

**Engineering Statement
In Support of an
Application for a Construction Permit
WMOJ-FM, Norwood, OH**

General

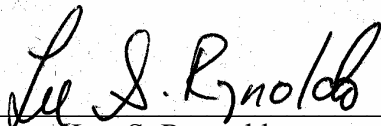
Blue Chip Broadcasting Licenses, LTD, the licensee of WMOJ-FM, is filing with the FCC the instant FCC Form 301 application requesting a minor modification of construction permit number BPH-20060109ACT. This application is seeking to changes of the center of radiation elevation and the ERP only.

Exhibits Explained

The engineering exhibits shown demonstrate that the proposed site is fully spaced (Exhibit E, Figure 1) and covers the community of license (Exhibit E, Figures 2 and 3). Exhibit E, Figure 4 shows all pertinent elevations (antenna AGL, HAAT, etc.), and Exhibit E, Figure 5 shows that no prohibitive human exposure to radiofrequency radiation will be created.

Conclusion

The instant application is technically sound and is in compliance with the FCC Rules & Regulations.



Lee S. Reynolds

Reynolds Technical Associates
6930 Cahaba Valley Road, Suite 202
Birmingham, AL 35242
205.618.2020

**Engineering Statement
In Support of an
Application for a Construction Permit
WMOJ-FM, Norwood, OH**

Channel Spacing Study

REFERENCE		DISPLAY DATES
39 07 19 N	CLASS = A	DATA 10-17-06
84 32 52 W	Current Spacings	SEARCH 10-24-06
----- Channel 262 - 100.3 MHz -----		

Call	Channel	Location	Dist	Azi	FCC	Margin
AL7017	RSV 262A	Norwood	OH 0.00	0.0	115.0	-115.00
WMOJ-F	CP 262A	Norwood	OH 0.00	0.0	115.0	-115.00
WMOJ-F	LIC 262B	Connersville	IN 77.02	318.3	178.0	-100.98

Of no concern:
Coordinates used by WMOJ.

WNKU	LIC-D 209C3	Highland Heights	KY 11.61	142.4	12.0	-0.39
RADD	ADD 262A	Morristown	IN 117.67	290.4	115.0	2.67
WLQT	LIC 260B	Kettering	OH 72.69	23.4	69.0	3.69
WKQQ	LIC-N 261C2	Winchester	KY 111.22	175.3	106.0	5.22
RADD	ADD 262A	Edinburgh	IN 122.11	273.8	115.0	7.11
RADD	ADD 262A	Edinburgh	IN 135.48	277.0	115.0	20.48
WHSS	LIC 208A	Hamilton	OH 34.98	348.7	10.0	24.98
WLUE	LIC-N 263C2	Louisville	KY 133.54	219.6	106.0	27.54
WCLT-F	LIC 262B	Newark	OH 210.32	60.4	178.0	32.32
WEEC	LIC 264B	Springfield	OH 110.03	31.8	69.0	41.03
AL7021	VAC 265A	Madison	IN 74.25	243.4	31.0	43.25

