

INTRODUCTION

This technical report is submitted as part of the filing window for AM broadcasters (Docket 17-143). Wilson County Broadcasting, Inc. licensee of WKDA-AM, facility 71289, is seeking FM channel 270 at Lebanon, Tennessee for the associated translator.

Exhibit E-1 includes overlap studies which show that the proposal complies with all Commission rules and policies. The 60 dBu contour lies entirely within the 2 mV/m contour of WKDA-AM.

R.F. EXPOSURE

The r.f. contribution as calculated using the formula from OET Bulletin 65 shows a worst case r.f. factor calculated to be 4.4 uW/cm², well below the 200uW/cm² maximum permissible exposure for the general public. In addition, as shown by the attached aerial exhibit, access to the property is marked and controlled as an existing broadcast facility. All tower maintenance and access is controlled and transmitters turned off as required during maintenance.

The tower is existing and no environmental issues are known to exist.

Gary M. Brown

Gary M. Brown

12-01-2017

WKDA-AM TRANSLATOR Wilson County Broadcasting, Inc. CH# 270D - 101.9 MHz, Pwr= 0.055 kW, HAAT= 0.0 M, COR= 216 M Average Protected F(50-50)= 4.83 km Omni-directional										
REFERENCE									DISPLAY DATES	
36 12 26.0 N.									DATA 11-20-17	
86 16 03.0 W.									SEARCH 11-30-17	
CH CITY	CALL	TYPE STATE	ANT AZI ---	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
270D Lebanon	1762222	APP _C_ TN	0.0 0.0	0.00 BNPFT20170726AUF	36 12 26.0 86 16 03.0	0.055	23.1 216	6.9 Wilson County Broadcasting	-30.0*	-30.0*
271A Lafayette	WLCT	LIC _C_ TN	32.5 212.6	43.24 BMLH19990624KA	36 32 06.0 86 00 27.0	6.000 99	48.1 351	31.2 Lafayette Broadcasting Co.	-11.2*	3.3
270D Murfreesboro	W270AF	CP _C_ TN	195.3 15.2	42.24 BPFT20170505AAE	35 50 26.0 86 23 27.0	0.250	43.7 276	12.6 The Rutherford Group, Inc.	-6.1*	14.0
270D Nashville	W270BK	CP _DC_ TN	296.9 116.6	52.25 BPFT20170626ABF	36 25 08.0 86 47 18.0	0.250	48.9 329	14.6 Wycq, Inc.	-3.4	16.6
270C1 Central City	WQXQ	LIC _CN KY	337.4 157.0	166.06 BLH19930826KA	37 35 03.0 86 59 29.0	100.000 204	162.0 346	63.9 Radio Active Media, Inc.	-2.9	79.0
270D Murfreesboro	W270AF	LIC _C_ TN	195.3 15.2	42.24 BLFT20151019AAL	35 50 26.0 86 23 27.0	0.250	36.9 248	10.8 The Rutherford Group, Inc.	0.7	15.7
269A Smithville	WJLE-FM	LIC _CN TN	127.8 308.1	50.95 BMLH19971229KB	35 55 31.0 85 49 14.0	4.400 59	35.6 349	23.0 Center Hill Broadcasting C	10.6	20.7
ERP increase from 3.0 to 4.4 kW per MM Doc. 88-375										
273C1 Pegram	WPRT-FM	LIC _NCX TN	276.2 95.6	93.56 BLH20031124ASU	36 17 36.0 87 18 20.0	100.000 297	10.5 483	74.3 Wycq, Inc.	77.1	18.7
271D Nashville	W271AB	CP _DC_ TN	262.3 82.0	54.17 BPFT20170921AAW	36 08 27.0 86 51 56.0	0.250	29.0 421	19.6 Wycq, Inc.	19.8	27.5
271D Nashville	W271AB	LIC _C_ TN	262.3 82.0	54.17 BLFT20091029AAW	36 08 27.0 86 51 56.0	0.145 246	28.2 421	18.8 Wycq, Inc.	20.7	28.3
269D Portland	1762423	APP _C_ TN	333.5 153.3	45.93 BNPFT20170726ATW	36 34 36.0 86 29 50.0	0.250	14.5 305	10.5 Venture Broadcasting LLC	24.4	24.9
270D Livingston	1763125	APP _C_ TN	77.5 258.1	88.18 BNPFT20170801AFD	36 22 27.8 85 18 20.1	0.250	59.0 485	18.8 Sunny Broadcasting, G.p.	24.6	53.6
268A Celina	WVFB	LIC _CN TN	56.5 236.9	71.02 BLH19940808KJ	36 33 28.0 85 36 15.0	6.000 100	2.8 334	28.0 Frank Keeton Aircasters, I	62.8	41.3
269A Columbia	WKOM	LIC _CN TN	227.0 46.6	95.71 BLH19970910KF	35 37 05.0 87 02 33.0	4.100 118	43.9 332	28.7 Middle Tennessee Broadcast	47.0	59.8

