

CH 6 TV Protection Study

WMWK currently operates on CH 201 co-located at the WITI CH 6 TV site. The minor modification proposes to relocate WMWK to a site that is 26.03 km from its existing location, and increase the ERP to 1.0 kW vertical-only (DA) at a COR AMSL of 420 meters. Per Section 73.525, the maximum permissible vertically polarized ERP of 1.0 kW (DA) was calculated by multiplying the maximum horizontally polarized ERP of .025 kW (DA) by 40, as the FM predicted interference area lies entirely outside the limits of a city of 50,000 persons or more.

There are two CH 6 TV stations that are within the required study distance of 265 km for FM CH 201, WITI-TV, Milwaukee, WI, and KWQCTV, Davenport, IA. WMWK's proposed modification is within the 47 dBu of WITI TV, however, WMWK will have no overlap with KWQCTV.

Pages 2 - 11 of this Exhibit contain information on WITI-TV, and pages 12 - 13 contain information on KWQCTV.

CH 6 TV Protection Study

WITI LI 06Z 1C Dom 100.000 kW 305 M HAAT V
 Milwaukee WI 511M COR AMSL
 Lat= 43 05 26, Lng= 87 53 50
 Witi License,inc. BLCT19990129KT
 Fac ID# 73107, Cutoff Date= 991126
 Dist.=26.00047 km, Azi=59.0°, Rev Azi=239.2°

Direct line HAAT Grade B, 47 dBu= 102.98 km & Grade A= 53.89 km

Distance from reference to Grade B = -76.98 km
 Cutoff Dist from Full Service= 265
 Maximum Co-located power= 1.1 kW
 WITI Signal Contour at Reference location = 83.2 dBu
 CH. 201, U/D ratio = -6.0 dB, Maximum FM signal = 77.2 dBu , add 6 dB if within angle.

TV/FM D to U values

47.0	48.0	55.0	53.7	63.0	59.4	71.0	66.1	79.0	73.4	87.0	80.7
48.0	48.7	56.0	54.4	64.0	60.1	72.0	67.0	80.0	74.3	88.0	81.7
49.0	49.3	57.0	55.1	65.0	60.9	73.0	67.9	81.0	75.2	89.0	82.6
50.0	50.0	58.0	55.7	66.0	61.7	74.0	68.7	82.0	76.1	90.0	83.5
51.0	50.7	59.0	56.4	67.0	62.6	75.0	69.7	83.0	77.0	91.0	83.5
52.0	51.5	60.0	57.1	68.0	63.4	76.0	70.6	84.0	77.9	92.0	83.5
53.0	52.2	61.0	57.9	69.0	64.3	77.0	71.5	85.0	78.9	93.0	83.5
54.0	52.9	62.0	58.6	70.0	65.2	78.0	72.4	86.0	79.8	94.0	83.5

Tabulation of the HAAT & distances to WITI TV CH 6 81 dBu – 85.5 dBu protected contours, 230 - 250 degrees

N. Lat. = 43 05 26 W. Lng. = 87 53 50
 HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Azi.	AV EL	HAAT	ERP kW	dBk	Field	81-F5	81.5-F5	82-F5	82.5-F5	83-F5
230	216.0	295.0	100.0000	20.00	1.000	29.33	28.55	27.79	27.06	26.34
235	215.8	295.2	100.0000	20.00	1.000	29.34	28.56	27.80	27.06	26.35
240	218.6	292.4	100.0000	20.00	1.000	29.20	28.43	27.67	26.94	26.23
245	221.1	289.9	100.0000	20.00	1.000	29.08	28.31	27.56	26.83	26.12
250	220.4	290.6	100.0000	20.00	1.000	29.11	28.34	27.59	26.86	26.15

Azi.	AV EL	HAAT	ERP kW	dBk	Field	83.5-F5	84-F5	84.5-F5	85-F5	85.5-F5
230	216.0	295.0	100.0000	20.00	1.000	25.64	24.96	24.30	23.65	23.02
235	215.8	295.2	100.0000	20.00	1.000	25.65	24.97	24.31	23.66	23.02
240	218.6	292.4	100.0000	20.00	1.000	25.53	24.86	24.20	23.55	22.92
245	221.1	289.9	100.0000	20.00	1.000	25.43	24.76	24.10	23.46	22.83
250	220.4	290.6	100.0000	20.00	1.000	25.46	24.78	24.12	23.48	22.85

CH 6 TV Protection Study

Below is the tabulation of the FM interference contours and distances and the corresponding CH 6 protected contours. The FM interference contour distance that intersects with the corresponding CH 6 protected contour is highlighted in yellow. These FM interference contour distances result in the FM predicted interference area.

