

Channel Study

REFERENCE		CH# 281D - 104.1 MHz, Pwr= 0.019 kW, HAAT= 92.9 M, COR= 271 M								DISPLAY DATES	
41 42 52.0 N.		Average Protected F(50-50)= 6.6 km								DATA 06-23-14	
83 30 22.0 W.		Omni-directional								SEARCH 06-25-14	
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
284B Toledo	WIOT	LIC	CX OH	124.4 304.5	8.14 BMLH20020611AAX	41 40 23.0 83 25 31.0	50.000 165	6.3 345	67.4 Citicasters	-5.0<	-59.9*<
281D Harbor View	W281AL	LIC	DV OH	0.0 0.0	0.00 BLFT20110802ABR	41 42 52.0 83 30 22.0	0.250 93	6.9 271	2.0 Educational Media Foundati	-13.4*	-23.9*
282B Detroit	WOMC	LIC	CN MI	20.9 201.2	89.88 BLH19970512KI	42 28 10.0 83 06 54.0	190.000 110	92.8 306	73.4 Cbs Radio Inc. Of Michigan	-9.7*<	3.0
280A Adrian	WLEN	LIC	CN MI	297.9 117.6	45.11 BLH7244	41 54 11.0 83 59 13.0	3.000 91	39.3 325	25.8 Lenawee Broadcasting Compa	-0.3<	10.6
279B Pemberville	WCKY-FM	LIC	CX OH	161.2 341.4	67.52 BLH20081201AEL	41 08 20.0 83 14 45.0	50.000 131	5.9 364	64.8 Citicasters	55.1	2.1
278B Detroit	WMUZ	LIC	CN MI	16.4 196.5	76.84 BLH19851223KG	42 22 40.0 83 14 32.0	50.000 142	6.0 336	65.2 Wmuz Radio, Inc.	64.1	11.1
281B Cleveland	WQAL	LIC	CX OH	105.2 286.4	153.12 BLH20050901AAM	41 20 28.0 81 44 24.0	12.000 293	127.8 574	66.9 Cbs Radio Stations Inc.	18.4	53.9
281L1 Fostoria	1619078	APP		171.4 351.5	61.32 BNPL20131115ABT	41 10 06.2 83 23 48.5	0.095 30			31.5	32.8
280A Windsor	CJBC-FM-1	OP	DHN ON	29.3 209.6	76.80 8610	42 18 59.0 83 02 58.0	6.000 74	18.8 258	18.2 Cjbc-fm-1	51.2	45.3
281B Grand Rapids	WVGR	LIC	DCX MI	302.8 121.4	196.94 BMLED20080306ABQ	42 39 17.0 85 31 38.0	96.000 221	130.5 469	64.6 Regents Of The University	60.3	103.5

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
 Contour distances are on direct line to and from reference station. Reference Zone= East Zone, Co to 3rd adjacent.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside protected contour.
 < = Contour Overlap

