

Non-Interference Compliance

Regarding Facility id 152283

Channel 288

Description of Exhibit 13 Contents

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all of the applicable rule sections and that this application for a construction permit is in full compliance with 47 C.F.R. § 74.1204.

Let it be noted that should any actual real world interference occur, the applicant acknowledges that it will promptly suspend operation of this translator in accordance with 47 C.F.R. § 74.1203.

Page 2 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference provisions based on 47 C.F.R. § 74.1204(d), which states:

[A]n application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.

Page 3 contains a tabulation of the vertical radiation pattern of the proposed antenna and the minimum ground clearance of the interfering contour based on this pattern.

Pages 4 through 5 include a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 6 of this exhibit contains the tabulated data from the interference analysis, which shows all stations whose protected contours come within 50 km of the 34 dBμ F(50,10) contour of the proposed translator. These tabulated values were calculated using data from the FCC's CDBS files and 30 arc second terrain data. The column labeled "Adj" shows the number of channels difference between the entry and the proposed translator. The column labeled "Dist" shows the distance in km. The column labeled "Overlap" shows the area of contour overlap in square kilometers.

Note: The adjacent channel exhibit shows prohibitive co-channel overlap with Light of Life Ministries' application BNPFT-20030314CLC; however, this application was amended 6/28/2013 to channel 235 and is no longer Mx'ed with this proposal.

Page 7 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 minute quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using the free space equation and 120 radials.

Page 8 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

Since the proposed translator is within 320 km of the Canadian border, 47 C.F.R. § 74.1235(d) has been taken into account and this applicant certifies that in no direction does the 34 dBμ F(50,10) extend beyond 60 km, and this application is therefore in full compliance with 47 C.F.R. § 74.1235(d)(3), which states that "the distance to the 34 dBμ interfering contour may not exceed 60 km in any direction," and hence complies with 47 C.F.R. § 74.1204(h).

Note: The tallest buildings within the zone of predicted interference are less than 20ft (6.1m) in height. This application provides 10.3m (33.8ft) ground clearance so a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

Compliance with 47 C.F.R. § 74.1204(d)

All authorized second and third adjacent stations with which the proposed translator has contour overlap are tabulated below. Column four show the station's signal level at the proposed translator's tower site, and column five gives the minimum value within the entire standard interfering contour of the proposed translator (100 dBμ for most classes, 94 for class B, 97 for class B1). The minimum second or third adjacent F(50,50) contour within the proposed translator's standard interfering contour was used to calculate the proposed translator's actual "worst-case" interfering contour.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
288479	BLH7422	WBCI	71.7	71.7
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				71.7

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **71.7 dBμ**, this makes the proposed translator's worst-case interfering contour **111.7 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **288.4 m** from the transmit antenna.

The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 7 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated on the following page at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free-space calculation that neglects any loss due to reflection, the vertical ground clearance of the proposed translator's interference contour has been tabulated. As shown on the following page, the area of interference clears the tower ground level (TGL) by **10.3 m** at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the area of interference.

