	0003.1	052.8	29.31	
258.0	050.0000	0107.3	058.4	144.1	000.2500	0003.4	051.8	29.52	
259.0	050.0000	0108.1	058.6	143.8	000.2500	0003.9	050.8	29.74	
260.0	050.0000	0108.5	058.7	143.4	000.2500	0004.7	049.9	29.95	
261.0	050.0000	0107.8	058.5	142.7	000.2500	0005.5	049.0	30.13	
262.0	050.0000	0106.5	058.3	141.9	000.2500	0006.0	048.2	30.30	
263.0	050.0000	0105.2	058.1	141.0	000.2500	0005.9	047.5	30.47	
264.0	050.0000	0103.8	057.8	140.1	000.2500	0005.5	046.8	30.63	
265.0	050.0000	0101.6	057.4	139.0	000.2500	0003.8	046.2	30.78	
266.0	050.0000	0099.4	056.9	137.8	000.2500	-0000.2	045.6	30.91	
267.0	050.0000	0097.2	056.5	136.6	000.2500	-0006.8	045.1	31.04	
268.0	050.0000	0095.9	056.2	135.5	000.2500	-0013.4	044.5	31.19	
269.0	050.0000	0094.5	056.0	134.4	000.2500	-0019.4	044.0	31.33	
270.0	050.0000	0093.1	055.7	133.2	000.2500	-0024.7	043.5	31.46	
271.0	050.0000	0091.9	055.4	132.1	000.2500	-0029.1	043.1	31.60	
272.0	050.0000	0091.1	055.3	131.0	000.2500	-0031.8	042.5	31.74	

Exhibit 13.6a

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
273.0	050.0000	0090.3	055.1	129.8	000.2490	-0032.5	042.1	31.86
274.0	050.0000	0089.6	054.9	128.6	000.2431	-0032.4	041.6	31.89
275.0	050.0000	0089.5	054.9	127.5	000.2377	-0033.1	041.1	31.95
276.0	050.0000	0090.3	055.1	126.5	000.2328	-0033.5	040.5	32.06
277.0	050.0000	0091.2	055.3	125.4	000.2277	-0033.9	039.8	32.17
278.0	050.0000	0092.1	055.5	124.3	000.2225	-0035.4	039.2	32.26
279.0	050.0000	0093.2	055.7	123.2	000.2171	-0038.6	038.5	32.37
280.0	050.0000	0094.6	056.0	122.0	000.2117	-0043.5	037.9	32.47
281.0	050.0000	0096.3	056.3	120.8	000.2062	-0048.5	037.2	32.59
282.0	050.0000	0097.9	056.7	119.6	000.2005	-0052.1	036.6	32.69
283.0	050.0000	0099.1	056.9	118.2	000.1943	-0055.5	036.1	32.73
284.0	050.0000	0099.6	057.0	116.7	000.1878	-0057.8	035.7	32.71
285.0	050.0000	0099.8	057.0	115.1	000.1811	-0058.9	035.5	32.64
286.0	050.0000	0100.5	057.2	113.6	000.1746	-0058.9	035.2	32.59
287.0	050.0000	0101.9	057.4	112.0	000.1681	-0058.7	034.8	32.57
288.0	050.0000	0103.9	057.8	110.4	000.1615	-0058.0	034.3	32.56
289.0	050.0000	0106.1	058.2	108.7	000.1600	-0053.9	033.9	32.68
290.0	050.0000	0107.8	058.5	107.0	000.1600	-0044.9	033.6	32.79
291.0	050.0000	0108.9	058.7	105.2	000.1600	-0035.9	033.5	32.84
292.0	050.0000	0109.5	058.8	103.4	000.1600	-0031.2	033.5	32.84
293.0	050.0000	0110.0	058.9	101.7	000.1600	-0030.0	033.6	32.81
294.0	050.0000	0110.4	059.0	099.9	000.1603	-0031.2	033.7	32.76
295.0	050.0000	0110.8	059.1	098.2	000.1672	-0031.1	033.9	32.87
296.0	050.0000	0110.8	059.1	096.6	000.1741	-0031.0	034.2	32.94
297.0	050.0000	0110.9	059.1	094.9	000.1809	-0031.8	034.5	32.97
298.0	050.0000	0111.1	059.1	093.3	000.1877	-0033.5	034.9	33.00
299.0	050.0000	0111.5	059.2	091.8	000.1946	-0037.2	035.3	33.02
300.0	050.0000	0112.0	059.3	090.2	000.2015	-0040.7	035.7	33.03
301.0	050.0000	0112.5	059.4	088.7	000.2083	-0044.2	036.1	33.01
302.0	050.0000	0112.6	059.4	087.3	000.2147	-0047.8	036.7	32.95
303.0	050.0000	0112.6	059.4	086.0	000.2208	-0051.2	037.3	32.87
304.0	050.0000	0112.7	059.4	084.8	000.2268	-0053.5	037.9	32.77
305.0	050.0000	0113.4	059.5	083.4	000.2331	-0055.1	038.5	32.70
306.0	050.0000	0114.8	059.8	082.1	000.2398	-0055.1	039.0	32.66
307.0	050.0000	0116.3	060.0	080.7	000.2465	-0053.3	039.5	32.60
308.0	050.0000	0117.4	060.2	079.5	000.2500	-0051.5	040.2	32.46
309.0	050.0000	0117.7	060.2	078.5	000.2500	-0049.3	040.9	32.22
310.0	050.0000	0117.1	060.1	077.6	000.2500	-0047.6	041.8	31.96
311.0	050.0000	0115.8	059.9	077.0	000.2500	-0046.5	042.8	31.68
312.0	050.0000	0114.5	059.7	076.4	000.2500	-0045.5	043.7	31.40
313.0	050.0000	0113.6	059.6	075.8	000.2500	-0044.1	044.7	31.15
314.0	050.0000	0113.4	059.5	075.2	000.2500	-0043.1	045.6	30.92
315.0	050.0000	0113.8	059.6	074.4	000.2500	-0042.3	046.4	30.71
316.0	050.0000	0114.3	059.7	073.7	000.2500	-0041.8	047.3	30.51
317.0	050.0000	0114.7	059.7	073.1	000.2500	-0041.1	048.2	30.31
318.0	050.0000	0115.5	059.9	072.4	000.2500	-0039.9	049.1	30.12

Exhibit 13.6b

Contour Protection Studies Toward Select Station(s)

Saga Communications Of New England, Llc

FMCommander Single Allocation Study - 10-07-2016 - NGDC 30 SEC
CH286D.P's Overlaps (In= 14.29 km, Out= 0.24 km)

CH286D.P CH 286 D DA
Lat= 42 04 25.0, Lng= 72 31 29.0
0.25 kW 31.4 m HAAT, 114 m COR
Prot.= 60 dBu, Intef.= 100 dBu

WWEI CH 288 A 73.215 Z BMLH20141103AER
Lat= 42 14 29.0, Lng= 72 38 57.0
0.72 kW 280 m HAAT, 377 m COR
Prot.= 60 dBu, Intef.= 100 dBu

