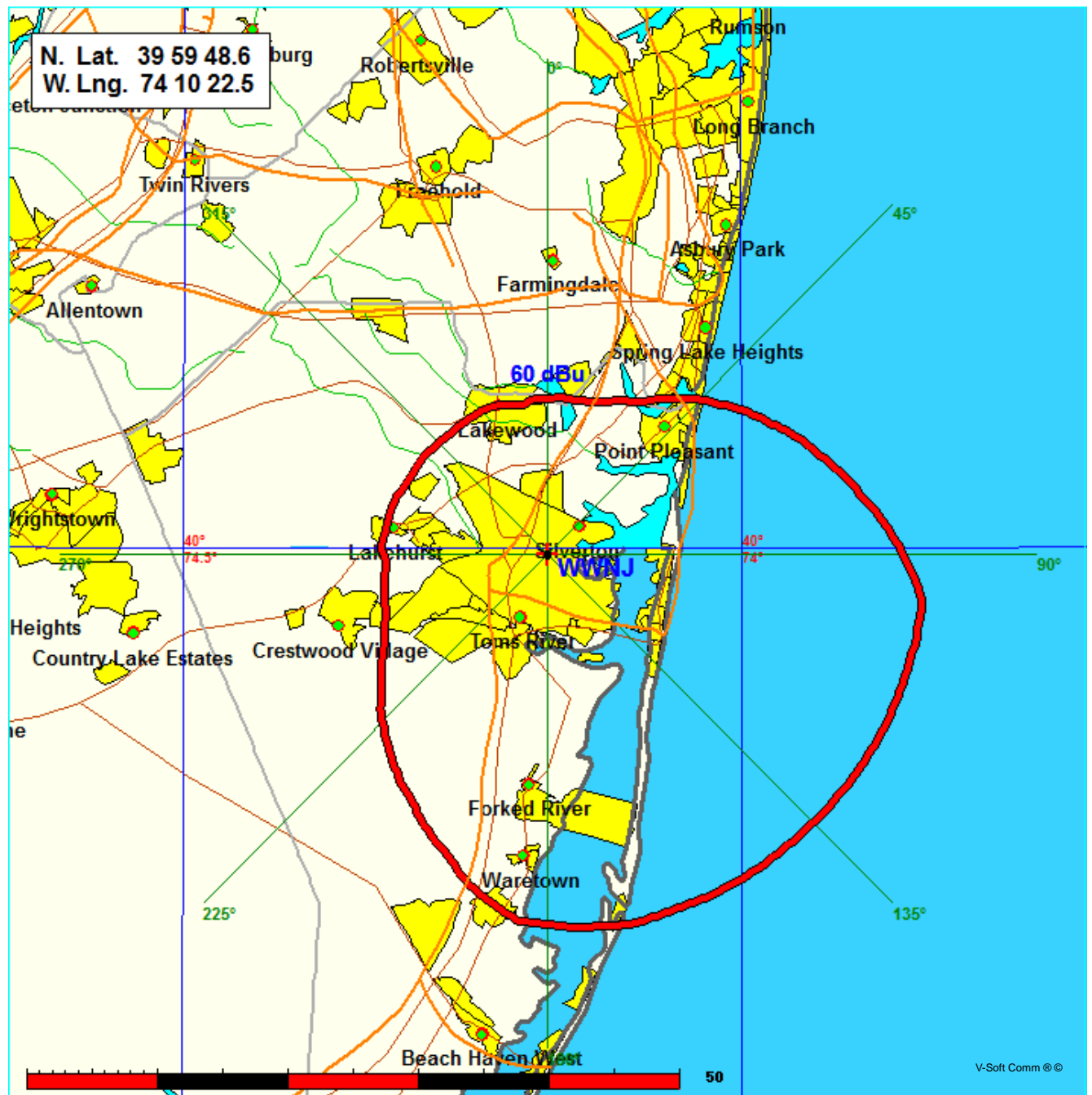


WWNJ - Minor Change - Community Coverage  
Mercer County Community College

Coverage Study - FCC NGDC 30 Sec  
09-17-2012

WWNJ CH216 A , 5.8 kW, 91 M HAAT, 105.7M COR AMSL  
Service Contour = 60 dBu. Population = 375,144



N. Lat. = 395948.6 W. Lng. = 741022.5  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC  
 WWNJ New - Distance to 60 dBu Contour