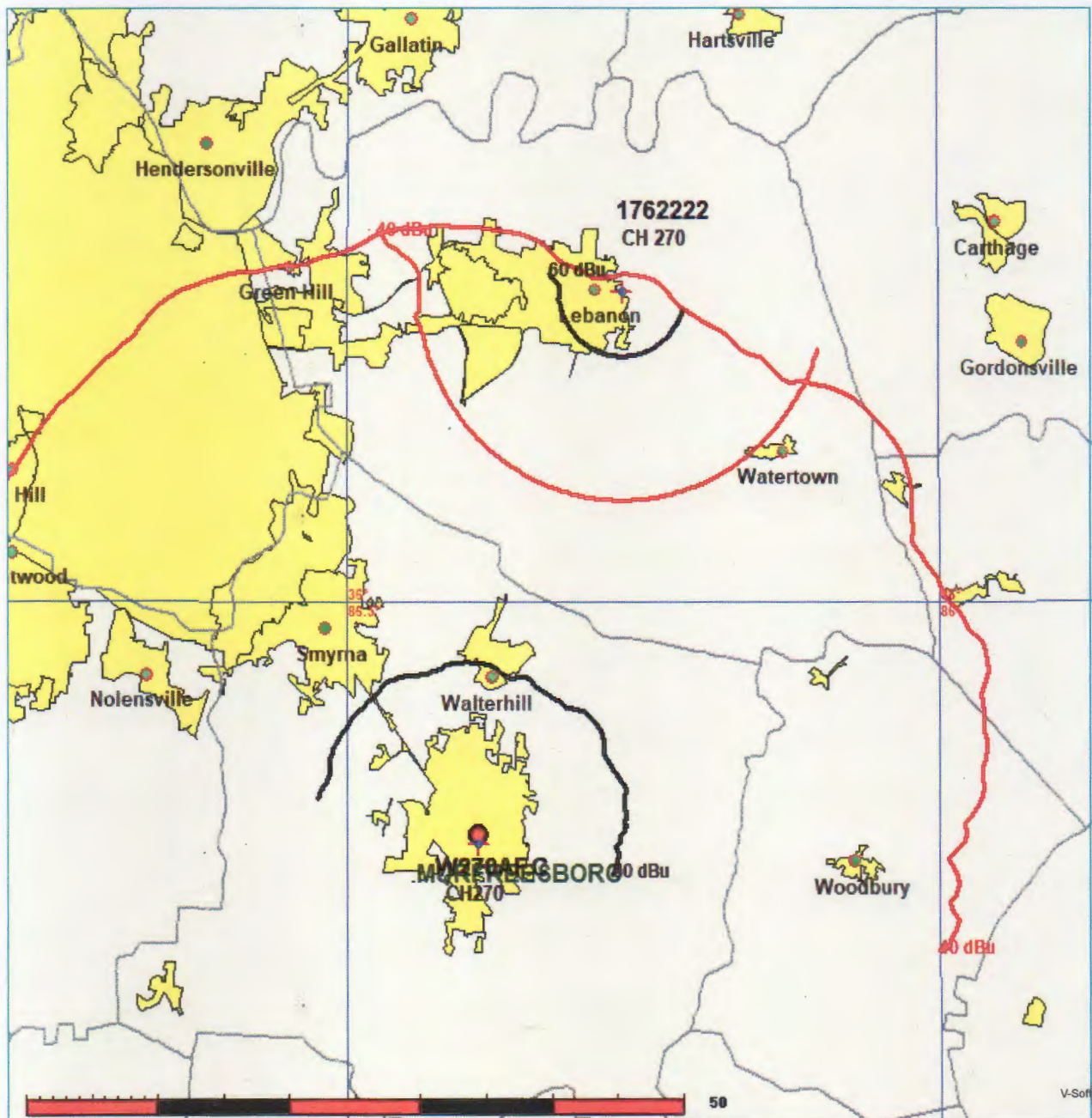
Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
 In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.
 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 restricted contour.
 Reference station has protected zone issue: AM tower

