

## TECHNICAL REPORT

This technical report was developed in support of an application for a major modification for station WBLB seeking a change in community of license to Grandview Heights, OH. The .5 mV/m contour of the proposed WBLB facility will serve an area of 5,486 sq km with a population of 1,224,560. The existing facility's .5 mV/m serves an area of 11,444 sq km with a population of 651,914. The .5 mV/m gain area is 3,680.3 sq km with a population of 1,112,399. The .5 mV/m loss area is 9,653.6 sq km with a population of 548,514.

### **I. Proposed site and facilities:**

**Site**                                **N 39-53-39 W 83-05-30 (NAD27)**  
**Day Power**                        **.5 KW DA-DAY**  
**Radiator Height**                **50.6 meters overall – 48.77 meters radiator/ 81.4 degrees**

The modification is proposed at a new site and utilizing a three tower directional antenna system for the daytime facility. The three radiators will be series fed.

A site plat is provided as E11A, a topographic map as E11B, an aerial photograph as E11C, and the 25 and 1000 mV/m contours as E11D and E11D1 demonstrating compliance with 73.24(g) based on a population of 18 within the 1000 mV/m contour (calculated using AMPRO). The directional pattern plot and tabulation are provided as E11E.

### **II. Community Coverage:**

Exhibit E12A demonstrates full coverage of the Grandview Heights, OH community with the proposed day 5 mV/m contour.

**III. Daytime allocation analysis:**

The following exhibits are provided:

- E14A M-3 co-channel allocation study
- E14B WBLL-WMAN overlap analysis
- E14C WBLL-WNIO overlap analysis
- E14D WBLL-WMPO 1 mV/m to .05 mV.m analysis
- E14E Proposed 5,2, and .5 mV/m service contours
- E14F Allocation factors

A general M3 allocation exhibit is provided as E14A. This exhibit demonstrates that there is no prohibited overlap except for stations WMAN, WNIO and WMPO. Overlaps to WMAN and WNIO comply with Section 73.37 Note 1 that permits existing overlaps to change as long as the total area of overlap is not increased.

**WMAN-WBLL .25 mV/m to .5 MV/m overlap** is actually decreased by the proposed WBLL facility from 2,138 sq km to 945.1 sq km (WMAN overlap from WBLL) and from 2,557.5 sq km to 754.4 sq km (WBLL overlap from WMAN). See Exhibit E14B.

**WBLL .5 mV/m overlap received from the WNIO** .025 mV/m contour is decreased from 4,154.4 sq km to 2,848.13 sq km (see E14C).

**A waiver is separately requested for the WBLL .5 mV/m overlap received from the WMPO .025 mV/m contour.** Exhibit E14D demonstrates that the WMPO .05 mV/m contour does not overlap the proposed 1 mV/m contour. Furthermore, it is anticipated that field intensity measurements will eliminate the .025 mV/m to .5 mV/m overlap.

**IV. Environmental and RF analysis:**

The WBLL towers will be enclosed by a fence extending out from the tower base by two meters. Based on the fact that the greatest radiation in any direction is 326.26 mV/m, the 2 meter distance meets the Commission's RF requirements based on the use of the RF worksheet. The applicant is not aware of any adverse impact on any applicable 1.1307 category. Consequently, no environmental statement is provided.

**V. Conclusion:**

It is concluded that the proposed WBLL change in community of license is in full compliance with Commission rules and policies with the exception of the waiver request for the WBLL-WMPO overlap.