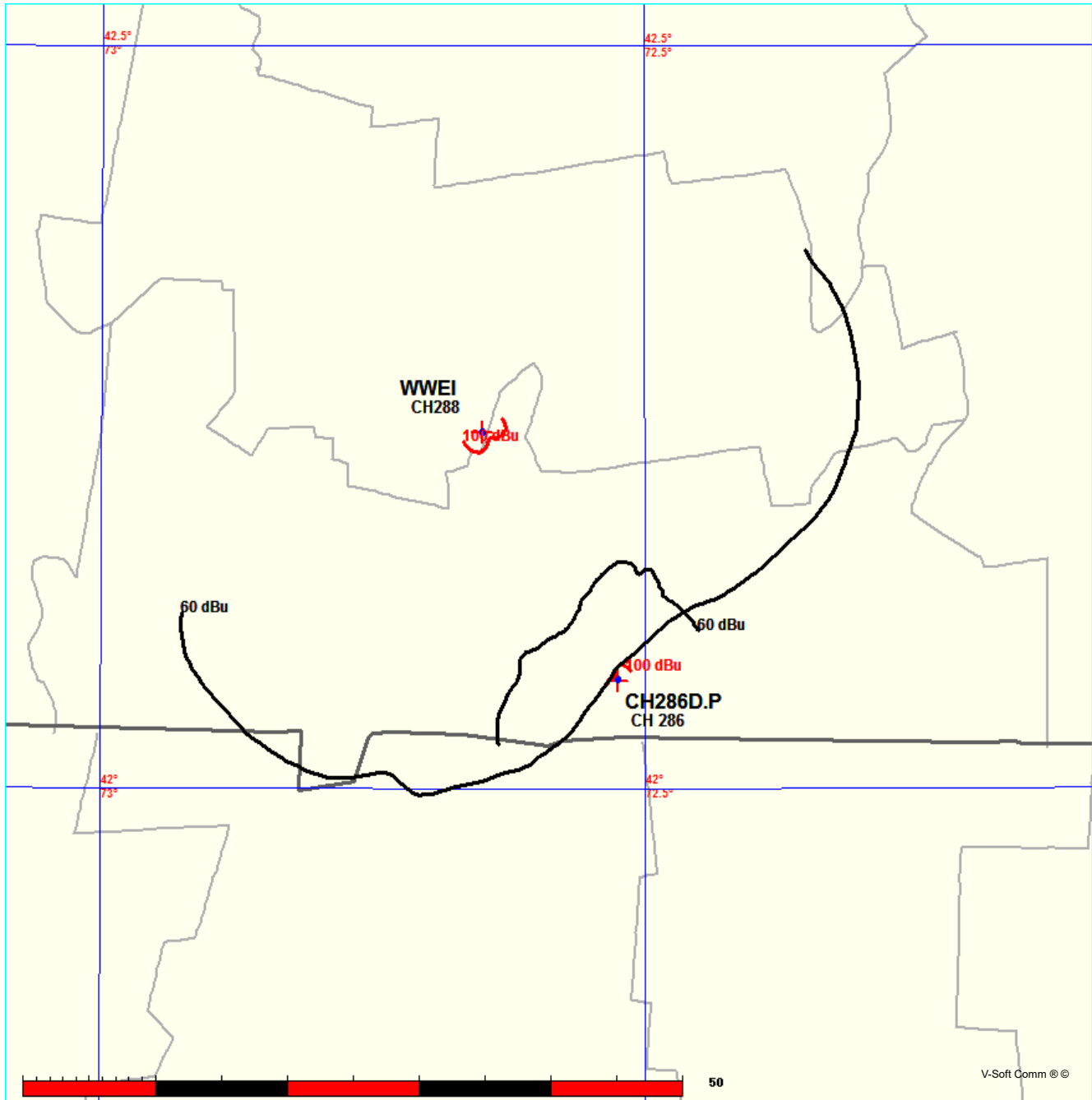


Exhibit 13.6b

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOVer Analysis

CH286D.P

WWEI BMLH20141103AER

Channel = 286D

Max ERP = 0.25 kW

RCAMSL = 114 m

N. Lat. 42 04 25.0

W. Lng. 72 31 29.0

Protected

60 dBu

Channel = 288A

Max ERP = 0.72 kW

RCAMSL = 377 m

N. Lat. 42 14 29.0

W. Lng. 72 38 57.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
289.0	000.2500	0068.5	010.8	179.8	000.5044	0291.5	015.1	69.77	
290.0	000.2500	0066.9	010.7	179.1	000.4916	0292.7	015.0	69.81	
291.0	000.2500	0065.5	010.6	178.5	000.4795	0293.9	014.9	69.81	
292.0	000.2500	0064.6	010.5	178.0	000.4695	0294.9	014.7	69.91	
293.0	000.2500	0064.3	010.5	177.6	000.4622	0295.7	014.6	70.06	
294.0	000.2500	0064.1	010.5	177.2	000.4554	0296.6	014.4	70.21	
295.0	000.2500	0063.6	010.4	176.8	000.4466	0298.3	014.3	70.36	
296.0	000.2500	0062.9	010.4	176.2	000.4369	0300.6	014.1	70.50	
297.0	000.2500	0062.4	010.4	175.8	000.4279	0302.8	014.0	70.65	
298.0	000.2500	0062.5	010.4	175.4	000.4212	0304.5	013.8	70.83	
299.0	000.2500	0062.6	010.4	175.0	000.4141	0306.3	013.7	71.01	
300.0	000.2500	0062.3	010.3	174.5	000.4048	0308.7	013.6	71.16	
301.0	000.2500	0061.4	010.3	173.8	000.3932	0311.4	013.4	71.25	
302.0	000.2500	0060.6	010.2	173.1	000.3813	0313.8	013.3	71.32	
303.0	000.2500	0060.0	010.2	172.5	000.3704	0315.7	013.2	71.40	
304.0	000.2500	0059.6	010.1	171.9	000.3601	0317.1	013.1	71.47	
305.0	000.2500	0059.5	010.1	171.3	000.3506	0318.1	013.0	71.55	
306.0	000.2500	0059.5	010.1	170.8	000.3419	0318.8	012.9	71.64	
307.0	000.2500	0059.9	010.2	170.3	000.3340	0319.5	012.7	71.76	
308.0	000.2500	0059.9	010.2	169.7	000.3253	0320.2	012.6	71.83	
309.0	000.2500	0059.6	010.1	169.0	000.3166	0321.2	012.5	71.88	
310.0	000.2500	0059.1	010.1	168.3	000.3073	0322.4	012.4	71.91	
311.0	000.2500	0058.5	010.1	167.5	000.2977	0323.9	012.3	71.91	
312.0	000.2500	0058.0	010.0	166.7	000.2882	0325.4	012.3	71.91	
313.0	000.2500	0057.7	010.0	166.0	000.2793	0326.7	012.2	71.92	
314.0	000.2500	0057.7	010.0	165.3	000.2710	0327.7	012.1	71.95	
315.0	000.2500	0057.9	010.0	164.6	000.2631	0328.2	012.0	71.98	
316.0	000.2500	0058.2	010.0	163.9	000.2553	0328.3	011.9	72.02	
317.0	000.2500	0058.5	010.1	163.3	000.2475	0328.1	011.8	72.04	
318.0	000.2500	0059.0	010.1	162.6	000.2399	0327.7	011.7	72.06	
319.0	000.2500	0059.5	010.1	161.9	000.2320	0327.1	011.6	72.06	
320.0	000.2500	0059.7	010.2	161.1	000.2234	0326.2	011.5	71.99	
321.0	000.2500	0059.4	010.1	160.2	000.2143	0325.2	011.5	71.84	

Exhibit 13.6b

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
322.0	000.2500	0059.0	010.1	159.3	000.2069	0324.2	011.4	71.70
323.0	000.2500	0058.7	010.1	158.4	000.2004	0323.1	011.4	71.57
324.0	000.2500	0059.0	010.1	157.6	000.1943	0322.0	011.3	71.51
325.0	000.2500	0059.9	010.2	156.8	000.1884	0321.2	011.2	71.52
326.0	000.2500	0060.6	010.2	156.0	000.1824	0320.9	011.1	71.51
327.0	000.2500	0060.8	010.2	155.1	000.1761	0320.8	011.1	71.42
328.0	000.2500	0060.8	010.2	154.1	000.1698	0320.9	011.1	71.31
329.0	000.2500	0061.0	010.3	153.2	000.1636	0321.1	011.0	71.20
330.0	000.2500	0061.2	010.3	152.3	000.1574	0321.4	011.0	71.07
331.0	000.2500	0061.1	010.3	151.4	000.1513	0321.6	011.0	70.90
332.0	000.2500	0061.1	010.3	150.4	000.1454	0321.7	011.0	70.73
333.0	000.2500	0061.2	010.3	149.5	000.1423	0321.7	011.0	70.63
334.0	000.2500	0060.8	010.2	148.6	000.1417	0321.5	011.1	70.54
335.0	000.2500	0059.8	010.2	147.7	000.1411	0321.2	011.2	70.38
336.0	000.2500	0059.0	010.1	146.9	000.1406	0320.9	011.3	70.22
337.0	000.2500	0058.5	010.1	146.0	000.1400	0320.9	011.3	70.09
338.0	000.2500	0057.9	010.0	145.2	000.1395	0320.9	011.4	69.94
339.0	000.2500	0056.9	009.9	144.5	000.1389	0321.0	011.5	69.74
340.0	000.2500	0055.6	009.8	143.8	000.1382	0321.2	011.7	69.49
341.0	000.2500	0054.5	009.7	143.2	000.1375	0321.3	011.8	69.24
342.0	000.2500	0053.8	009.6	142.5	000.1368	0321.4	011.9	69.06
343.0	000.2500	0053.5	009.6	141.8	000.1361	0321.5	012.0	68.91
344.0	000.2500	0053.2	009.6	141.1	000.1355	0321.6	012.1	68.76
345.0	000.2500	0053.0	009.6	140.4	000.1348	0321.7	012.2	68.62
346.0	000.2500	0053.0	009.6	139.7	000.1343	0321.9	012.3	68.50
347.0	000.2500	0053.0	009.6	139.0	000.1341	0322.0	012.4	68.38
348.0	000.2500	0052.8	009.5	138.4	000.1340	0322.1	012.5	68.24
349.0	000.2500	0052.5	009.5	137.8	000.1338	0322.3	012.6	68.08
350.0	000.2500	0052.1	009.5	137.2	000.1337	0322.4	012.7	67.92
351.0	000.2500	0051.7	009.4	136.7	000.1336	0322.6	012.8	67.74
352.0	000.2500	0051.4	009.4	136.2	000.1334	0322.7	012.9	67.57
353.0	000.2500	0051.3	009.4	135.6	000.1333	0322.9	013.0	67.43
354.0	000.2500	0051.2	009.4	135.1	000.1332	0323.1	013.1	67.28
355.0	000.2500	0051.1	009.4	134.6	000.1343	0323.2	013.3	67.17
356.0	000.2500	0050.7	009.3	134.2	000.1354	0323.3	013.4	67.02
357.0	000.2500	0050.4	009.3	133.7	000.1366	0323.5	013.5	66.89
358.0	000.2500	0050.2	009.3	133.3	000.1378	0323.5	013.7	66.75
359.0	000.2500	0050.0	009.3	132.9	000.1389	0323.6	013.8	66.62
000.0	000.2500	0049.7	009.2	132.5	000.1400	0323.6	013.9	66.48
001.0	000.2500	0049.4	009.2	132.2	000.1410	0323.7	014.1	66.34
002.0	000.2500	0049.2	009.2	131.8	000.1419	0323.7	014.2	66.19
003.0	000.2500	0048.8	009.1	131.5	000.1427	0323.7	014.3	66.03
004.0	000.2500	0048.0	009.1	131.4	000.1431	0323.8	014.5	65.83
005.0	000.2500	0047.2	009.0	131.3	000.1434	0323.8	014.7	65.62
006.0	000.2500	0046.4	008.9	131.2	000.1436	0323.8	014.9	65.42
007.0	000.2500	0045.6	008.8	131.2	000.1437	0323.8	015.1	65.24

