

# WBWL Facility ID No.: 40824

## Minor Modification for Change of Class and Transmitter Location

### January 2015

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This application is one of three applications of a coordinated contingent group of minor change applications involving stations WCIB, WBWL, and WWBB.

By this application WBWL seeks to modify its current assignment by one-step class upgrade from Class A to Class B1 for the same community of license, modification of required reference coordinate location (“allocation location”), and modification of its facility back to a prior transmitter location with increased power. This modification is contingent upon concurrent modifications to the assignments of WCIB and WWBB. WCIB is to modify from Class B to Class B1 with modification of required reference coordinate location, while WWBB will modify its assignment/allocation reference coordinate location. Applications seeking these modifications have been filed concurrently.

#### **Allocation/Assignment Location**

Attached as **Figure 1** is a spacing study conducted at the required Class B1 reference coordinate location<sup>1</sup> which includes all known facilities, applications, allocations, as well as the planned modified facilities and required reference coordinate locations of WCIB and WWBB. From this exhibit it can be determined that the proposed allocation location will be fully spaced in accordance with Section 73.207 upon grant of the contingent modifications. Attached as **Figure 2** is a map of predicted principal community signal from the allocation location demonstrating the entire principal community would receive the required level of signal. Thus this allocation location, which is at an existing communication tower site, is a suitable allocation location for the proposed assignment modification.

#### **Antenna Location**

Attached as **Figure 3**, is a spacing study conducted at the antenna location<sup>2</sup> that includes all known facilities, applications, allocations, as well as the planned modified facilities and required reference coordinate locations of WCIB and WWBB. From this exhibit it can be determined that the proposed antenna location will be fully spaced in accordance with Section 73.207 with all known facilities, applications, allocations except those of the proposed WCIB and WWBB facilities. With respect to the contingent modified facilities of WCIB and WWBB, compliance with Section 73.215 will be demonstrated.

Attached as **Figure 5** is a map of predicted principal community signal, demonstrating the entire principal community will receive the required level of signal. In Figure 6

As the proposed facility is short of the required spacing distance with the proposed contingent WWBB Class A facility, which will itself use Section 73.215, it is proposed to use Section 73.215 for this proposed WBWL Class B1 facility to demonstrate rules compliance with regard to the proposed WWBB

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1 42-28-02.0 N 70-56-37.9 W ( NAD 27), Antenna Structure Registration 1004093 (B1 Allocation Location)  
2 42-25-51.7 N 71-05-18.8 W ( NAD 27), Antenna Structure Registration 1003922 (Antenna Location)

Class A facility. As shown in **Figure 5**, utilizing the “NED 30 Meter” terrain database, no prohibited contour overlap is predicted to be created by this proposal. A study of each material radial was conducted using “FM\_Over”, with the results presented in **Figure 6**, again 30 Meter terrain data was utilized no prohibited contour overlap is predicted to be created.

As the proposed facility is short of the required spacing distance with the proposed contingent WCIB Class B1 facility, which will itself use Section 73.215, it is proposed to use Section 73.215 for this proposed WBWL Class B1 facility to demonstrate rules compliance with regard to the proposed WCIB Class B1 facility. As shown in **Figure 7**, no prohibited contour overlap is predicted to be created.

## **RF Fields Statement**

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, “Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation.”

The proposed antenna system is an ERI SHP-2 element; half-wave spaced antenna mounted 107 meters above ground. As this element type is modeled in the “FM Model” program, it has been set to calculate values for this type of antenna element array, operated with an effective radiated power of 13.5 Kilowatts in both the horizontal and vertical planes. At 2 meters above the surface, at 213 meters from the base of the tower, this proposal will contribute worst case, 7.3 microwatts per square centimeter, or 0.73 percent of the allowable ANSI limit for controlled exposure, and 3.65 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

### Figure 1. Allocation/Assignment Location Spacing Study

WBWL Allocation Location as B1

## REFERENCE

42 28 02.0 N.

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CLASS = B1 Int = B1
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70 56 37.9 W.

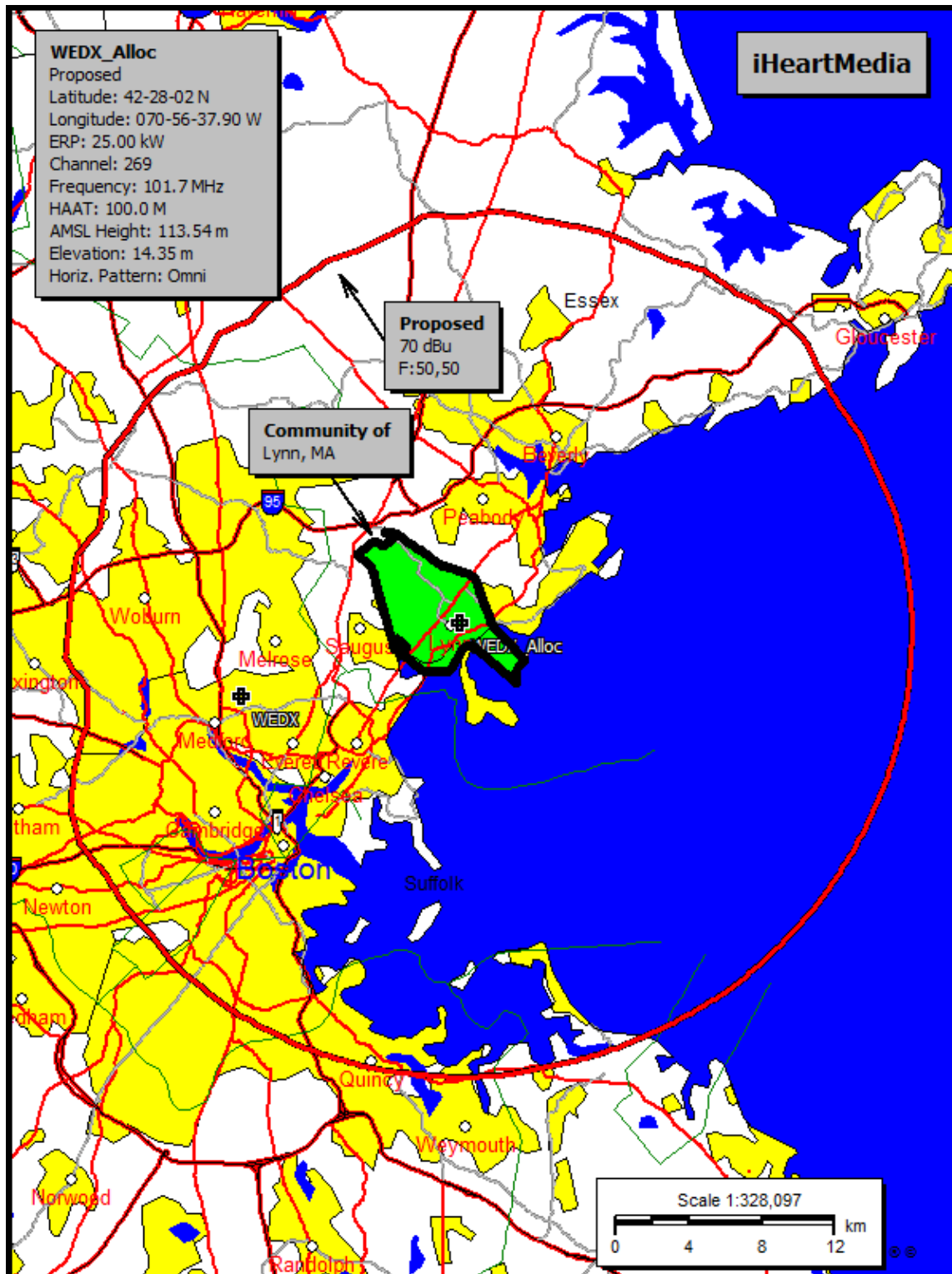
Current Spacings to 3rd Adj.