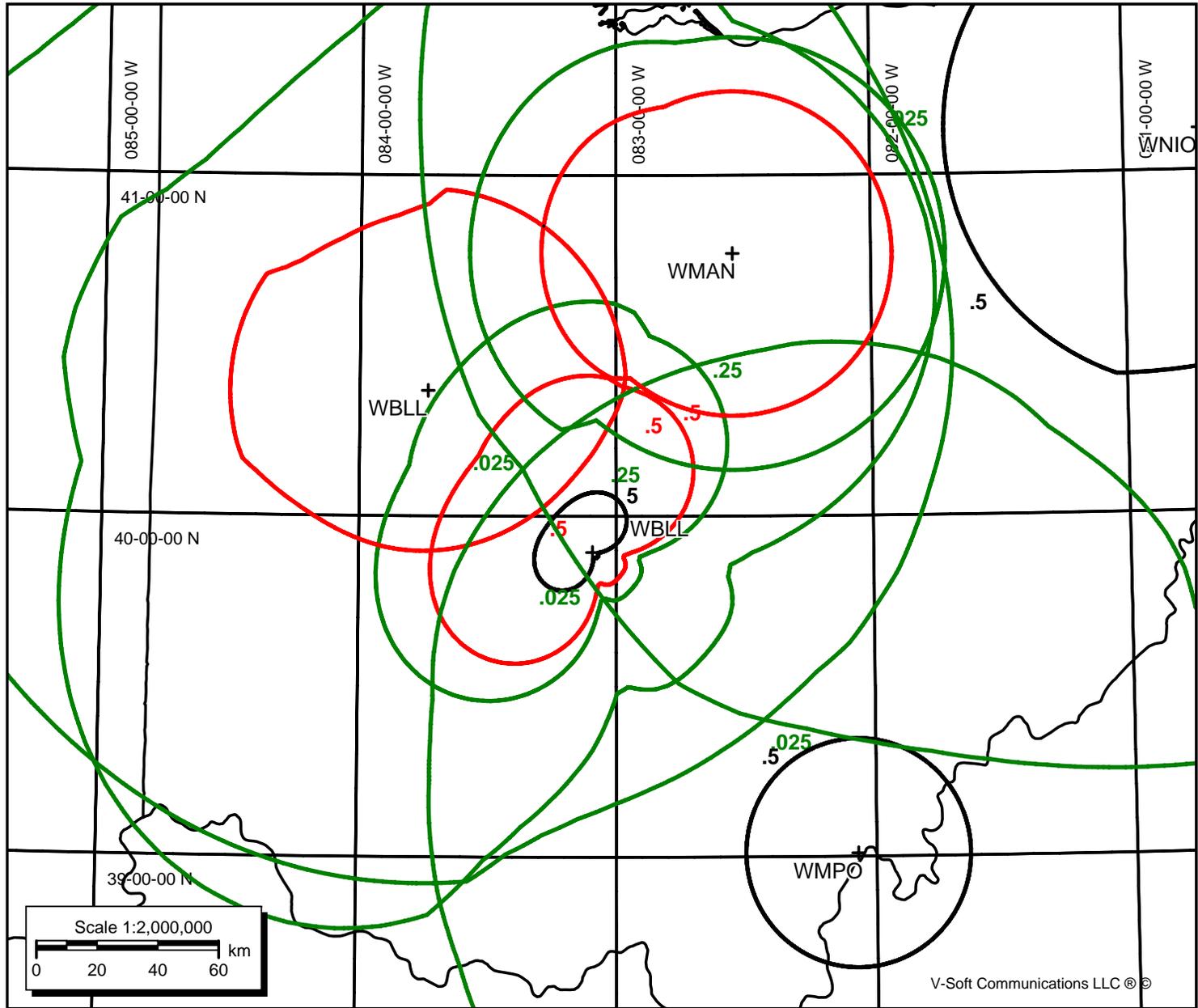


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E14A  
WBLL  
Freq: 1390 kHz  
Class: D  
Latitude: 39-53-39 N  
Longitude: 083-05-30 W  
Power: 0.5 kW  
RMS: 210.139 mV/m @1km  
# Towers: 3  
# Augs: 0