WKDA-AM TRANSLATOR
Wilson County Broadcasting, Inc.

FMCommander Single Allocation Study - 11-30-2017 - USGS 03 SEC
1762222's Overlaps (In= -6.12 km, Out= 13.99 km)

1762222 CH 270 D
Lat= 36 12 26.0, Lng= 86 16 03.0
0.055 kW 0 m HAAT, 216 m COR
Prot.= 60 dBu, Intef.= 40 dBu

W270AF CH 270 D BPFT20170505AAE
Lat= 35 50 26.0, Lng= 86 23.27.0
0.25 kW 0 m HAAT, 276 m COR
Prot.= 60 dBu, Intef.= 40 dBu

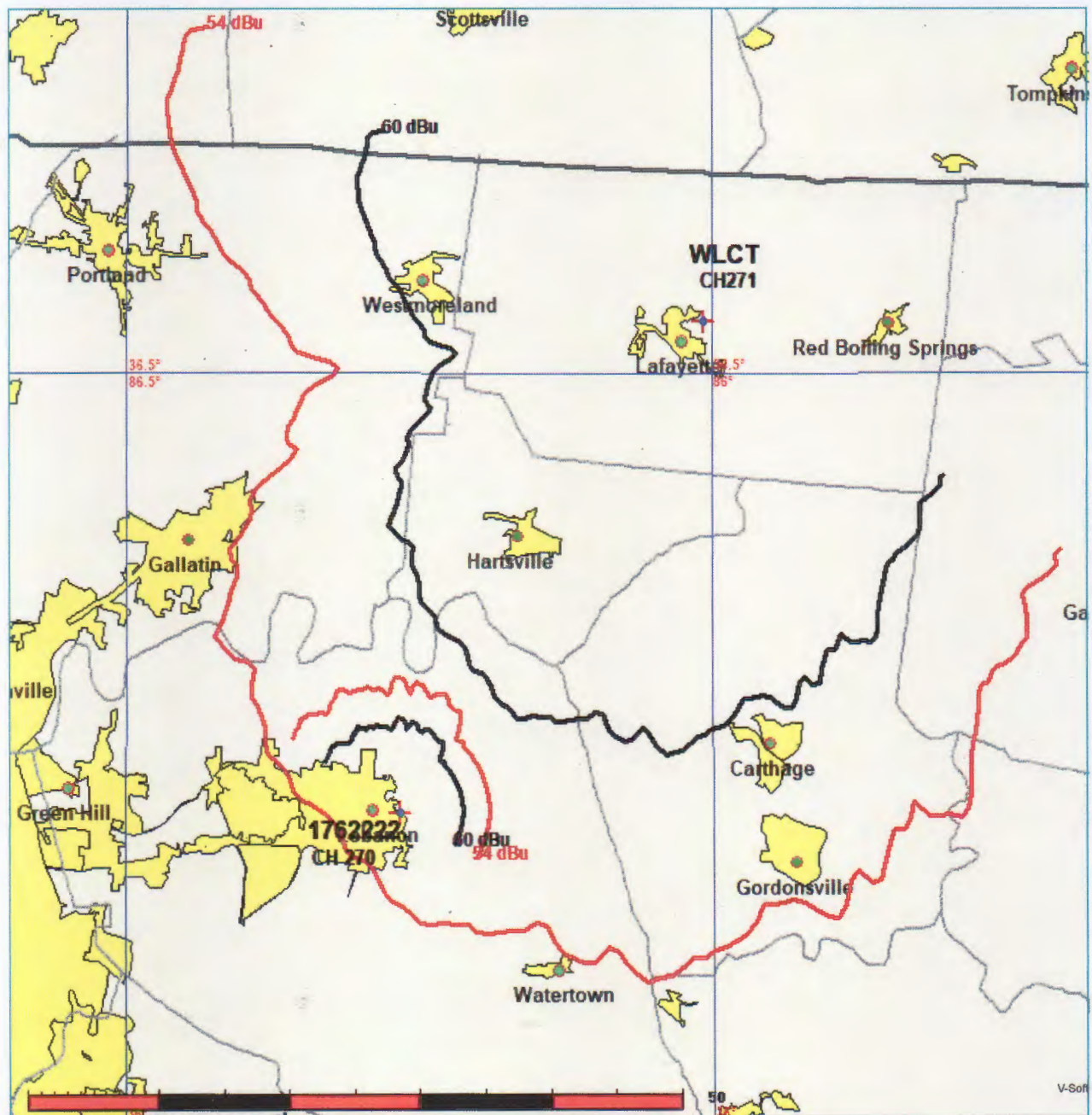


WKDA-AM TRANSLATOR
Wilson County Broadcasting, Inc.

FMCommander Single Allocation Study - 11-30-2017 - USGS 03 SEC
1762222's Overlaps (In= -11.17 km, Out= 3.27 km)

1762222 CH 270 D
Lat= 36 12 26.0, Lng= 86 16 03.0
0.055 kW 0 m HAAT, 216 m COR
Prot.= 60 dBu, Intef.= 54 dBu

WLCT CH 271 A BMLH19990624KA
Lat= 36 32 06.0, Lng= 86 00 27.0
6.0 kW 99 m HAAT, 351 m COR
Prot.= 60 dBu, Intef.= 54 dBu