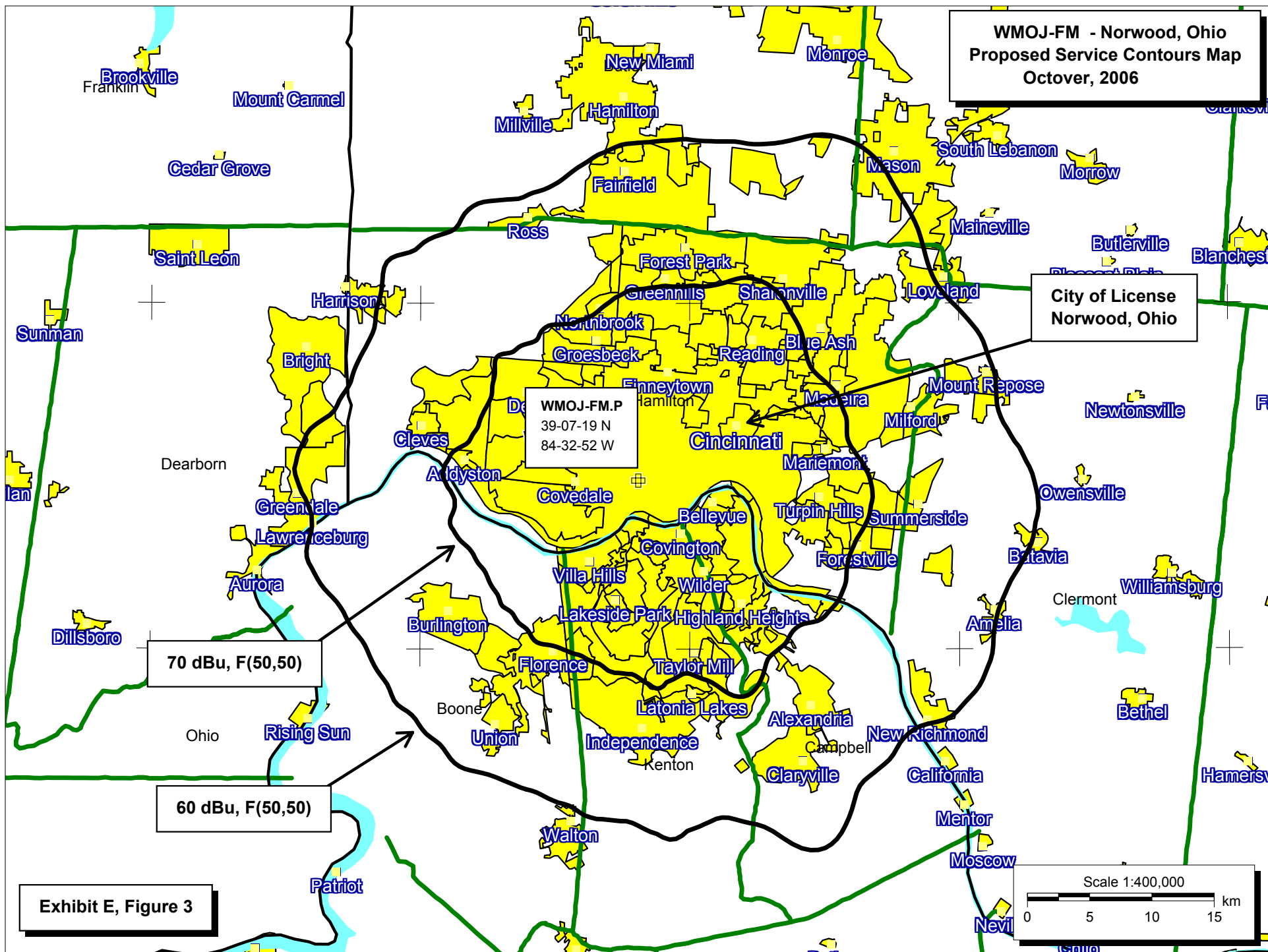
**Engineering Statement
In Support of an
Application for a Construction Permit
WMOJ-FM, Norwood, OH**