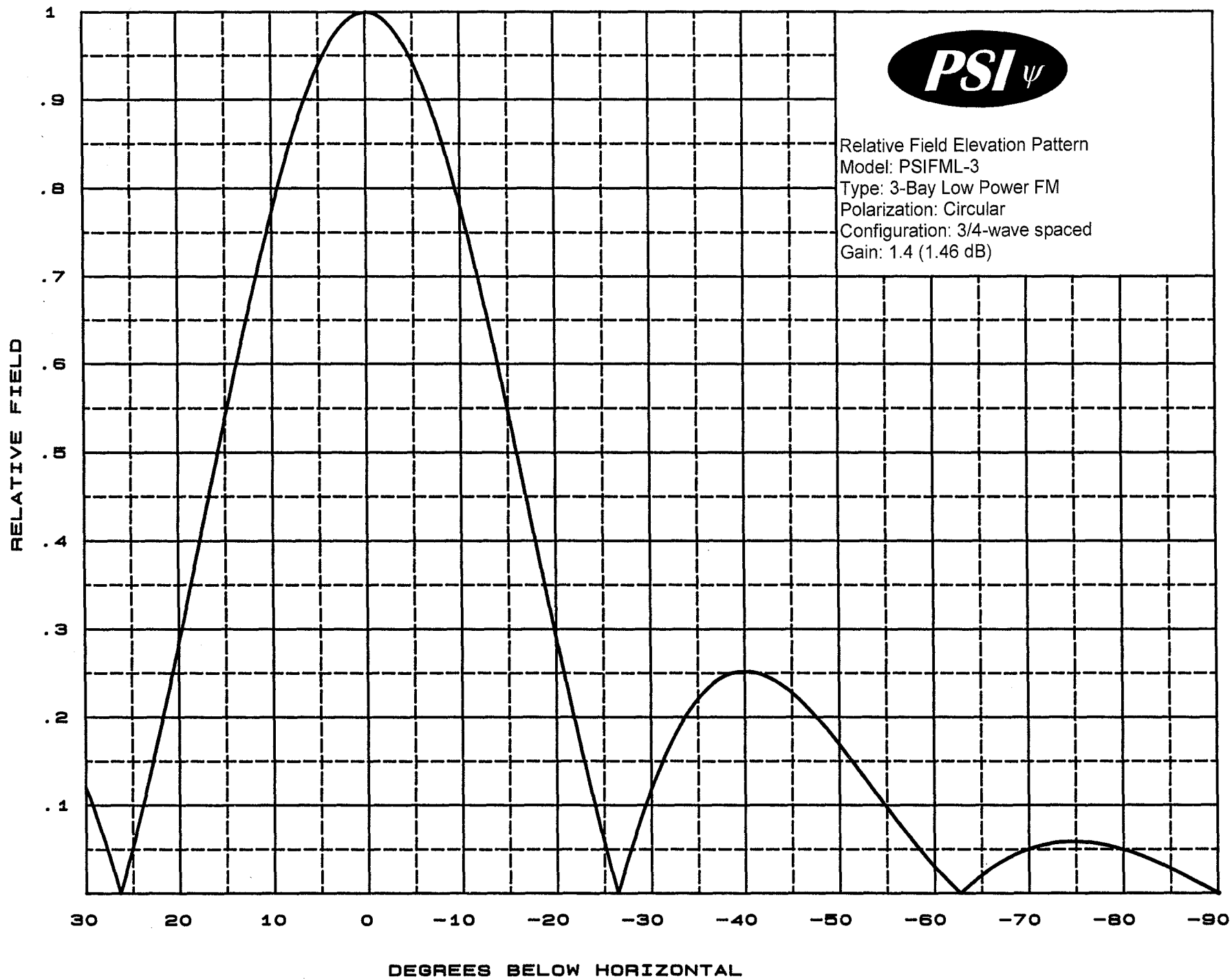
Note: The tallest buildings within the zone of predicted interference are less than 20ft (6.1m) in height. This application provides 10.3m (33.8ft) ground clearance so a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

Antenna Manufacturer:	PSI
Antenna Model:	FML-3(.75)
CORAGL:	57 m
Maximum ERP:	0.25 kW
Interfering Contour:	111.7 dBμ
Max Int. Contour Distance:	288.4 m
Min Ground Clearance:	10.3 m