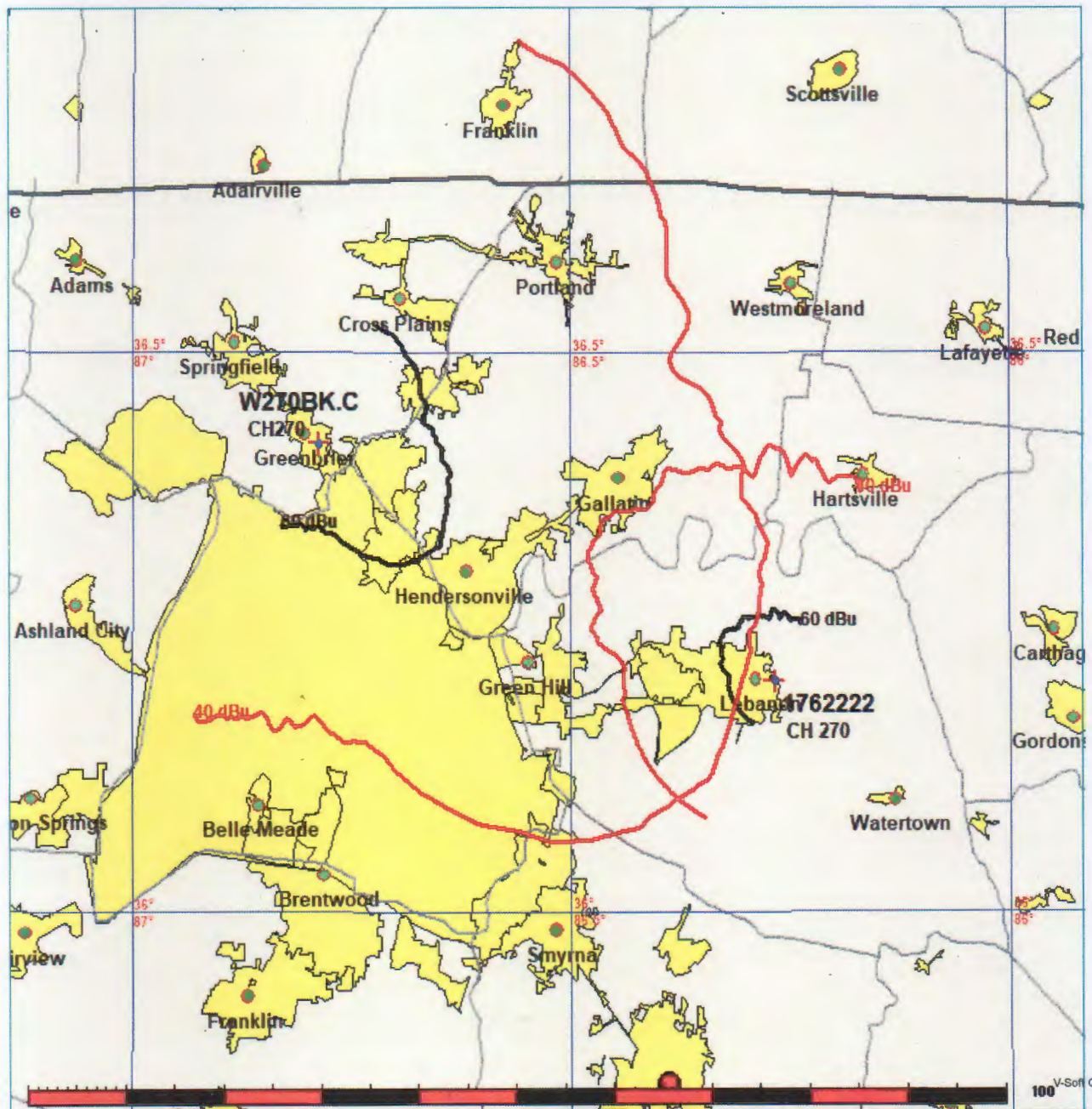


WKDA-AM TRANSLATOR
Wilson County Broadcasting, Inc.

FMCommander Single Allocation Study - 11-30-2017 - USGS 03 SEC
1762222's Overlaps (In= -3.41 km, Out= 16.56 km)

1762222 CH 270 D
Lat= 36 12 26.0, Lng= 86 16 03.0
0.055 kW 0 m HAAT, 216 m COR
Prot.= 60 dBu, Intef.= 40 dBu

W270BK CH 270 D DA BPFT20170626ABF
Lat= 36 25 08.0, Lng= 86 47 18.0
0.25 kW 0 m HAAT, 329 m COR
Prot.= 60 dBu, Intef.= 40 dBu