N. Lat. = 42 58 14 W. Lng. = 88 10 16

HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Azi.	AV EL	HAAT	ERP kW	dBk	Field	81.0	81.5	82.0	(CH 6 Pro. Contours)
						75.2-F5	75.65-F5	76.1-F5	
000	257.0	163.0	0.0250	-16.02	1.000	3.62	3.50	3.39	
010	267.8	152.2	0.0250	-16.02	1.000	3.50	3.39	3.28	
020	260.3	159.7	0.0250	-16.02	1.000	3.58	3.46	3.36	
030	254.3	165.7	0.0250	-16.02	1.000	3.64	3.52	3.41	
040	250.5	169.5	0.0250	-16.02	1.000	3.68	3.56	3.45	
050	245.7	174.3	0.0250	-16.02	1.000	3.73	3.61	3.48	
060	243.6	176.4	0.0250	-16.02	1.000	3.75	3.62	3.50	
070	243.1	176.9	0.0250	-16.02	1.000	3.75	3.63	3.51	
080	242.3	177.7	0.0250	-16.02	1.000	3.76	3.63	3.51	
090	247.1	172.9	0.0250	-16.02	1.000	3.71	3.59	3.47	
100	249.6	170.4	0.0250	-16.02	1.000	3.69	3.57	3.45	
110	246.9	173.1	0.0250	-16.02	1.000	3.72	3.59	3.47	
120	250.3	169.7	0.0250	-16.02	1.000	3.68	3.56	3.45	
130	250.0	170.0	0.0160	-17.96	0.800	3.19	3.08	2.98	
140	250.8	169.2	0.0100	-20.00	0.632	2.74	2.64	2.55	
150	245.9	174.1	0.0070	-21.55	0.529	2.45	2.36	2.28	
160	244.5	175.5	0.0070	-21.55	0.529	2.45	2.37	2.28	
170	250.8	169.2	0.0070	-21.55	0.529	2.42	2.34	2.26	
180	259.3	160.7	0.0070	-21.55	0.529	2.38	2.30	2.22	
190	265.1	154.9	0.0070	-21.55	0.529	2.35	2.27	2.19	
200	267.3	152.7	0.0070	-21.55	0.529	2.34	2.26	2.18	
210	272.9	147.1	0.0070	-21.55	0.529	2.31	2.23	2.16	
220	266.6	153.4	0.0070	-21.55	0.529	2.35	2.27	2.19	
230	264.6	155.4	0.0070	-21.55	0.529	2.36	2.28	2.20	
240	247.2	172.8	0.0070	-21.55	0.529	2.44	2.36	2.27	
250	251.8	168.2	0.0070	-21.55	0.529	2.42	2.34	2.26	
260	252.4	167.6	0.0070	-21.55	0.529	2.42	2.33	2.25	
270	259.5	160.5	0.0070	-21.55	0.529	2.38	2.30	2.22	
280	262.6	157.4	0.0070	-21.55	0.529	2.37	2.29	2.21	
290	265.1	154.9	0.0070	-21.55	0.529	2.35	2.27	2.19	
300	278.9	141.1	0.0070	-21.55	0.529	2.28	2.20	2.13	
310	274.0	146.0	0.0070	-21.55	0.529	2.31	2.23	2.15	
320	271.4	148.6	0.0070	-21.55	0.529	2.32	2.24	2.16	
330	265.1	154.9	0.0070	-21.55	0.529	2.35	2.27	2.20	
340	268.5	151.5	0.0100	-20.00	0.632	2.62	2.53	2.45	
350	265.4	154.6	0.0160	-17.96	0.800	3.06	2.96	2.87	

