

## **Purpose of Application & Technical Statement**

This minor change to the construction permit requests a move to a new tower location and elevation on the authorized operating channel antenna and a reduced effective radiated power. The translator will continue to be used as fill-in service for AM station WADB owned by this licensee.

### **FILL-IN STATUS**

Applicant certifies that the proposal is for a fill-in translator entirely within the primary station's protected contour. The antenna herein, ASR 1044430, is co-located on the same property as the primary AM tower for compliance to this requirement.

### **OVERLAP REQUIREMENTS**

The attached map of contours depicts the proposed allocation situation with respect to all pertinent co and adjacent facilities. All facilities have been depicted utilizing either the maximum ERP or directional pattern data as on file with the commission and 1 degree radial intervals on close in contours in the interest of accuracy. AAT data for the proposed facility was derived from the FCC's 30 second database, *Comstudy*.

As seen on the attached maps of contours, channel 244-D is operable at the proposed location with the following facility notes:

- In compliance with 47 CFR 74.1204(g) the proposed facility operates at an effective radiated power which is over 100 watts, therefore protection to intermediate frequency facilities has been calculated and meets all mileage separation requirements.

- The proposed location is within the protected 54dbu (50,50) contour of second-adjacent stations WQHT channel 246-B and WXNY-FM Channel 242-B, both located 58.3 km away. Therefore, an interference analysis has been conducted based on the u/d ratio of +40 dB at the proposed site. The signal of both stations at the proposed location is 57.3 dBu (50,50) making the relevant interfering contour of the proposed facility 97.3 dBu (50,10).

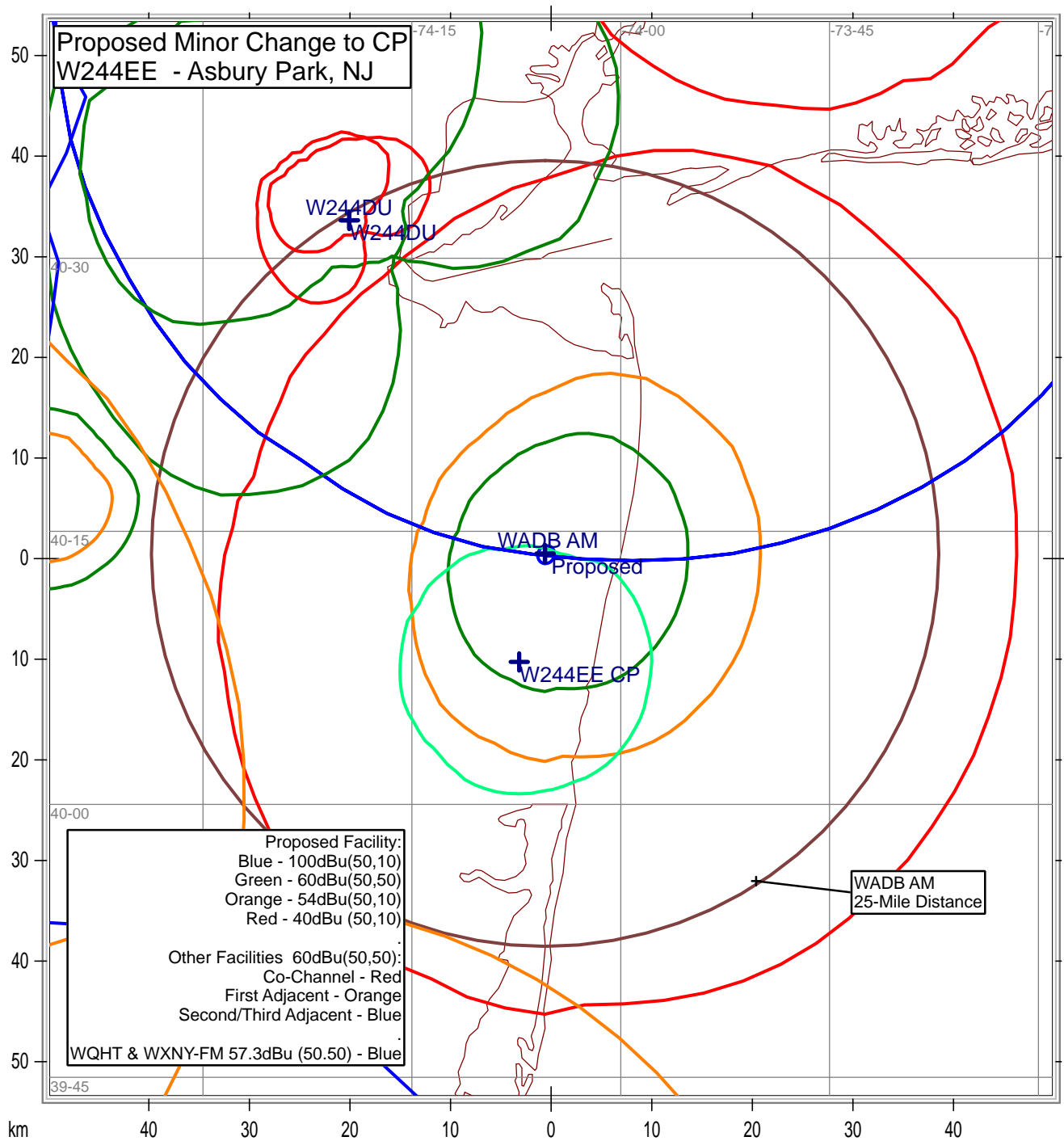
- The applicant proposes the use of the Bext TFC2K five-bay 0.85 wave spaced antenna with the characteristics in the attached chart. The vertical field values were provided by the manufacturer and the calculations demonstrate that the interfering contour will not reach a point 2 meters above the ground at any depression angle.