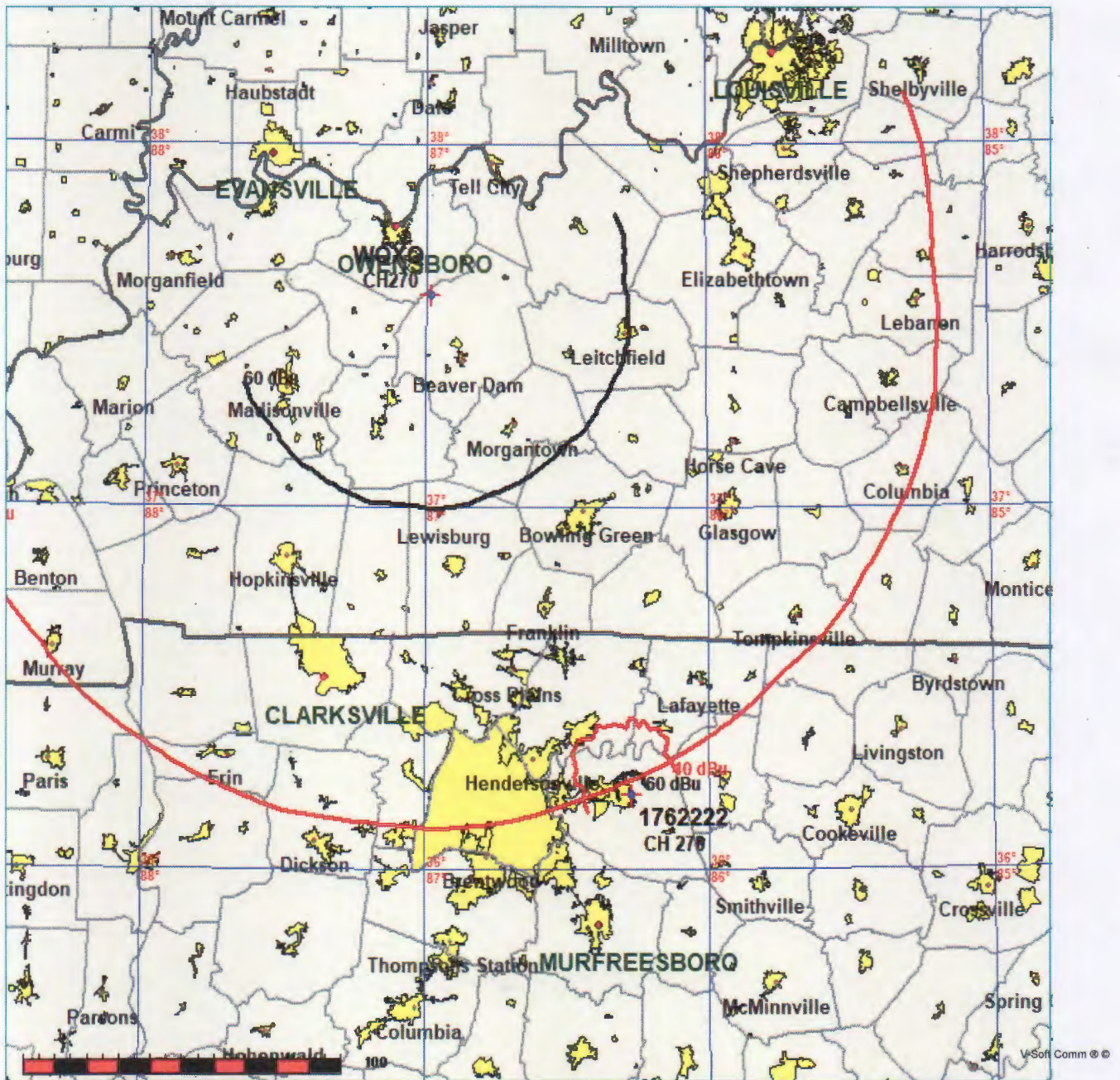


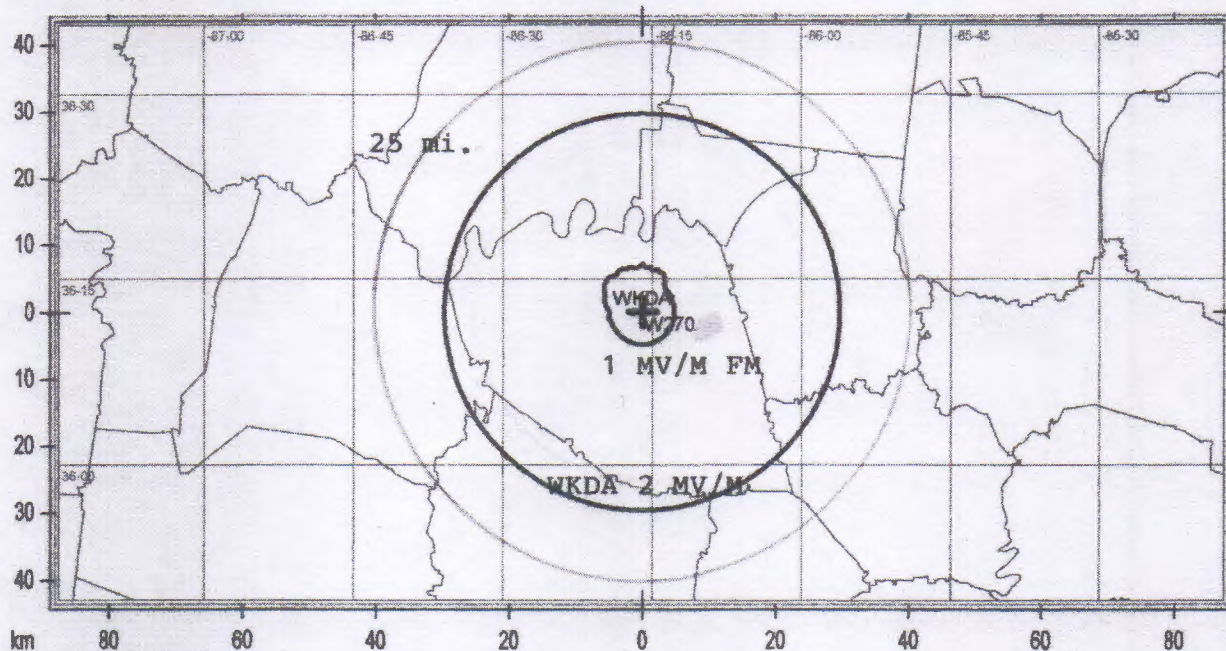
WKDA-AM TRANSLATOR
Wilson County Broadcasting, Inc.

FMCommander Single Allocation Study - 11-30-2017 - USGS 03 SEC
1762222's Overlaps (In= -2.93 km, Out= 78.99 km)

1762222 CH 270 D
Lat= 36 12 26.0, Lng= 86 16 03.0
0.055 kW 0 m HAAT, 216 m COR
Prot.= 60 dBu, Intef.= 40 dBu

WQXQ CH 270 C1 BLH19930826KA
Lat= 37 35 03.0, Lng= 86 59 29.0
100.0 kW 204 m HAAT, 346 m COR
Prot.= 60 dBu, Intef.= 40 dBu





SERVICE CONTOURS

County Borders State Borders Lat/Lon Grid

N. Lat. = 361226 W. Lng. = 861603
HAAT and Distance to Contour - FCC Method - USGS 03 SEC

Azi.	AV EL	HAAT	ERP kW	dbk	Field	60-F5
000	155.5	60.1	0.1000	-10.00	1.000	7.99
030	170.1	45.5	0.1000	-10.00	1.000	6.89
060	197.9	17.7	0.1000	-10.00	1.000	5.64
090	193.2	22.4	0.1000	-10.00	1.000	5.64
120	219.9	-4.3	0.1000	-10.00	1.000	5.64
150	210.8	4.8	0.1000	-10.00	1.000	5.64
180	221.9	-6.3	0.1000	-10.00	1.000	5.64
210	204.1	11.5	0.1000	-10.00	1.000	5.64
240	200.3	15.3	0.1000	-10.00	1.000	5.64
270	192.8	22.8	0.1000	-10.00	1.000	5.64
300	163.6	52.0	0.1000	-10.00	1.000	7.40
330	157.0	58.6	0.1000	-10.00	1.000	7.89

Ave EL= 190.59 M HAAT= 25.01 M AMSL= 215.6 M



AERIAL PHOTOGRAPH OF SITE