Exhibit 13.6b

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

WWEI BMLH20141103AER

CH286D.P

Channel = 288A

Max ERP = 0.72 kW

RCAMSL = 377 m

N. Lat. 42 14 29.0

W. Lng. 72 38 57.0

Protected

60 dBu

Channel = 286D

Max ERP = 0.25 kW

RCAMSL = 114 m

N. Lat. 42 04 25.0

W. Lng. 72 31 29.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
106.0	000.4240	0301.9	025.6	051.2	000.2500	0009.5	018.4	44.09	
107.0	000.4053	0302.6	025.4	051.4	000.2500	0009.5	017.9	44.50	
108.0	000.3871	0303.1	025.1	051.5	000.2500	0009.5	017.4	44.92	
109.0	000.3692	0303.5	024.9	051.5	000.2500	0009.5	016.9	45.35	
110.0	000.3518	0304.2	024.6	051.6	000.2500	0009.5	016.4	45.77	
111.0	000.3381	0305.1	024.4	051.8	000.2500	0009.5	016.0	46.17	
112.0	000.3248	0306.0	024.2	052.0	000.2500	0009.4	015.5	46.57	
113.0	000.3116	0307.2	024.0	052.1	000.2500	0009.4	015.0	46.97	
114.0	000.2988	0308.4	023.8	052.2	000.2500	0009.3	014.6	47.47	
115.0	000.2862	0309.9	023.7	052.4	000.2500	0009.3	014.1	48.02	
116.0	000.2739	0311.5	023.5	052.4	000.2500	0009.2	013.7	48.59	
117.0	000.2619	0313.2	023.3	052.5	000.2500	0009.2	013.2	49.19	
118.0	000.2501	0314.9	023.1	052.5	000.2500	0009.2	012.8	49.82	
119.0	000.2386	0316.7	022.9	052.4	000.2500	0009.2	012.3	50.47	
120.0	000.2274	0318.4	022.7	052.2	000.2500	0009.3	011.9	51.14	
121.0	000.2186	0320.0	022.5	052.2	000.2500	0009.3	011.5	51.81	
122.0	000.2100	0321.4	022.4	052.1	000.2500	0009.4	011.0	52.49	
123.0	000.2015	0322.5	022.2	051.9	000.2500	0009.4	010.6	53.21	
124.0	000.1932	0323.1	022.0	051.5	000.2500	0009.5	010.2	53.94	
125.0	000.1851	0323.4	021.8	050.9	000.2500	0009.5	009.8	54.69	
126.0	000.1771	0323.5	021.5	050.2	000.2500	0009.6	009.3	55.45	
127.0	000.1694	0323.5	021.3	049.3	000.2500	0010.6	008.9	56.22	
128.0	000.1618	0323.6	021.1	048.3	000.2500	0012.9	008.5	56.98	
129.0	000.1543	0323.7	020.8	047.1	000.2500	0016.1	008.1	57.75	
130.0	000.1471	0323.8	020.6	045.7	000.2500	0019.3	007.7	58.53	
131.0	000.1442	0323.8	020.5	045.2	000.2500	0020.3	007.4	59.36	
132.0	000.1414	0323.7	020.4	044.5	000.2500	0021.5	007.0	60.24	
133.0	000.1386	0323.6	020.3	043.7	000.2500	0022.9	006.6	61.15	
134.0	000.1359	0323.4	020.2	042.8	000.2500	0024.2	006.3	62.09	
135.0	000.1331	0323.1	020.1	041.6	000.2500	0025.3	005.9	63.07	
136.0	000.1334	0322.8	020.1	041.4	000.2500	0025.5	005.6	64.13	
137.0	000.1336	0322.5	020.1	041.0	000.2500	0025.8	005.2	65.23	
138.0	000.1339	0322.2	020.1	040.5	000.2500	0026.1	004.9	66.36	

MUNN-REESE, INC.

Broadcast Engineering Consultants

COLDWATER, MI 49036

Exhibit 13.6b

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
139.0	000.1341	0322.0	020.1	040.0	000.2500	0026.4	004.5	67.56
140.0	000.1344	0321.8	020.1	039.2	000.2500	0026.8	004.2	68.92
141.0	000.1354	0321.6	020.1	038.6	000.2500	0027.0	003.8	70.46
142.0	000.1364	0321.5	020.2	037.9	000.2500	0027.2	003.5	72.14
143.0	000.1374	0321.3	020.2	036.8	000.2500	0026.9	003.1	73.95
144.0	000.1384	0321.1	020.2	035.3	000.2500	0025.0	002.8	76.08
145.0	000.1394	0320.9	020.2	033.2	000.2500	0021.3	002.5	78.55
146.0	000.1400	0320.9	020.3	030.1	000.2500	0023.9	002.1	81.24
147.0	000.1407	0321.0	020.3	025.8	000.2500	0034.3	001.8	85.23
148.0	000.1413	0321.3	020.3	019.7	000.2500	0040.3	001.5	97.41
149.0	000.1419	0321.6	020.4	010.3	000.2500	0039.5	001.2	99.21
150.0	000.1426	0321.7	020.4	355.6	000.1651	0050.9	001.0	99.15
151.0	000.1489	0321.7	020.6	335.8	000.0479	0059.1	000.7	96.98
152.0	000.1554	0321.4	020.8	298.5	000.0320	0062.6	000.6	96.87
153.0	000.1620	0321.2	021.0	264.0	000.1024	0063.6	000.7	99.71
154.0	000.1688	0320.9	021.2	246.5	000.1744	0071.0	001.1	98.85
155.0	000.1757	0320.8	021.4	237.9	000.2119	0072.9	001.4	97.02
156.0	000.1827	0320.9	021.6	233.1	000.2346	0076.5	001.8	90.65
157.0	000.1899	0321.4	021.8	230.0	000.2500	0076.6	002.3	87.59
158.0	000.1972	0322.5	022.1	227.7	000.2500	0076.8	002.7	84.53
159.0	000.2047	0323.8	022.3	226.1	000.2500	0077.9	003.2	82.02
160.0	000.2123	0325.0	022.6	225.2	000.2500	0078.8	003.6	79.95
161.0	000.2228	0326.1	022.9	223.8	000.2500	0080.4	004.1	78.01
162.0	000.2336	0327.2	023.1	222.9	000.2500	0081.2	004.6	76.21
163.0	000.2446	0328.0	023.4	222.4	000.2500	0081.6	005.1	74.55
164.0	000.2559	0328.3	023.7	222.2	000.2500	0081.6	005.6	72.96
165.0	000.2675	0327.9	023.9	222.5	000.2500	0081.5	006.0	71.46
166.0	000.2793	0326.7	024.1	223.0	000.2500	0081.2	006.5	70.09
167.0	000.2913	0324.9	024.3	223.7	000.2500	0080.5	007.0	68.80
168.0	000.3036	0323.0	024.5	224.5	000.2500	0079.6	007.4	67.59
169.0	000.3162	0321.2	024.6	225.2	000.2500	0078.8	007.9	66.48
170.0	000.3290	0319.9	024.8	225.8	000.2500	0078.1	008.3	65.51
171.0	000.3453	0318.6	025.1	226.2	000.2500	0077.8	008.8	64.55
172.0	000.3619	0316.9	025.3	226.7	000.2500	0077.4	009.3	63.62
173.0	000.3790	0314.2	025.4	227.4	000.2500	0076.9	009.7	62.74
174.0	000.3964	0310.7	025.6	228.3	000.2500	0076.6	010.2	61.93
175.0	000.4142	0306.3	025.7	229.4	000.2500	0076.5	010.6	61.22
176.0	000.4324	0301.7	025.7	230.5	000.2476	0076.7	011.0	60.52
177.0	000.4511	0297.4	025.8	231.5	000.2426	0076.8	011.4	59.78
178.0	000.4701	0294.8	025.9	232.2	000.2390	0076.8	011.9	59.00
179.0	000.4895	0292.9	026.1	232.9	000.2359	0076.6	012.3	58.22
180.0	000.5092	0291.0	026.3	233.5	000.2328	0076.4	012.8	57.46
181.0	000.5286	0288.7	026.4	234.3	000.2291	0075.9	013.2	56.72
182.0	000.5482	0286.4	026.5	235.0	000.2254	0075.4	013.7	56.01
183.0	000.5683	0284.2	026.6	235.8	000.2219	0074.8	014.1	55.29
184.0	000.5887	0282.4	026.8	236.5	000.2187	0074.2	014.6	54.61

Exhibit 13.6c

Contour Protection Studies Toward Select Station(s)

Saga Communications Of New England, Llc

FMCommander Single Allocation Study - 10-07-2016 - NGDC 30 SEC
CH286D.P's Overlaps (In= 0.36 km, Out= 1.12 km)

CH286D.P CH 286 D DA
Lat= 42 04 25.0, Lng= 72 31 29.0
0.25 kW 31.4 m HAAT, 114 m COR
Prot.= 60 dBu, Intef.= 54 dBu

WREA-LP CH 285 L1 BLL20051207ADP
Lat= 42 11 15.0, Lng= 72 38 30.0
0.048 kW 43.14002 m HAAT, 121 m COR
Prot.= 60 dBu, Intef.= 54 dBu