W14B

WBLL

Freq: 1390 kHz

Class: D

Latitude: 39-53-38 N

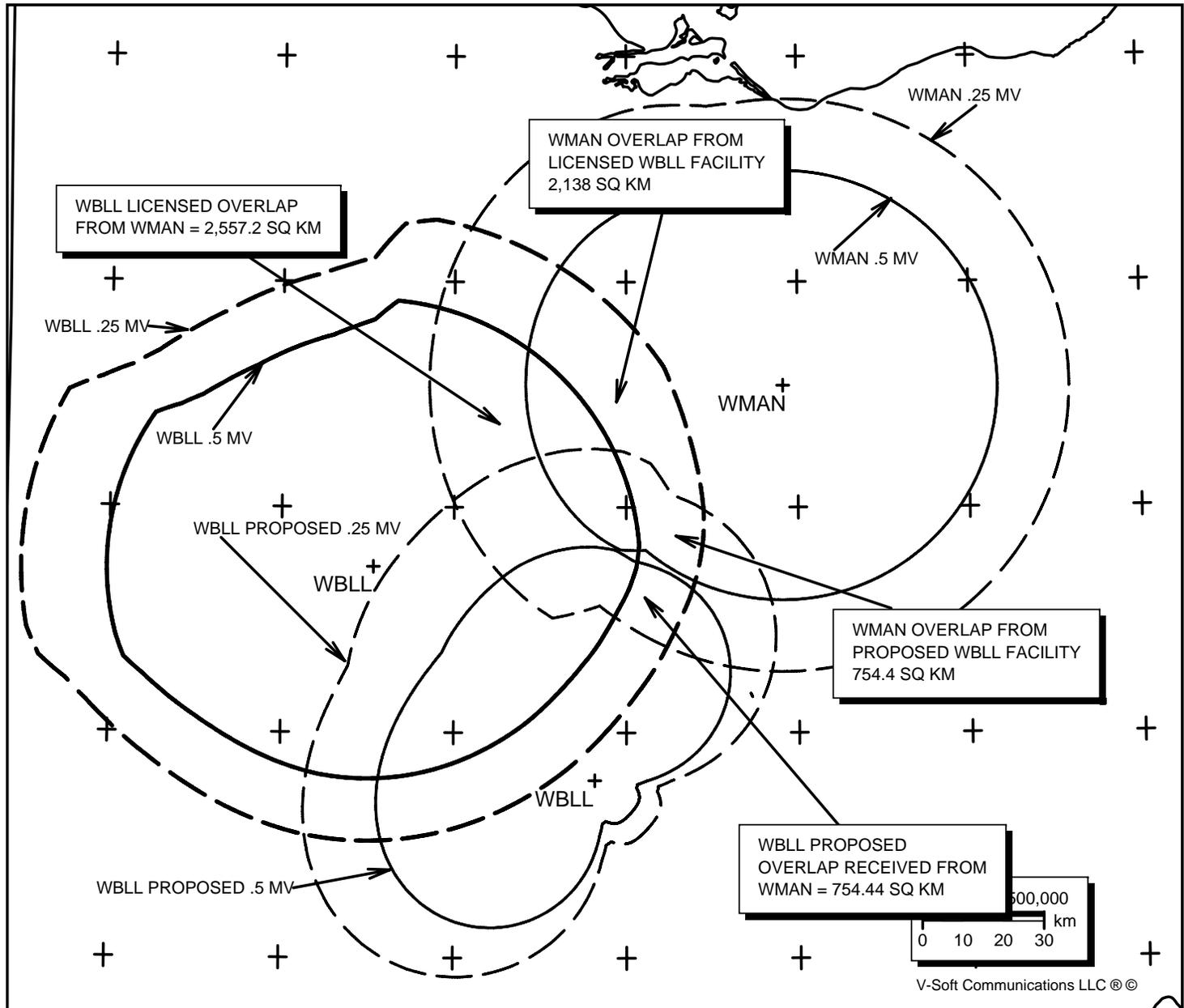
Longitude: 083-05-30 W

Power: 0.5 kW

RMS: 210.139 mV/m @1km

# Towers: 3

# Augs: 0



E14C

WBLL

Freq: 1390 kHz

Class: D

Latitude: 39-53-38 N

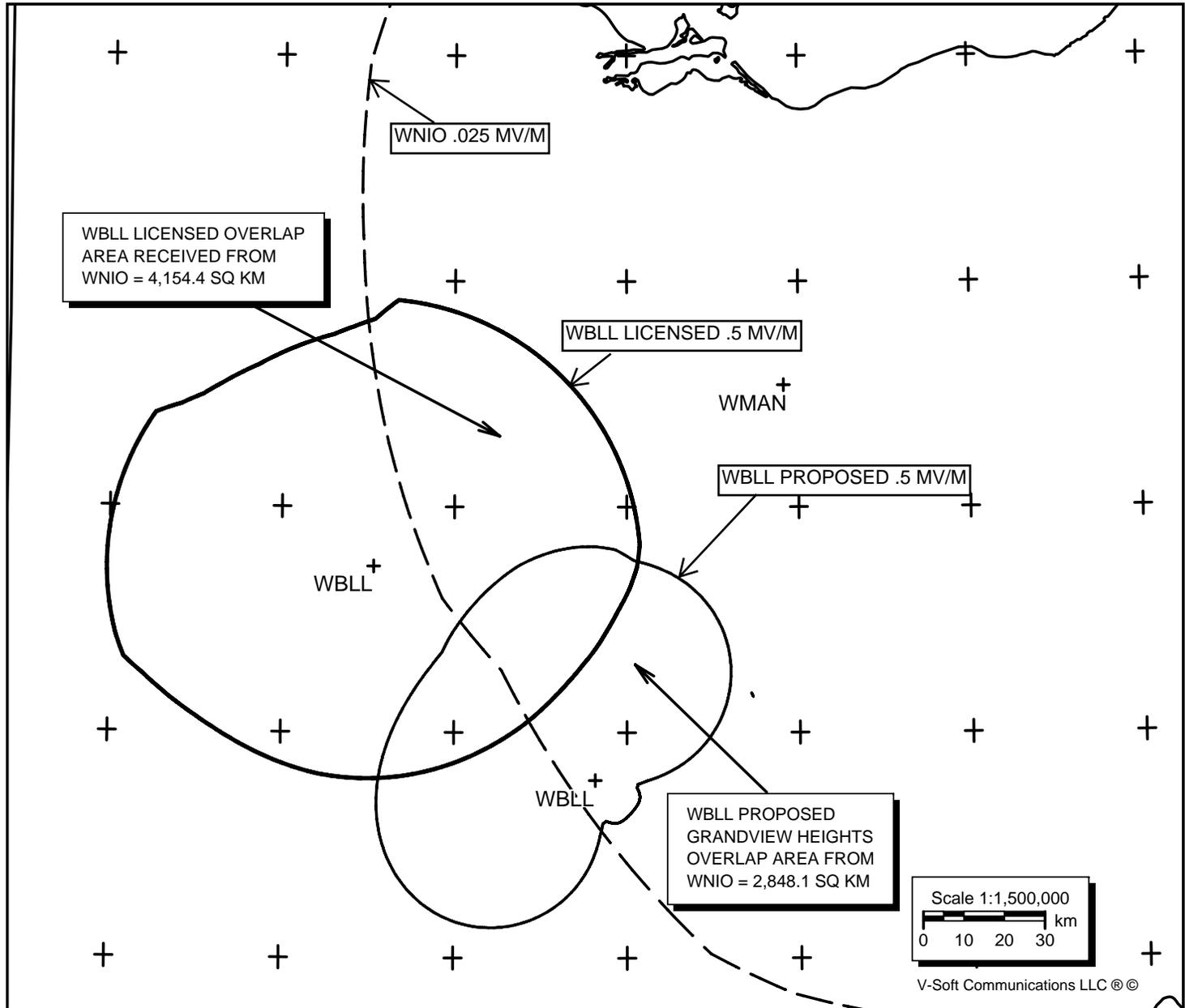
Longitude: 083-05-30 W

Power: 0.5 kW

RMS: 210.139 mV/m @1km