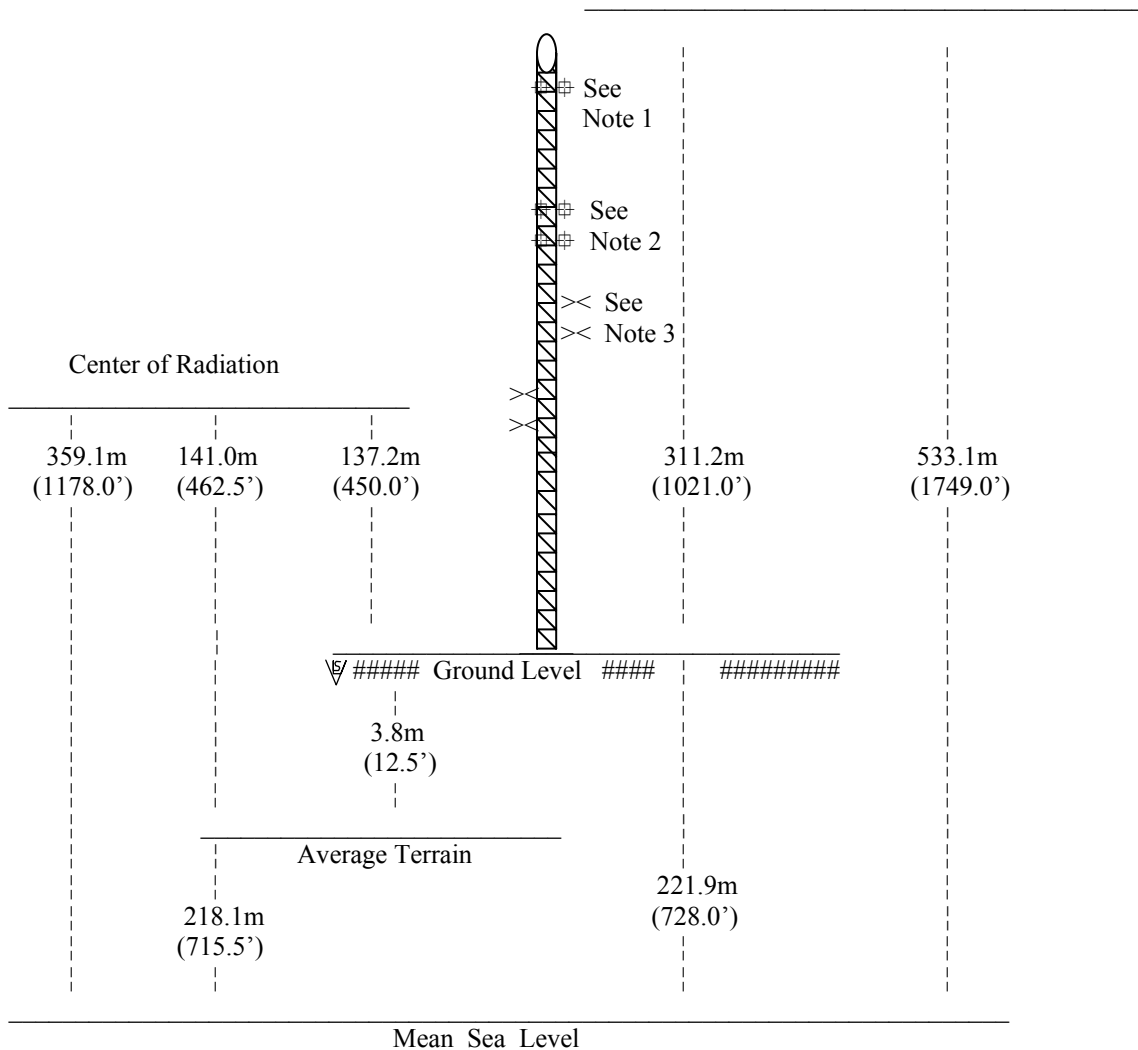
Terrain/Contour Study

<u>Azimuth</u>	<u>Terrain Avg. 3 to 16 km</u>		<u>Distance to F(50,50)</u>	
	<u>AMSL (meters)</u>	<u>HAAT (m)</u>	<u>70 dBu (km)</u>	<u>60 dBu (km)</u>
0	231.8	127.3	15.3	27.1
5	228.4	130.7	15.6	27.4
10	224.9	134.2	15.8	27.7
15	219.5	139.6	16.2	28.2
20	213.2	145.9	16.6	28.7
25	195.9	163.2	17.7	30.3
30	178.2	180.9	18.7	31.9
35	174.1	185.0	18.9	32.2
40	182.1	177.0	18.5	31.5
45	191.3	167.8	18.0	30.7
50	202.0	157.1	17.3	29.7
55	212.5	146.6	16.7	28.8
60	211.3	147.8	16.7	28.9
65	203.5	155.6	17.3	29.6
70	201.2	157.9	17.4	29.8
75	202.2	156.9	17.3	29.7
80	204.2	154.9	17.2	29.5
85	191.3	167.8	18.0	30.7
90	179.1	180.0	18.6	31.8
95	174.7	184.4	18.8	32.2
100	178.7	180.4	18.6	31.8
105	188.3	170.8	18.2	31.0
110	191.0	168.1	18.0	30.7
115	183.1	176.0	18.4	31.4
120	177.5	181.6	18.7	31.9
125	180.7	178.4	18.6	31.6
130	195.0	164.1	17.8	30.4
135	201.9	157.2	17.4	29.7
140	197.6	161.5	17.6	30.1
145	192.7	166.4	17.9	30.6
150	169.1	190.0	19.1	32.6
155	168.0	191.1	19.1	32.7

continued

<u>Azimuth</u>	Terrain Avg. 3 to 16 km		Distance to F(50,50)	Distance to F(50,50)
	<u>AMSL (meters)</u>	<u>HAAT (m)</u>	<u>70 dBu (km)</u>	<u>60 dBu (km)</u>
160	203.8	155.3	17.2	29.6
165	221.2	137.9	16.1	28.0
170	219.2	139.9	16.2	28.2
175	211.1	148.0	16.8	28.9
180	224.8	134.3	15.8	27.7
185	229.1	130.0	15.5	27.3
190	232.5	126.6	15.3	27.0