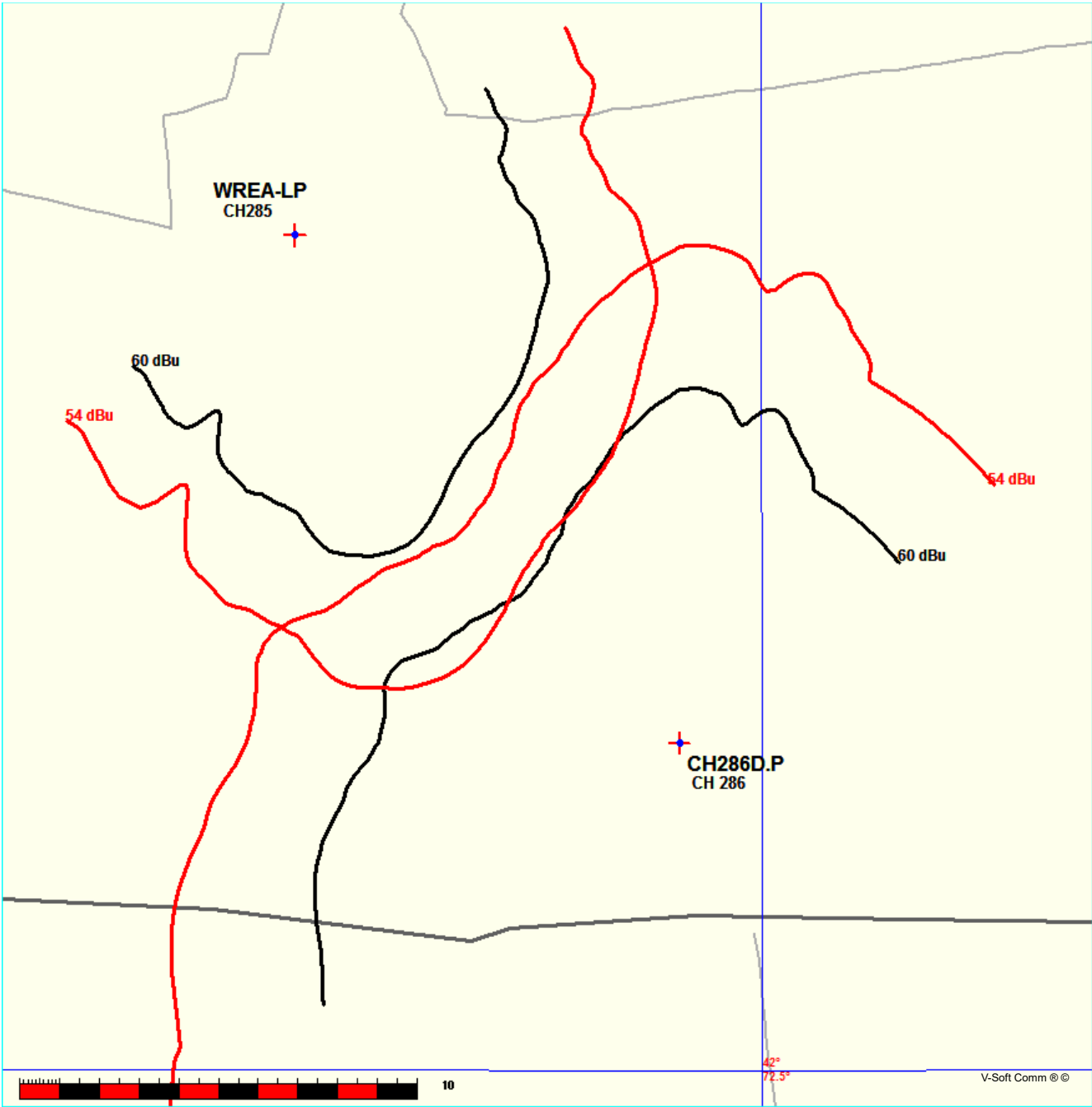


Exhibit 13.6c

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

CH286D.P

WREA-LP BLL20051207ADP

Channel = 286D
Max ERP = 0.25 kW
RCAMSL = 114 m
N. Lat. 42 04 25.0
W. Lng. 72 31 29.0
Protected
60 dBu

Channel = 285L1
Max ERP = 0.048 kW
RCAMSL = 121 m
N. Lat. 42 11 15.0
W. Lng. 72 38 30.0
Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
281.0	000.0600	0070.9	007.6	168.8	000.0480	0091.3	011.4	54.17*	0.11
282.0	000.0576	0072.0	007.5	168.5	000.0480	0091.7	011.3	54.38*	0.24
283.0	000.0552	0073.0	007.5	168.1	000.0480	0092.0	011.2	54.59*	0.37
284.0	000.0529	0073.3	007.5	167.5	000.0480	0092.6	011.1	54.79*	0.50
285.0	000.0506	0073.6	007.4	166.9	000.0480	0093.0	011.0	54.97*	0.61
286.0	000.0484	0073.1	007.3	166.1	000.0480	0093.3	011.0	55.10*	0.69
287.0	000.0462	0071.8	007.1	165.1	000.0480	0093.3	010.9	55.15*	0.72
288.0	000.0441	0070.2	007.0	164.0	000.0480	0093.3	010.9	55.17*	0.73
289.0	000.0420	0068.5	006.8	163.0	000.0480	0093.3	010.9	55.19*	0.74
290.0	000.0400	0066.9	006.7	161.9	000.0480	0093.3	010.9	55.19*	0.74
291.0	000.0390	0065.5	006.6	161.1	000.0480	0093.0	010.9	55.19*	0.74
292.0	000.0380	0064.6	006.5	160.4	000.0480	0092.5	010.9	55.20*	0.74
293.0	000.0371	0064.3	006.4	159.8	000.0480	0092.0	010.8	55.23*	0.76
294.0	000.0361	0064.1	006.4	159.2	000.0480	0091.6	010.8	55.27*	0.78
295.0	000.0352	0063.6	006.3	158.5	000.0480	0091.0	010.7	55.27*	0.78
296.0	000.0342	0062.9	006.2	157.8	000.0480	0090.2	010.7	55.23*	0.76
297.0	000.0333	0062.4	006.2	157.2	000.0480	0089.3	010.7	55.19*	0.73
298.0	000.0324	0062.5	006.1	156.6	000.0480	0088.3	010.7	55.17*	0.71
299.0	000.0315	0062.6	006.1	156.0	000.0480	0087.4	010.6	55.13*	0.69
300.0	000.0306	0062.3	006.0	155.4	000.0480	0086.2	010.6	55.05*	0.64
301.0	000.0298	0061.4	006.0	154.7	000.0480	0084.9	010.6	54.91*	0.55
302.0	000.0289	0060.6	005.9	154.0	000.0480	0083.7	010.6	54.78*	0.47
303.0	000.0281	0060.0	005.8	153.4	000.0480	0082.5	010.6	54.65*	0.39
304.0	000.0272	0059.6	005.8	152.7	000.0480	0081.4	010.6	54.54*	0.32
305.0	000.0264	0059.5	005.7	152.1	000.0480	0080.3	010.6	54.44*	0.26
306.0	000.0256	0059.5	005.7	151.6	000.0480	0079.3	010.6	54.34*	0.21
307.0	000.0248	0059.9	005.7	151.0	000.0480	0078.3	010.6	54.27*	0.16
308.0	000.0240	0059.9	005.6	150.4	000.0480	0077.1	010.6	54.14*	0.09
309.0	000.0233	0059.6	005.6	149.8	000.0480	0076.0	010.6	53.98	
310.0	000.0225	0059.1	005.5	149.2	000.0480	0074.8	010.6	53.81	
311.0	000.0225	0058.5	005.5	148.7	000.0480	0073.7	010.6	53.71	
312.0	000.0225	0058.0	005.4	148.2	000.0480	0072.8	010.6	53.61	
313.0	000.0225	0057.7	005.4	147.6	000.0480	0071.9	010.6	53.54	

Exhibit 13.6c

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
314.0	000.0225	0057.7	005.4	147.1	000.0480	0071.1	010.6	53.48
315.0	000.0225	0057.9	005.4	146.7	000.0480	0070.5	010.6	53.45
316.0	000.0225	0058.2	005.5	146.2	000.0480	0069.8	010.5	53.44
317.0	000.0225	0058.5	005.5	145.7	000.0480	0069.3	010.5	53.42
318.0	000.0225	0059.0	005.5	145.2	000.0480	0068.7	010.5	53.41
319.0	000.0225	0059.5	005.5	144.6	000.0480	0068.2	010.4	53.41
320.0	000.0225	0059.7	005.5	144.1	000.0480	0067.7	010.4	53.38
321.0	000.0233	0059.4	005.5	143.6	000.0480	0067.3	010.4	53.39
322.0	000.0240	0059.0	005.6	143.1	000.0480	0066.8	010.3	53.38
323.0	000.0248	0058.7	005.6	142.5	000.0480	0066.3	010.3	53.38
324.0	000.0256	0059.0	005.7	142.0	000.0480	0065.8	010.3	53.41
325.0	000.0264	0059.9	005.7	141.4	000.0480	0065.2	010.2	53.46
326.0	000.0272	0060.6	005.8	140.8	000.0480	0064.7	010.1	53.51
327.0	000.0281	0060.8	005.9	140.2	000.0480	0064.3	010.1	53.53
328.0	000.0289	0060.8	005.9	139.6	000.0480	0064.1	010.1	53.55
329.0	000.0298	0061.0	005.9	139.0	000.0480	0064.0	010.0	53.59
330.0	000.0306	0061.2	006.0	138.3	000.0480	0064.0	010.0	53.63
331.0	000.0333	0061.1	006.1	137.6	000.0480	0064.0	009.9	53.80
332.0	000.0361	0061.1	006.2	136.8	000.0480	0064.0	009.8	53.96
333.0	000.0390	0061.2	006.4	136.0	000.0480	0064.0	009.7	54.12* 0.07
334.0	000.0420	0060.8	006.4	135.2	000.0480	0064.0	009.7	54.21* 0.12
335.0	000.0452	0059.8	006.5	134.4	000.0480	0063.9	009.7	54.23* 0.13
336.0	000.0484	0059.0	006.6	133.7	000.0480	0063.6	009.6	54.24* 0.14
337.0	000.0518	0058.5	006.7	132.8	000.0480	0063.4	009.6	54.27* 0.15
338.0	000.0552	0057.9	006.7	132.0	000.0480	0063.1	009.6	54.27* 0.15
339.0	000.0588	0056.9	006.8	131.2	000.0480	0062.8	009.6	54.22* 0.12
340.0	000.0625	0055.6	006.8	130.6	000.0480	0062.6	009.6	54.13* 0.07
341.0	000.0676	0054.5	006.9	129.8	000.0480	0062.5	009.6	54.09* 0.05
342.0	000.0729	0053.8	007.0	128.9	000.0480	0062.4	009.6	54.10* 0.06
343.0	000.0784	0053.5	007.1	127.9	000.0480	0062.4	009.6	54.13* 0.07
344.0	000.0841	0053.2	007.2	127.0	000.0480	0062.3	009.6	54.14* 0.08
345.0	000.0900	0053.0	007.3	126.0	000.0480	0062.1	009.6	54.13* 0.08
346.0	000.0961	0053.0	007.4	124.9	000.0480	0061.8	009.6	54.12* 0.07
347.0	000.1024	0053.0	007.5	123.9	000.0480	0061.5	009.6	54.08* 0.05
348.0	000.1089	0052.8	007.6	122.8	000.0480	0061.1	009.6	54.01* 0.01
349.0	000.1156	0052.5	007.7	121.8	000.0480	0060.7	009.6	53.91
350.0	000.1225	0052.1	007.8	120.9	000.0480	0060.2	009.7	53.78
351.0	000.1296	0051.7	007.9	120.0	000.0480	0059.8	009.7	53.64
352.0	000.1369	0051.4	008.0	119.1	000.0480	0059.5	009.8	53.49
353.0	000.1444	0051.3	008.1	118.1	000.0480	0059.1	009.8	53.36
354.0	000.1521	0051.2	008.2	117.0	000.0480	0058.7	009.9	53.21
355.0	000.1600	0051.1	008.3	116.1	000.0480	0058.3	009.9	53.04
356.0	000.1681	0050.7	008.4	115.3	000.0480	0058.0	010.0	52.84
357.0	000.1764	0050.4	008.5	114.5	000.0480	0057.7	010.1	52.64
358.0	000.1849	0050.2	008.6	113.6	000.0480	0057.5	010.2	52.44