# Towers: 3

# Aucs: 0



E14D

WBLL

Freq: 1390 kHz

Class: D

Latitude: 39-53-39 N

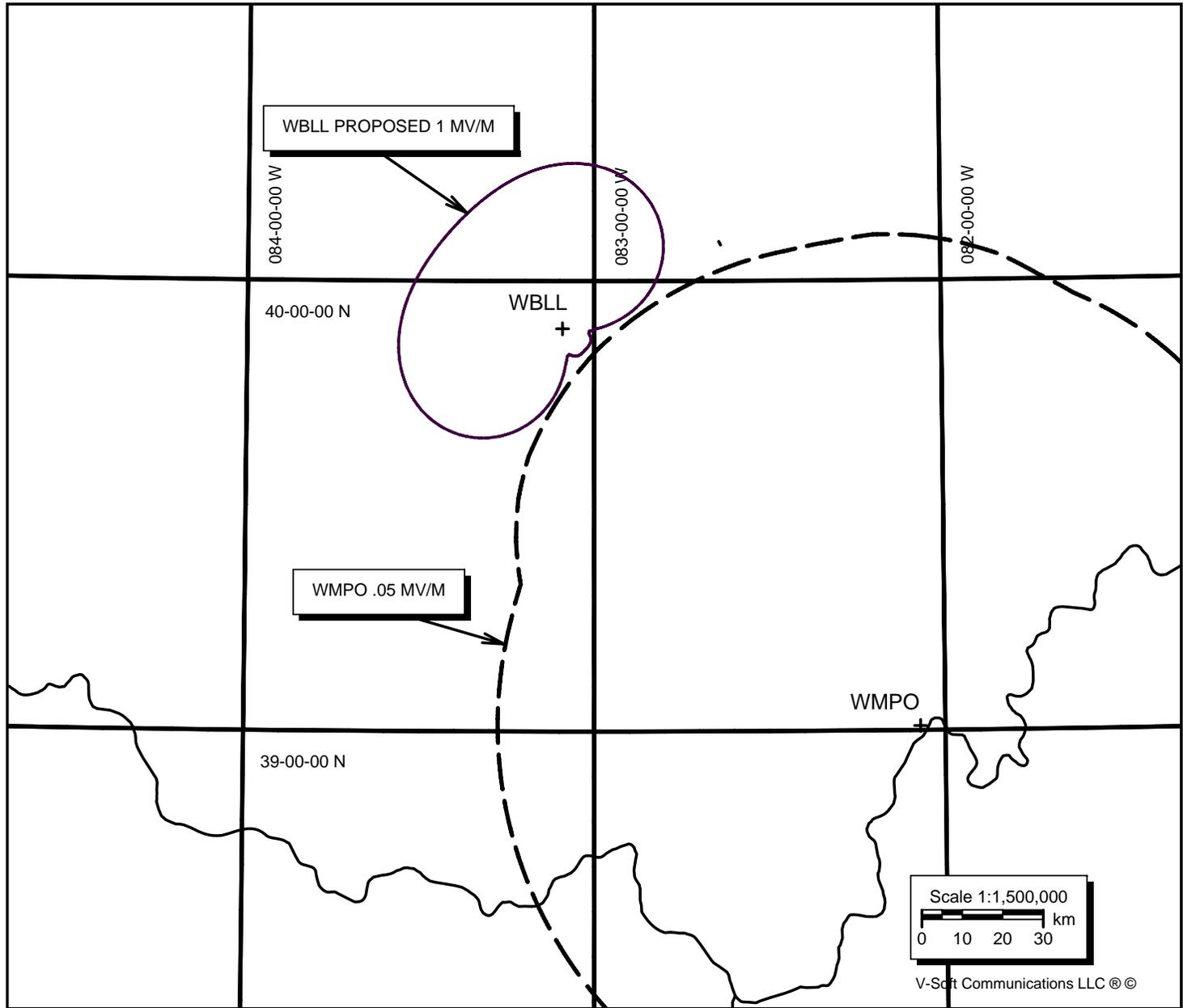
Longitude: 083-05-30 W

Power: 0.5 kW

RMS: 210.139 mV/m @1km

# Towers: 3

# Augs: 0



E14E

WBLL

Freq: 1390 kHz

Class: D

Latitude: 39-53-39 N

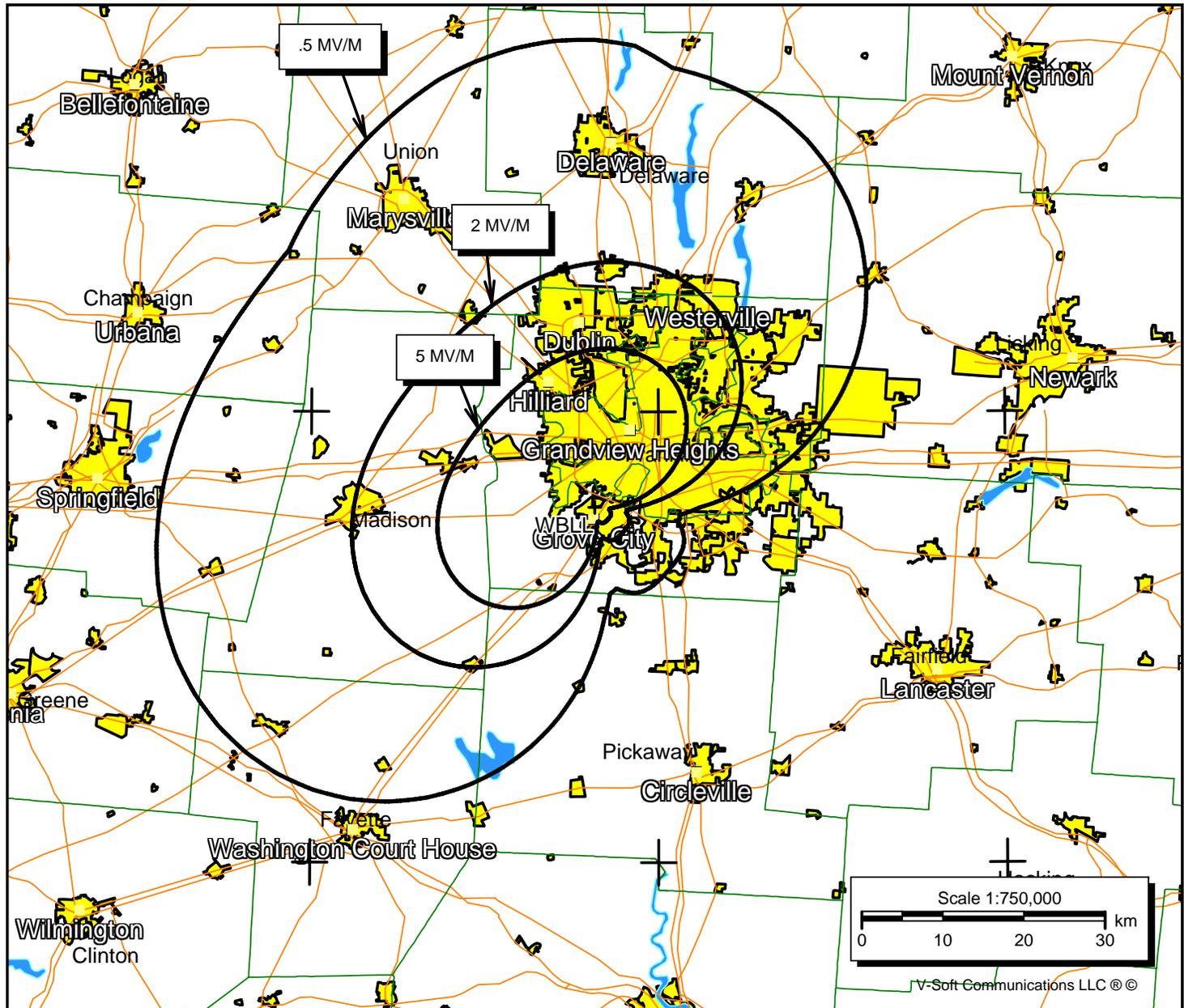
Longitude: 083-05-30 W

Power: 0.5 kW