195	237.9	121.2	15.0	26.6
200	240.3	118.8	14.8	26.4
205	239.9	119.2	14.8	26.4
210	234.5	124.6	15.2	26.9
215	235.8	123.3	15.1	26.8
220	238.7	120.4	14.9	26.5
225	242.0	117.1	14.7	26.2
230	243.6	115.5	14.6	26.1
235	245.5	113.6	14.5	25.9
240	247.9	111.2	14.3	25.6
245	245.3	113.8	14.5	25.9
250	239.3	119.8	14.9	26.5
255	231.5	127.6	15.4	27.1
260	235.2	123.9	15.1	26.8
265	239.2	119.9	14.9	26.5
270	228.9	130.2	15.5	27.4
275	229.1	130.0	15.5	27.3
280	241.9	117.2	14.7	26.2
285	255.3	103.8	13.8	24.8
290	258.8	100.3	13.6	24.4
295	259.2	99.9	13.6	24.4
300	258.7	100.4	13.6	24.5
305	250.5	108.6	14.1	25.4
310	237.5	121.6	15.0	26.6
315	245.1	114.0	14.5	25.9
320	249.0	110.1	14.2	25.5
325	252.8	106.3	14.0	25.1
330	247.4	111.7	14.4	25.7
335	254.8	104.3	13.9	24.9
340	257.5	101.6	13.7	24.6
345	255.7	103.4	13.8	24.8
350	246.8	112.3	14.4	25.7
355	237.3	121.8	15.0	26.6





Proposed Location - 39° 07' 19" N. Lat. 84° 32' 52" W. Long. [NAD 27]

NOT DRAWN TO SCALE

Proposed antenna - Shively model 6810 (2-bay full-wave spaced antenna)

Note 1: WXIX has a TV channel 19 antenna mounted at 300 meters above ground level with 4,680 kW.

Note 2: WXIX has a DTV channel 24 antenna mounted at 284 meters above ground level with 227 kW. WXIX has a DTV channel 28 antenna mounted at 274.4 meters above ground level with 400 kW.

Note 3: WRRM (98.5 MHz) has an antenna mounted at 240 meters above ground level with 18 kW.