CH 6 TV Protection Study

N. Lat. = 42 58 14 W. Lng. = 88 10 16
 HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Azi.	AV EL	HAAT	ERP kW	dBk	Field	82.5	83.0	83.5	84.0 (CH 6 Pro.Contours)
						76.55-F5	77-F5	77.45-F5	77.9-F5
000	257.0	163.0	0.0250	-16.02	1.000	3.28	3.17	3.06	2.96
010	267.8	152.2	0.0250	-16.02	1.000	3.18	3.07	2.97	2.88
020	260.3	159.7	0.0250	-16.02	1.000	3.25	3.14	3.03	2.94
030	254.3	165.7	0.0250	-16.02	1.000	3.30	3.19	3.08	2.98
040	250.5	169.5	0.0250	-16.02	1.000	3.34	3.22	3.11	3.00
050	245.7	174.3	0.0250	-16.02	1.000	3.37	3.26	3.15	3.04
060	243.6	176.4	0.0250	-16.02	1.000	3.39	3.28	3.17	3.05
070	243.1	176.9	0.0250	-16.02	1.000	3.39	3.28	3.17	3.06
080	242.3	177.7	0.0250	-16.02	1.000	3.40	3.29	3.18	3.06
090	247.1	172.9	0.0250	-16.02	1.000	3.36	3.25	3.14	3.03
100	249.6	170.4	0.0250	-16.02	1.000	3.34	3.23	3.12	3.01
110	246.9	173.1	0.0250	-16.02	1.000	3.36	3.25	3.14	3.03
120	250.3	169.7	0.0250	-16.02	1.000	3.34	3.23	3.12	3.01
130	250.0	170.0	0.0160	-17.96	0.800	2.88	2.79	2.70	2.60
140	250.8	169.2	0.0100	-20.00	0.632	2.46	2.38	2.30	2.21
150	245.9	174.1	0.0070	-21.55	0.529	2.20	2.11	2.03	1.95
160	244.5	175.5	0.0070	-21.55	0.529	2.20	2.12	2.03	1.95
170	250.8	169.2	0.0070	-21.55	0.529	2.18	2.09	2.01	1.94
180	259.3	160.7	0.0070	-21.55	0.529	2.14	2.06	1.98	1.91
190	265.1	154.9	0.0070	-21.55	0.529	2.12	2.04	1.96	1.89
200	267.3	152.7	0.0070	-21.55	0.529	2.11	2.03	1.95	1.88
210	272.9	147.1	0.0070	-21.55	0.529	2.08	2.00	1.93	1.86
220	266.6	153.4	0.0070	-21.55	0.529	2.11	2.03	1.96	1.88
230	264.6	155.4	0.0070	-21.55	0.529	2.12	2.04	1.96	1.89
240	247.2	172.8	0.0070	-21.55	0.529	2.19	2.11	2.02	1.95
250	251.8	168.2	0.0070	-21.55	0.529	2.17	2.09	2.01	1.93
260	252.4	167.6	0.0070	-21.55	0.529	2.17	2.09	2.01	1.93
270	259.5	160.5	0.0070	-21.55	0.529	2.14	2.06	1.98	1.91
280	262.6	157.4	0.0070	-21.55	0.529	2.13	2.05	1.97	1.90
290	265.1	154.9	0.0070	-21.55	0.529	2.12	2.04	1.96	1.89
300	278.9	141.1	0.0070	-21.55	0.529	2.05	1.98	1.91	1.84
310	274.0	146.0	0.0070	-21.55	0.529	2.08	2.00	1.93	1.86
320	271.4	148.6	0.0070	-21.55	0.529	2.09	2.01	1.94	1.87
330	265.1	154.9	0.0070	-21.55	0.529	2.12	2.04	1.96	1.89
340	268.5	151.5	0.0100	-20.00	0.632	2.37	2.29	2.21	2.13
350	265.4	154.6	0.0160	-17.96	0.800	2.78	2.69	2.60	2.51

CH 6 TV Protection Study

N. Lat. = 42 58 14 W. Lng. = 88 10 16

HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Azi.	AV EL	HAAT	ERP kW	dBk	Field	84.5	85.0	85.5	(CH 6 Pro. Contours)
						78.4-F5	78.9-F5	79.35-F5	
000	257.0	163.0	0.0250	-16.02	1.000	2.86	2.75	2.66	
010	267.8	152.2	0.0250	-16.02	1.000	2.78	2.68	2.59	
020	260.3	159.7	0.0250	-16.02	1.000	2.83	2.73	2.64	
030	254.3	165.7	0.0250	-16.02	1.000	2.88	2.77	2.68	
040	250.5	169.5	0.0250	-16.02	1.000	2.90	2.80	2.70	
050	245.7	174.3	0.0250	-16.02	1.000	2.93	2.82	2.73	
060	243.6	176.4	0.0250	-16.02	1.000	2.94	2.84	2.74	
070	243.1	176.9	0.0250	-16.02	1.000	2.94	2.84	2.74	
080	242.3	177.7	0.0250	-16.02	1.000	2.95	2.84	2.75	
090	247.1	172.9	0.0250	-16.02	1.000	2.92	2.82	2.72	
100	249.6	170.4	0.0250	-16.02	1.000	2.91	2.80	2.71	
110	246.9	173.1	0.0250	-16.02	1.000	2.92	2.82	2.72	
120	250.3	169.7	0.0250	-16.02	1.000	2.90	2.80	2.70	
130	250.0	170.0	0.0160	-17.96	0.800	2.50	2.41	2.33	
140	250.8	169.2	0.0100	-20.00	0.632	2.12	2.03	1.95	
150	245.9	174.1	0.0070	-21.55	0.529	1.86	1.78	1.70	
160	244.5	175.5	0.0070	-21.55	0.529	1.87	1.78	1.70	
170	250.8	169.2	0.0070	-21.55	0.529	1.85	1.77	1.69	
180	259.3	160.7	0.0070	-21.55	0.529	1.83	1.74	1.67	
190	265.1	154.9	0.0070	-21.55	0.529	1.81	1.73	1.65	
200	267.3	152.7	0.0070	-21.55	0.529	1.80	1.72	1.65	
210	272.9	147.1	0.0070	-21.55	0.529	1.78	1.70	1.63	
220	266.6	153.4	0.0070	-21.55	0.529	1.80	1.72	1.65	
230	264.6	155.4	0.0070	-21.55	0.529	1.81	1.73	1.65	
240	247.2	172.8	0.0070	-21.55	0.529	1.86	1.77	1.70	
250	251.8	168.2	0.0070	-21.55	0.529	1.85	1.76	1.69	
260	252.4	167.6	0.0070	-21.55	0.529	1.85	1.76	1.69	
270	259.5	160.5	0.0070	-21.55	0.529	1.82	1.74	1.67	
280	262.6	157.4	0.0070	-21.55	0.529	1.81	1.73	1.66	
290	265.1	154.9	0.0070	-21.55	0.529	1.81	1.73	1.65	
300	278.9	141.1	0.0070	-21.55	0.529	1.76	1.69	1.62	
310	274.0	146.0	0.0070	-21.55	0.529	1.78	1.70	1.63	
320	271.4	148.6	0.0070	-21.55	0.529	1.79	1.71	1.64	
330	265.1	154.9	0.0070	-21.55	0.529	1.81	1.73	1.65	
340	268.5	151.5	0.0100	-20.00	0.632	2.05	1.96	1.89	
350	265.4	154.6	0.0160	-17.96	0.800	2.42	2.33	2.25	