RMS: 210.139 mV/m @1km

# Towers: 3

# Augs: 0



E14F ALLOCATION FACTORS

WBL, 1390 kHz

Location: 39-53-39 N, 083-05-30 W

\*\*\* 1370 kHz (-2) \*\*\*  
 174.1 km WGOH L 38-19-44 N 082-58-33 W 5.0 kW ND1 - 357.0 mV/m@1km  
 108.2 mi Azi: 176.7 Class: D Sched: U File #: BL19920226AC  
 Location: GRAYSON, KY, US

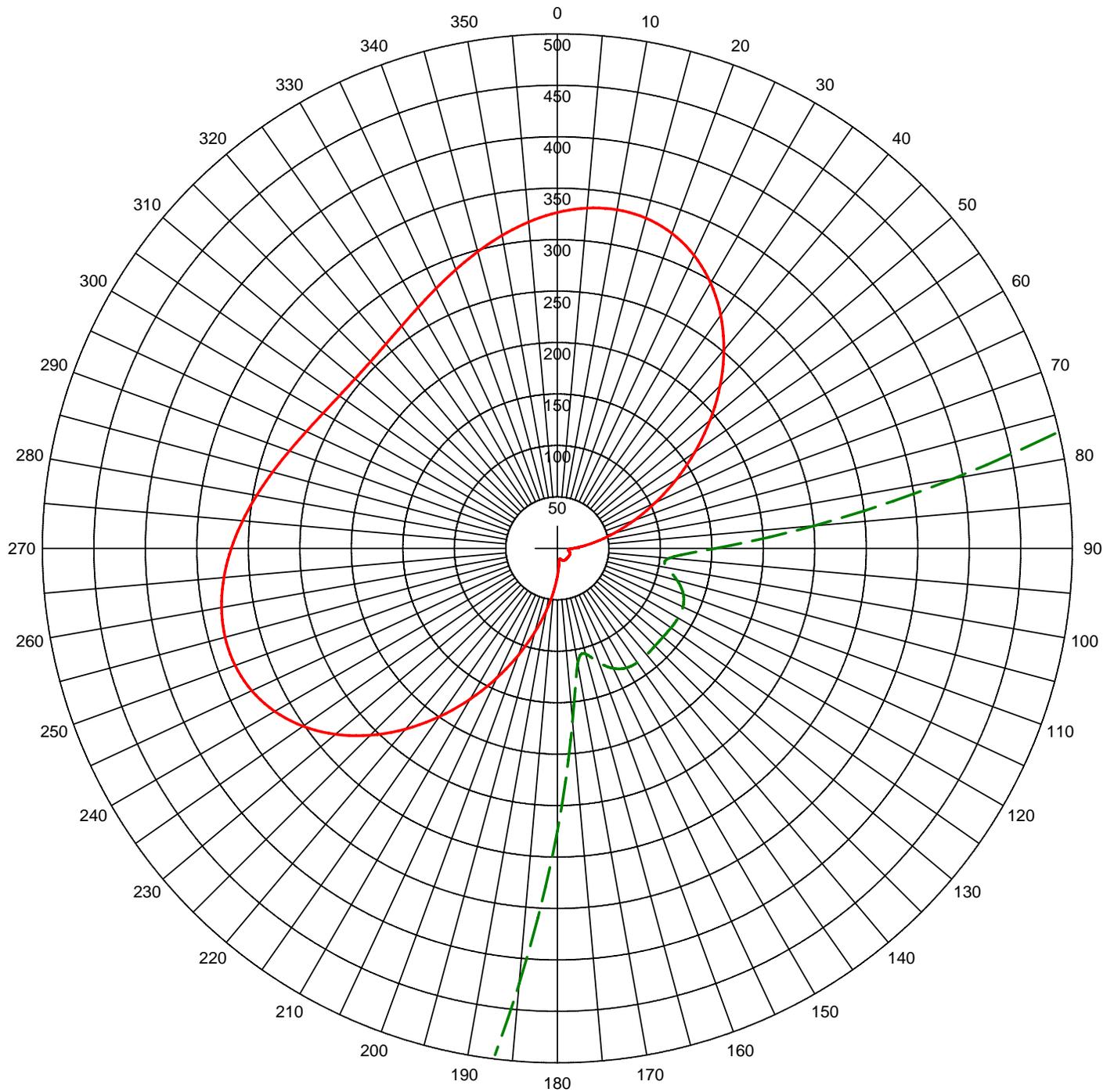
\*\*\* 1380 kHz (-1) \*\*\*  
 188.1 km WDLW L 41-25-48 N 082-09-07 W 0.5 kW ND1 - 296.1 mV/m@1km  
 116.9 mi Azi: 25.3 Class: D Sched: U File #: BL  
 Location: LORAIN, OH, US  
 210.2 km WKJG L 41-00-15 N 085-05-57 W 5.0 kW DA2 - 735.5 mV/m@1km  
 130.6 mi Azi: 305.2 Class: B Sched: U File #: BL20040407ABL  
 Location: FORT WAYNE, IN, US

