Greensboro, North Carolina

Application for Minor Modification of FM Translator W284BN

On Channel 287

by

Eastern Airwaves, LLC

Exhibit 13

Interference Analysis

March 2015

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit 13, Interference Analysis, for Eastern Airwaves, LLC, and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.

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22 March 2015

Narrative

This Exhibit supports a minor modification application for FM translator W284BN, on Channel 287 in Greensboro, North Carolina. Allocation details are provided in this exhibit. This proposal complies fully with the requirements of 74 C.F.R. §74.1204(a), with the exception of facilities protected under 47 C.F.R. §74.1204(d) by the Undesired to Desired (U/D) method described below. The proposed modified facilities create no mutual exclusivities with any licensed facilities, construction permits, or applications as shown in the allocation table in this exhibit.

Figure 1 shows the licensed 60 dBu F(50,50) coverage area, and the proposed 60 dBu F(50,50) coverage area. Figure 1 shows fill-in status confirmation. As shown on Figure 1, the proposed modification is a minor modification of the licensed facilities.

The modifications consist of a new primary station, third adjacent channel, decrease in elevation, increase in power, and a new antenna.

Allocations

This application proposes service to Greensboro, North Carolina, on channel 287. An updated Table 1: Allocations is included in this exhibit with a list of the stations, construction permits, allocations, and applications studied. All are protected under §74.1204(a) contour protection by this application, with the exception of facilities protected by the Undesired to Desired (U/D) method. Facilities protected by the U/D method are listed in Table 2. The

allocations table was prepared using the USGS 3 arcsecond terrain database which is described below.

Table 1: Allocations

Allocation Study
Eastern Airwaves, Llc

REFERENCE CH# 287D - 105.3 MHz, Pwr= 0.15 kW, HAAT= 98.9 M, COR= 341 M DISPLAY DATES
36 04 58.0 N. Average Protected F(50-50)= 11.3 km DATA 03-22-15
79 46 08.0 W. Omni-directional SEARCH 03-22-15