CH 6 TV Protection Study

The location of the CH 6 protected contours plotted on the map were determined by using the FCC's Sprong program to find terminal coordinates giving a bearing and distance. The Delorme Street Atlas map was used as the work map to plot the CH 6 protected contours and the FM interference contours, as geographical coordinates in the NAD 83 degree/minute/decimal format are able to be located. The terminal coordinates of the CH 6 protected contour distances were converted from NAD 27 to NAD 83, then the seconds converted to decimal. This was done for the CH 6 81, 82, 83, 84, & 85 dBu contours and the location of the FM site. The intermediate CH 6 contours (81.5, 82.5, 83.5, 84.5, & 85.5 dBu) were determined by their distance relationship to the primary contours. The distances to the FM interference contours were plotted in 10 degree increments, using the FM interference contour that located the closest to the appropriate corresponding CH 6 protected contour.

The FM predicted interference area was then plotted onto a US Census map obtained online from the US Census Bureau. The Census map is divided into Census Tracts, Block Groups, and Census Blocks. Each Census Tract, Block Group, and Census Block was verified and more clearly labeled on the map. The population of each Block was also obtained online from the US Census Bureau. The total population of a Block was included for all Blocks completely encompassed within the FM predicted interference area. For those Blocks that are partially included in the FM predicted interference area, the percent of the Block covered was determined and that percent of the population of that Block was included (uniform distribution of population method).

The population of the FM predicted interference area was determined to be 2,332 persons. In comparison, the population determined by using the computer centroid block retrieval method is 2,433. Using either method results in the proposed modification of WMWK to be in compliance with Section 73.525 in that there is less than 3000 persons within the FM predicted interference area.

Page 7 of this Exhibit contains a tabulation of the CH 6 protected contours terminal coordinates converted from NAD 27 to NAD 83 (& decimal).

Page 8 of this Exhibit contains the Street Atlas map showing the plot of the terminal coordinates and the resulting CH 6 protected contours and the FM site.

Page 9 of this Exhibit contains the Street Atlas map showing the CH 6 protected contours, the corresponding intersecting FM interference contours, and the FM predicted interference area.

Page 10 of this Exhibit contains the US Census map showing the FM predicted interference area.

Page 11 of this Exhibit contains the US Census Block population data and the percentage/population of each block covered by the FM predicted interference area.