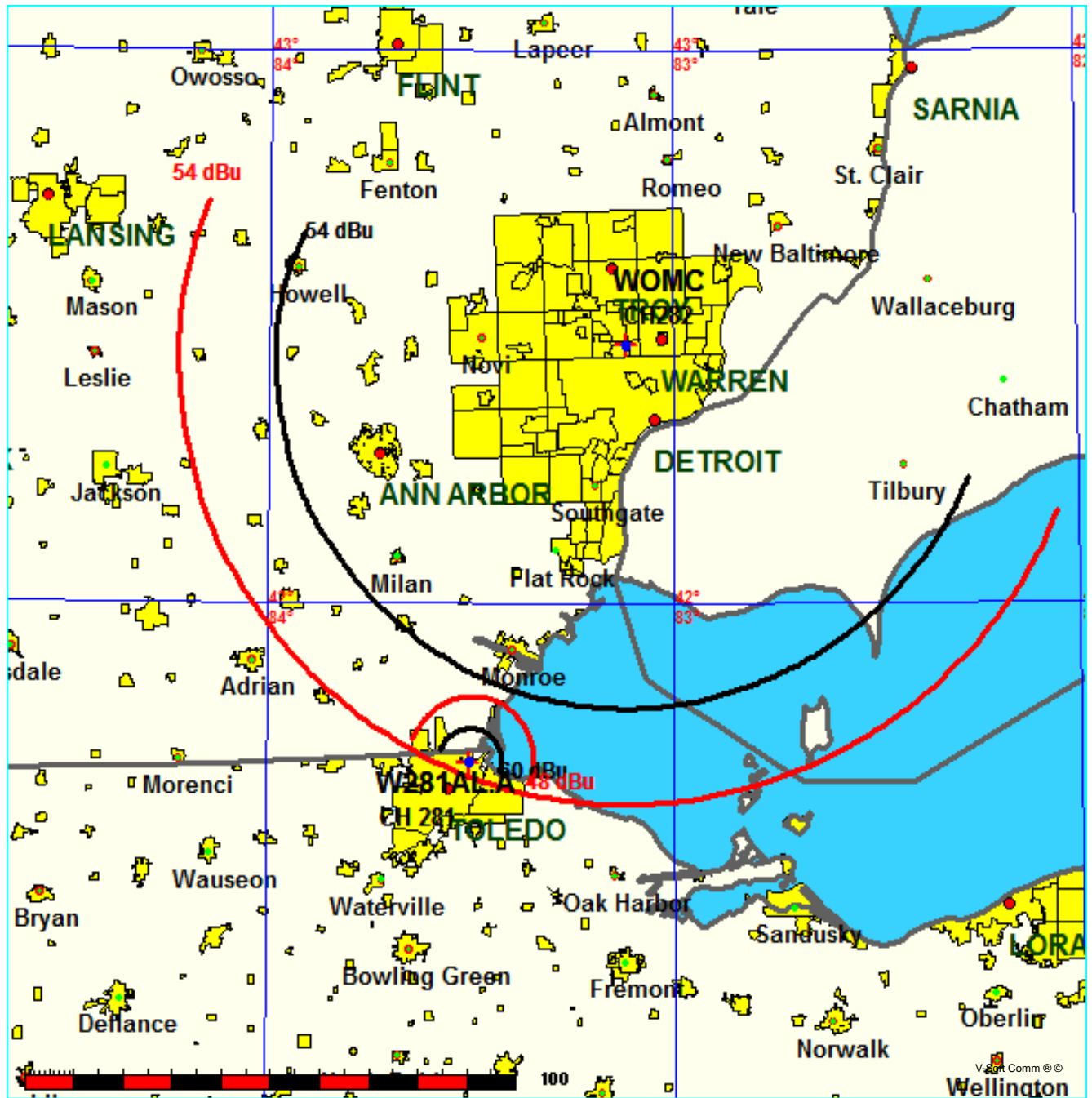
FMCommander Single Allocation Study - 06-26-2014 - NGDC 30 SEC
W281AL.A's Overlaps (In= -9.7 km, Out= 3.02 km)

W281AL.A CH 281 D

Lat= 41 42 52.0, Lng= 83 30 22.0
0.019 kW 92.9 M HAAT, 271 M COR
Prot.= 60 dBu, Intef.= 48 dBu