Depression Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour from Antenna (m)	Horizontal Distance of Interfering Contour from Tower (m)	Vertical Clearance of Interfering Contour above TGL (m)
5	.941	221.4	271.4	270.3	33.3
10	.777	150.9	224.1	220.7	18.1
15	.543	73.7	156.6	151.3	16.5
20	.287	20.6	82.8	77.8	28.7
25	.055	0.8	15.9	14.4	50.3
30	.120	3.6	34.6	30.0	39.7
35	.222	12.3	64.0	52.4	20.3
40	.252	15.9	72.7	55.7	10.3
45	.227	12.9	65.5	46.3	10.7
50	.168	7.1	48.4	31.1	19.9
55	.096	2.3	27.7	15.9	34.3
60	.030	0.2	8.7	4.3	49.5
65	.021	0.1	6.1	2.6	51.5
70	.050	0.6	14.4	4.9	43.5
75	.059	0.9	17.0	4.4	40.6
80	.050	0.6	14.4	2.5	42.8
85	.028	0.2	8.1	0.7	49.0
90	.001	0.0	0.3	0.0	56.7
Minimum Clearance above TGL:					10.3 m



Relative Field Elevation Pattern
Model: PSIFML-3
Type: 3-Bay Low Power FM
Polarization: Circular
Configuration: 3/4-wave spaced
Gain: 1.4 (1.46 dB)





Propagation Systems Inc.
 Elevation Pattern Tabulation
 Antenna: PSIFML-3 Special
 Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.168	-15.500	-10.0	0.777	-2.194
-89.0	0.006	-44.795	-49.0	0.181	-14.829	-9.0	0.817	-1.761
-88.0	0.012	-38.775	-48.0	0.194	-14.240	-8.0	0.853	-1.379
-87.0	0.017	-35.329	-47.0	0.206	-13.714	-7.0	0.886	-1.049
-86.0	0.023	-32.869	-46.0	0.217	-13.266	-6.0	0.916	-0.766
-85.0	0.028	-31.047	-45.0	0.227	-12.881	-5.0	0.941	-0.529
-84.0	0.033	-29.622	-44.0	0.235	-12.562	-4.0	0.962	-0.338
-83.0	0.038	-28.467	-43.0	0.242	-12.308	-3.0	0.978	-0.190
-82.0	0.042	-27.510	-42.0	0.248	-12.126	-2.0	0.990	-0.085
-81.0	0.046	-26.705	-41.0	0.251	-12.010	-1.0	0.998	-0.021
-80.0	0.050	-26.073	-40.0	0.252	-11.968	0.0	1.000	0.000
-79.0	0.053	-25.559	-39.0	0.251	-12.004	1.0	0.998	-0.021
-78.0	0.055	-25.169	-38.0	0.248	-12.126	2.0	0.990	-0.085
-77.0	0.057	-24.887	-37.0	0.242	-12.336	3.0	0.978	-0.190
-76.0	0.058	-24.682	-36.0	0.233	-12.657	4.0	0.962	-0.338
-75.0	0.059	-24.614	-35.0	0.222	-13.092	5.0	0.941	-0.529
-74.0	0.059	-24.637	-34.0	0.207	-13.676	6.0	0.916	-0.766
-73.0	0.058	-24.772	-33.0	0.190	-14.432	7.0	0.886	-1.049
-72.0	0.056	-25.027	-32.0	0.170	-15.414	8.0	0.853	-1.379
-71.0	0.054	-25.411	-31.0	0.146	-16.700	9.0	0.817	-1.759
-70.0	0.050	-25.968	-30.0	0.120	-18.427	10.0	0.777	-2.194
-69.0	0.046	-26.733	-29.0	0.090	-20.871	11.0	0.734	-2.683
-68.0	0.041	-27.731	-28.0	0.058	-24.704	12.0	0.689	-3.233
-67.0	0.035	-29.081	-27.0	0.023	-32.754	13.0	0.642	-3.848
-66.0	0.028	-30.954	-26.0	0.015	-36.745	14.0	0.593	-4.534
-65.0	0.021	-33.656	-25.0	0.055	-25.217	15.0	0.543	-5.301
-64.0	0.012	-38.221	-24.0	0.098	-20.213	16.0	0.492	-6.156
-63.0	0.003	-50.816	-23.0	0.142	-16.928	17.0	0.441	-7.116
-62.0	0.007	-42.949	-22.0	0.189	-14.460	18.0	0.389	-8.196
-61.0	0.018	-34.880	-21.0	0.238	-12.484	19.0	0.338	-9.425
-60.0	0.030	-30.546	-20.0	0.287	-10.839	20.0	0.287	-10.834
-59.0	0.042	-27.541	-19.0	0.338	-9.425	21.0	0.238	-12.484
-58.0	0.055	-25.217	-18.0	0.389	-8.199	22.0	0.189	-14.460
-57.0	0.068	-23.307	-17.0	0.441	-7.116	23.0	0.143	-16.919
-56.0	0.082	-21.711	-16.0	0.492	-6.159	24.0	0.098	-20.200
-55.0	0.096	-20.335	-15.0	0.543	-5.301	25.0	0.055	-25.193
-54.0	0.111	-19.124	-14.0	0.593	-4.536	26.0	0.015	-36.745
-53.0	0.125	-18.051	-13.0	0.642	-3.850	27.0	0.023	-32.754
-52.0	0.140	-17.106	-12.0	0.689	-3.234	28.0	0.058	-24.704
-51.0	0.154	-16.253	-11.0	0.734	-2.683	29.0	0.090	-20.871
						30.0	0.120	-18.438