----- Channel 269 - 101.7 MHz

| Call                                 | Channel | Location |             | Azi | Dist  | FCC    | Margin |        |
|--------------------------------------|---------|----------|-------------|-----|-------|--------|--------|--------|
| WBWL                                 | LIC-Z   | 269A     | Lynn        | MA  | 216.0 | 15.80  | 142.5  | -126.7 |
| WWBB                                 | PrP-Z   | 268A     | Providence  | RI  | 208.5 | 81.08  | 95.5   | -14.4  |
| Contingent Filed Antenna Location    |         |          |             |     |       |        |        |        |
| WCIB                                 | PrP-Z   | 270B1    | Falmouth    | MA  | 164.0 | 104.95 | 113.5  | -8.6   |
| Contingent Filed Antenna Location    |         |          |             |     |       |        |        |        |
| WSAK                                 | LIC     | 271A     | Hampton     | NH  | 5.8   | 48.04  | 47.5   | 0.54   |
| Accepted by Canada on 940413         |         |          |             |     |       |        |        |        |
| WWBB                                 | Alo     | 268A     | Providence  | RI  | 209.3 | 98.28  | 95.5   | 2.8    |
| Contingent Filed Allocation Location |         |          |             |     |       |        |        |        |
| WCIB                                 | Alo-Z   | 270B1    | Falmouth    | MA  | 166.4 | 116.75 | 113.5  | 3.3    |
| Contingent Filed Allocation Location |         |          |             |     |       |        |        |        |
| WGIR-FM                              | LIC     | 266B     | Manchester  | NH  | 317.6 | 77.84  | 70.5   | 7.3    |
| WPOR                                 | LIC     | 270B     | Portland    | ME  | 19.2  | 152.22 | 144.5  | 7.7    |
| WBUR-FM                              | LIC-D   | 215B     | Boston      | MA  | 232.4 | 29.11  | 16.5   | 12.6   |
| WZEI                                 | CP -N   | 268A     | Meredith    | NH  | 343.7 | 124.96 | 95.5   | 29.5   |
| WKKN                                 | LIC-Z   | 270A     | Westminster | VT  | 298.9 | 132.45 | 95.5   | 37.0   |
| WZEI                                 | LIC-N   | 268A     | Meredith    | NH  | 340.4 | 133.31 | 95.5   | 37.8   |
| WGTX                                 | LIC-N   | 272A     | Truro       | MA  | 124.4 | 87.13  | 47.5   | 39.6   |
| WKKN                                 | CP      | 270A     | Westminster | VT  | 302.0 | 142.75 | 95.5   | 47.3   |
| WBRK-FM                              | LIC     | 269A     | Pittsfield  | MA  | 271.1 | 191.18 | 142.5  | 48.7   |
| WWHK                                 | LIC     | 272A     | Concord     | NH  | 328.5 | 97.99  | 47.5   | 50.5   |
| WHYA                                 | LIC-N   | 266A     | Mashpee     | MA  | 150.1 | 99.56  | 47.5   | 52.1   |
| WRSY                                 | LIC-N   | 268A     | Marlboro    | VT  | 287.0 | 149.05 | 95.5   | 53.6   |
| WCVT                                 | LIC-Z   | 269C2    | Stowe       | VT  | 327.2 | 274.22 | 199.5  | 74.7   |