WOMC CH 282 B BLH19970512KI

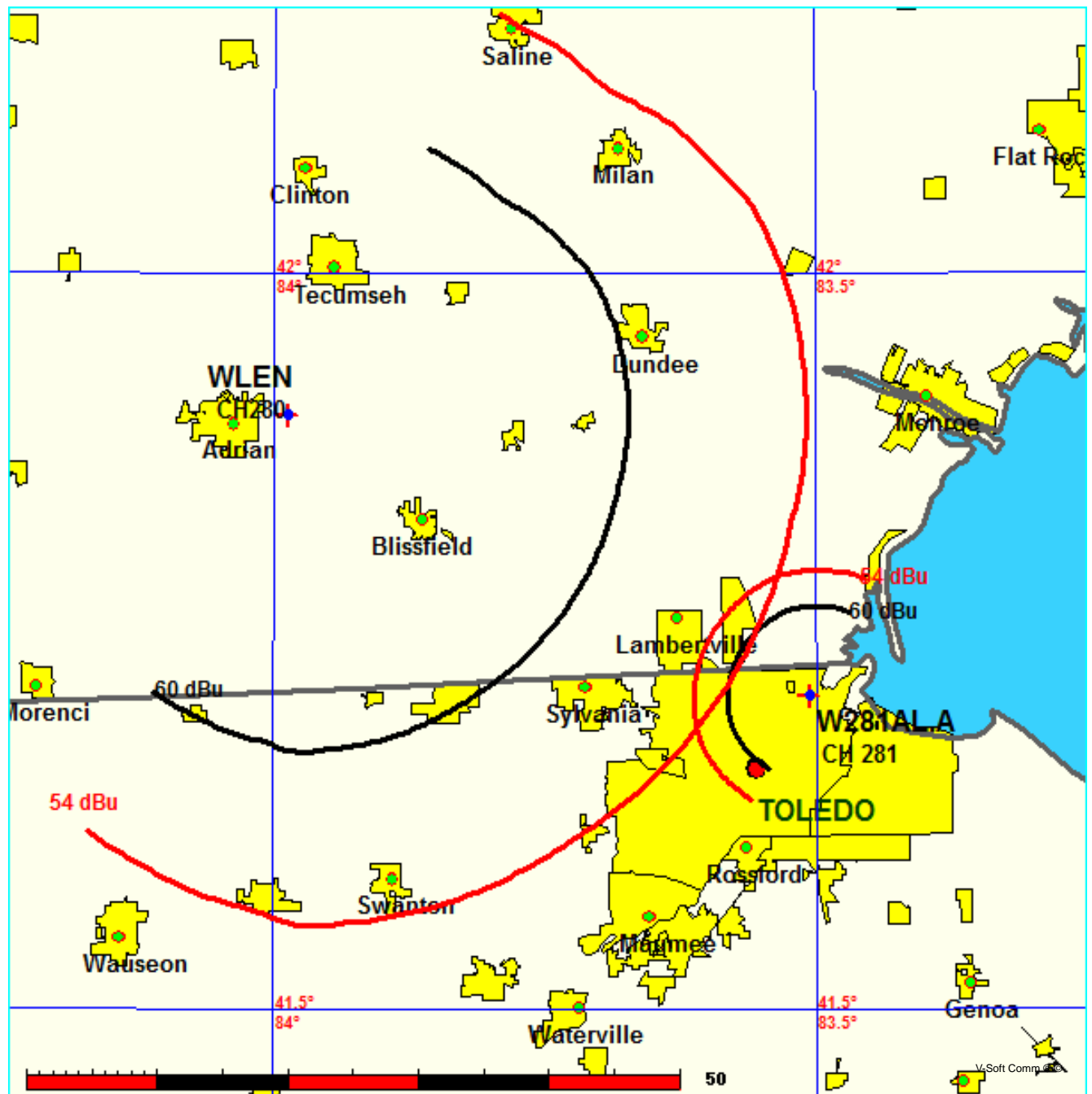
Lat= 42 28 10.0, Lng= 83 06 54.0
190.0 kW 110 M HAAT, 306 M COR
Prot.= 54 dBu, Intef.= 54 dBu



FMCommander Single Allocation Study - 06-26-2014 - NGDC 30 SEC
W281AL.A's Overlaps (In= -0.31 km, Out= 10.58 km)

W281AL.A CH 281 D
Lat= 41 42 52.0, Lng= 83 30 22.0
0.019 kW 92.9 M HAAT, 271 M COR
Prot.= 60 dBu, Intef.= 54 dBu