CH CALL / CITY	TYPE	ANT	STATE	AZI. <--	DIST / FILE #	LAT. / LNG.	Pwr(kW) / HAAT(M)	INT(km) / COR(M)	PRO(km) / LICENSEE	*IN* (Overlap in km)	*OUT*
287C1 WOSF Gaffney	LIC	CX	SC	238.4 57.6	151.06 BLH20100429ADK	35 21 51.0 81 11 13.0	51.000 395	168.8 644	73.5 Gaffney Broadcasting, Llc	-28.6*	41.5
286C1 WDCG Durham	LIC	NCX	NC	115.3 295.9	95.12 BLH20080310ADT	35 42 50.0 78 49 04.0	73.000 339	105.6 443	72.4 Capstar Tx Llc	-22.7*	4.3
289C1 WVBZ Clemmons Protected by U/D ratio, see text and figures.	LIC	NCX	NC	301.4 121.1	63.05 BLH20110902AAJ	36 22 36.4 80 22 08.6	30.000 472	8.6 794	73.8 Clear Channel Broadcasting	43.7	-11.6*
284D W284BN! Greensboro Facility being modified.	LIC	C	NC	0.0 0.0	0.00 BLFT20070928BBU	36 04 58.0 79 46 08.0	0.013 103	0.3 342	6.2 Eastern Airwaves, Llc	-11.5	-7.0
233C1 WPTI Eden	LIC	DEX	NC	337.1 157.0	31.62 BLH20150227ABY	36 20 42.0 79 54 24.0	100.000 299	74.5 519	24.8 Clear Channel Broadcasting	21.5R	10.1M
233C1 WPTI Eden	LIC	DE	NC	337.0 156.9	31.85 BMLH20010514AAN	36 20 48.0 79 54 30.0	100.000 299	74.5 522	24.8 Clear Channel Broadcasting	21.5R	10.4M
285D W285EU Jamestown	LIC	C	NC	236.5 56.4	25.62 BLFT20140514AAM	35 57 20.0 80 00 22.0	0.099	0.7 330	9.1 Eastern Airwaves, Llc	14.0	15.3
287C3 WBRW Blacksburg	LIC	ZCN	VA	332.8 152.4	138.09 BLH19960906KZ	37 11 12.0 80 28 54.0	12.000 146	103.1 753	37.3 Cumulus Licensing Llc	23.9	63.1
286L1 WFOZ-LP Winston-salem	CP		NC	268.2 87.9	45.36 BNPL20131114ANW	36 04 09.0 80 16 20.0	0.100 17	 270	 Forsyth Technical Communit	27.2	25.7
290D W290CJ Ramseur	CP	V	NC	162.2 342.3	39.40 BMPFT20150223AAL	35 44 41.0 79 38 07.0	0.150	0.9 176	6.2 Triad Family Network, Inc	26.9	32.3
288A WFJA Sanford	LIC	NCX	NC	149.7 330.0	82.17 BLH20141203ABE	35 26 34.4 79 18 40.9	2.700 138	42.8 251	28.1 Wwgp Broadcasting Corporat	27.6	36.5
288A WFJA Sanford	LIC	NCX	NC	149.7 330.0	82.18 BLH20081029ACZ	35 26 34.0 79 18 41.0	2.300 148	41.5 254	27.3 Wwgp Broadcasting Corporat	28.8	37.3
284C0 WKQC Charlotte	LIC	DCY	NC	222.2 41.6	124.13 BLH19920416KB	35 15 06.0 80 41 12.0	100.000 369	11.5 570	79.1 Wkis License Limited Partn	101.5	44.2
288D W288BU Durham	CP	DC	NC	96.3 276.8	82.81 BMPFT20120622AAD	35 59 54.0 78 51 21.0	0.250 131	20.2 235	13.4 Truth Broadcasting Corpora	50.3	51.3
285D W285DJ Mount Airy Translator For WBFJFM, Winston-Salem, NC	LIC	CN	NC	301.5 121.1	63.28 BLFT19941212TG	36 22 41.0 80 22 16.0	0.010 381	0.2 702	11.6 Triad Family Network, Inc,	52.3	50.8
288D W288BU Durham	LIC	C	NC	96.3 276.8	82.81 BLFT20070926AQN	35 59 54.0 78 51 21.0	0.009 131	8.5 235	6.1 Truth Broadcasting Corpora	62.0	58.6
288A WKDE-FM Altavista	LIC	CN	VA	21.9 202.2	129.10 BMLH19970305KB	37 09 37.0 79 13 28.0	6.000 100	46.8 313	30.3 D.j. Broadcasting, Inc	70.7	81.4
284D W284CL Sanford	CP	C	NC	144.8 325.2	87.11 BNPFT20130827ABT	35 26 26.0 79 12 53.0	0.010 119	0.2 221	6.5 Positive Alternative Radio	74.8	79.7

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 exclamation marks 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.
« = Station meets FCC minimum distance spacing for its class.

Table 2: Facilities Protected by U/D Method

Facility	WVBZ Clemmons, North Carolina
Relationship	289 C1, second adjacent
Distance (km)	63.05
Bearing (degrees)	301.4
ERP (kW, on azimuth)	30.0
HAAT (m, on azimuth)	495.3
Ratio	40
Signal Strength (dBu)	64.3
Translator Signal Strength	104.3
Translator distance (km)	.525

Undesired to Desired Method under §74.1204(d)

Protection to some facilities is provided through the use of Undesired to Desired Signal Strength Ratio (U/D) calculations. Table 2 lists the parameters studied. The proposed antenna is an SWR FMEC/3 75 three bay three quarter wavelength (75%) spaced antenna, The elevation pattern is shown in Figure 2.

The WVBZ field strength calculated at ground level at the proposed W284BN site is 64.3 dBu, using the FM Curves calculator on the FCC web site. For the translator interference contour, free space calculations are used. The corresponding 104.3 dBu field strength distance is .525 kilometers in the horizontal plane. The proposed antenna location is 109 meters above ground. The 104.3 dBu signal level does not reach ground level. The 104.3 dBu contour remains at least 21 meters above the level of the tower base. For all distances beyond 105 meters from the tower base, the 104.3 dBu contour remains at least 33 meters above the level of the tower base. Figure 3 is a vertical plot of the 104.3 dBu contour.

Figure 4 is a topographic map of the transmitter site, showing that the site is on a level ground, with no significant higher ground in the vicinity. Figure 5 is an aerial photograph of the site, showing the absence of any tall structures in the area of interest. Figure 6 is an aerial

photograph of the site with circles of 105 meter and 525 meter radius. There is no structure taller than a single story within the 105 meter radius circle and no structure taller than five stories within the 525 meter radius circle. There is no population within the predicted interference area and therefore this facility is permitted under §74.1204(d).