All separation margins include rounding

Figure 2. Map of Principal Community Coverage from Reference Location

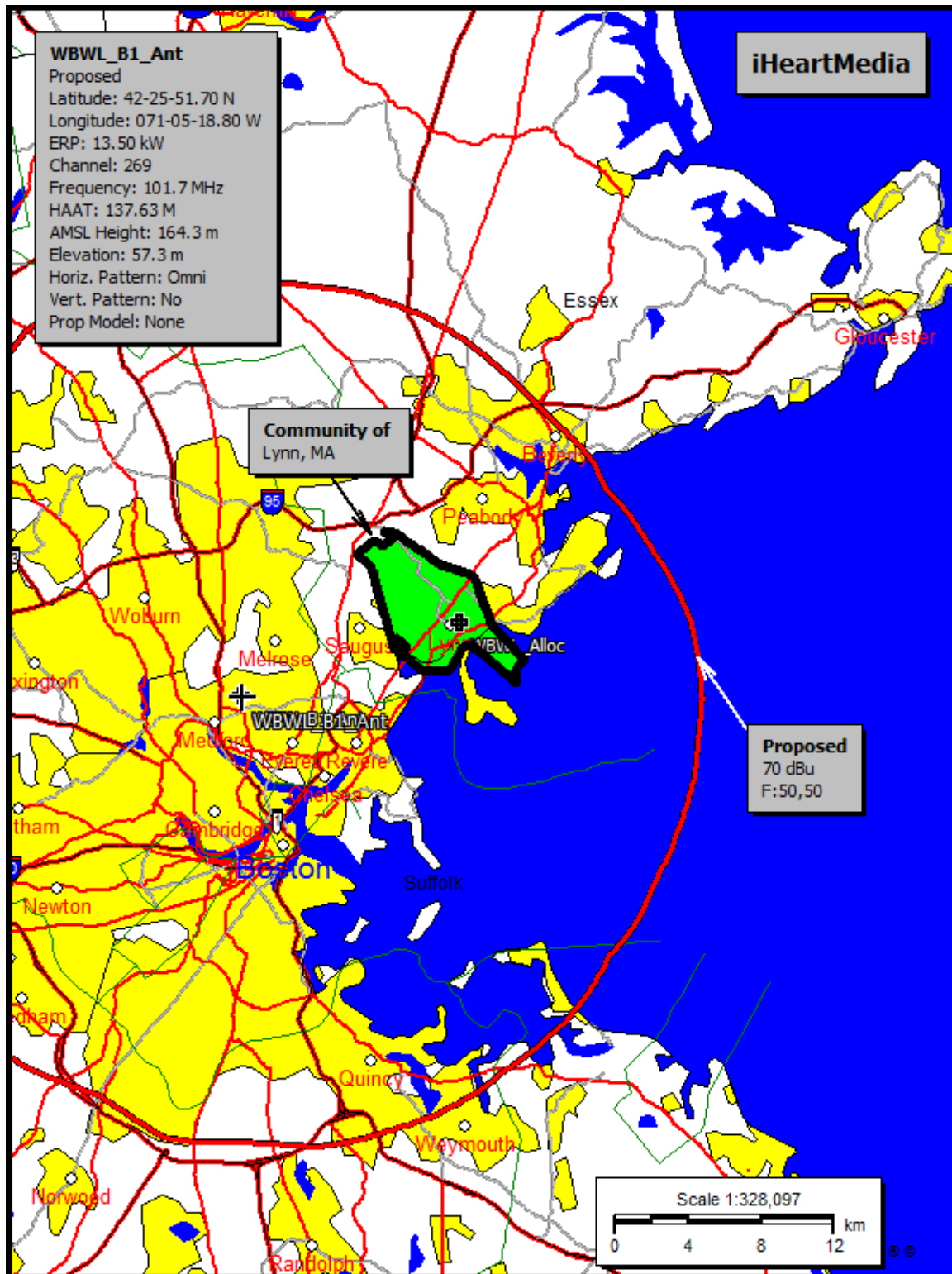


### Figure 3. Antenna Location Spacing Study

| WBWL Antenna Location Study                                     |         |      |     |       |                 |            |          |          |                             |          |         |  |
|---|---------|------|-----|-------|-----------------|------------|----------|----------|-----------------------------|----------|---------|--|
| Amfm Radio Licenses, Llc  |         |      |     |       |                 |            |          |          |                             |          |         |  |
| CH# 269B1- 101.7 MHZ, Pwr= 13.5 kW, HAAT= 139.0 M, COR= 164.3 M |         |      |     |       |                 |            |          |          |                             |          |         |  |
| Average Protected F(50-50)= 45.2 km                             |         |      |     |       |                 |            |          |          |                             |          |         |  |
| 73.215 Omni-directional   |         |      |     |       |                 |            |          |          |                             |          |         |  |
| REFERENCE   | 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)  |  |
| 269A<br>Lynn  | WBWL    | CP   | NCX | 163.5 | 9.13            | 42 21 08.0 | 1.700    | 90.0     | 27.8                        | -129.1*  | -128.8* |  |
|   |         |      | MA  | 343.5 | BPH20140804ADF  | 71 03 25.0 | 191      | 208      | Amfm Radio Licenses, Llc    |          |         |  |
| Current Facility  |         |      |     |       |                 |            |          |          |                             |          |         |  |
| 268A<br>Providence  | WWBB    | App  | ZCX | 201.6 | 72.37           | 41 49 30.4 | 6.000    | 24.4     | 13.6                        | 3.2      | 0.2     |  |
|   |         |      | RI  | 21.4  | BPH20140804ADC  | 71 24 38.0 | 91       | 132      | Clear Channel Broadcasting  |          |         |  |
| Contingent Filed Application Antenna Location                   |         |      |     |       |                 |            |          |          |                             |          |         |  |
| 215B<br>Boston  | WBUR-FM | LIC  | DCX | 219.1 | 17.69           | 42 18 27.0 | 12.000   | 0.0      | 0.0                         | 16.5R    | 1.2M    |  |
|   |         |      | MA  | 39.0  | BLED20050812AGN | 71 13 27.0 | 305      | 349      | The Trustees Of Boston Uni  |          |         |  |
| 266B<br>Manchester  | WGIR-FM | LIC  | CN  | 326.4 | 73.64           | 42 58 54.0 | 11.500   | 7.1      | 69.5                        | 70.5R    | 3.1M    |  |
|   |         |      | NH  | 146.1 | BLH19910718KCC  | 71 35 21.0 | 313      | 457      | Capstar Tx Llc              |          |         |  |
| 270B1<br>Falmouth   | WCIB    | App  | ZCX | 157.1 | 105.14          | 41 33 30.6 | 12.000   | 45.4     | 29.9                        | 11.4     | 3.7     |  |
|   |         |      | MA  | 337.4 | BPH20140804ADE  | 70 35 46.9 | 145      | 152      | Amfm Radio Licenses, Llc    |          |         |  |
| Contingent Filed Application Antenna Location                   |         |      |     |       |                 |            |          |          |                             |          |         |  |
| 271A<br>Hampton<br>Accepted by Canada on 940413                 | WSAK    | LIC  | CN  | 17.8  | 54.46           | 42 53 51.0 | 3.000    | 2.8      | 24.7                        | 47.5R    | 7.0M    |  |
|   |         |      | NH  | 198.0 | BLH19920831KB   | 70 53 02.0 | 100      | 117      | Townsquare Media Portsmouth |          |         |  |
| 270B<br>Portland  | WPOR    | LIC  | CX  | 22.6  | 160.24          | 43 45 33.0 | 32.000   | 87.5     | 65.6                        | 144.5R   | 15.7M   |  |
|   |         |      | ME  | 203.1 | BLH20090225AAD  | 70 19 15.0 | 186      | 234      | Saga Communications Of New  |          |         |  |
| 270A<br>Westminster   | WKKN    | LIC  | ZCX | 303.1 | 124.30          | 43 02 00.0 | 1.050    | 48.5     | 27.4                        | 95.5R    | 28.8M   |  |
|   |         |      | VT  | 122.2 | BLH20080409AAH  | 72 22 03.7 | 236      | 511      | Great Eastern Radio, Llc    |          |         |  |
| 268A<br>Meredith  | WZEI    | CP   | NCX | 349.3 | 126.09          | 43 32 45.3 | 0.560    | 44.5     | 25.0                        | 95.5R    | 30.6M   |  |
|   |         |      | NH  | 169.1 | BPH20121002ACJ  | 71 22 42.8 | 325      | 560      | Great Eastern Radio, Llc    |          |         |  |
| 269A<br>Pittsfield  | WBRK-FM | LIC  | CX  | 272.3 | 179.40          | 42 28 31.0 | 3.000    | 77.2     | 17.8                        | 142.5R   | 36.9M   |  |
|   |         |      | MA  | 90.8  | BMLH20080131AKI | 73 16 07.0 | 44       | 443      | Wbrk, Inc.                  |          |         |  |
| 268A<br>Meredith  | WZEI    | LIC  | NCN | 345.7 | 133.67          | 43 35 46.0 | 6.000    | 53.8     | 29.9                        | 95.5R    | 38.2M   |  |
|   |         |      | NH  | 165.4 | BLH19940309KCB  | 71 29 55.0 | 100      | 310      | Great Eastern Radio, Llc    |          |         |  |
| 270A<br>Westminster   | WKKN    | CP   | CX  | 306.0 | 135.12          | 43 08 14.0 | 3.900    | 26.3     | 14.7                        | 95.5R    | 39.6M   |  |
|   |         |      | VT  | 125.1 | BPH20120625ACL  | 72 25 59.0 | 124      | 366      | Great Eastern Radio, Llc    |          |         |  |
| 268A<br>Marlboro  | WRSY    | LIC  | NCN | 290.0 | 139.03          | 42 50 46.0 | 0.120    | 40.2     | 22.0                        | 95.5R    | 43.5M   |  |
|   |         |      | VT  | 108.9 | BLH19960830KAA  | 72 41 16.0 | 227      | 597      | Saga Communications Of New  |          |         |  |
| 272A<br>Truro   | WGTX    | LIC  | NCX | 118.2 | 95.24           | 42 01 20.0 | 2.150    | 2.3      | 19.8                        | 47.5R    | 47.7M   |  |
|   |         |      | MA  | 298.9 | BLH20081009AOF  | 70 04 28.0 | 81       | 81       | Dunes 102fm Llc             |          |         |  |
| 272A<br>Concord   | WWHK    | LIC  | CX  | 335.7 | 95.95           | 43 13 00.0 | 3.000    | 2.6      | 22.7                        | 47.5R    | 48.5M   |  |
|   |         |      | NH  | 155.4 | BMLH20060210ABW | 71 34 34.0 | 87       | 222      | Devon Broadcasting Company  |          |         |  |
| 266A<br>Mashpee   | WHYA    | LIC  | NCX | 143.2 | 102.77          | 41 41 20.0 | 2.900    | 3.2      | 28.7                        | 47.5R    | 55.3M   |  |
|   |         |      | MA  | 323.7 | BLH20130806AAS  | 70 20 49.0 | 141      | 151      | Codcomm, Inc.               |          |         |  |
| 271B<br>Springfield   | WAQY    | LIC  | CN  | 254.3 | 138.82          | 42 05 00.0 | 17.000   | 7.1      | 66.1                        | 70.5R    | 68.3M   |  |
|   |         |      | MA  | 73.2  | BMLH19930514KAA | 72 42 16.0 | 238      | 317      | Saga Communications Of New  |          |         |  |
| 269A<br>Southold  |         | LIC  | CX  | 216.0 | 213.19          | 40 52 10.0 | 6.000    | 97.0     | 27.3                        | 142.5R   | 70.7M   |  |
|   |         |      | NY  | 35.0  | BLH20050421ABO  | 72 34 37.0 | 86       | 96       | Lrs Radio, Llc              |          |         |  |
| 269C2<br>Stowe  | WCVT    | LIC  | ZCX | 329.7 | 271.40          | 44 31 32.0 | 1.000    | 137.9    | 53.2                        | 199.5R   | 71.9M   |  |
|   |         |      | VT  | 148.5 | BLH20111129DKO  | 72 48 54.0 | 811      | 1237     | Radio Vermont Classics, L.  |          |         |  |