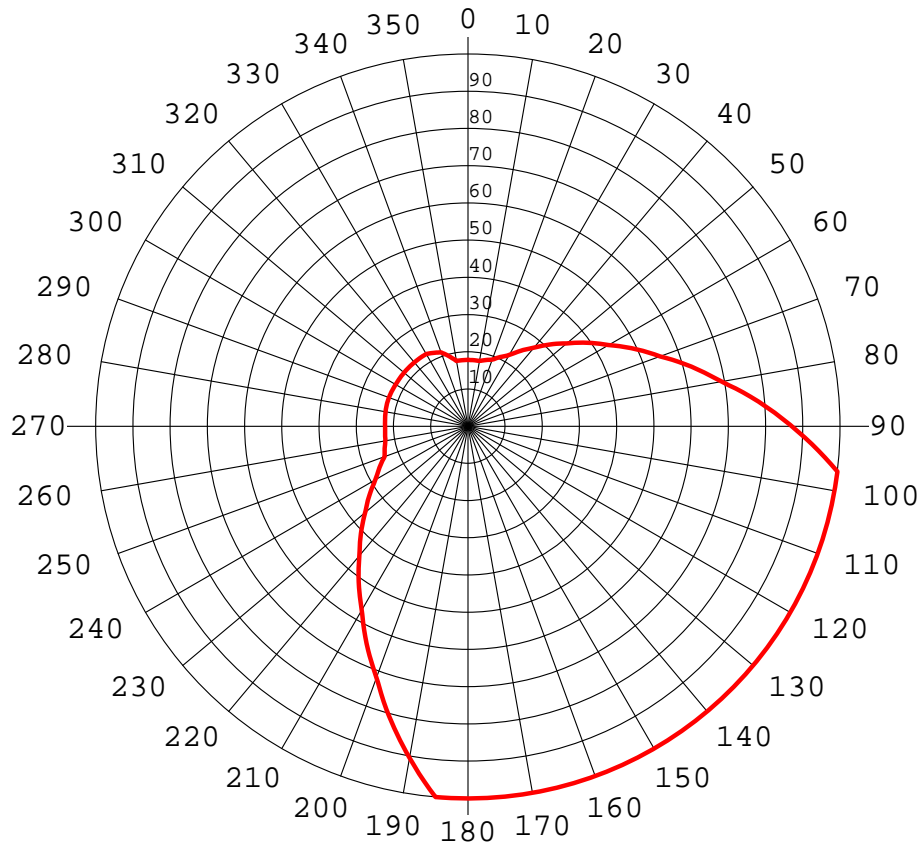
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	10.9	94.8	0.1838	-7.36	0.178	11.64
045	0.0	105.7	0.5592	-2.52	0.310	16.37
090	0.0	105.7	4.3900	6.42	0.870	27.07
135	0.9	104.8	5.8000	7.63	1.000	28.70
180	6.2	99.5	5.8000	7.63	1.000	28.01
225	10.4	95.3	0.9584	-0.18	0.407	17.90
270	16.3	89.4	0.2858	-5.44	0.222	12.58
315	28.6	77.1	0.2910	-5.36	0.224	11.80

Additional Radials: (Not Considered in Average):