\*\*\* 1390 kHz (CO) \*\*\*  
 75.9 km WBL L 40-22-05 N 083-44-02 W 0.5 kW ND1 - 307.4 mV/m@1km  
 47.2 mi Azi: 313.7 Class: D Sched: U File #: BL  
 Location: BELLEFONTAINE, OH, US  
 131.8 km WMPO L 39-00-35 N 082-04-14 W 5.0 kW ND1 - 284.9 mV/m@1km  
 81.9 mi Azi: 138.5 Class: D Sched: U File #: BL  
 Location: MIDDLEPORT-POMEROY, OH, US  
 244.2 km WNIO L 41-07-17 N 080-42-05 W 9.5 kW DAN - 307.4 mV/m@1km  
 151.7 mi Azi: 56.9 Class: B Sched: U File #: BL20030317MYA  
 Location: YOUNGSTOWN, OH, US  
 261.5 km WZZB L 38-58-33 N 085-53-21 W 1.0 kW ND1 - 313.8 mV/m@1km  
 162.5 mi Azi: 246.2 Class: D Sched: U File #: BL  
 Location: SEYMOUR, IN, US  
 294.9 km WKIC L 37-14-21 N 083-12-39 W 5.0 kW NDD - 287.0 mV/m@1km  
 183.2 mi Azi: 182.0 Class: D Sched: D File #: BL19980910AF  
 Location: HAZARD, KY, US  
 332.0 km WLCM L 42-34-02 N 084-51-58 W 5.0 kW DA2 - 675.9 mV/m@1km  
 206.3 mi Azi: 332.8 Class: D Sched: U File #: BL  
 Location: CHARLOTTE, MI, US  
 332.0 km WLCM A 42-34-02 N 084-51-58 W 5.0 kW DA2 - 675.9 mV/m@1km  
 206.3 mi Azi: 332.8 Class: B Sched: U File #: BMJP20040128AJX  
 Location: HOLT, MI, US

\*\*\* 1400 kHz (+1) \*\*\*  
 107.9 km WMAN L 40-46-13 N 082-32-36 W 0.92 kW ND1 - 319.0 mV/m@1km  
 67.0 mi Azi: 25.8 Class: C Sched: U File #: BL19880602AI  
 Location: MANSFIELD, OH, US  
 129.0 km WPAY L 38-44-06 N 082-59-33 W 1.0 kW ND1 - 302.6 mV/m@1km  
 80.1 mi Azi: 176.2 Class: C Sched: U File #: BL  
 Location: PORTSMOUTH, OH, US  
 129.9 km WPAY C 38-43-45 N 082-57-11 W 1.0 kW ND2 - 312.5 mV/m@1km  
 80.7 mi Azi: 174.8 Class: C Sched: U File #: BP20010803AAI  
 Location: PORTSMOUTH, OH, US  
 130.3 km WPAY A 38-43-22 N 083-00-05 W 0.8 kW ND2 - 326.5 mV/m@1km  
 81.0 mi Azi: 176.6 Class: C Sched: U File #: BMP20040713AAS  
 Location: PORTSMOUTH, OH, US