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= , 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 protected contour.  
 « = Station meets FCC minimum distance spacing for its class.

Figure 4. Map of Principal Community Coverage



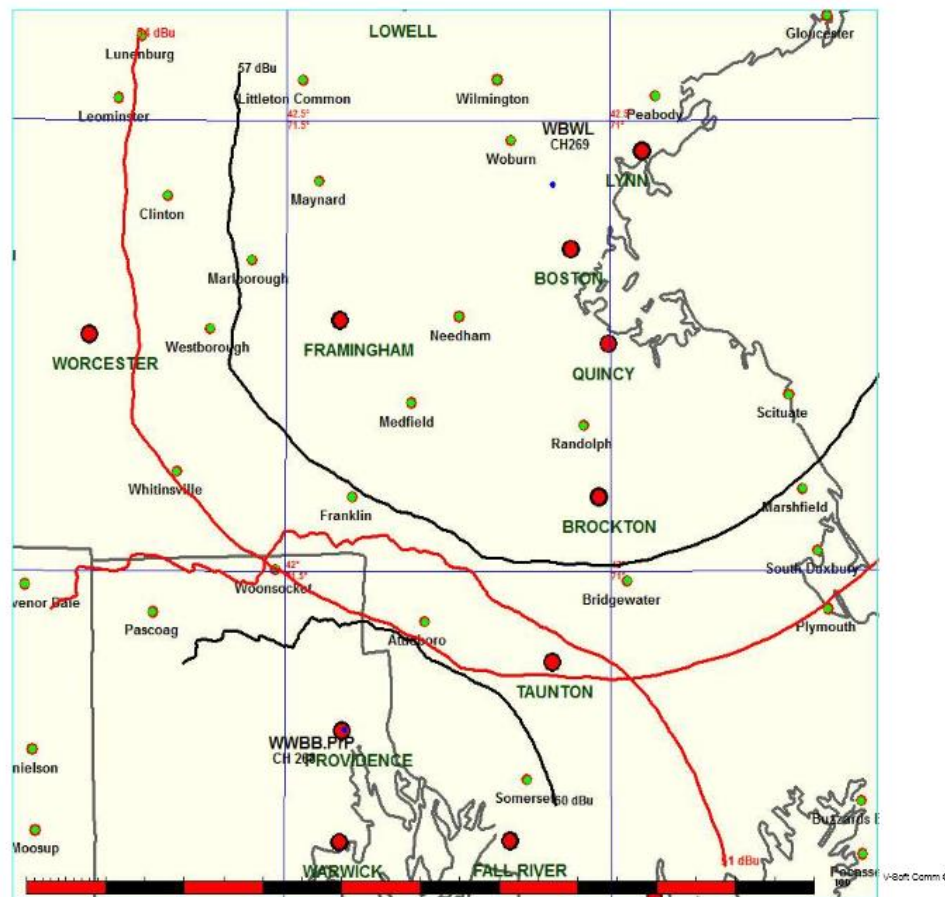
**Figure 5. Map of Predicted WBWL and WWBB Protected and Interfering Contours**

WWBB and WBWL Protected and Interfering 30 Meter 11-12-201  
Clear Channel Broadcasting Licenses, Inc.

FMCommander Single Allocation Study - 11-12-2014 - NED 30 Meter  
WWBB.PrP's Overlaps (In= 17.64 km, Out= 16.51 km)

WWBB.PrP CH 268 A 73.215 Z  
Lat= 41 49 30.4, Lng= 71 24 38.0  
6.0 kW 90.5 M HAAT, 131.9 M COR  
Prot.= 60 dBu, Intef.= 51 dBu

WBWL CH 269 B1 73.215 N BLH20060307AAE  
Lat= 42 25 51.7, Lng= 71 05 18.8  
13.5 kW 138.7 M HAAT, 164 M COR  
Prot.= 57 dBu, Intef.= 54 dBu



**Figure 6. FM\_Over Report of WWBB and WBWL**

**Terrain Data: NED 30 Meter**

**FMOver Analysis**

WWBB.PrP

WBWL BLH20060307AAE

Channel = 268A  
Max ERP = 6 kW  
RCAMSL = 131.9 M  
N. Lat. 41 49 30.4  
W. Lng. 71 24 38.0  
Protected  
60 dBu

Channel = 269B1  
Max ERP = 13.5 kW  
RCAMSL = 164 M  
N. Lat. 42 25 51.7  
W. Lng. 71 05 18.8  
Interfering  
54 dBu

| Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Actual<br>(dBu) | IX<br>(km) |
|----------------------|-------------|-------------|--------------|----------------------|-------------|-------------|--------------|-----------------|------------|
| 336.0                | 000.9295    | 0054.7      | 013.3        | 210.2                | 013.5000    | 0138.3      | 063.8        | 52.3            |            |
| 337.0                | 000.8880    | 0056.4      | 013.4        | 210.1                | 013.5000    | 0138.3      | 063.5        | 52.4            |            |
| 338.0                | 000.8474    | 0058.6      | 013.5        | 210.0                | 013.5000    | 0138.3      | 063.3        | 52.4            |            |
| 339.0                | 000.8077    | 0062.7      | 013.7        | 210.1                | 013.5000    | 0138.3      | 063.0        | 52.6            |            |
| 340.0                | 000.7690    | 0066.1      | 013.9        | 210.0                | 013.5000    | 0138.3      | 062.7        | 52.7            |            |
| 341.0                | 000.7388    | 0067.3      | 013.8        | 209.9                | 013.5000    | 0138.2      | 062.5        | 52.7            |            |
| 342.0                | 000.7092    | 0072.3      | 014.2        | 209.9                | 013.5000    | 0138.2      | 062.1        | 52.9            |            |
| 343.0                | 000.6802    | 0076.4      | 014.4        | 209.9                | 013.5000    | 0138.2      | 061.8        | 53.0            |            |
| 344.0                | 000.6518    | 0077.5      | 014.3        | 209.7                | 013.5000    | 0138.0      | 061.6        | 53.0            |            |
| 345.0                | 000.6240    | 0077.7      | 014.2        | 209.5                | 013.5000    | 0137.6      | 061.5        | 53.0            |            |
| 346.0                | 000.5969    | 0077.7      | 014.1        | 209.2                | 013.5000    | 0137.2      | 061.5        | 53.0            |            |
| 347.0                | 000.5703    | 0075.2      | 013.7        | 208.8                | 013.5000    | 0136.9      | 061.6        | 53.0            |            |
| 348.0                | 000.5443    | 0077.4      | 013.7        | 208.7                | 013.5000    | 0136.8      | 061.4        | 53.0            |            |
| 349.0                | 000.5190    | 0079.1      | 013.7        | 208.5                | 013.5000    | 0136.7      | 061.3        | 53.1            |            |
| 350.0                | 000.4942    | 0082.1      | 013.8        | 208.4                | 013.5000    | 0136.7      | 061.1        | 53.1            |            |
| 351.0                | 000.4748    | 0083.3      | 013.7        | 208.2                | 013.5000    | 0136.5      | 060.9        | 53.2            |            |
| 352.0                | 000.4557    | 0083.7      | 013.6        | 207.9                | 013.5000    | 0136.2      | 060.9        | 53.2            |            |
| 353.0                | 000.4371    | 0085.8      | 013.7        | 207.8                | 013.5000    | 0136.3      | 060.7        | 53.2            |            |
| 354.0                | 000.4188    | 0087.0      | 013.6        | 207.6                | 013.5000    | 0136.5      | 060.6        | 53.3            |            |
| 355.0                | 000.4009    | 0087.9      | 013.5        | 207.3                | 013.5000    | 0136.9      | 060.6        | 53.3            |            |
| 356.0                | 000.3834    | 0085.3      | 013.2        | 207.0                | 013.5000    | 0137.1      | 060.7        | 53.3            |            |
| 357.0                | 000.3664    | 0081.9      | 012.8        | 206.6                | 013.5000    | 0137.3      | 061.0        | 53.2            |            |
| 358.0                | 000.3496    | 0082.2      | 012.7        | 206.4                | 013.5000    | 0137.4      | 061.0        | 53.2            |            |
| 359.0                | 000.3333    | 0087.0      | 012.9        | 206.3                | 013.5000    | 0137.4      | 060.7        | 53.3            |            |
| 000.0                | 000.3174    | 0090.6      | 013.0        | 206.1                | 013.5000    | 0137.4      | 060.5        | 53.4            |            |
| 001.0                | 000.3174    | 0091.7      | 013.1        | 205.9                | 013.5000    | 0137.5      | 060.3        | 53.4            |            |
| 002.0                | 000.3174    | 0089.8      | 012.9        | 205.7                | 013.5000    | 0137.3      | 060.3        | 53.4            |            |
| 003.0                | 000.3174    | 0089.3      | 012.9        | 205.5                | 013.5000    | 0136.8      | 060.3        | 53.4            |            |
| 004.0                | 000.3174    | 0093.0      | 013.2        | 205.4                | 013.5000    | 0136.6      | 060.0        | 53.5            |            |
| 005.0                | 000.3174    | 0094.2      | 013.2        | 205.2                | 013.5000    | 0136.2      | 059.8        | 53.6            |            |
| 006.0                | 000.3174    | 0095.2      | 013.3        | 205.0                | 013.5000    | 0135.6      | 059.7        | 53.6            |            |
| 007.0                | 000.3174    | 0095.6      | 013.3        | 204.8                | 013.5000    | 0135.1      | 059.6        | 53.6            |            |
| 008.0                | 000.3174    | 0096.4      | 013.4        | 204.6                | 013.5000    | 0134.9      | 059.4        | 53.6            |            |
| 009.0                | 000.3174    | 0097.7      | 013.5        | 204.4                | 013.5000    | 0134.9      | 059.3        | 53.7            |            |
| 010.0                | 000.3174    | 0098.5      | 013.5        | 204.2                | 013.5000    | 0134.7      | 059.2        | 53.7            |            |
| 011.0                | 000.3174    | 0099.7      | 013.6        | 204.0                | 013.5000    | 0134.8      | 059.0        | 53.8            |            |
| 012.0                | 000.3174    | 0100.5      | 013.7        | 203.8                | 013.5000    | 0135.0      | 058.9        | 53.8            |            |
| 013.0                | 000.3174    | 0101.0      | 013.7        | 203.6                | 013.5000    | 0135.2      | 058.9        | 53.9            |            |
| 014.0                | 000.3174    | 0098.3      | 013.5        | 203.3                | 013.5000    | 0135.3      | 059.0        | 53.8            |            |
| 015.0                | 000.3174    | 0097.2      | 013.4        | 203.1                | 013.5000    | 0135.1      | 059.0        | 53.8            |            |
| 016.0                | 000.3174    | 0096.7      | 013.4        | 202.8                | 013.5000    | 0134.8      | 059.0        | 53.8            |            |
| 017.0                | 000.3174    | 0094.5      | 013.3        | 202.6                | 013.5000    | 0134.3      | 059.2        | 53.7            |            |
| 018.0                | 000.3174    | 0092.5      | 013.1        | 202.4                | 013.5000    | 0133.9      | 059.3        | 53.6            |            |
| 019.0                | 000.3174    | 0092.2      | 013.1        | 202.1                | 013.5000    | 0133.6      | 059.3        | 53.6            |            |