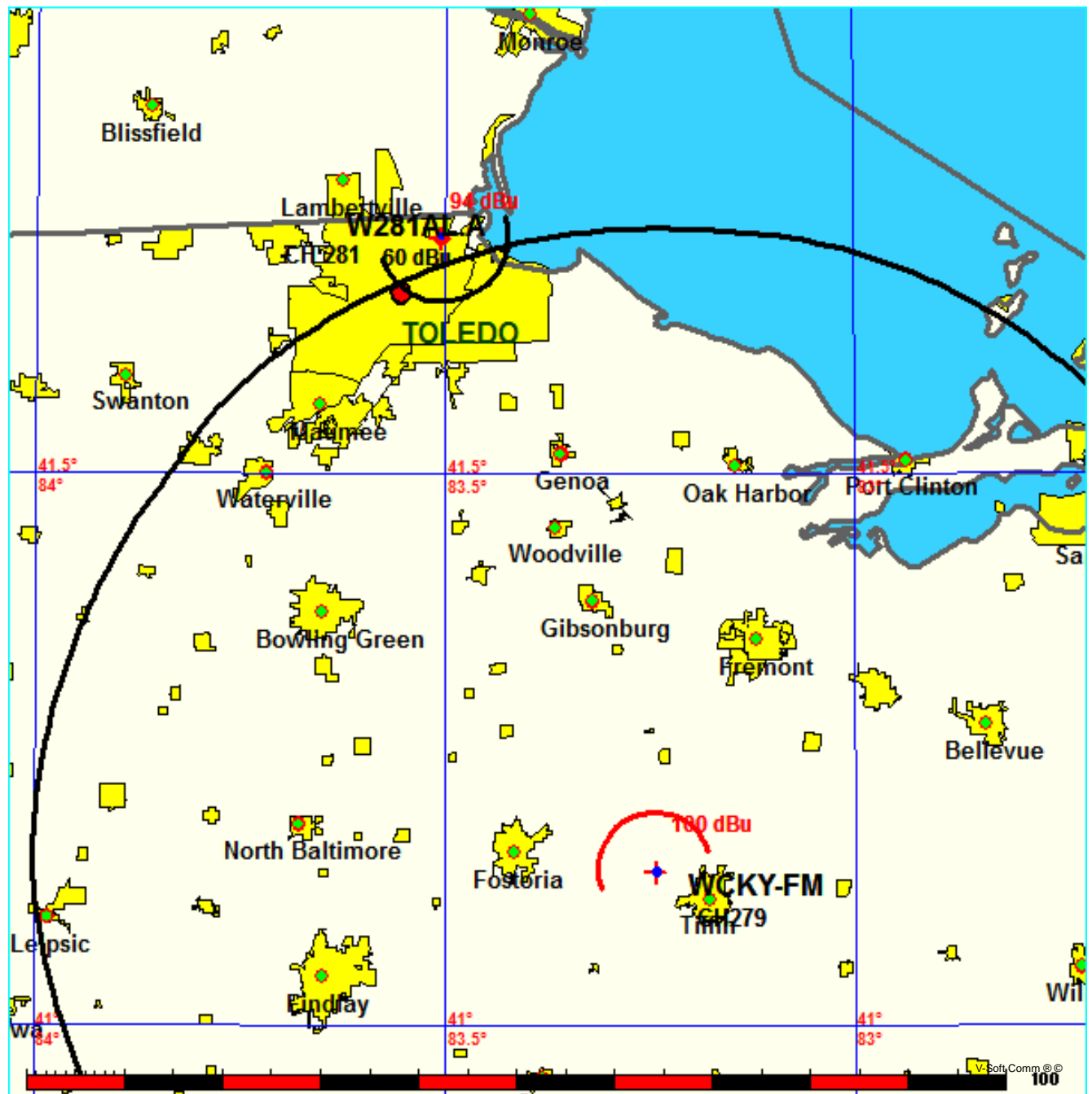
WLEN CH 280 A BLH7244
Lat= 41 54 11.0, Lng= 83 59 13.0
3.0 kW 91 M HAAT, 325 M COR
Prot.= 60 dBu, Intef.= 54 dBu



FMCommander Single Allocation Study - 06-26-2014 - NGDC 30 SEC
W281AL.A's Overlaps (In= 55.09 km, Out= 2.15 km)

W281AL.A CH 281 D
Lat= 41 42 52.0, Lng= 83 30 22.0
0.019 kW 92.9 M HAAT, 271 M COR
Prot.= 60 dBu, Intef.= 94 dBu

WCKY-FM CH 279 B BLH20081201AEL
Lat= 41 08 20.0, Lng= 83 14 45.0
50.0 kW 131 M HAAT, 364 M COR
Prot.= 54 dBu, Intef.= 100 dBu



Educational Media Foundation

5700 W Oaks Blvd
Rocklin, CA 95765

*Exhibit 13-A
Harbor View, OH*

Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 54dBu contour of third adjacent channel station WIOT, channel 284B, Toledo, OH. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for W281AL:	19 watts
The proposed COR for W281AL:	89 meters
WIOT F(50/50) contour at proposed site:	95.7dBu
The F(50/10) contour of proposed W281Al:	135.7dBu

The predicted distance to the 135.7dbu interfering contour is 5.0162 meters. Taking into account the vertical elevation pattern of the Jampro JLCP single bay antenna and the height above ground of 89M, it has been determined that the interfering contour of 135.7dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 86.694M above ground.