CH 6 TV Protection Study

CH 6	230	235	240	245	250
85 dBu Dist (km)	23.65	23.66	23.55	23.46	23.48
Terminal coordinates NAD 27	42 57 13 88 07 12	42 58 06 88 08 08	42 59 04 88 08 53	43 00 04 88 09 31	43 01 05 88 10 07
Terminal coordinates NAD 83	42 57 13.05 88 07 12.32	42 58 06.05 88 08 08.32	42 59 04.05 88 08 53.33	43 00 04.05 88 09 31.33	43 01 05.04 88 10 07.33
Terminal coordinates NAD 83 decimal	42 57.218 88 07.205	42 58.101 88 08.139	42 59.068 88	43 00.068 88 09.522	43 01.084 88 10.122
84 dBu Dist (km)	24.96	24.97	24.86	24.76	24.78
Terminal coordinates NAD 27	42 56 46 88 07 56	42 57 41 88 08 55	42 58 42 88 09 43	42 59 46 88 10 23	43 00 50 88 11 01
Terminal coordinates NAD 83	42 56 46.05 88 07 56.32	42 57 41.05 88 08 55.32	42 58 42.05 88 09 43.33	42 59 46.05 88 10 23.33	43 00 50.04 88 11 01.33
Terminal coordinates NAD 83 decimal	42 56.768 88 07.939	42 57.684 88 08.922	42 58.701 88 09.722	42 59.768 88 10.389	43 00.834 88 11.022
83 dBu Dist (km)	26.34	26.35	26.23	26.12	26.15
Terminal coordinates NAD 27	42 56 17 88 08 42	42 57 16 88 09 45	42 58 20 88 10 35	42 59 27 88 11 18	43 00 35 88 11 58
Terminal coordinates NAD 83	42 56 17.05 88 08 42.32	42 57 16.05 88 09 45.32	42 58 20.05 88 10 35.33	42 59 27.05 88 11 18.33	43 00 35.04 88 11 58.33
Terminal coordinates NAD 83 decimal	42 56.284 88 08.705	42 57.268 88 09.755	42 58.334 88 10.589	42 59.451 88 11.306	43 00.584 88 11.972
82 dBu Dist (km)	27.79	27.80	27.67	27.56	27.59
Terminal coordinates NAD 27	42 55 47 88 09 31	42 56 48 88 10 37	42 57 57 88 11 30	42 59 07 88 12 16	43 00 19 88 12 58
Terminal coordinates NAD 83	42 55 47.05 88 09 31.32	42 56 48.05 88 10 37.33	42 57 57.05 88 11 30.33	42 59 07.05 88 12 16.33	43 00 19.04 88 12 58.33
Terminal coordinates NAD 83 decimal	42 55.784 88 09.522	42 56.801 88 10.622	42 57.951 88 11.506	42 59.118 88 12.272	43 00.317 88 12.972
81 dBu Dist (km)	29.33	29.34	29.20	29.08	29.11
Terminal coordinates NAD 27	42 55 14 88 10 23	42 56 20 88 11 33	42 57 32 88 12 29	42 58 46 88 13 16	43 00 02 88 14 01
Terminal coordinates NAD 83	42 55 14.05 88 10 23.32	42 56 20.05 88 11 33.33	42 57 32.05 88 12 29.33	42 58 46.05 88 12 16.33	43 00 02.04 88 14 01.33
Terminal coordinates NAD 83 decimal	42 55.234 88 10.389	42 56.334 88 11.556	42 57.534 88 12.489	42 58.768 88 12.272	43 00.034 88 14.022

Map of Waukesha, WI, showing the proposed FM site and various bearings and distances. The map includes local roads, major connectors, and state routes. Key locations include Waukesha, Grandview Park, Moreb Spring Park, Buchner Park, Minooka Co, and Faken. The proposed FM site is marked with a blue dot and labeled 'FM SITE'. Various bearings and distances are provided for the proposed site, such as N43° 01.084' W88° 10.122' (250 degrees) and N42° 57.684' W88° 08.922' (235 degrees).

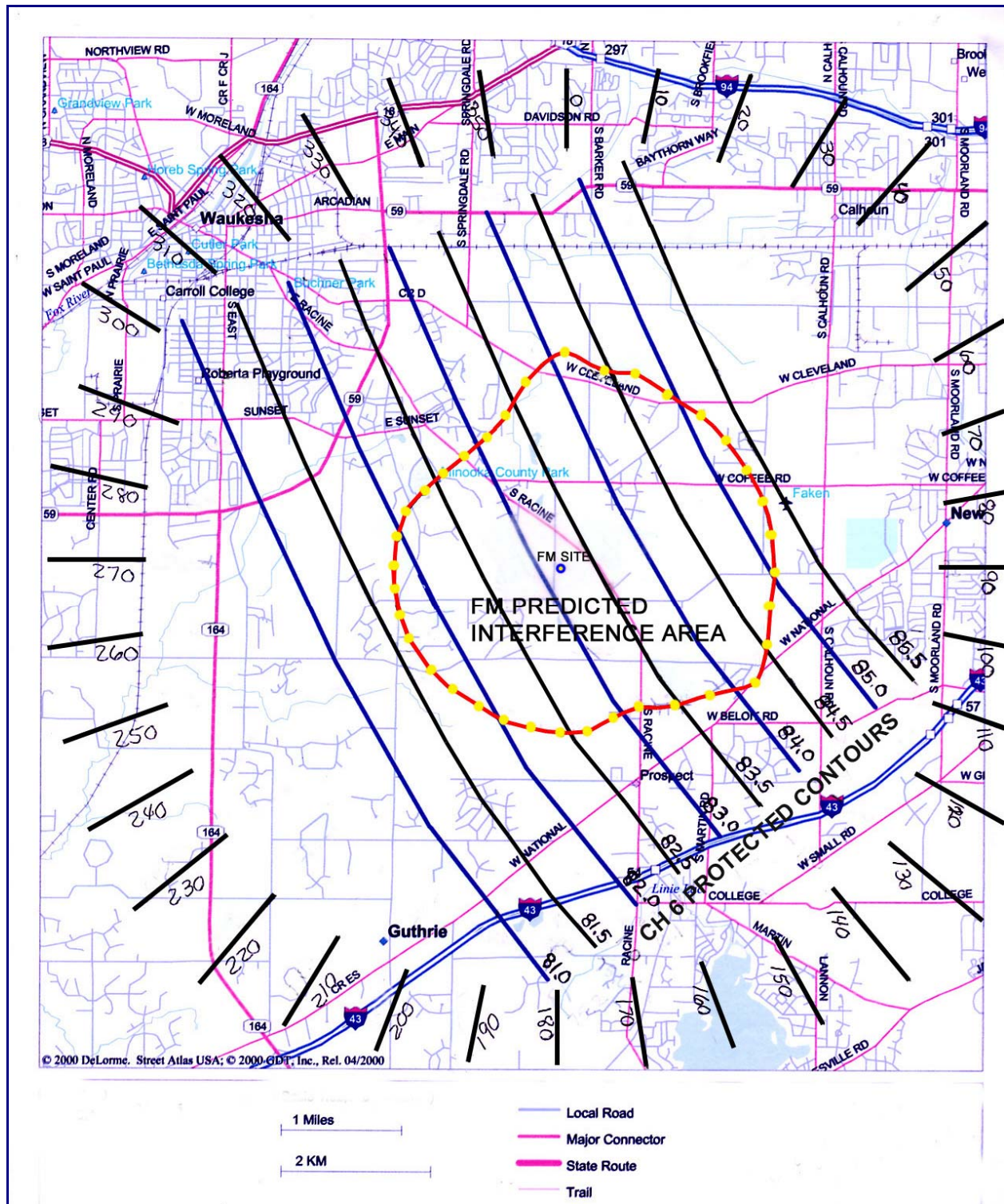
Legend:

- Local Road
- Major Connector
- State Route

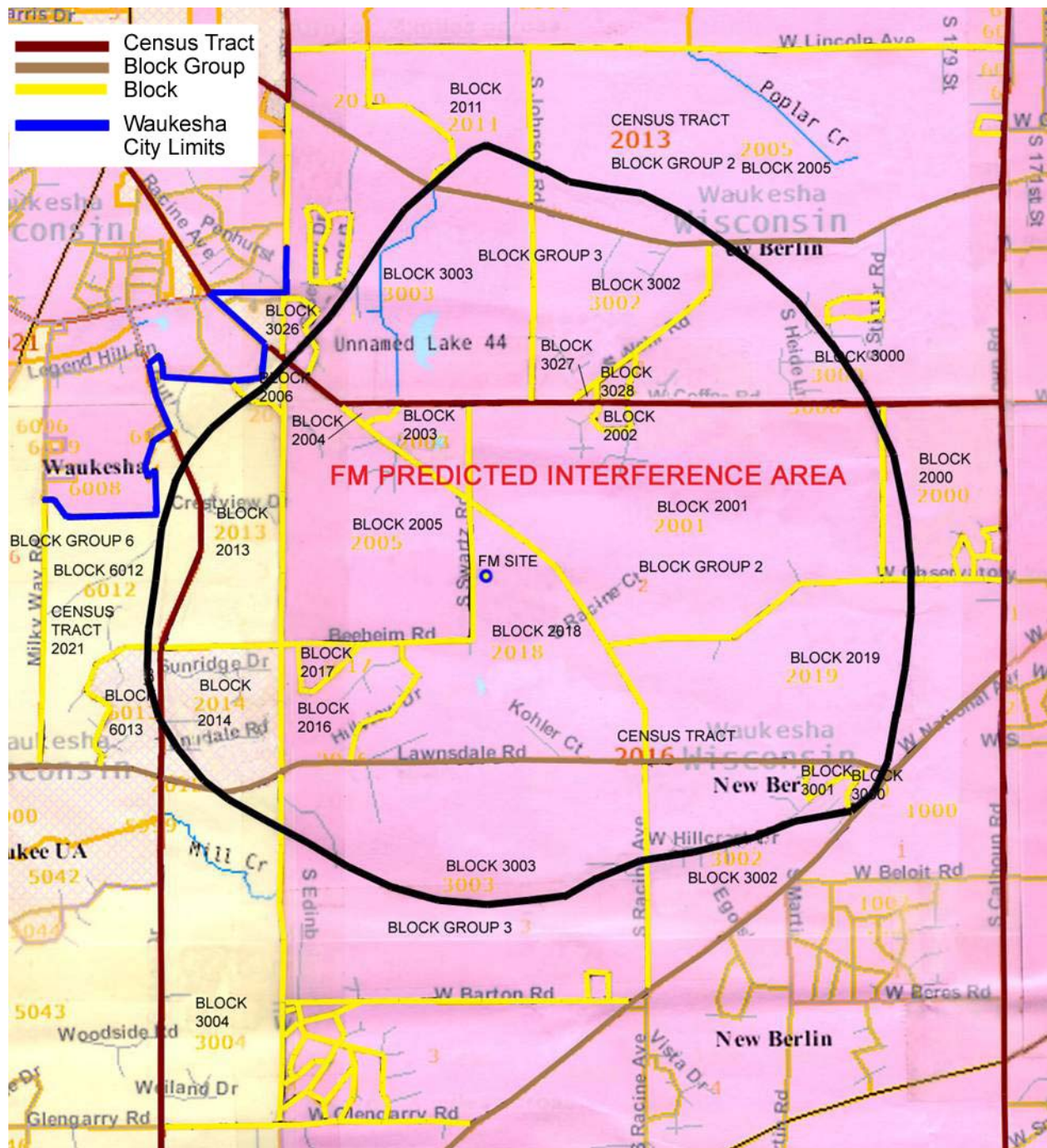
Scale:

- 1 Miles
- 2 KM

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US Census (2000)	% of Block	FM Int. Area Pop.
Block 2005, Block Group 2, Census Tract 2013, Waukesha County, Wisconsin	10%	35
342		
Block 2011, Block Group 2, Census Tract 2013, Waukesha County, Wisconsin	30%	9
29		
Block 3000, Block Group 3, Census Tract 2013, Waukesha County, Wisconsin	45%	186
412		
Block 3002, Block Group 3, Census Tract 2013, Waukesha County, Wisconsin	100%	203
203		
Block 3003, Block Group 3, Census Tract 2013, Waukesha County, Wisconsin	80%	148
184		
Block 3026, Block Group 3, Census Tract 2013, Waukesha County, Wisconsin	35%	11
29		
Block 3027, Block Group 3, Census Tract 2013, Waukesha County, Wisconsin	100%	5
5		
Block 3028, Block Group 3, Census Tract 2013, Waukesha County, Wisconsin	100%	40
40		
Block 2000, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	20%	17
84		
Block 2001, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	297
297		
Block 2002, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	27
27		
Block 2003, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	73
73		
Block 2004, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	20
20		
Block 2005, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	141
141		
Block 2006, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	50%	0
0		
Block 2013, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	90%	70
77		
Block 2014, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	95%	276
290		
Block 2016, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	141
141		
Block 2017, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	45
45		
Block 2018, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	100%	56
56		
Block 2019, Block Group 2, Census Tract 2016, Waukesha County, Wisconsin	85%	112
131		
Block 3000, Block Group 3, Census Tract 2016, Waukesha County, Wisconsin	100%	17
17		
Block 3001, Block Group 3, Census Tract 2016, Waukesha County, Wisconsin	100%	34
34		
Block 3002, Block Group 3, Census Tract 2016, Waukesha County, Wisconsin	55%	168
304		
Block 3003, Block Group 3, Census Tract 2016, Waukesha County, Wisconsin	55%	112
203		
Block 3004, Block Group 3, Census Tract 2016, Waukesha County, Wisconsin	5%	8
154		
Block 6012, Block Group 6, Census Tract 2021, Waukesha County, Wisconsin	25%	51
201		
Block 6013, Block Group 6, Census Tract 2021, Waukesha County, Wisconsin	20%	30
150		

CH 6 TV Protection Study

KWQCTV is located within the required study distance of 265 km for FM CH 201. Using a maximum horizontally polarized ERP for this study of .025 kW (DA) , WMWK's 48 dBu interfering contour does not overlap KWQCTV's 47 dBu protected contour, therefore, WMWK's proposed minor modification is in compliance with Section 73.525 of the Commission's rules.

Below is information on KWQCTV, and page 7 contains a tabulation of KWQCTV's 47 dBu protected contour and WMWK's 48 dBu interfering contour, showing the lack of overlap.

KWQCTV LI 06+ 2C Dom 100.000 kW 408 M HAAT V H
 Davenport IA 611M COR AMSL
 Lat= 41 32 49, Lng= 90 28 35
 Young Broadcasting Of Dave BLCT19821108KN
 Fac ID# 6885, Cutoff Date= 831129
 Dist.=247.3663 km, Azi=230.9°, Rev Azi=49.4°

Direct line HAAT Grade B, 47 dBu= 111.92 km & Grade A= 61.07 km

Distance from reference to Grade B = 135.44 km
 Cutoff Dist from Full Service= 265
 Maximum Co-located power= 1.1 kW
 KWQCTV Signal Contour at Reference location = 18.7 dBu
 CH. 201, U/D ratio = 1.0 dB, Maximum FM signal = 48.0 dBu , add 6 dB if within angle.