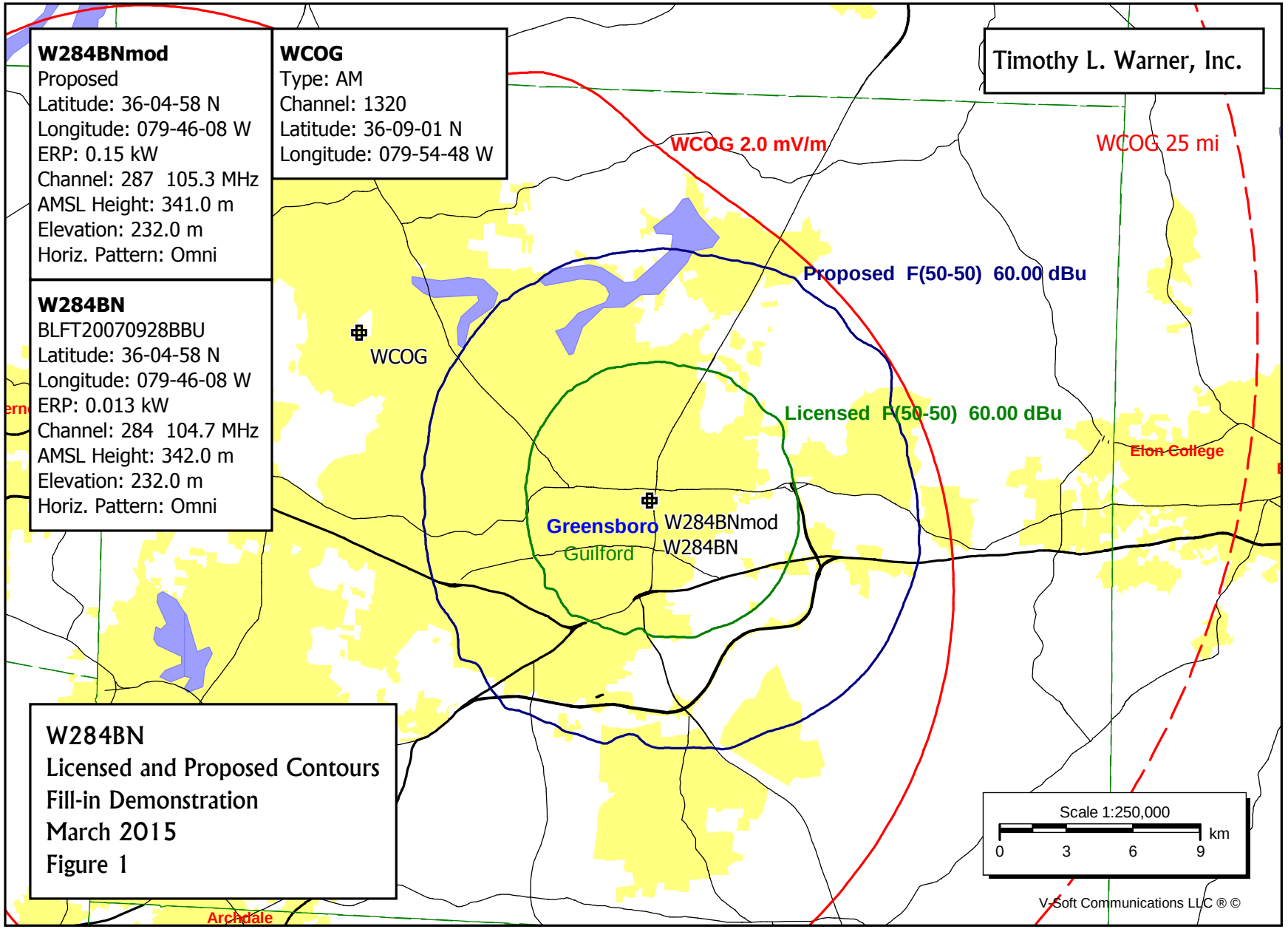
The applicant recognizes that the U/D method is only a tool for predicting likely interference. Should any actual interference be experienced, the applicant will cooperate fully in correcting the interference. Corrective steps may require changes in the transmitting antenna or other steps which would require Commission authorization, may require that the translator cease operation except for brief equipment tests, or may require filtering at the receivers which report interference.