**Exhibit E, Figure 4
Vertical Sketch of
Supporting Structure**

WMOJ-FM
Norwood, Ohio
Channel 26.2A – 100.3 MHz.
June, 2006

**Engineering Statement
In Support of an Application
For a Construction Permit**

WMOJ-FM, Norwood, Ohio

Human Exposure To Radiofrequency Radiation Study

<u>CALL</u>	<u>Service</u>	<u>Channel</u>	<u>Freq.</u>	<u>Polarization</u>	<u>Antenna Height** (AGL)</u>	<u>ERP (kW)</u>	<u>Relative Field Factor</u>	<u>Vertical Predicted Power Density (mW/cm²)</u>	<u>FCC Uncontrolled Limit (mW/cm²)</u>	<u>Percent of Uncontrolled Limit</u>
WRRM	FM	253	98.5	H&V	240	18.000	1.000	0.0018417	0.200	0.9209%
WMOJ-FM	FM	262	100.3	H&V	137	3.100	1.000	0.0014893	0.200	0.7445%
WXIX-TV	TV	19	503	H	300	4680.000	0.300	0.0032748	0.335	0.9766%
WPTO	DTV	28	557	H	274.4	400.000	0.300	0.0001743	0.371	0.0469%
WXIX-TV	DTV	29	563	H	284	227.000	0.300	0.0002900	0.375	0.0773%

Total Percentage of ANSI value = 2.762%

* The antenna height indicated above is 2 meters less than the actual antenna height so that the predicted power density consider the 2 meter human height allowance.

WRRM has an antenna constructed by ERI (model G5CPS-4), 4 element mounted 240 meters above ground level with an ERP of 18.0 kilowatts. The “ERI or Jampro JBCP (EPA)” of the FM Model for windows was used for the FM study. The power density of WRRM is 0.637 $\mu\text{W}/\text{cm}^2$ at 3 meters from the base of the tower and 1.842 $\mu\text{W}/\text{cm}^2$ at 98 meters from the base of the tower. The highest power density is considered in this study.

WMOJ-FM proposes to used a Shively (model 6810), 2 element mounted 137 meters above ground level with an ERP of 3.1 kilowatts. The “Shively 6180” choice from the "FM Model" for windows was used for the FM study. The power density of WMOJ-FM will be 0.067 $\mu\text{W}/\text{cm}^2$ at 3 meters from the base of the tower and 1.489 $\mu\text{W}/\text{cm}^2$ at 89 meters from the base of the tower. The highest power density is considered in this study.

The elevation patterns for the TV antennae of the following facilities were used to determine the power density. Furthermore, the highest field between the depression angles of 70 and 90 degrees were used. At a depression angle of 70 degrees or less, the inclination of the angle would place the area of concern above 2 met ers. The computations were derived by using the following formula:

$(33.41 * \text{Total ERP in kW considering the elevation pattern tabulations})/(\text{COR in meters} - 2 \text{ meter})^2$

WXIX-TV has a RCA Model TFU-28DAS antenna mounted 300 meters above ground level with an ERP of 4,680 kW that produces 3.275 $\mu\text{W}/\text{cm}^2$ at the highest point, WPTO has a Dielectric, Model TFU-24DSB-H(C) mounted 274.4 meters above ground with an ERP of 400 kW that produces 0174 $\mu\text{W}/\text{cm}^2$ at the highest point and WXIX(DTV) has a Dielectric TFU-14GBH/VP-R6T190 antenna mounted 284 meters above ground level with 227 kW that produces 0.29 $\mu\text{W}/\text{cm}^2$ at the highest point. Attached are the elevation patterns for the TV facilities considered.

As demonstrated, the total percentage of the ANSI values at the proposed site, considering the radiation of the proposed and existing facilities on the supporting structure, is 2.766% of the limit for “uncontrolled” environments 0.55% of the limit for “controlled” environments.