file: FML 3-bay elevation tabulation

revision: A

Date: 1/28/08

Adjacent Channel Study **For Station NEW, Facility_id: 152283**

Co-channel through third adjacent:

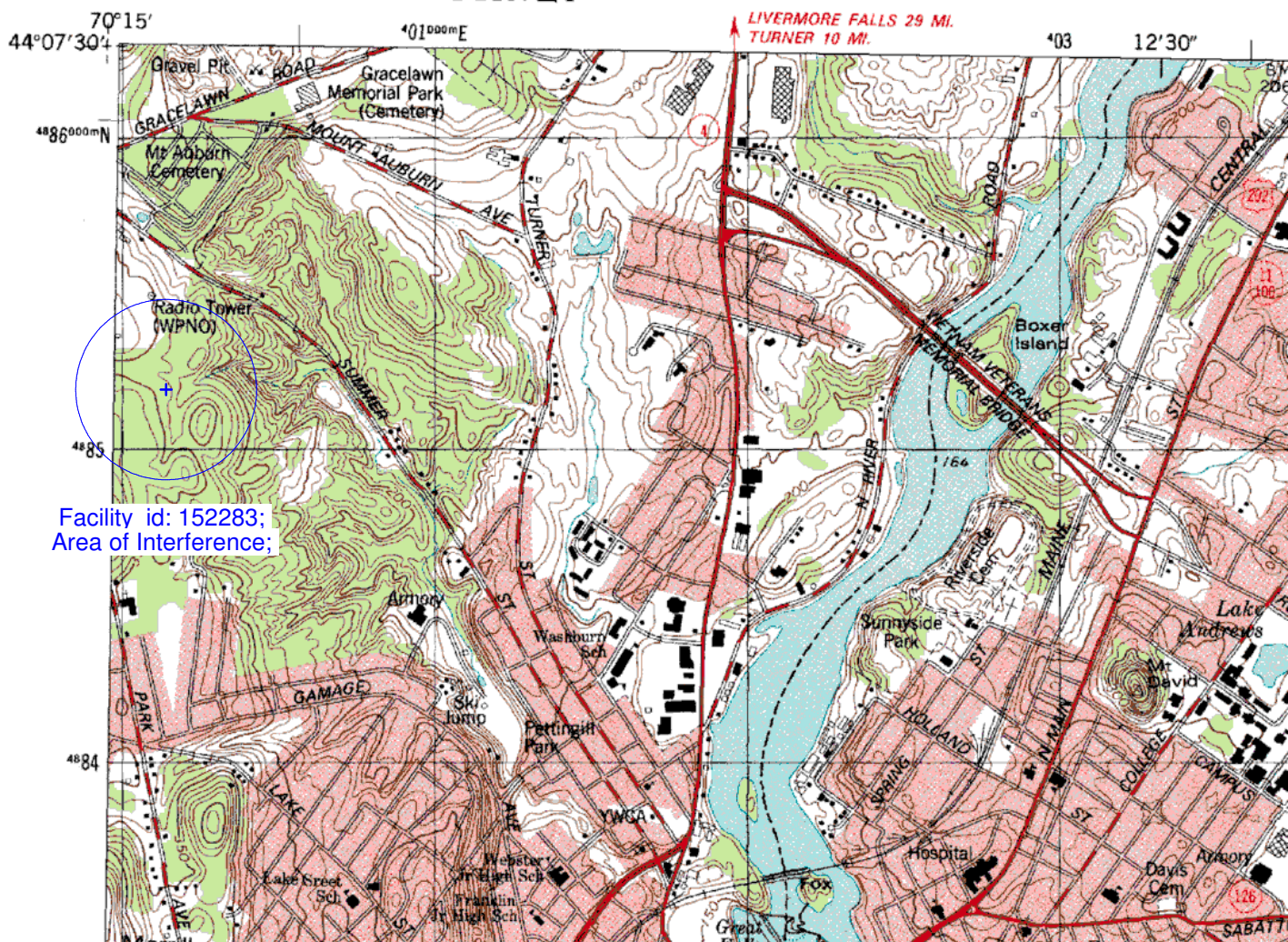
App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Chan	Adj	Dist	Overlap
637896	145339	BNPFT-20030314CLC	NEW	LIGHT OF LIFE MINISTRIES, INC.	D	BRUNSWICK	ME	APP	0.01	160	288	0	25.4	46.2949
288479	33288	BLH-7422	WBCI	BLOUNT COMMUNICATIONS, INC.	B	BATH	ME	LIC	50	213	290	2	26.4	2.7818
643376	150422	BNPFT-20030317GVE	NEW	RADIO ASSIST MINISTRY, INC.	D	PORTLAND	ME	APP	0.013	126.6	288	0	47.5	0
629296	138684	BNPFT-20030313AFV	NEW	BIBLE BROADCASTING NETWORK, INC.	D	SACO	ME	APP	0.019	128	288	0	65.5	0
1217159	155279	BLFT-20071030ACG	W294AZ	CUPID BROADCASTING, LLC	D	BERLIN	NH	LIC	0.175	451	291	3	84.5	0
611349	46352	BLH-20020905AAI	WTOS-FM	BLUEBERRY BROADCASTING, LLC	C	SKOWHEGAN	ME	LIC	57	1324	286	2	102.1	0
281315	41105	BLH-19990202KB	WBYA	WBIN MEDIA CO., INC.	B1	ISLESBORO	ME	LIC	25	142	288	0	104.3	0
1415640	65624	BLH-20110228ABN	WLKZ	GREAT EASTERN RADIO, LLC	A	WOLFEBORO	NH	LIC	0.56	559.9	285	3	110.6	0
178325	4380	BLH-19921030KC	WSHK	RADIO LICENSE HOLDING CBC, LLC	A	KITTERY	ME	LIC	2.2	142	287	1	113.1	0
1154575	72211	BLH-20061012ABU	WLKC	DEVON BROADCASTING COMPANY, INC.	A	CAMPTON	NH	LIC	4.1	412	289	1	118.9	0