Exhibit 13.6c

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

WREA-LP BLL20051207ADP

CH286D.P

Channel = 285L1

Max ERP = 0.048 kW

RCAMSL = 121 m

N. Lat. 42 11 15.0

W. Lng. 72 38 30.0

Protected

60 dBu

Channel = 286D

Max ERP = 0.25 kW

RCAMSL = 114 m

N. Lat. 42 04 25.0

W. Lng. 72 31 29.0

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
098.0	000.0480	0055.0	006.3	344.1	000.0848	0053.1	012.2	50.90	
099.0	000.0480	0055.6	006.4	344.0	000.0843	0053.2	012.1	51.05	
100.0	000.0480	0056.0	006.4	343.9	000.0835	0053.2	012.0	51.19	
101.0	000.0480	0056.2	006.4	343.7	000.0824	0053.3	011.9	51.30	
102.0	000.0480	0056.2	006.4	343.5	000.0810	0053.3	011.8	51.40	
103.0	000.0480	0056.3	006.4	343.2	000.0797	0053.4	011.7	51.49	
104.0	000.0480	0056.3	006.4	342.9	000.0781	0053.5	011.6	51.57	
105.0	000.0480	0056.2	006.4	342.6	000.0763	0053.6	011.5	51.64	
106.0	000.0480	0056.1	006.4	342.3	000.0745	0053.7	011.4	51.69	
107.0	000.0480	0056.1	006.4	342.0	000.0728	0053.9	011.3	51.76	
108.0	000.0480	0056.2	006.4	341.7	000.0711	0054.0	011.3	51.84	
109.0	000.0480	0056.2	006.4	341.3	000.0694	0054.2	011.2	51.92	
110.0	000.0480	0056.4	006.4	341.0	000.0677	0054.5	011.1	52.01	
111.0	000.0480	0056.7	006.4	340.7	000.0661	0054.8	011.0	52.11	
112.0	000.0480	0057.0	006.5	340.4	000.0644	0055.1	010.9	52.21	
113.0	000.0480	0057.3	006.5	340.0	000.0627	0055.6	010.8	52.32	
114.0	000.0480	0057.6	006.5	339.7	000.0613	0056.1	010.7	52.46	
115.0	000.0480	0057.9	006.5	339.3	000.0599	0056.6	010.6	52.59	
116.0	000.0480	0058.3	006.5	338.9	000.0586	0057.0	010.5	52.72	
117.0	000.0480	0058.7	006.5	338.6	000.0572	0057.4	010.4	52.84	
118.0	000.0480	0059.1	006.6	338.2	000.0558	0057.8	010.3	52.93	
119.0	000.0480	0059.4	006.6	337.7	000.0543	0058.1	010.2	53.01	
120.0	000.0480	0059.8	006.6	337.3	000.0528	0058.4	010.1	53.08	
121.0	000.0480	0060.3	006.6	336.8	000.0512	0058.6	010.1	53.13	
122.0	000.0480	0060.7	006.7	336.4	000.0497	0058.8	010.0	53.18	
123.0	000.0480	0061.2	006.7	335.9	000.0480	0059.1	009.9	53.22	
124.0	000.0480	0061.6	006.7	335.4	000.0464	0059.5	009.8	53.26	
125.0	000.0480	0061.8	006.7	334.8	000.0446	0060.0	009.7	53.28	
126.0	000.0480	0062.1	006.7	334.3	000.0428	0060.6	009.7	53.30	
127.0	000.0480	0062.3	006.7	333.7	000.0410	0061.0	009.6	53.28	
128.0	000.0480	0062.4	006.7	333.0	000.0392	0061.2	009.5	53.20	
129.0	000.0480	0062.5	006.7	332.4	000.0373	0061.2	009.5	53.07	
130.0	000.0480	0062.5	006.7	331.8	000.0354	0061.1	009.4	52.93	

Exhibit 13.6c

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
131.0	000.0480	0062.8	006.8	331.1	000.0336	0061.1	009.4	52.80
132.0	000.0480	0063.1	006.8	330.5	000.0319	0061.2	009.3	52.67
133.0	000.0480	0063.4	006.8	329.8	000.0305	0061.1	009.3	52.57
134.0	000.0480	0063.7	006.8	329.1	000.0299	0061.1	009.2	52.55
135.0	000.0480	0064.0	006.8	328.4	000.0293	0060.9	009.2	52.52
136.0	000.0480	0064.0	006.8	327.7	000.0286	0060.8	009.2	52.47
137.0	000.0480	0064.0	006.8	327.0	000.0280	0060.8	009.2	52.41
138.0	000.0480	0063.9	006.8	326.2	000.0274	0060.7	009.1	52.32
139.0	000.0480	0064.0	006.8	325.5	000.0268	0060.2	009.1	52.20
140.0	000.0480	0064.2	006.8	324.8	000.0262	0059.6	009.1	52.06
141.0	000.0480	0064.8	006.9	324.0	000.0256	0059.0	009.1	51.95
142.0	000.0480	0065.8	006.9	323.3	000.0250	0058.7	009.0	51.90
143.0	000.0480	0066.8	007.0	322.5	000.0244	0058.8	009.0	51.89
144.0	000.0480	0067.6	007.0	321.7	000.0238	0059.1	008.9	51.89
145.0	000.0480	0068.5	007.0	320.9	000.0232	0059.5	008.9	51.90
146.0	000.0480	0069.6	007.1	320.1	000.0226	0059.7	008.8	51.89
147.0	000.0480	0070.9	007.2	319.2	000.0225	0059.6	008.8	51.97
148.0	000.0480	0072.5	007.2	318.3	000.0225	0059.2	008.7	52.02
149.0	000.0480	0074.3	007.3	317.4	000.0225	0058.8	008.7	52.08
150.0	000.0480	0076.3	007.4	316.4	000.0225	0058.3	008.6	52.13
151.0	000.0480	0078.3	007.5	315.4	000.0225	0058.0	008.5	52.19
152.0	000.0480	0080.1	007.6	314.4	000.0225	0057.7	008.5	52.26
153.0	000.0480	0081.9	007.7	313.3	000.0225	0057.7	008.4	52.33
154.0	000.0480	0083.7	007.8	312.2	000.0225	0057.9	008.4	52.43
155.0	000.0480	0085.5	007.9	311.1	000.0225	0058.4	008.4	52.57
156.0	000.0480	0087.3	008.0	310.0	000.0225	0059.1	008.4	52.69
157.0	000.0480	0089.0	008.1	308.9	000.0233	0059.6	008.3	52.94
158.0	000.0480	0090.4	008.1	307.8	000.0242	0059.9	008.4	53.12
159.0	000.0480	0091.4	008.2	306.8	000.0250	0059.8	008.4	53.20
160.0	000.0480	0092.2	008.2	305.8	000.0257	0059.5	008.4	53.20
161.0	000.0480	0092.9	008.3	304.9	000.0265	0059.5	008.5	53.22
162.0	000.0480	0093.3	008.3	304.1	000.0272	0059.6	008.6	53.22
163.0	000.0480	0093.3	008.3	303.3	000.0278	0059.9	008.6	53.19
164.0	000.0480	0093.3	008.3	302.6	000.0284	0060.2	008.7	53.14
165.0	000.0480	0093.3	008.3	301.9	000.0290	0060.7	008.8	53.12
166.0	000.0480	0093.3	008.3	301.2	000.0296	0061.2	008.9	53.09
167.0	000.0480	0092.9	008.3	300.7	000.0301	0061.8	009.1	53.02
168.0	000.0480	0092.1	008.2	300.2	000.0304	0062.1	009.2	52.87
169.0	000.0480	0091.2	008.2	299.9	000.0307	0062.4	009.3	52.70
170.0	000.0480	0090.5	008.1	299.5	000.0311	0062.5	009.5	52.54
171.0	000.0480	0090.0	008.1	299.0	000.0315	0062.6	009.6	52.37
172.0	000.0480	0089.2	008.1	298.7	000.0318	0062.6	009.7	52.17
173.0	000.0480	0088.3	008.0	298.5	000.0320	0062.6	009.9	51.95
174.0	000.0480	0087.1	008.0	298.3	000.0321	0062.6	010.0	51.71
175.0	000.0480	0085.0	007.9	298.3	000.0321	0062.6	010.2	51.41

Exhibit 13.6d

Contour Protection Studies Toward Select Station(s)

Saga Communications Of New England, Llc

FMCommander Single Allocation Study - 10-07-2016 - NGDC 30 SEC
CH286D.P's Overlaps (In= 3.47 km, Out= 2.59 km)

CH286D.P CH 286 D DA
Lat= 42 04 25.0, Lng= 72 31 29.0
0.25 kW 31.4 m HAAT, 114 m COR
Prot.= 60 dBu, Intef.= 100 dBu

W283CK CH 283 D DA BLFT20160411ABN
Lat= 42 08 11.0, Lng= 72 36 42.0
0.25 kW 0 m HAAT, 92 m COR
Prot.= 60 dBu, Intef.= 100 dBu