\*\*\* 1410 kHz (+2) \*\*\*  
 94.4 km WING L 39-40-56 N 084-09-33 W 5.0 kW DAN - 412.0 mV/m@1km  
 58.7 mi Azi: 255.2 Class: B Sched: U File #: BL  
 Location: DAYTON, OH, US

# AM Directional Pattern



Theo RMS: 210.139 mV/m@1km  
 Std RMS: 220.896 mV/m@1km  
 Q: 10.0 mV/m@1km

Horizontal Plane Standard Pattern

— Pattern (mV/m @ 1km)  
 - - - Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	-63.0	0.0	0.0	80.0	0	0	0.0	0.0	0.0	0.0
2	1.900	0.0	120.0	132.0	80.0	0	0	0.0	0.0	0.0	0.0
3	1.000	63.0	240.0	132.0	80.0	0	0	0.0	0.0	0.0	0.0

Call: WBLL  
 Freq: 1390 kHz  
 GRANDVIEW HEIGHTS, OH, US  
 Lat: 39-53-39 N  
 Lng: 083-05-30 W  
 Power: 0.5 kW  
 Theo RMS: 210.14 mV/m @ 1km

E11E DA PATTERN TABULATION

Call: WBLL  
 Freq: 1390 kHz  
 GRANDVIEW HEIGHTS, OH, US  
 Lat: 39-53-39 N  
 Lng: 083-05-30 W  
 Power: 0.5 kW  
 Theo RMS: 210.14 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	-63.0	0.0	0.0	80.0	0	0	0.0	0.0	0.0	0.0
2	1.900	0.0	120.0	132.0	80.0	0	0	0.0	0.0	0.0	0.0
3	1.000	63.0	240.0	132.0	80.0	0	0	0.0	0.0	0.0	0.0

Standard Horizontal Plane Pattern

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	326.36	5.0	331.89	10.0	334.09
15.0	332.21	20.0	325.68	25.0	314.19
30.0	297.73	35.0	276.64	40.0	251.59
45.0	223.52	50.0	193.59	55.0	163.04
60.0	133.12	65.0	104.96	70.0	79.48
75.0	57.39	80.0	39.12	85.0	25.00
90.0	15.38	95.0	10.92	100.0	10.80
105.0	12.05	110.0	13.02	115.0	13.47
120.0	13.55	125.0	13.48	130.0	13.41
135.0	13.42	140.0	13.49	145.0	13.55
150.0	13.41	155.0	12.87	160.0	11.80
165.0	10.63	170.0	11.39	175.0	16.91
180.0	27.48	185.0	42.46	190.0	61.51
195.0	84.33	200.0	110.40	205.0	139.00
210.0	169.14	215.0	199.67	220.0	229.32
225.0	256.87	230.0	281.20	235.0	301.41
240.0	316.89	245.0	327.38	250.0	332.95
255.0	333.96	260.0	331.03	265.0	324.93
270.0	316.55	275.0	306.76	280.0	296.40
285.0	286.23	290.0	276.89	295.0	268.90
300.0	262.64	305.0	258.40	310.0	256.36
315.0	256.58	320.0	259.08	325.0	263.74
330.0	270.37	335.0	278.67	340.0	288.22
345.0	298.48	350.0	308.79	355.0	318.37

## TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

### \*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

**PASS SLOPE(100:1)NO FAA REQ - 3727.0 Meters (12227.5 Feet)away & below slope by 4.0 Meters (13.1199 Feet)**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	39-54-27.00N	083-07-54.00W	BOLTON FIELD	FRANKLIN COLUMBUS, OH	274.9	1676.4000000000001

#### Your Specifications

##### NAD83 Coordinates

Latitude	39-53-39.0 north
Longitude	083-05-30.0 west

##### Measurements (Meters)

Overall Structure Height (AGL)	50.6
Support Structure Height (AGL)	50.6
Site Elevation (AMSL)	258

##### Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

#### [Tower Construction Notification](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.  
Note: Notification does NOT replace [Section 106 Consultation](#).

**CLOSE WINDOW**