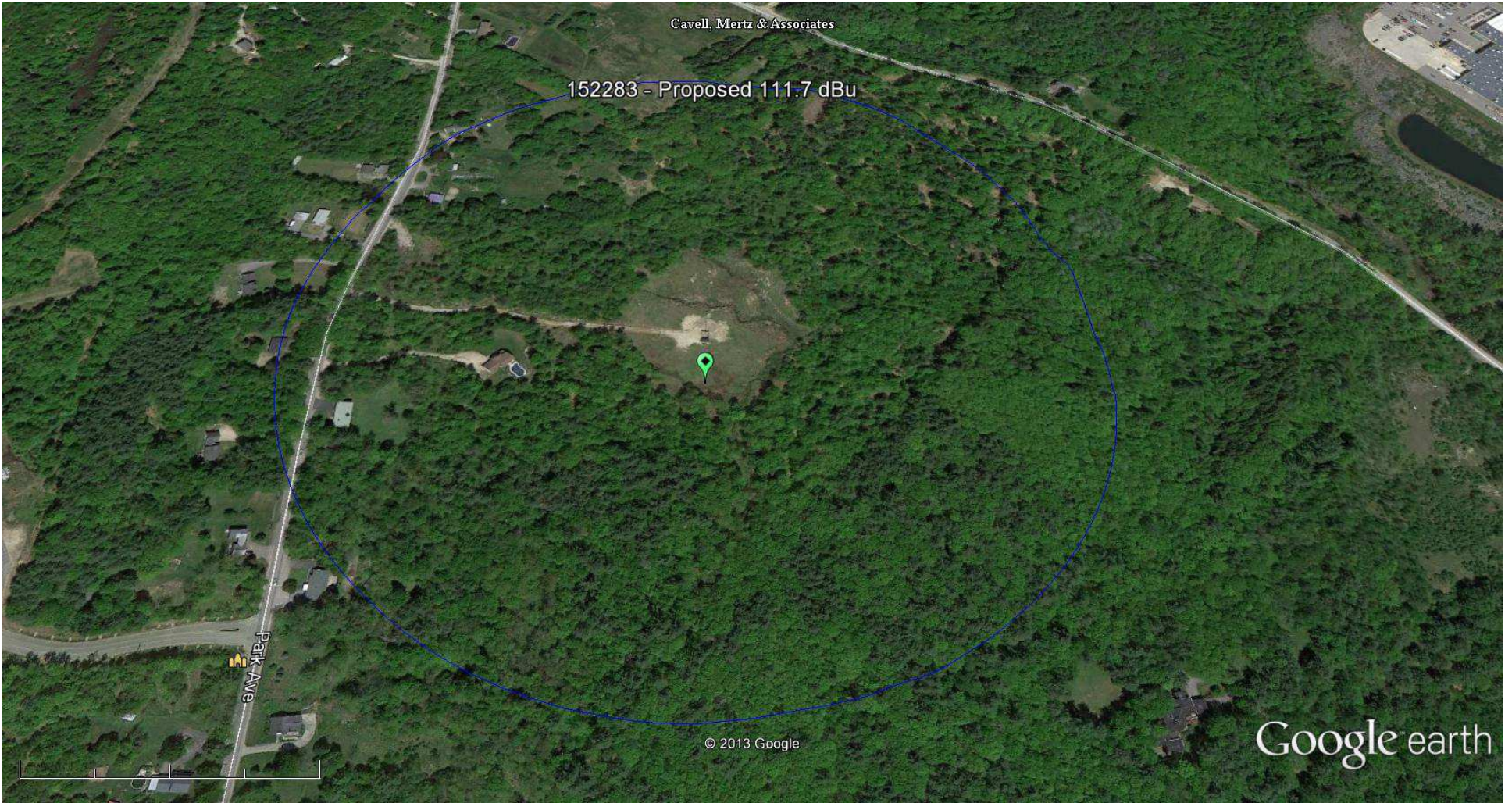
Intermediate Frequencies (53 and 54 channels difference):

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
1152885	49687	BMLH-20061018ABT	WHOM	RADIO LICENSE HOLDING CBC, LLC	C	MOUNT WASHINGTO	NH	LIC	48	1924	235	53	86	57

8972 (1/4 NE
LAKE AUBURN WEST)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY





Google earth

feet
meters