Source of Data

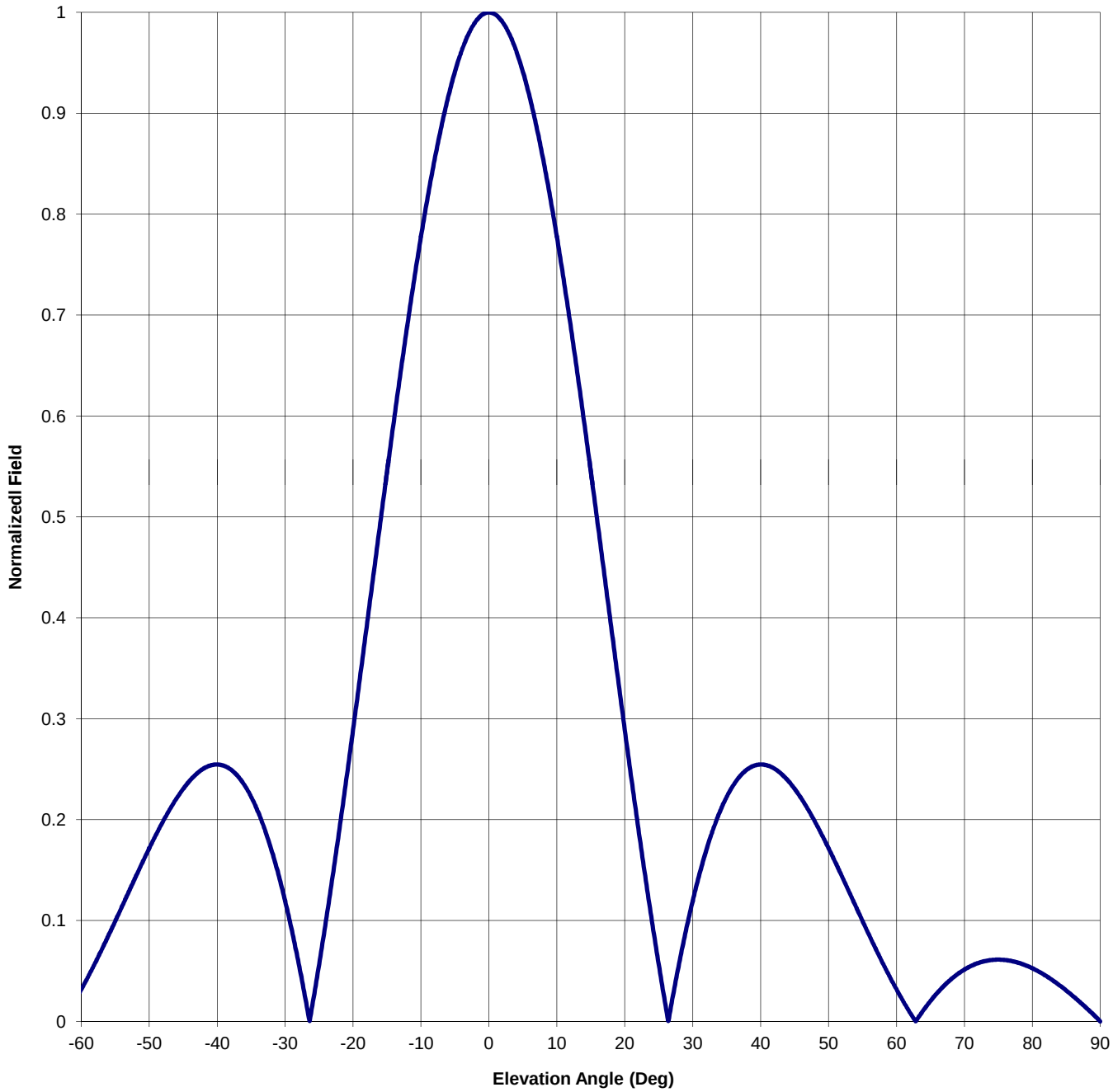
Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments.