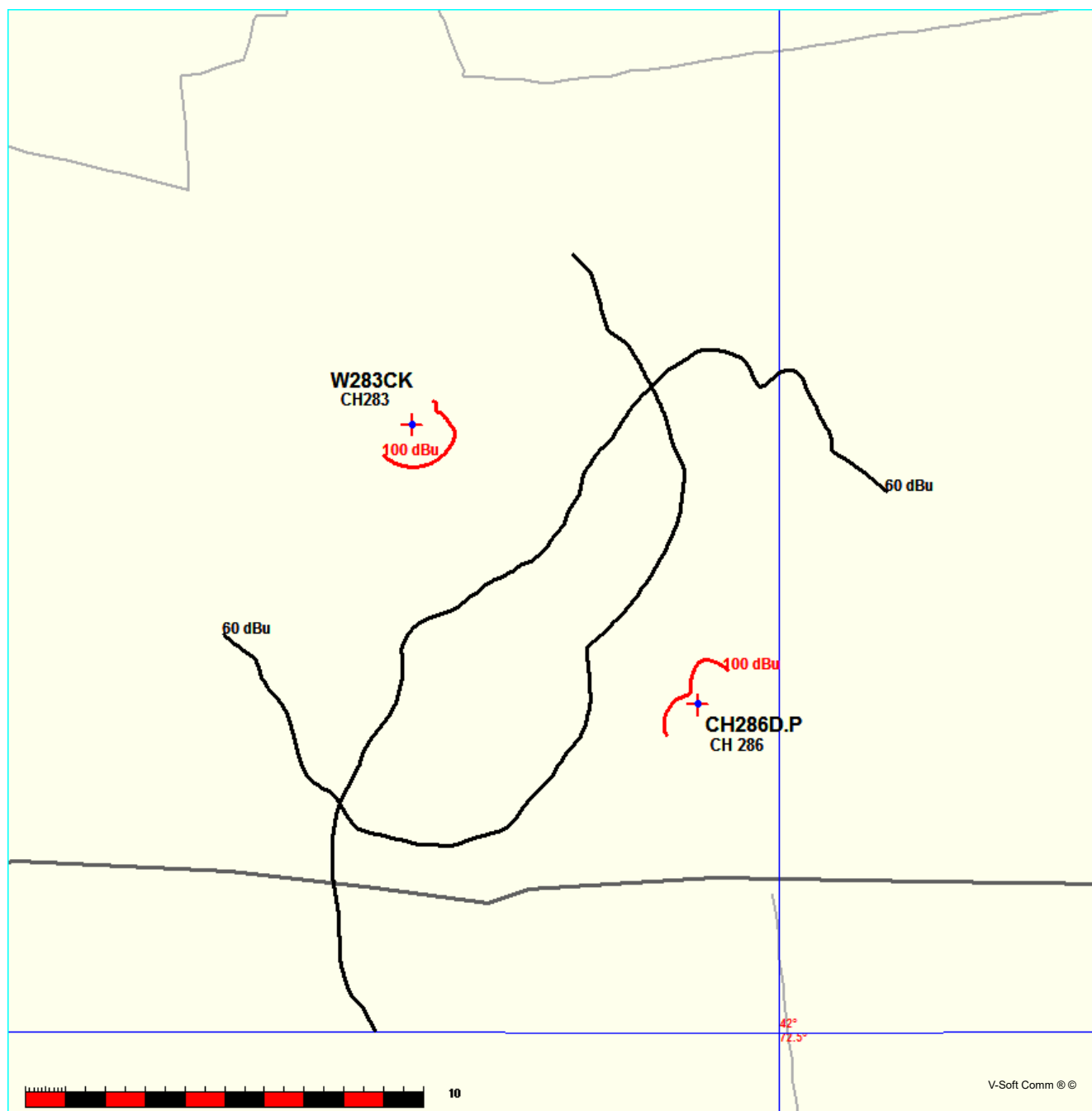


Exhibit 13.6d

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

CH286D.P

W283CK BLFT20160411ABN

Channel = 286D
Max ERP = 0.25 kW
RCAMSL = 114 m
N. Lat. 42 04 25.0
W. Lng. 72 31 29.0
Protected
60 dBu

Channel = 283D
Max ERP = 0.25 kW
RCAMSL = 92 m
N. Lat. 42 08 11.0
W. Lng. 72 36 42.0
Interfering
100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
273.0	000.0773	0061.3	007.5	182.9	000.2500	0062.2	006.6	67.50	
274.0	000.0751	0061.8	007.5	182.7	000.2500	0062.3	006.5	67.87	
275.0	000.0729	0062.6	007.5	182.5	000.2500	0062.4	006.3	68.24	
276.0	000.0708	0063.8	007.5	182.6	000.2500	0062.3	006.2	68.62	
277.0	000.0686	0065.0	007.5	182.6	000.2500	0062.3	006.1	69.01	
278.0	000.0666	0066.2	007.5	182.6	000.2500	0062.3	005.9	69.42	
279.0	000.0645	0068.0	007.6	182.8	000.2500	0062.2	005.8	69.83	
280.0	000.0625	0069.7	007.6	183.0	000.2500	0062.1	005.7	70.25	
281.0	000.0600	0070.9	007.6	182.7	000.2500	0062.3	005.5	70.70	
282.0	000.0576	0072.0	007.5	182.2	000.2500	0062.5	005.4	71.16	
283.0	000.0552	0073.0	007.5	181.7	000.2500	0062.8	005.3	71.62	
284.0	000.0529	0073.3	007.5	180.7	000.2500	0063.3	005.2	72.07	
285.0	000.0506	0073.6	007.4	179.6	000.2500	0063.9	005.1	72.51	
286.0	000.0484	0073.1	007.3	178.1	000.2500	0064.2	005.0	72.88	
287.0	000.0462	0071.8	007.1	176.0	000.2500	0064.9	004.9	73.20	
288.0	000.0441	0070.2	007.0	173.7	000.2500	0064.8	004.9	73.36	
289.0	000.0420	0068.5	006.8	171.3	000.2500	0063.7	004.8	73.36	
290.0	000.0400	0066.9	006.7	169.0	000.2500	0063.2	004.8	73.38	
291.0	000.0390	0065.5	006.6	167.2	000.2500	0062.3	004.8	73.41	
292.0	000.0380	0064.6	006.5	165.5	000.2500	0060.3	004.7	73.32	
293.0	000.0371	0064.3	006.4	164.2	000.2500	0058.0	004.7	73.21	
294.0	000.0361	0064.1	006.4	162.8	000.2500	0056.0	004.6	73.10	
295.0	000.0352	0063.6	006.3	161.3	000.2500	0054.5	004.6	73.00	
296.0	000.0342	0062.9	006.2	159.7	000.2500	0053.3	004.5	72.90	
297.0	000.0333	0062.4	006.2	158.2	000.2500	0051.8	004.5	72.73	
298.0	000.0324	0062.5	006.1	156.8	000.2500	0050.2	004.5	72.59	
299.0	000.0315	0062.6	006.1	155.5	000.2500	0048.8	004.4	72.46	
300.0	000.0306	0062.3	006.0	153.9	000.2500	0047.7	004.4	72.29	
301.0	000.0298	0061.4	006.0	152.2	000.2500	0046.6	004.4	72.03	
302.0	000.0289	0060.6	005.9	150.6	000.2500	0045.1	004.4	71.65	
303.0	000.0281	0060.0	005.8	149.0	000.2500	0043.2	004.4	71.19	
304.0	000.0272	0059.6	005.8	147.5	000.2500	0041.0	004.5	70.66	

Exhibit 13.6d

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
305.0	000.0264	0059.5	005.7	146.1	000.2500	0038.4	004.5	70.00
306.0	000.0256	0059.5	005.7	144.7	000.2500	0035.5	004.5	69.28
307.0	000.0248	0059.9	005.7	143.4	000.2500	0032.6	004.5	68.56
308.0	000.0240	0059.9	005.6	142.0	000.2500	0029.4	004.5	67.81
309.0	000.0233	0059.6	005.6	140.7	000.2500	0026.5	004.5	67.69
310.0	000.0225	0059.1	005.5	139.3	000.2500	0024.9	004.6	67.52
311.0	000.0225	0058.5	005.5	138.1	000.2500	0024.6	004.6	67.48
312.0	000.0225	0058.0	005.4	136.9	000.2500	0025.0	004.6	67.44
313.0	000.0225	0057.7	005.4	135.7	000.2500	0025.2	004.6	67.42
314.0	000.0225	0057.7	005.4	134.5	000.2500	0024.9	004.6	67.42
315.0	000.0225	0057.9	005.4	133.3	000.2500	0024.1	004.6	67.45
316.0	000.0225	0058.2	005.5	132.1	000.2500	0023.0	004.6	67.48
317.0	000.0225	0058.5	005.5	130.9	000.2500	0021.9	004.6	67.50
318.0	000.0225	0059.0	005.5	129.7	000.2500	0021.2	004.5	67.54
319.0	000.0225	0059.5	005.5	128.4	000.2500	0020.9	004.5	67.56
320.0	000.0225	0059.7	005.5	127.2	000.2500	0020.9	004.6	67.51
321.0	000.0233	0059.4	005.5	125.9	000.2500	0021.0	004.5	67.54
322.0	000.0240	0059.0	005.6	124.7	000.2500	0021.1	004.5	67.52
323.0	000.0248	0058.7	005.6	123.4	000.2500	0021.0	004.5	67.52
324.0	000.0256	0059.0	005.7	122.0	000.2500	0021.0	004.5	67.58
325.0	000.0264	0059.9	005.7	120.4	000.2500	0021.1	004.5	67.71
326.0	000.0272	0060.6	005.8	118.9	000.2500	0021.0	004.5	67.78
327.0	000.0281	0060.8	005.9	117.4	000.2500	0020.6	004.5	67.76
328.0	000.0289	0060.8	005.9	116.0	000.2500	0020.1	004.5	67.70
329.0	000.0298	0061.0	005.9	114.6	000.2500	0019.7	004.5	67.64
330.0	000.0306	0061.2	006.0	113.2	000.2500	0019.3	004.5	67.55
331.0	000.0333	0061.1	006.1	111.2	000.2500	0018.6	004.5	67.66
332.0	000.0361	0061.1	006.2	109.2	000.2481	0018.3	004.5	67.70
333.0	000.0390	0061.2	006.4	107.1	000.2435	0018.1	004.5	67.65
334.0	000.0420	0060.8	006.4	105.3	000.2395	0018.1	004.5	67.51
335.0	000.0452	0059.8	006.5	103.7	000.2361	0017.9	004.5	67.28
336.0	000.0484	0059.0	006.6	102.2	000.2327	0017.7	004.6	67.04
337.0	000.0518	0058.5	006.7	100.5	000.2290	0017.4	004.6	66.80
338.0	000.0552	0057.9	006.7	099.0	000.2186	0017.4	004.7	66.39
339.0	000.0588	0056.9	006.8	097.7	000.2079	0017.4	004.8	65.91
340.0	000.0625	0055.6	006.8	096.8	000.2002	0017.5	004.9	65.44
341.0	000.0676	0054.5	006.9	095.6	000.1899	0017.7	005.0	64.94
342.0	000.0729	0053.8	007.0	094.2	000.1813	0017.7	005.0	64.49
343.0	000.0784	0053.5	007.1	092.6	000.1746	0017.6	005.1	64.08
344.0	000.0841	0053.2	007.2	091.0	000.1681	0017.6	005.2	63.64
345.0	000.0900	0053.0	007.3	089.4	000.1619	0017.9	005.3	63.19
346.0	000.0961	0053.0	007.4	087.8	000.1560	0018.2	005.4	62.72
347.0	000.1024	0053.0	007.5	086.4	000.1507	0019.0	005.5	62.23
348.0	000.1089	0052.8	007.6	085.0	000.1458	0019.7	005.6	61.73
349.0	000.1156	0052.5	007.7	083.9	000.1418	0020.1	005.7	61.23
350.0	000.1225	0052.1	007.8	082.9	000.1383	0020.2	005.9	60.74