TV/FM D to U values

47.0	48.0	55.0	53.7	63.0	59.4	71.0	66.1	79.0	73.4	87.0	80.7
48.0	48.7	56.0	54.4	64.0	60.1	72.0	67.0	80.0	74.3	88.0	81.7
49.0	49.3	57.0	55.1	65.0	60.9	73.0	67.9	81.0	75.2	89.0	82.6
50.0	50.0	58.0	55.7	66.0	61.7	74.0	68.7	82.0	76.1	90.0	83.5
51.0	50.7	59.0	56.4	67.0	62.6	75.0	69.7	83.0	77.0	91.0	83.5
52.0	51.5	60.0	57.1	68.0	63.4	76.0	70.6	84.0	77.9	92.0	83.5
53.0	52.2	61.0	57.9	69.0	64.3	77.0	71.5	85.0	78.9	93.0	83.5
54.0	52.9	62.0	58.6	70.0	65.2	78.0	72.4	86.0	79.8	94.0	83.5

CH 6 TV Protection Study

Tabulation of KWQCTV CH 6 47 dBu protected contour and WMWK FM 48 dBu interfering contour

Protected 47 dBu				Interfering 48 dBu				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
030.0	100.0000	0394.9	110.9	245.5	000.0070	0168.0	147.2	00.2
031.0	100.0000	0395.5	111.0	244.9	000.0070	0168.7	146.1	00.4
032.0	100.0000	0395.9	111.0	244.3	000.0070	0169.6	145.0	00.6
033.0	100.0000	0396.0	111.0	243.6	000.0070	0169.6	144.0	00.8
034.0	100.0000	0396.2	111.0	242.9	000.0070	0170.9	143.1	01.0
035.0	100.0000	0396.6	111.1	242.2	000.0070	0172.1	142.1	01.2
036.0	100.0000	0397.3	111.1	241.5	000.0070	0172.1	141.2	01.4
037.0	100.0000	0398.1	111.2	240.8	000.0070	0172.7	140.4	01.5
038.0	100.0000	0398.7	111.3	240.1	000.0070	0172.8	139.6	01.7
039.0	100.0000	0398.7	111.3	239.3	000.0070	0172.6	138.9	01.8
040.0	100.0000	0398.2	111.2	238.6	000.0070	0172.6	138.4	01.9
041.0	100.0000	0398.0	111.2	237.8	000.0070	0172.2	137.8	02.0
042.0	100.0000	0398.6	111.2	237.0	000.0070	0171.7	137.3	02.1
043.0	100.0000	0399.8	111.4	236.2	000.0070	0170.7	136.7	02.2
044.0	100.0000	0401.2	111.5	235.5	000.0070	0169.2	136.2	02.3
045.0	100.0000	0402.5	111.6	234.6	000.0070	0169.2	135.8	02.3
046.0	100.0000	0403.5	111.7	233.8	000.0070	0167.3	135.4	02.4
047.0	100.0000	0404.2	111.7	233.0	000.0070	0164.7	135.1	02.4
048.0	100.0000	0404.9	111.8	232.2	000.0070	0161.5	134.9	02.3
049.0	100.0000	0405.8	111.9	231.4	000.0070	0158.2	134.8	02.3
050.0	100.0000	0407.0	112.0	230.5	000.0070	0158.2	134.6	02.3
051.0	100.0000	0408.2	112.1	229.7	000.0070	0155.4	134.6	02.2
052.0	100.0000	0409.1	112.2	228.9	000.0070	0153.5	134.6	02.2
053.0	100.0000	0409.7	112.2	228.0	000.0070	0152.5	134.7	02.1
054.0	100.0000	0410.0	112.3	227.2	000.0070	0152.0	134.9	02.1
055.0	100.0000	0410.1	112.3	226.4	000.0070	0152.0	135.2	02.0
056.0	100.0000	0410.3	112.3	225.6	000.0070	0152.0	135.5	02.0
057.0	100.0000	0410.7	112.3	224.8	000.0070	0152.5	135.9	01.9
058.0	100.0000	0411.8	112.4	223.9	000.0070	0153.1	136.3	01.8
059.0	100.0000	0413.4	112.6	223.1	000.0070	0153.5	136.6	01.8
060.0	100.0000	0415.3	112.7	222.3	000.0070	0153.6	137.1	01.7
061.0	100.0000	0417.4	112.9	221.5	000.0070	0153.6	137.5	01.6
062.0	100.0000	0419.4	113.1	220.7	000.0070	0153.5	138.1	01.5
063.0	100.0000	0421.4	113.3	220.0	000.0070	0153.4	138.7	01.4
064.0	100.0000	0423.5	113.5	219.2	000.0070	0153.3	139.3	01.2
065.0	100.0000	0425.8	113.7	218.4	000.0070	0153.4	140.0	01.1
066.0	100.0000	0428.1	113.9	217.7	000.0070	0153.4	140.8	01.0
067.0	100.0000	0430.2	114.1	216.9	000.0070	0153.4	141.6	00.8
068.0	100.0000	0431.3	114.2	216.2	000.0070	0152.8	142.6	00.6
069.0	100.0000	0431.0	114.1	215.6	000.0070	0152.8	143.7	00.4
070.0	100.0000	0429.5	114.0	215.0	000.0070	0151.7	144.9	00.1