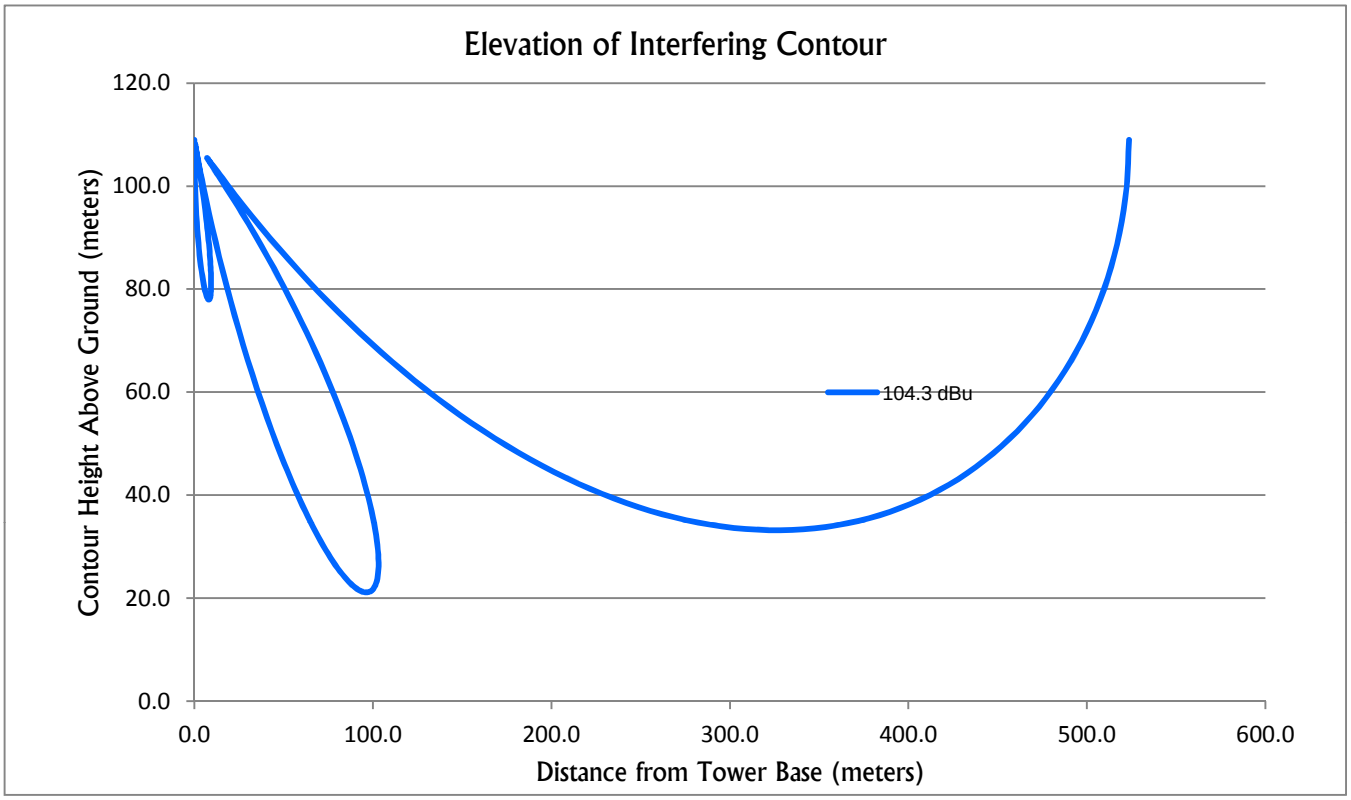
The contours were evaluated using terrain extracted from the USGS 3 arcsecond terrain database, formatted by V-Soft Communications to work with its allocations and mapping software.