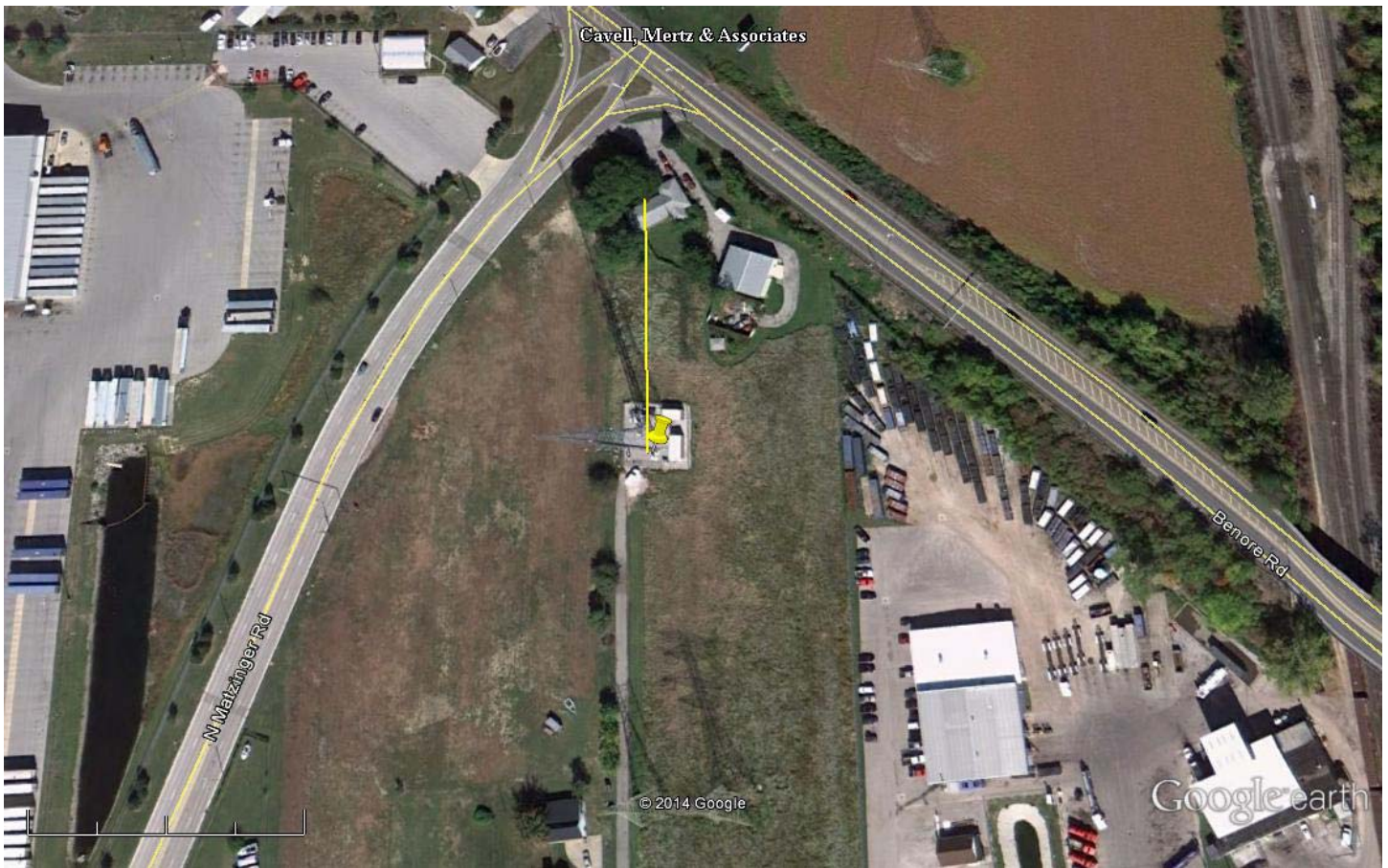
As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the 86.694 meter aperture within the 5 meter radius from the base of the tower.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
74.1204(d) Showing
W281AL
Harbor View, OH

ERP (kw): 0.019
Height of Antenna above Ground (m): 89
Translator's IX Contour: 135.7
Antenna Type: JLCP-1BAY

<u>Depression Angle from Horizon</u>	<u>Antenna Relative Field</u>	<u>ERP (kw) from the Antenna RF</u>	<u>Dist. To IX Contour (m)</u>	<u>Height IX Contour Above Ground (m)</u>
0	1.000	0.0190	5.0162	89.000
5	0.994	0.0188	4.9861	88.565
10	0.975	0.0181	4.8908	88.151
15	0.940	0.0168	4.7152	87.780
20	0.910	0.0157	4.5648	87.439
25	0.880	0.0147	4.4143	87.134
30	0.840	0.0134	4.2136	86.893
35	0.770	0.0113	3.8625	86.785
40	0.710	0.0096	3.5615	86.711
45	0.650	0.0080	3.2605	86.694
50	0.600	0.0068	3.0097	86.694
55	0.520	0.0051	2.6084	86.863
60	0.450	0.0038	2.2573	87.045
65	0.380	0.0027	1.9062	87.272
70	0.320	0.0019	1.6052	87.492
75	0.250	0.0012	1.2541	87.789
80	0.180	0.0006	0.9029	88.111
85	0.140	0.0004	0.7023	88.300
90	0.010	0.0000	0.0502	88.950



Google earth

feet
meters



Yellow Pin:

NAD 27

41 42' 52.0" N

83 30' 22.0" W

Yellow Marker: 89m at zero degrees true north