Exhibit 13.6d

Contour Protection Studies Toward Select Station(s)

10-07-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

W283CK BLFT20160411ABN

CH286D.P

Channel = 283D

Max ERP = 0.25 kW

RCAMSL = 92 m

N. Lat. 42 08 11.0

W. Lng. 72 36 42.0

Protected

60 dBu

Channel = 286D

Max ERP = 0.25 kW

RCAMSL = 114 m

N. Lat. 42 04 25.0

W. Lng. 72 31 29.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
089.0	000.1603	0018.0	006.3	353.4	000.1471	0051.3	007.1	62.15	
090.0	000.1640	0017.8	006.4	353.5	000.1486	0051.2	007.0	62.48	
091.0	000.1681	0017.6	006.4	353.8	000.1502	0051.2	006.9	62.81	
092.0	000.1722	0017.6	006.5	353.9	000.1517	0051.2	006.8	63.15	
093.0	000.1764	0017.6	006.5	354.1	000.1530	0051.2	006.7	63.49	
094.0	000.1806	0017.7	006.5	354.3	000.1544	0051.2	006.6	63.84	
095.0	000.1849	0017.7	006.6	354.5	000.1557	0051.2	006.4	64.20	
096.0	000.1932	0017.6	006.6	354.9	000.1594	0051.1	006.3	64.65	
097.0	000.2016	0017.5	006.7	355.4	000.1629	0051.0	006.2	65.08	
098.0	000.2102	0017.3	006.8	355.8	000.1663	0050.8	006.0	65.53	
099.0	000.2190	0017.4	006.9	356.2	000.1696	0050.6	005.9	65.99	
100.0	000.2280	0017.4	006.9	356.6	000.1727	0050.5	005.8	66.47	
101.0	000.2302	0017.5	006.9	356.4	000.1716	0050.5	005.7	66.84	
102.0	000.2323	0017.7	007.0	356.2	000.1702	0050.6	005.5	67.22	
103.0	000.2345	0017.8	007.0	356.0	000.1685	0050.7	005.4	67.60	
104.0	000.2367	0017.9	007.0	355.8	000.1666	0050.8	005.3	67.98	
105.0	000.2389	0018.0	007.0	355.5	000.1644	0050.9	005.2	68.35	
106.0	000.2411	0018.1	007.0	355.3	000.1620	0051.0	005.1	68.73	
107.0	000.2433	0018.1	007.0	354.9	000.1593	0051.2	004.9	69.09	
108.0	000.2455	0018.2	007.1	354.5	000.1563	0051.2	004.8	69.43	
109.0	000.2478	0018.3	007.1	354.1	000.1529	0051.2	004.7	69.76	
110.0	000.2500	0018.4	007.1	353.6	000.1492	0051.2	004.6	70.09	
111.0	000.2500	0018.5	007.1	352.9	000.1437	0051.3	004.5	70.35	
112.0	000.2500	0018.8	007.1	352.1	000.1378	0051.3	004.4	70.60	
113.0	000.2500	0019.2	007.1	351.3	000.1316	0051.6	004.3	70.88	
114.0	000.2500	0019.5	007.1	350.4	000.1251	0052.0	004.2	71.16	
115.0	000.2500	0019.8	007.1	349.4	000.1182	0052.3	004.1	71.41	
116.0	000.2500	0020.1	007.1	348.3	000.1111	0052.7	004.0	71.64	
117.0	000.2500	0020.4	007.1	347.2	000.1036	0053.0	003.9	71.82	
118.0	000.2500	0020.8	007.1	346.0	000.0959	0053.0	003.8	71.92	
119.0	000.2500	0021.0	007.1	344.7	000.0880	0053.0	003.7	71.97	
120.0	000.2500	0021.1	007.1	343.3	000.0799	0053.4	003.6	72.02	
121.0	000.2500	0021.1	007.1	341.8	000.0717	0054.0	003.5	72.05	

MUNN-REESE, INC.

Broadcast Engineering Consultants

COLDWATER, MI 49036

Exhibit 13.6d

Contour Protection Studies Toward Select Station(s)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
122.0	000.2500	0021.0	007.1	340.2	000.0635	0055.4	003.4	72.13
123.0	000.2500	0021.1	007.1	338.5	000.0571	0057.5	003.3	72.36
124.0	000.2500	0021.0	007.1	336.7	000.0509	0058.6	003.3	72.37
125.0	000.2500	0021.0	007.1	334.9	000.0448	0060.0	003.2	72.31
126.0	000.2500	0021.0	007.1	332.9	000.0388	0061.2	003.2	72.14
127.0	000.2500	0020.9	007.1	330.9	000.0330	0061.1	003.1	71.71
128.0	000.2500	0020.9	007.1	328.7	000.0295	0061.0	003.1	71.48
129.0	000.2500	0021.0	007.1	326.5	000.0277	0060.8	003.0	71.41
130.0	000.2500	0021.3	007.1	324.3	000.0258	0059.2	003.0	71.12
131.0	000.2500	0022.0	007.1	321.9	000.0240	0059.0	003.0	70.93
132.0	000.2500	0022.9	007.1	319.6	000.0225	0059.7	002.9	70.87
133.0	000.2500	0023.8	007.1	317.1	000.0225	0058.6	002.9	70.81
134.0	000.2500	0024.6	007.1	314.7	000.0225	0057.8	002.9	70.73
135.0	000.2500	0025.1	007.1	312.3	000.0225	0057.9	002.9	70.73
136.0	000.2500	0025.2	007.1	309.9	000.0226	0059.1	002.9	70.85
137.0	000.2500	0025.0	007.1	307.5	000.0244	0059.9	002.9	71.18
138.0	000.2500	0024.6	007.1	305.1	000.0263	0059.4	003.0	71.30
139.0	000.2500	0024.7	007.1	302.8	000.0282	0060.1	003.0	71.49
140.0	000.2500	0025.6	007.1	300.6	000.0301	0061.8	003.0	71.75
141.0	000.2500	0027.2	007.1	298.4	000.0320	0062.6	003.1	71.86
142.0	000.2500	0029.3	007.1	296.4	000.0339	0062.7	003.1	71.83
143.0	000.2500	0031.7	007.3	292.9	000.0372	0064.3	003.0	72.92
144.0	000.2500	0033.9	007.5	288.4	000.0432	0069.5	002.9	74.83
145.0	000.2500	0036.0	007.7	283.4	000.0542	0073.2	002.8	76.81
146.0	000.2500	0038.1	007.9	278.1	000.0663	0066.4	002.8	77.43
147.0	000.2500	0040.1	008.2	272.5	000.0783	0061.0	002.7	77.81
148.0	000.2500	0041.8	008.4	267.6	000.0913	0060.3	002.7	78.27
149.0	000.2500	0043.1	008.5	263.3	000.1046	0064.2	002.8	78.86
150.0	000.2500	0044.4	008.7	259.5	000.1175	0065.2	002.9	78.93
151.0	000.2500	0045.5	008.8	256.3	000.1310	0067.6	003.0	79.00
152.0	000.2500	0046.5	008.9	253.8	000.1424	0069.3	003.1	78.85
153.0	000.2500	0047.2	009.0	251.9	000.1510	0070.0	003.3	78.47
154.0	000.2500	0047.8	009.0	250.5	000.1578	0070.4	003.4	77.98
155.0	000.2500	0048.4	009.1	249.0	000.1638	0070.6	003.6	77.46
156.0	000.2500	0049.3	009.2	247.5	000.1701	0070.8	003.7	76.93
157.0	000.2500	0050.4	009.3	245.9	000.1770	0071.1	003.9	76.41
158.0	000.2500	0051.5	009.4	244.3	000.1837	0071.3	004.0	75.88
159.0	000.2500	0052.6	009.5	243.0	000.1894	0071.4	004.2	75.31
160.0	000.2500	0053.6	009.6	242.1	000.1933	0071.4	004.4	74.71
161.0	000.2500	0054.3	009.7	241.5	000.1956	0071.4	004.6	74.09
162.0	000.2500	0055.1	009.8	241.0	000.1980	0071.5	004.8	73.51
163.0	000.2500	0056.2	009.9	240.3	000.2013	0071.6	004.9	72.95
164.0	000.2500	0057.7	010.0	239.3	000.2057	0072.1	005.1	72.42
165.0	000.2500	0059.4	010.1	238.4	000.2099	0072.6	005.4	71.88
166.0	000.2500	0061.1	010.3	237.7	000.2131	0073.1	005.6	71.32
167.0	000.2500	0062.2	010.3	237.5	000.2139	0073.3	005.8	70.72