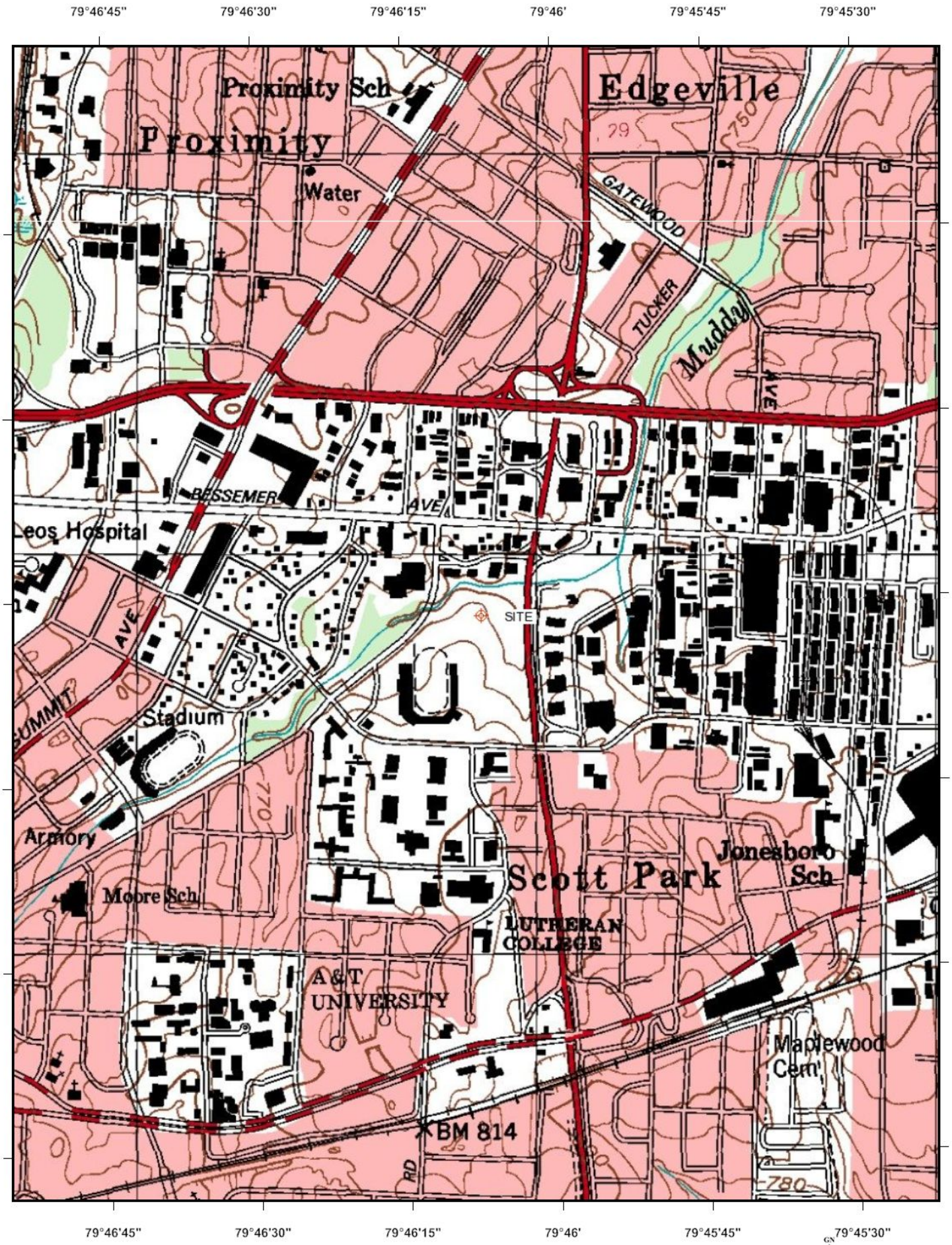
All population data is from 2010 U.S. Census PL data files. Population is counted by considering the location of the centroid of each census block. The data for each block is counted if it falls within the area being counted.


W284BNmod
Proposed
Latitude: 36-04-58 N
Longitude: 079-46-08 W
ERP: 0.15 kW
Channel: 287 105.3 MHz
AMSL Height: 341.0 m
Elevation: 232.0 m
Horiz. Pattern: Omni
W284BN
BLFT20070928BBU
Latitude: 36-04-58 N
Longitude: 079-46-08 W
ERP: 0.013 kW
Channel: 284 104.7 MHz
AMSL Height: 342.0 m
Elevation: 232.0 m
Horiz. Pattern: Omni
WCOG
Type: AM
Channel: 1320
Latitude: 36-09-01 N
Longitude: 079-54-48 W
Timothy L. Warner, Inc.
WCOG 2.0 mV/m
WCOG 25 mi
Proposed F(50-50) 60.00 dBu
Licensed F(50-50) 60.00 dBu
WCOG
Greensboro
Guilford
W284BNmod
W284BN
Elon College
Archdale
W284BN
Licensed and Proposed Contours
Fill-in Demonstration
March 2015
Figure 1
Scale 1:250,000
km
0 3 6 9
V-Soft Communications LLC ® ©