**Figure 6 - Continued. FM\_Over Report of WWBB and WBWL**

| Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Actual<br>(dBu) | IX<br>(km) |
|----------------------|-------------|-------------|--------------|----------------------|-------------|-------------|--------------|-----------------|------------|
| 020.0                | 000.3174    | 0093.4      | 013.2        | 201.9                | 013.5000    | 0133.4      | 059.2        | 53.6            |            |
| 021.0                | 000.3174    | 0096.0      | 013.4        | 201.7                | 013.5000    | 0133.2      | 059.0        | 53.7            |            |
| 022.0                | 000.3174    | 0096.9      | 013.4        | 201.5                | 013.5000    | 0133.0      | 059.0        | 53.7            |            |
| 023.0                | 000.3174    | 0096.7      | 013.4        | 201.3                | 013.5000    | 0133.0      | 059.0        | 53.7            |            |
| 024.0                | 000.3174    | 0097.0      | 013.4        | 201.0                | 013.5000    | 0133.1      | 059.0        | 53.7            |            |
| 025.0                | 000.3174    | 0098.9      | 013.6        | 200.8                | 013.5000    | 0133.1      | 058.9        | 53.7            |            |
| 026.0                | 000.3174    | 0100.0      | 013.6        | 200.6                | 013.5000    | 0133.3      | 058.8        | 53.8            |            |
| 027.0                | 000.3174    | 0100.1      | 013.7        | 200.3                | 013.5000    | 0133.6      | 058.8        | 53.8            |            |
| 028.0                | 000.3174    | 0100.6      | 013.7        | 200.1                | 013.5000    | 0133.9      | 058.8        | 53.8            |            |
| 029.0                | 000.3174    | 0102.1      | 013.8        | 199.8                | 013.5000    | 0134.2      | 058.7        | 53.8            |            |
| 030.0                | 000.3174    | 0101.8      | 013.8        | 199.6                | 013.5000    | 0134.8      | 058.8        | 53.8            |            |
| 031.0                | 000.3174    | 0101.2      | 013.7        | 199.4                | 013.5000    | 0135.3      | 058.9        | 53.8            |            |
| 032.0                | 000.3174    | 0099.4      | 013.6        | 199.2                | 013.5000    | 0135.8      | 059.1        | 53.8            |            |
| 033.0                | 000.3174    | 0098.8      | 013.6        | 199.0                | 013.5000    | 0136.2      | 059.2        | 53.8            |            |
| 034.0                | 000.3174    | 0099.2      | 013.6        | 198.8                | 013.5000    | 0136.6      | 059.2        | 53.8            |            |
| 035.0                | 000.3174    | 0100.0      | 013.6        | 198.5                | 013.5000    | 0136.9      | 059.2        | 53.8            |            |
| 036.0                | 000.3174    | 0101.6      | 013.8        | 198.3                | 013.5000    | 0136.8      | 059.2        | 53.8            |            |
| 037.0                | 000.3174    | 0103.3      | 013.9        | 198.0                | 013.5000    | 0136.9      | 059.1        | 53.8            |            |
| 038.0                | 000.3174    | 0105.8      | 014.0        | 197.7                | 013.5000    | 0137.2      | 059.1        | 53.9            |            |
| 039.0                | 000.3174    | 0106.8      | 014.1        | 197.5                | 013.5000    | 0136.8      | 059.1        | 53.9            |            |
| 040.0                | 000.3174    | 0107.6      | 014.2        | 197.2                | 013.5000    | 0136.7      | 059.1        | 53.8            |            |
| 041.0                | 000.3174    | 0107.1      | 014.1        | 197.0                | 013.5000    | 0136.4      | 059.3        | 53.8            |            |
| 042.0                | 000.3174    | 0106.0      | 014.1        | 196.8                | 013.5000    | 0136.5      | 059.4        | 53.7            |            |
| 043.0                | 000.3174    | 0105.5      | 014.0        | 196.7                | 013.5000    | 0136.8      | 059.6        | 53.7            |            |
| 044.0                | 000.3174    | 0104.4      | 013.9        | 196.5                | 013.5000    | 0137.0      | 059.7        | 53.6            |            |
| 045.0                | 000.3174    | 0103.4      | 013.9        | 196.3                | 013.5000    | 0137.5      | 059.9        | 53.6            |            |
| 046.0                | 000.3174    | 0103.4      | 013.9        | 196.1                | 013.5000    | 0138.0      | 060.0        | 53.6            |            |
| 047.0                | 000.3174    | 0102.3      | 013.8        | 195.9                | 013.5000    | 0138.4      | 060.2        | 53.5            |            |
| 048.0                | 000.3174    | 0101.7      | 013.8        | 195.8                | 013.5000    | 0139.2      | 060.4        | 53.5            |            |
| 049.0                | 000.3174    | 0102.4      | 013.8        | 195.6                | 013.5000    | 0139.9      | 060.5        | 53.5            |            |
| 050.0                | 000.3174    | 0102.7      | 013.8        | 195.4                | 013.5000    | 0140.2      | 060.6        | 53.5            |            |
| 051.0                | 000.3333    | 0102.4      | 014.0        | 195.1                | 013.5000    | 0140.8      | 060.6        | 53.5            |            |
| 052.0                | 000.3496    | 0100.7      | 014.0        | 194.9                | 013.5000    | 0141.0      | 060.7        | 53.5            |            |
| 053.0                | 000.3664    | 0099.9      | 014.1        | 194.6                | 013.5000    | 0141.4      | 060.8        | 53.5            |            |
| 054.0                | 000.3834    | 0100.5      | 014.3        | 194.3                | 013.5000    | 0141.9      | 060.8        | 53.5            |            |
| 055.0                | 000.4009    | 0100.6      | 014.5        | 194.0                | 013.5000    | 0142.7      | 060.8        | 53.6            |            |
| 056.0                | 000.4188    | 0100.5      | 014.7        | 193.8                | 013.5000    | 0143.3      | 060.9        | 53.6            |            |
| 057.0                | 000.4371    | 0100.6      | 014.9        | 193.5                | 013.5000    | 0143.7      | 060.9        | 53.6            |            |
| 058.0                | 000.4557    | 0100.2      | 015.0        | 193.2                | 013.5000    | 0144.5      | 061.0        | 53.6            |            |
| 059.0                | 000.4748    | 0099.7      | 015.1        | 192.9                | 013.5000    | 0145.5      | 061.1        | 53.6            |            |
| 060.0                | 000.4942    | 0099.6      | 015.3        | 192.7                | 013.5000    | 0146.5      | 061.2        | 53.6            |            |
| 061.0                | 000.5190    | 0099.5      | 015.5        | 192.4                | 013.5000    | 0147.7      | 061.2        | 53.7            |            |
| 062.0                | 000.5443    | 0099.2      | 015.6        | 192.1                | 013.5000    | 0148.7      | 061.3        | 53.7            |            |
| 063.0                | 000.5703    | 0099.2      | 015.9        | 191.8                | 013.5000    | 0150.1      | 061.4        | 53.7            |            |
| 064.0                | 000.5969    | 0100.0      | 016.1        | 191.4                | 013.5000    | 0151.2      | 061.5        | 53.8            |            |
| 065.0                | 000.6240    | 0100.5      | 016.4        | 191.0                | 013.5000    | 0152.1      | 061.5        | 53.8            |            |

**Figure 6 - Continued. FM\_Over Report of WWBB and WBWL**

**Terrain Data: NED 30 Meter      FMOver Analysis**

WBWL BLH20060307AAE

WWBB.PrP

Channel = 269B1  
Max ERP = 13.5 kW  
RCAMSL = 164 M  
N. Lat. 42 25 51.7  
W. Lng. 71 05 18.8  
Protected  
57 dBu