Exhibit 13.7

Proposed Manufacturer's Directional Antenna Information

Azimuth ° True	FCC Pattern	Factory Pattern
0°	0.900	0.692
10°	1.000	0.796
20°	1.000	0.868
30°	1.000	0.910
40°	1.000	0.920
50°	1.000	0.904
60°	1.000	0.900
70°	1.000	0.864
80°	1.000	0.801
90°	0.900	0.715
100°	0.800	0.606
110°	0.800	0.553
120°	0.900	0.516
130°	1.000	0.488
140°	1.000	0.565
150°	1.000	0.642
160°	1.000	0.703
170°	1.000	0.745
180°	1.000	0.764
190°	1.000	0.853
200°	1.000	0.952
210°	1.000	0.997
220°	1.000	0.994
230°	1.000	0.944
240°	0.900	0.832
250°	0.800	0.675
260°	0.680	0.547
270°	0.580	0.482
280°	0.500	0.385
290°	0.400	0.356
300°	0.350	0.320
310°	0.300	0.282
320°	0.300	0.298
330°	0.350	0.280
340°	0.500	0.351
350°	0.700	0.529

Model:	Antenna 1	Antenna 2	Antenna 3	Antenna 4	Composite
Orientation	CA2-FM(Vertical)	CA2-FM(Vertical)	CA2-FM(Vertical)		Power
Power:	180° True	050° True	265° True		100%
	40.0%	50.0%	10.0%		

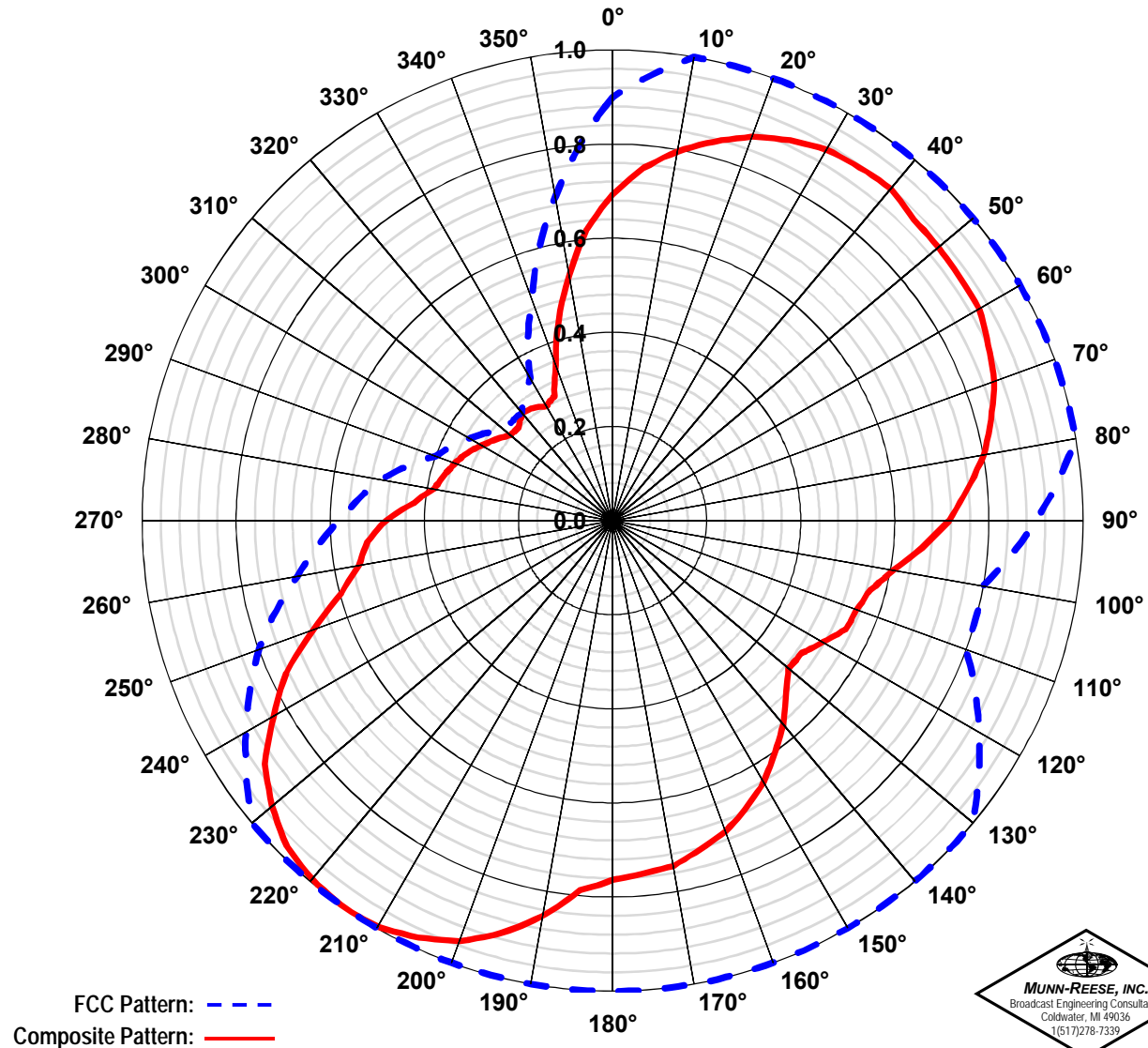


Exhibit 13.7 - Proposed Manufacturer's Directional Antenna Information



CA2-FM FM DIPOLE REFLECTOR ANTENNA 4 dBd gain 88 to 108 MHz

The Scala CA2-FM is a ruggedly built dipole reflector antenna, designed for professional FM transmit and receive applications.

Like all Scala antennas, the CA2-FM is made of the finest materials resulting in superior performance and long service life.

The CA2-FM may be used stand-alone or in stacked arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

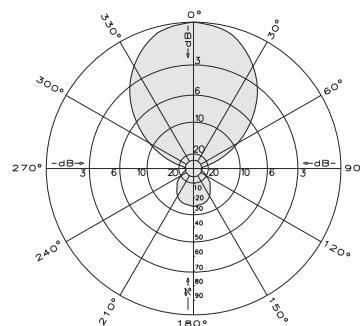
Specifications:

Frequency range	Any specified FM channel 88 to 108 MHz
Gain	4 dBd
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Horizontal or Vertical
Front-to-back ratio	>11 dB
Maximum input power	250 watts
Azimuth pattern	72 degrees (half-power)
Elevation pattern	80 degrees (half-power)
Connector	50Ω or 75Ω N female
Weight	5.7 lb (2.6 kg)
Dimensions	35.3 x 68.9 inches maximum (897 x 1750 mm)
Equivalent flat plate area	1.19 ft ² (0.11 m ²) maximum
Wind survival rating*	120 mph (194 kph)
Shipping dimensions	70 x 6 x 5 inches maximum (1778 x 152 x 127mm)
Shipping weight	10 lb (4.5 kg) maximum
Mounting	For masts of 2.375 inches (60 mm) OD.

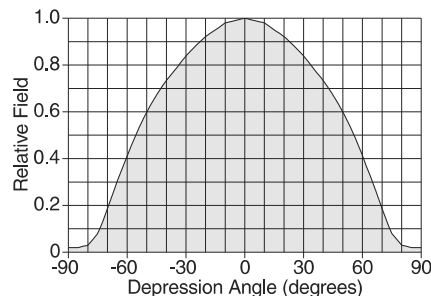
* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Order Information:

Contact Scala Customer Service for detailed order information.



Azimuth pattern (E-plane - typical)



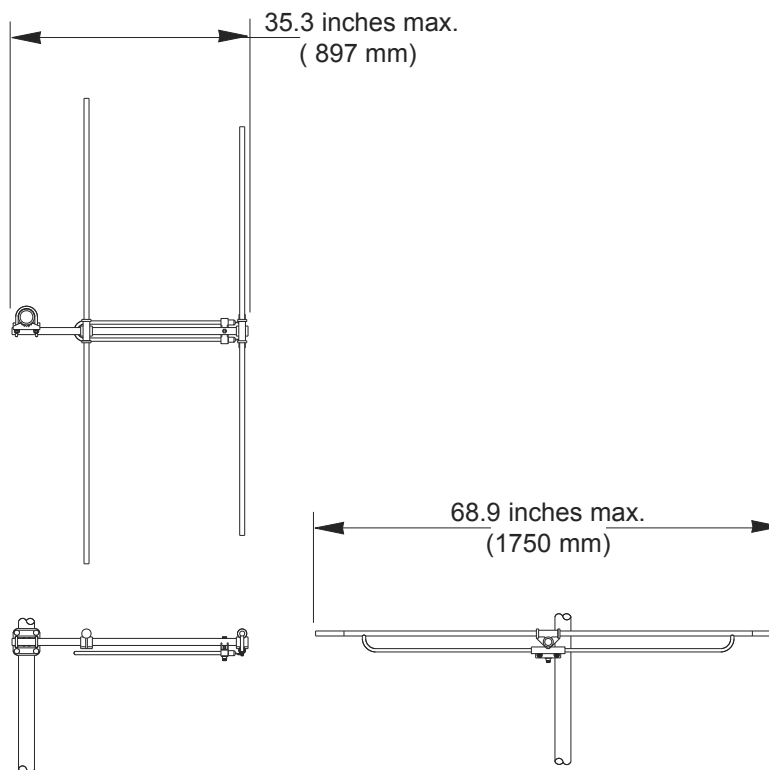
Elevation pattern (H-plane)



Exhibit 13.7 - Proposed Manufacturer's Directional Antenna Information



CA2-FM FM DIPOLE REFLECTOR ANTENNA 4 dBd gain 88 to 108 MHz



Order Information:

Contact Scala Customer Service for detailed order information.