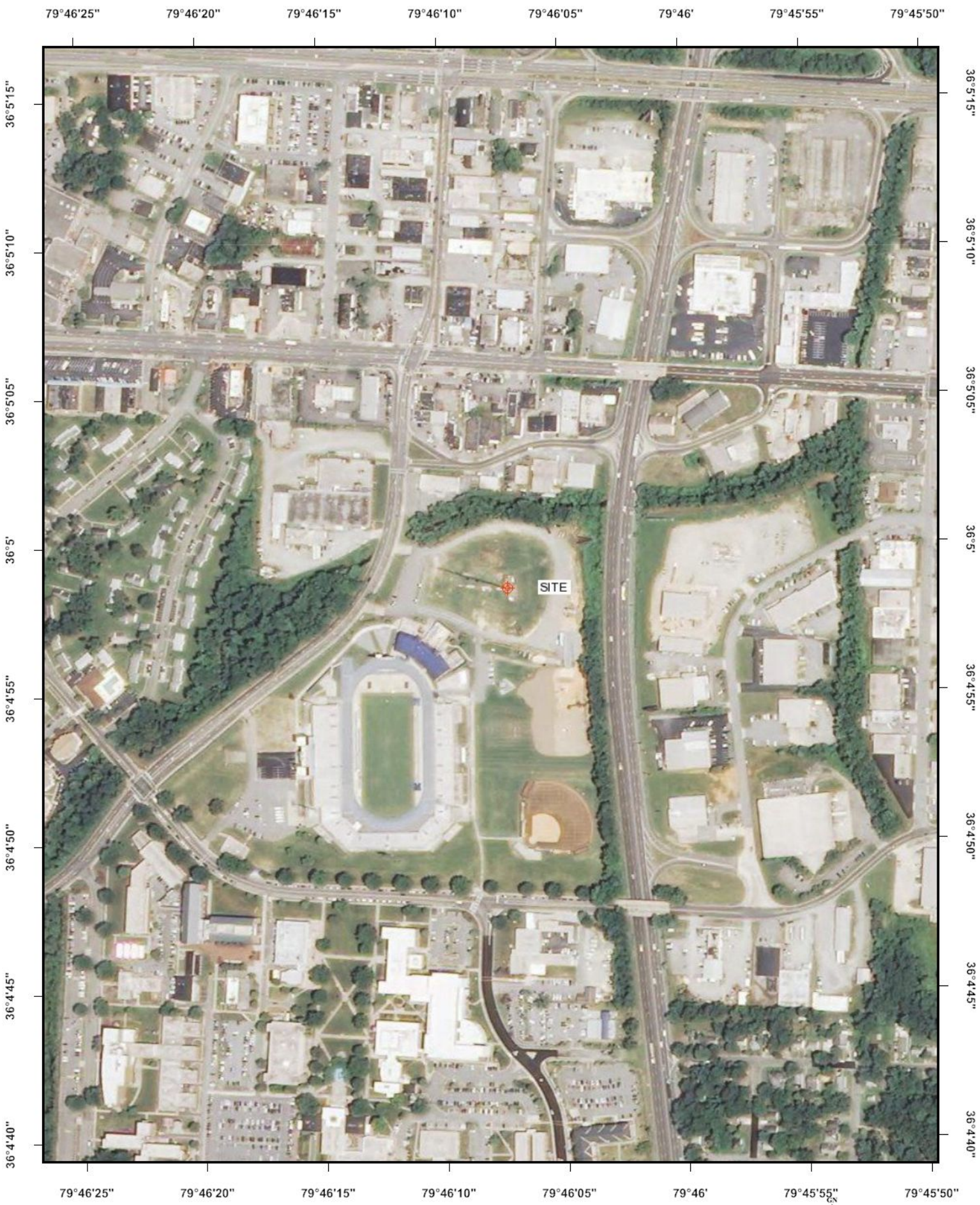
Antenna Mfg.:	**SWR**			**Date: 3/22/2015**
Antenna Type:	**FMEC/3 75**			
Station:	**W284BN**	**Beam Tilt**	**0**	
Frequency:	**105.3**	**Gain (Max)**	**1.418**	**1.517 dB**
Channel #:	**287**	**Gain (Horizon)**	**1.418**	**1.517 dB**
Figure:	**2**			




Elevation of Interfering Contour
Contour Height Above Ground (meters)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
0.0
100.0
200.0
300.0
400.0
500.0
600.0
Distance from Tower Base (meters)
104.3 dBu