Channel = 268A  
Max ERP = 6 kW  
RCAMSL = 131.9 M  
N. Lat. 41 49 30.4  
W. Lng. 71 24 38.0  
Interfering  
51 dBu

| Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Actual<br>(dBu) | IX<br>(km) |
|----------------------|-------------|-------------|--------------|----------------------|-------------|-------------|--------------|-----------------|------------|
| 157.0                | 013.5000    | 0161.1      | 048.1        | 062.9                | 000.5671    | 0099.3      | 051.1        | 40.9            |            |
| 158.0                | 013.5000    | 0161.1      | 048.1        | 062.8                | 000.5654    | 0099.2      | 050.2        | 41.2            |            |
| 159.0                | 013.5000    | 0160.6      | 048.0        | 062.7                | 000.5612    | 0099.2      | 049.4        | 41.5            |            |
| 160.0                | 013.5000    | 0160.1      | 047.9        | 062.5                | 000.5561    | 0099.1      | 048.6        | 41.7            |            |
| 161.0                | 013.5000    | 0159.8      | 047.9        | 062.3                | 000.5515    | 0099.1      | 047.8        | 42.0            |            |
| 162.0                | 013.5000    | 0159.1      | 047.8        | 062.0                | 000.5448    | 0099.2      | 046.9        | 42.3            |            |
| 163.0                | 013.5000    | 0158.7      | 047.8        | 061.8                | 000.5383    | 0099.4      | 046.1        | 42.5            |            |
| 164.0                | 013.5000    | 0159.5      | 047.9        | 061.7                | 000.5363    | 0099.5      | 045.3        | 42.9            |            |
| 165.0                | 013.5000    | 0159.9      | 047.9        | 061.5                | 000.5317    | 0099.5      | 044.5        | 43.1            |            |
| 166.0                | 013.5000    | 0159.8      | 047.9        | 061.2                | 000.5248    | 0099.6      | 043.7        | 43.4            |            |
| 167.0                | 013.5000    | 0159.1      | 047.8        | 060.8                | 000.5146    | 0099.4      | 042.9        | 43.6            |            |
| 168.0                | 013.5000    | 0159.2      | 047.8        | 060.5                | 000.5070    | 0099.5      | 042.1        | 43.9            |            |
| 169.0                | 013.5000    | 0158.7      | 047.8        | 060.1                | 000.4965    | 0099.6      | 041.3        | 44.1            |            |
| 170.0                | 013.5000    | 0158.8      | 047.8        | 059.7                | 000.4886    | 0099.7      | 040.5        | 44.4            |            |
| 171.0                | 013.5000    | 0158.1      | 047.7        | 059.2                | 000.4780    | 0099.8      | 039.7        | 44.6            |            |
| 172.0                | 013.5000    | 0157.2      | 047.6        | 058.6                | 000.4662    | 0099.8      | 039.0        | 44.8            |            |
| 173.0                | 013.5000    | 0156.8      | 047.5        | 058.0                | 000.4553    | 0100.2      | 038.3        | 45.1            |            |
| 174.0                | 013.5000    | 0155.5      | 047.4        | 057.2                | 000.4409    | 0100.5      | 037.6        | 45.3            |            |
| 175.0                | 013.5000    | 0153.4      | 047.1        | 056.3                | 000.4235    | 0100.7      | 037.0        | 45.4            |            |
| 176.0                | 013.5000    | 0152.5      | 047.0        | 055.5                | 000.4093    | 0100.5      | 036.3        | 45.5            |            |
| 177.0                | 013.5000    | 0152.8      | 047.0        | 054.8                | 000.3981    | 0100.5      | 035.6        | 45.7            |            |
| 178.0                | 013.5000    | 0152.3      | 047.0        | 054.0                | 000.3840    | 0100.5      | 034.9        | 45.9            |            |
| 179.0                | 013.5000    | 0151.2      | 046.8        | 053.1                | 000.3674    | 0099.9      | 034.4        | 45.9            |            |
| 180.0                | 013.5000    | 0150.2      | 046.7        | 052.1                | 000.3506    | 0100.6      | 033.8        | 46.0            |            |
| 181.0                | 013.5000    | 0149.9      | 046.6        | 051.1                | 000.3354    | 0102.2      | 033.2        | 46.3            |            |
| 182.0                | 013.5000    | 0149.7      | 046.6        | 050.2                | 000.3200    | 0102.8      | 032.6        | 46.4            |            |
| 183.0                | 013.5000    | 0149.7      | 046.6        | 049.2                | 000.3174    | 0102.4      | 032.0        | 46.6            |            |
| 184.0                | 013.5000    | 0151.5      | 046.8        | 048.5                | 000.3174    | 0102.1      | 031.2        | 47.0            |            |
| 185.0                | 013.5000    | 0151.9      | 046.9        | 047.4                | 000.3174    | 0101.7      | 030.6        | 47.3            |            |
| 186.0                | 013.5000    | 0152.9      | 047.0        | 046.4                | 000.3174    | 0103.0      | 030.0        | 47.7            |            |
| 187.0                | 013.5000    | 0151.5      | 046.9        | 045.0                | 000.3174    | 0103.4      | 029.6        | 48.0            |            |
| 188.0                | 013.5000    | 0150.0      | 046.6        | 043.5                | 000.3174    | 0105.0      | 029.2        | 48.3            |            |
| 189.0                | 013.5000    | 0150.9      | 046.8        | 042.3                | 000.3174    | 0106.0      | 028.7        | 48.8            |            |
| 190.0                | 013.5000    | 0151.7      | 046.9        | 041.0                | 000.3174    | 0107.1      | 028.1        | 49.2            |            |
| 191.0                | 013.5000    | 0152.1      | 046.9        | 039.6                | 000.3174    | 0107.4      | 027.7        | 49.5            |            |
| 192.0                | 013.5000    | 0149.0      | 046.5        | 037.7                | 000.3174    | 0105.1      | 027.7        | 49.3            |            |
| 193.0                | 013.5000    | 0145.3      | 046.0        | 035.8                | 000.3174    | 0101.4      | 027.8        | 48.9            |            |
| 194.0                | 013.5000    | 0142.7      | 045.7        | 034.0                | 000.3174    | 0099.2      | 027.8        | 48.7            |            |
| 195.0                | 013.5000    | 0140.9      | 045.4        | 032.3                | 000.3174    | 0099.1      | 027.8        | 48.7            |            |
| 196.0                | 013.5000    | 0138.3      | 045.1        | 030.5                | 000.3174    | 0101.6      | 027.9        | 48.8            |            |
| 197.0                | 013.5000    | 0136.4      | 044.8        | 028.8                | 000.3174    | 0102.1      | 028.0        | 48.8            |            |
| 198.0                | 013.5000    | 0137.0      | 044.9        | 027.3                | 000.3174    | 0100.4      | 027.7        | 48.8            |            |
| 199.0                | 013.5000    | 0136.2      | 044.8        | 025.6                | 000.3174    | 0099.8      | 027.7        | 48.8            |            |
| 200.0                | 013.5000    | 0134.0      | 044.5        | 024.0                | 000.3174    | 0097.0      | 027.9        | 48.4            |            |