Based on this showing, a waiver of section 74.1204 is requested in accordance with Living Way Ministries, Inc. (FCC 08-242) on the basis of zero population in the area of interference.

It should 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 CFR. 74.1203.

### **ANTENNA**

The Proposed antenna is a Bext TFC2k-5 circularly polarized directional FM antenna. The orientation is at 120 degrees and fully protects the co-channel facilities in the allocation landscape.



# BEXT

## 5-Bay Model TFC2K Circularly Polarized FM Antenna



Frequency = 98.7 Mhz  
Interfering Contour 96 dBu (50,10)

ERP= 180 watts  
Height = 121 m AGL

Depression Angle	Relative Field (o)	Effective Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Clearance (m)
1	0.990	176.4	1,476.63	9,243.96	7767
2	0.995	178.2	1,484.09	4,622.68	3139
3	0.911	149.4	1,358.80	3,082.57	1724
4	0.846	128.8	1,261.85	2,312.75	1051
5	0.769	106.4	1,147.00	1,851.05	704
6	0.680	83.2	1,014.25	1,543.40	529
7	0.602	65.2	897.91	1,323.79	426
8	0.505	45.9	753.23	1,159.20	406
9	0.409	30.1	610.04	1,031.29	421
10	0.309	17.2	460.89	929.06	468
11	0.212	8.1	316.21	845.50	529
12	0.123	2.7	183.46	775.95	592
13	0.041	0.3	61.15	717.18	656
14	0.031	0.2	46.24	666.87	621
15	0.092	1.5	137.22	623.33	486
16	0.142	3.6	211.80	585.30	373
17	0.171	5.3	255.05	551.80	297
18	0.200	7.2	298.31	522.07	224
19	0.217	8.5	323.67	495.53	172
20	0.222	8.9	331.12	471.70	141
21	0.218	8.6	325.16	450.18	125
22	0.204	7.5	304.28	430.66	126
23	0.181	5.9	269.97	412.89	143
24	0.152	4.2	226.71	396.64	170
25	0.117	2.5	174.51	381.74	207
26	0.079	1.1	117.83	368.02	250
27	0.038	0.3	56.68	355.36	299
28	0.003	0.0	4.47	343.64	339
29	0.034	0.2	50.71	332.77	282
30	0.069	0.9	102.92	322.66	220
31	0.110	2.2	164.07	313.24	149
32	0.131	3.1	195.39	304.44	109
33	0.153	4.2	228.21	296.21	68
34	0.168	5.1	250.58	288.50	38
35	0.178	5.7	265.49	281.27	16
36	0.178	5.7	265.49	274.47	9
37	0.173	5.4	258.04	268.07	10
38	0.162	4.7	241.63	262.04	20
39	0.149	4.0	222.24	256.35	34
40	0.129	3.0	192.41	250.98	59
41	0.106	2.0	158.10	245.91	88
42	0.080	1.2	119.32	241.10	122
43	0.052	0.5	77.56	236.55	159
44	0.004	0.0	5.97	232.24	226
45	0.003	0.0	4.47	228.15	224

Depression Angle	Relative Field	Effective Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Clearance (m)
46	0.029	0.2	43.25	224.27	181
47	0.052	0.5	77.56	220.59	143
48	0.073	1.0	108.88	217.09	108
49	0.091	1.5	135.73	213.76	78
50	0.105	2.0	156.61	210.60	54
51	0.114	2.3	170.04	207.59	38
52	0.122	2.7	181.97	204.73	23
53	0.127	2.9	189.43	202.01	13
54	0.129	3.0	192.41	199.41	7
55	0.129	3.0	192.41	196.95	5
56	0.125	2.8	186.44	194.60	8
57	0.120	2.6	178.99	192.36	13
58	0.113	2.3	168.54	190.24	22
59	0.105	2.0	156.61	188.21	32
60	0.096	1.7	143.19	186.29	43
61	0.088	1.4	131.26	184.46	53
62	0.078	1.1	116.34	182.72	66
63	0.067	0.8	99.93	181.06	81
64	0.056	0.6	83.53	179.50	96
65	0.046	0.4	68.61	178.01	109
66	0.056	0.6	83.53	176.60	93
67	0.036	0.2	53.70	175.26	122
68	0.017	0.1	25.36	174.00	149
69	0.009	0.0	13.42	172.81	159
70	0.002	0.0	2.98	171.68	169
71	0.004	0.0	5.97	170.63	165
72	0.010	0.0	14.92	169.63	155
73	0.015	0.0	22.37	168.70	146
74	0.019	0.1	28.34	167.83	139
75	0.023	0.1	34.31	167.02	133
76	0.026	0.1	38.78	166.27	127
77	0.028	0.1	41.76	165.57	124
78	0.029	0.2	43.25	164.93	122
79	0.030	0.2	44.75	164.35	120
80	0.029	0.2	43.25	163.82	121
81	0.029	0.2	43.25	163.34	120
82	0.028	0.1	41.76	162.91	121
83	0.026	0.1	38.78	162.54	124
84	0.023	0.1	34.31	162.22	128
85	0.021	0.1	31.32	161.95	131
86	0.018	0.1	26.85	161.72	135
87	0.015	0.0	22.37	161.55	139
88	0.013	0.0	19.39	161.43	142
89	0.011	0.0	16.41	161.35	145
90	0.009	0.0	0.00	161.33	161

### NOTES:

- HEIGHT HAS BEEN REDUCED BY 2 METERS TO ALLOW FOR HUMAN EXPOSURE
- DISTANCE FROM ANTENNA TO GROUND IS TO A POINT 2 METERS ABOVE GROUND, CURVATURE INCLUDED IN CALCULATION