W284BN Figure 4



Universal Transverse Mercator (UTM) Projection Zone 17
North American Datum of 1983

1:5000 scale

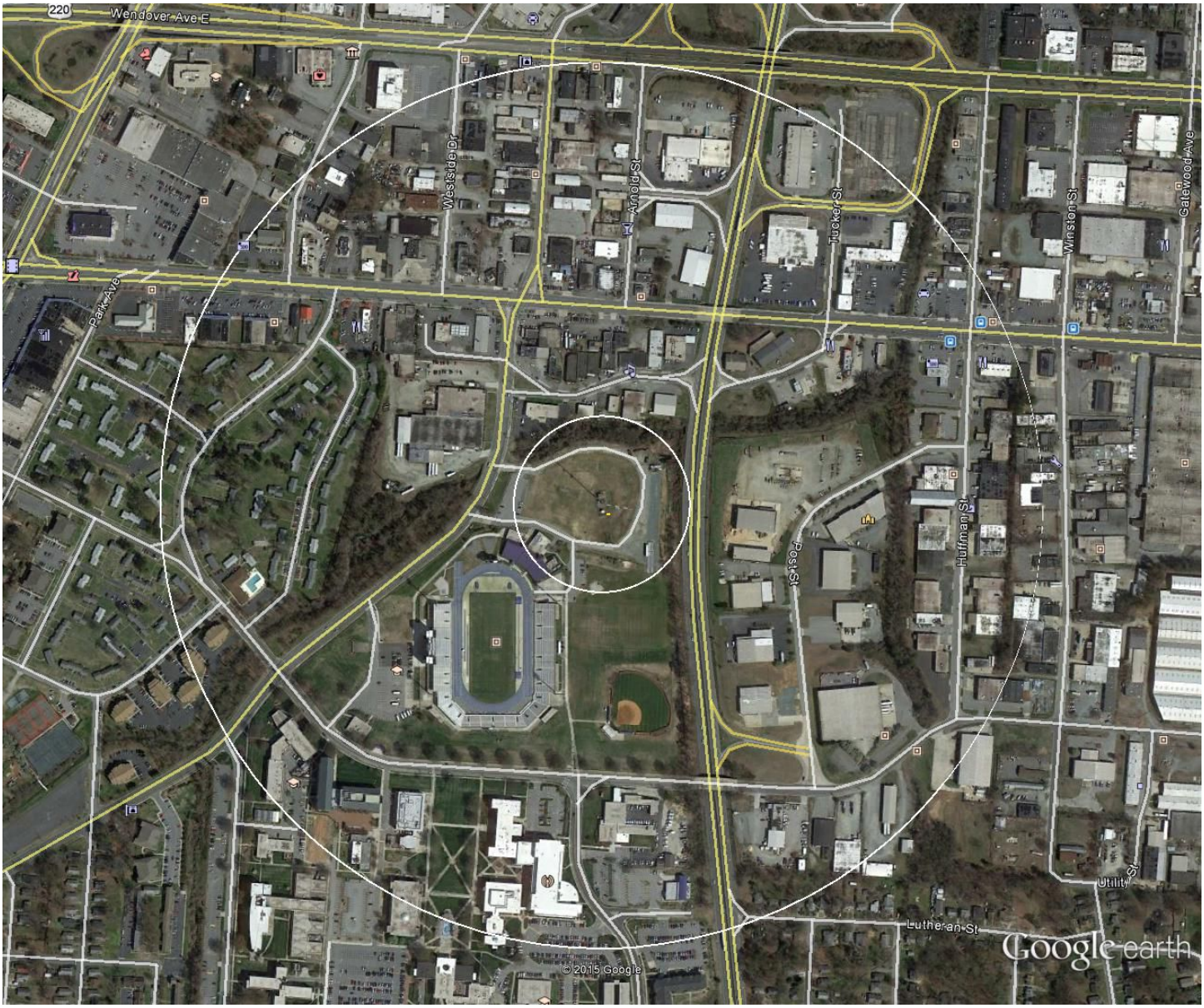
0 100 200 300 400 500 Feet

0 50 100 150 Meters

GN
MN 7°
TN 1°

Magnetic declination of 7W at center of map
on March 17, 2011

W284BN Figure 5



Google earth

feet 2000
meters 700

W284BN
Interference Contour Circles
105 Meter Radius
525 Meter Radius
March 2015
Figure 6