097	0.0	105.7	5.8000	7.63	1.000	28.81
185	7.6	98.1	5.8000	7.63	1.000	27.82

Ave El= 9.17 M HAAT= 97 M AMSL= 105.7

# WWNJ - Proposed Pattern



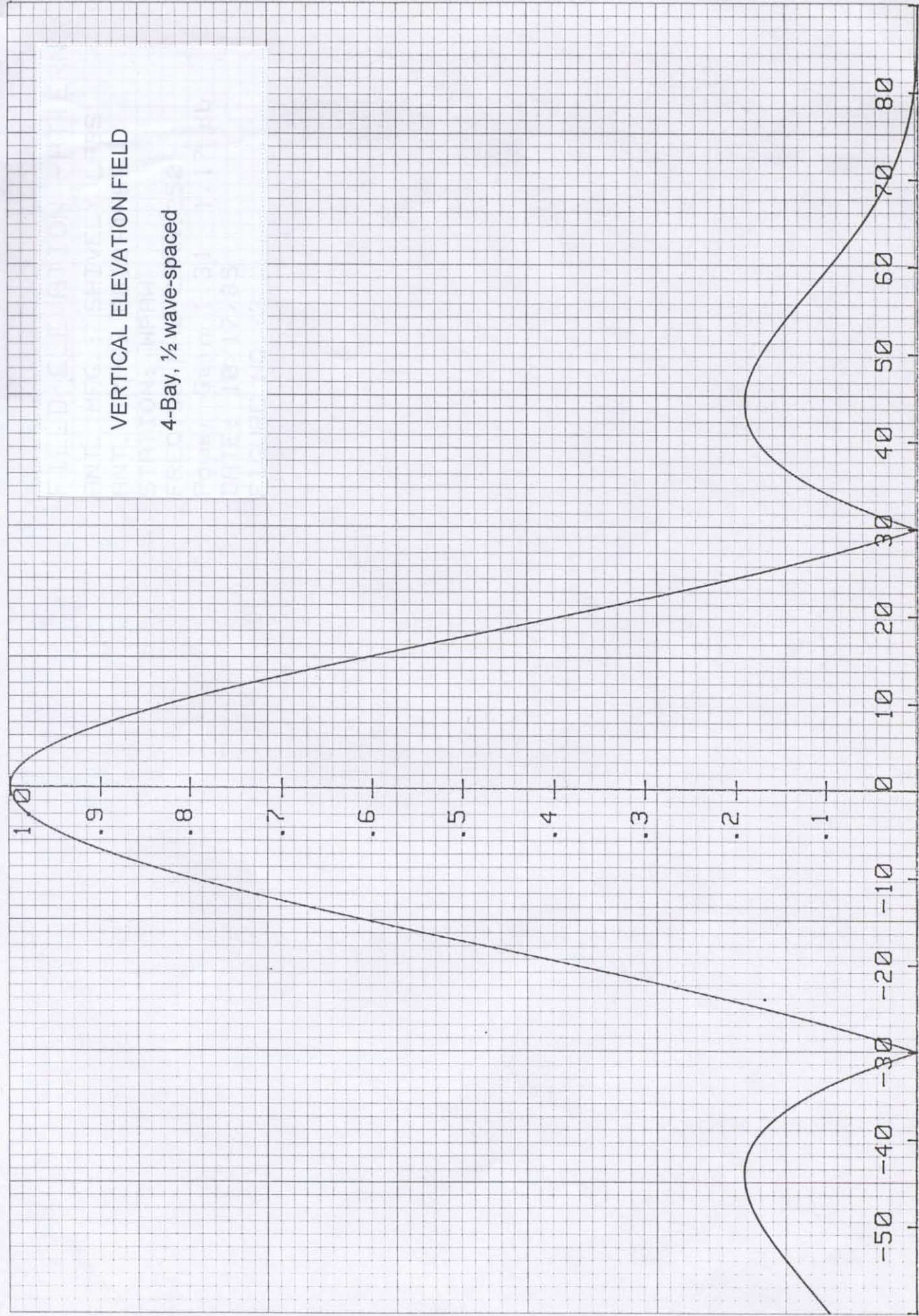
Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.178	-7.36	0.184	-14.99	180	1.000	7.63	5.800	0.00
10	0.178	-7.36	0.184	-14.99	190	0.904	6.76	4.740	-0.88
20	0.190	-6.79	0.209	-14.42	200	0.718	4.76	2.990	-2.88
30	0.220	-5.52	0.281	-13.15	210	0.570	2.75	1.884	-4.88
40	0.275	-3.58	0.439	-11.21	220	0.453	0.76	1.190	-6.88
50	0.346	-1.58	0.694	-9.22	230	0.360	-1.24	0.752	-8.87
60	0.436	0.42	1.103	-7.21	240	0.286	-3.24	0.474	-10.87
70	0.549	2.43	1.748	-5.21	250	0.238	-4.83	0.329	-12.47
80	0.691	4.42	2.769	-3.21	260	0.225	-5.32	0.294	-12.96
90	0.870	6.42	4.390	-1.21	270	0.222	-5.44	0.286	-13.07
100	1.000	7.63	5.800	0.00	280	0.225	-5.32	0.294	-12.96
110	1.000	7.63	5.800	0.00	290	0.226	-5.28	0.296	-12.92
120	1.000	7.63	5.800	0.00	300	0.224	-5.36	0.291	-13.00
130	1.000	7.63	5.800	0.00	310	0.224	-5.36	0.291	-13.00
140	1.000	7.63	5.800	0.00	320	0.224	-5.36	0.291	-13.00
150	1.000	7.63	5.800	0.00	330	0.224	-5.36	0.291	-13.00
160	1.000	7.63	5.800	0.00	340	0.211	-5.88	0.258	-13.51
170	1.000	7.63	5.800	0.00	350	0.178	-7.36	0.184	-14.99

## Additional Points

Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
97	1.000	7.63	5.800	0.00	185	1.000	7.63	5.800	0.00

VERTICAL ELEVATION FIELD

4-Bay, 1/2 wave-spaced



## **Directional Antenna**

The proposed custom directional antenna pattern meets the Commission's rules in that the radio frequency radiation does not change more than two dB for each ten degrees of azimuthal variation. Also, the maximum pattern attenuation in the deepest null is less than 15 dB. The pattern shown is a composite of the maximum field values in the horizontal and vertical planes.

The proposed antenna will be mounted on the leg of a tower that has been specified by the antenna manufacturer in accordance with the instructions provided by the manufacturer. The antenna will not be mounted on the top of a tower that includes a top mounted platform larger than the nominal cross-sectional area of the tower in the horizontal plane. No other antennas of any type will be mounted at the same tower level as the directional antenna nor within the horizontal or vertical distance specified by the manufacturer as being necessary to maintain proper directional operation. The antenna will be designed and tested by a major manufacturer of broadcast antennas known to the Commission. The pattern will be achieved through traditional methods including power-splitting, resonators and phasing.