**Figure 6 - Continued. FM\_Over Report of WWBB and WBWL**

| Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Azimuth<br>(degrees) | ERP<br>(kW) | HAAT<br>(m) | Dist<br>(km) | Actual<br>(dBu) | IX<br>(km) |
|----------------------|-------------|-------------|--------------|----------------------|-------------|-------------|--------------|-----------------|------------|
| 201.0                | 013.5000    | 0133.1      | 044.4        | 022.4                | 000.3174    | 0096.9      | 028.0        | 48.3            |            |
| 202.0                | 013.5000    | 0133.4      | 044.4        | 020.8                | 000.3174    | 0095.6      | 028.0        | 48.2            |            |
| 203.0                | 013.5000    | 0135.0      | 044.6        | 019.2                | 000.3174    | 0092.2      | 027.8        | 48.0            |            |
| 204.0                | 013.5000    | 0134.8      | 044.6        | 017.6                | 000.3174    | 0093.0      | 027.9        | 48.0            |            |
| 205.0                | 013.5000    | 0135.5      | 044.7        | 016.0                | 000.3174    | 0096.8      | 027.9        | 48.4            |            |
| 206.0                | 013.5000    | 0137.5      | 045.0        | 014.3                | 000.3174    | 0097.6      | 027.8        | 48.5            |            |
| 207.0                | 013.5000    | 0137.0      | 044.9        | 012.8                | 000.3174    | 0101.2      | 028.0        | 48.7            |            |
| 208.0                | 013.5000    | 0136.3      | 044.8        | 011.3                | 000.3174    | 0099.7      | 028.3        | 48.4            |            |
| 209.0                | 013.5000    | 0137.0      | 044.9        | 009.7                | 000.3174    | 0098.1      | 028.4        | 48.2            |            |
| 210.0                | 013.5000    | 0138.2      | 045.1        | 008.1                | 000.3174    | 0096.7      | 028.6        | 48.0            |            |
| 211.0                | 013.5000    | 0138.4      | 045.1        | 006.7                | 000.3174    | 0095.8      | 028.9        | 47.7            |            |
| 212.0                | 013.5000    | 0139.1      | 045.2        | 005.2                | 000.3174    | 0094.3      | 029.1        | 47.4            |            |
| 213.0                | 013.5000    | 0138.4      | 045.1        | 003.9                | 000.3174    | 0092.7      | 029.6        | 47.0            |            |
| 214.0                | 013.5000    | 0138.6      | 045.1        | 002.6                | 000.3174    | 0088.9      | 029.9        | 46.4            |            |
| 215.0                | 013.5000    | 0137.7      | 045.0        | 001.4                | 000.3174    | 0091.1      | 030.4        | 46.3            |            |
| 216.0                | 013.5000    | 0138.6      | 045.1        | 000.1                | 000.3174    | 0090.9      | 030.8        | 46.1            |            |
| 217.0                | 013.5000    | 0140.0      | 045.3        | 358.7                | 000.3381    | 0085.2      | 031.1        | 45.6            |            |
| 218.0                | 013.5000    | 0139.5      | 045.2        | 357.7                | 000.3552    | 0081.5      | 031.7        | 45.2            |            |
| 219.0                | 013.5000    | 0140.3      | 045.3        | 356.5                | 000.3753    | 0083.6      | 032.1        | 45.4            |            |
| 220.0                | 013.5000    | 0141.5      | 045.5        | 355.3                | 000.3965    | 0087.2      | 032.5        | 45.9            |            |
| 221.0                | 013.5000    | 0143.5      | 045.8        | 353.9                | 000.4199    | 0086.9      | 032.9        | 45.9            |            |
| 222.0                | 013.5000    | 0144.6      | 045.9        | 352.8                | 000.4406    | 0085.2      | 033.4        | 45.7            |            |
| 223.0                | 013.5000    | 0144.8      | 046.0        | 351.9                | 000.4576    | 0083.6      | 034.0        | 45.4            |            |
| 224.0                | 013.5000    | 0145.0      | 046.0        | 351.0                | 000.4739    | 0083.3      | 034.6        | 45.3            |            |
| 225.0                | 013.5000    | 0144.5      | 045.9        | 350.3                | 000.4874    | 0082.5      | 035.3        | 45.0            |            |
| 226.0                | 013.5000    | 0144.7      | 045.9        | 349.6                | 000.5043    | 0080.5      | 035.9        | 44.7            |            |
| 227.0                | 013.5000    | 0143.6      | 045.8        | 349.1                | 000.5167    | 0079.1      | 036.7        | 44.3            |            |
| 228.0                | 013.5000    | 0143.3      | 045.8        | 348.5                | 000.5315    | 0079.2      | 037.4        | 44.1            |            |
| 229.0                | 013.5000    | 0143.0      | 045.7        | 348.0                | 000.5455    | 0077.2      | 038.1        | 43.7            |            |
| 230.0                | 013.5000    | 0143.9      | 045.8        | 347.2                | 000.5642    | 0075.7      | 038.8        | 43.5            |            |
| 231.0                | 013.5000    | 0145.8      | 046.1        | 346.4                | 000.5871    | 0076.9      | 039.4        | 43.5            |            |
| 232.0                | 013.5000    | 0146.4      | 046.2        | 345.8                | 000.6031    | 0077.7      | 040.1        | 43.4            |            |
| 233.0                | 013.5000    | 0146.6      | 046.2        | 345.3                | 000.6163    | 0078.1      | 040.8        | 43.3            |            |
| 234.0                | 013.5000    | 0147.2      | 046.3        | 344.8                | 000.6307    | 0077.0      | 041.5        | 43.0            |            |
| 235.0                | 013.5000    | 0147.6      | 046.3        | 344.3                | 000.6432    | 0077.1      | 042.2        | 42.8            |            |
| 236.0                | 013.5000    | 0147.7      | 046.3        | 343.9                | 000.6532    | 0077.5      | 043.0        | 42.6            |            |
| 237.0                | 013.5000    | 0147.5      | 046.3        | 343.7                | 000.6613    | 0077.4      | 043.8        | 42.3            |            |
| 238.0                | 013.5000    | 0148.8      | 046.5        | 343.1                | 000.6760    | 0076.8      | 044.5        | 42.1            |            |
| 239.0                | 013.5000    | 0149.7      | 046.6        | 342.7                | 000.6875    | 0075.8      | 045.3        | 41.8            |            |
| 240.0                | 013.5000    | 0150.4      | 046.7        | 342.4                | 000.6979    | 0074.3      | 046.0        | 41.4            |            |
| 241.0                | 013.5000    | 0151.3      | 046.8        | 342.0                | 000.7079    | 0072.6      | 046.8        | 41.1            |            |
| 242.0                | 013.5000    | 0148.5      | 046.5        | 342.3                | 000.7005    | 0073.9      | 047.7        | 40.8            |            |
| 243.0                | 013.5000    | 0143.5      | 045.8        | 342.9                | 000.6829    | 0076.2      | 048.6        | 40.6            |            |
| 244.0                | 013.5000    | 0139.6      | 045.2        | 343.4                | 000.6698    | 0077.1      | 049.5        | 40.4            |            |
| 245.0                | 013.5000    | 0136.9      | 044.9        | 343.6                | 000.6622    | 0077.4      | 050.3        | 40.0            |            |
| 246.0                | 013.5000    | 0134.2      | 044.5        | 343.9                | 000.6544    | 0077.6      | 051.1        | 39.7            |            |

**Figure 7. Map of Predicted WBWL and WCIB Protected and Interfering Contours**

WCIB B1 to WBWL B1 73.215 Contour Map  
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WCIB.C's Overlaps (In= 1.28 km, Out= 7.88 km)

WCIB.C CH 270 B1 73.215 Z  
Lat= 41 33 30.6, Lng= 70 35 45.9  
12.0 kW 145 M HAAT, 150.4 M COR  
Prot.= 57 dBu, Intef.= 51 dBu

WBWL CH 269 B1 73.215 N BPH20140804ADF  
Lat= 42 25 51.7, Lng= 71 05 18.8  
13.5 kW 139 M HAAT, 164.3 M COR  
Prot.= 57 dBu, Intef.= 51 dBu

