Rocky Mount, North Carolina

Long Form Application for New FM Translator

BNPFT-20030317JYV

On Channel 271

by

Shaw University

Exhibit 13

Interference Analysis

March 2013

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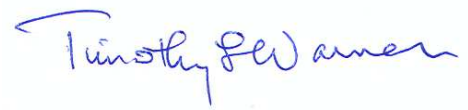
Declaration

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 Shaw University, 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 2013

Narrative

This Exhibit supports a long form application in response to a filing window[1] for FM translator file number BNPFT-20030317JYV, CDBS application ID 650043, on Channel 271 in Rocky Mount, North Carolina. Allocation details are provided in this exhibit. The application proposes minor modification changes from the tech box filing. Specifically, the site is changed, the second adjacent channel is proposed, the antenna model is changed, height is increased, and the effective radiated power is decreased.

This proposal creates no new mutual exclusivities with any Auction 83 Tech Box filings.

Figure 1 shows the tech box 60 dBu F(50,50) coverage area, and the proposed 60 dBu F(50,50) coverage area. This application proposed a minor modification of the Tech Box facilities.

Allocations

This application proposes service to Rocky Mount, North Carolina, on channel 271. 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 by this application, with the exception of facilities which are listed in Table 2 below. Those facilities are protected by the Desired to Undesired (D/U) Ratio method which is described below.

[1] *Public Notice, Media Bureau Announces FM Translator Auction 83 Filing Window and Filing Procedures*, DA13-283, released February 26, 2013. (Singleton Notice)

Table 1: Allocations

Allocation Study
Shaw University

REFERENCE CH# 271D - 102.1 MHz, Pwr= 0.013 kW, HAAT= 110.7 M, COR= 157 M DISPLAY DATES
35 57 19.0 N. Average Protected F(50-50)= 6.6 km DATA 03-22-13
77 53 04.0 W. Omni-directional SEARCH 03-22-13

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
268C Raleigh	WRAL	LIC	C NC	242.3 62.0	66.48 BMLH20040903ABQ	35 40 35.0 78 32 08.0	100.000 555	13.4 646	91.0 Wral-fm, Inc.	46.7	-24.7*
Protected by D/U ratio, see text and figures.											
270C1 New Bern	WIKS	LIC	CN NC	142.8 323.2	104.76 BLH19870306KD	35 12 07.0 77 11 15.0	100.000 299	105.6 308	72.8 Wiks License Limited Partn	-7.6*	22.4
273D Rocky Mount	650043	APP	C NC	99.3 279.3	7.46 BNPFT20030317JYV	35 56 40.0 77 48 10.0	0.038 56	0.4 90	4.9 Shaw University	0.1	2.1
Tech Box application for which this is the long form application.											
271C0 Reidsville	WJMH	LIC	C NC	281.5 100.3	188.50 BMLH20010731ACA	36 16 33.0 79 56 26.0	100.000 367	178.5 600	76.4 Entercom Greensboro Licens	3.7	91.9
272A Roanoke Rapids	WPTM	LIC	CX NC	12.0 192.1	62.23 BLH20031023ACJ	36 30 13.0 77 44 20.0	6.000 97	43.3 166	27.6 First Media Radio, Llc	12.6	25.1
274D Wilson	W274AK	LIC	C NC	179.2 359.2	20.86 BLFT20010208ABB	35 46 02.0 77 52 52.0	0.038 77	0.4 113	6.7 Radio Training Network, In	13.8	13.9
272A Smithfield	WWPL	LIC	CX NC	230.1 49.8	65.07 BLH20101029ACW	35 34 43.0 78 26 10.0	2.600 153	42.3 221	27.8 New Age Communications, In	16.4	28.1
272A Smithfield	AL8950	RSV-A	 NC	216.9 36.6	66.96 RM10377	35 28 21.0 78 19 43.0	6.000 100	42.1 146	27.2	18.5	30.7
270A South Hill	AL3575	RSV-A	 VA	340.4 160.2	97.25 RM10592	36 46 48.0 78 15 04.0	6.000 100	45.7 216	29.5	45.2	58.7
271B Richmond	WRXL	LIC	CN VA	10.0 190.2	187.04 BLH19920608KG	37 36 52.0 77 30 56.0	20.000 241	127.5 301	64.6 Cc Licenses, Llc	53.1	91.9
270A South Hill	WKSK-FM	LIC	ZEX VA	344.3 164.1	91.00 BLH20040526ABK	36 44 39.0 78 09 42.0	6.000 96	30.3 199	20.5 Lakes Media Holding Compan	54.4	60.1
270D Sanford	W270AW	CP	C NC	243.8 63.1	110.51 BPFT20110705AAM	35 30 43.0 78 58 42.0	0.190	41.7 604	26.8 Educational Media Foundati	62.5	74.8
273A Hillsborough	WPLW	LIC	CX NC	279.9 99.3	98.84 BLH20101029ACM	36 06 13.0 78 57 57.0	1.500 204	2.4 350	31.4 New Century Media Group, L	90.2	67.2
273A Hillsborough	AL2642	RSV-A	 NC	280.2 99.6	102.55 RM11038	36 06 49.0 79 00 20.0	6.000 100	3.1 263	32.4	93.2	69.9

Terrain database is NED 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 adj.
All separation margins (if shown) include rounding
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.

Table 2: Facilities Protected by U/D Method

Facility	WRAL Raleigh, North Carolina
Relationship	268C, third adjacent
Distance (km)	66.48
Bearing (degrees)	242.3
ERP (kW, on azimuth)	100.0
HAAT (m, on azimuth)	578.3
Ratio	40
Signal Strength (dBu)	70.1
Translator Signal Strength	110.1
Translator distance (km)	.079

Undesired to Desired Method

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 WRAL field strength calculated at ground level at the proposed 650043 site is 70.1 dBu, using the FM Curves calculator on the FCC web site. For the translator interference contour, free space calculations are used. The corresponding 110.1 dBu field strength distance is .079 kilometers in the horizontal plane. Because the radiation center is 107 meters above ground, the interference level signal will not reach any populated area. Figure 2 is an aerial photo of the tower area with lines showing no structures within 80 meters of the tower base. Figure 3 is a topographic map showing the generally level nature of the area.

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

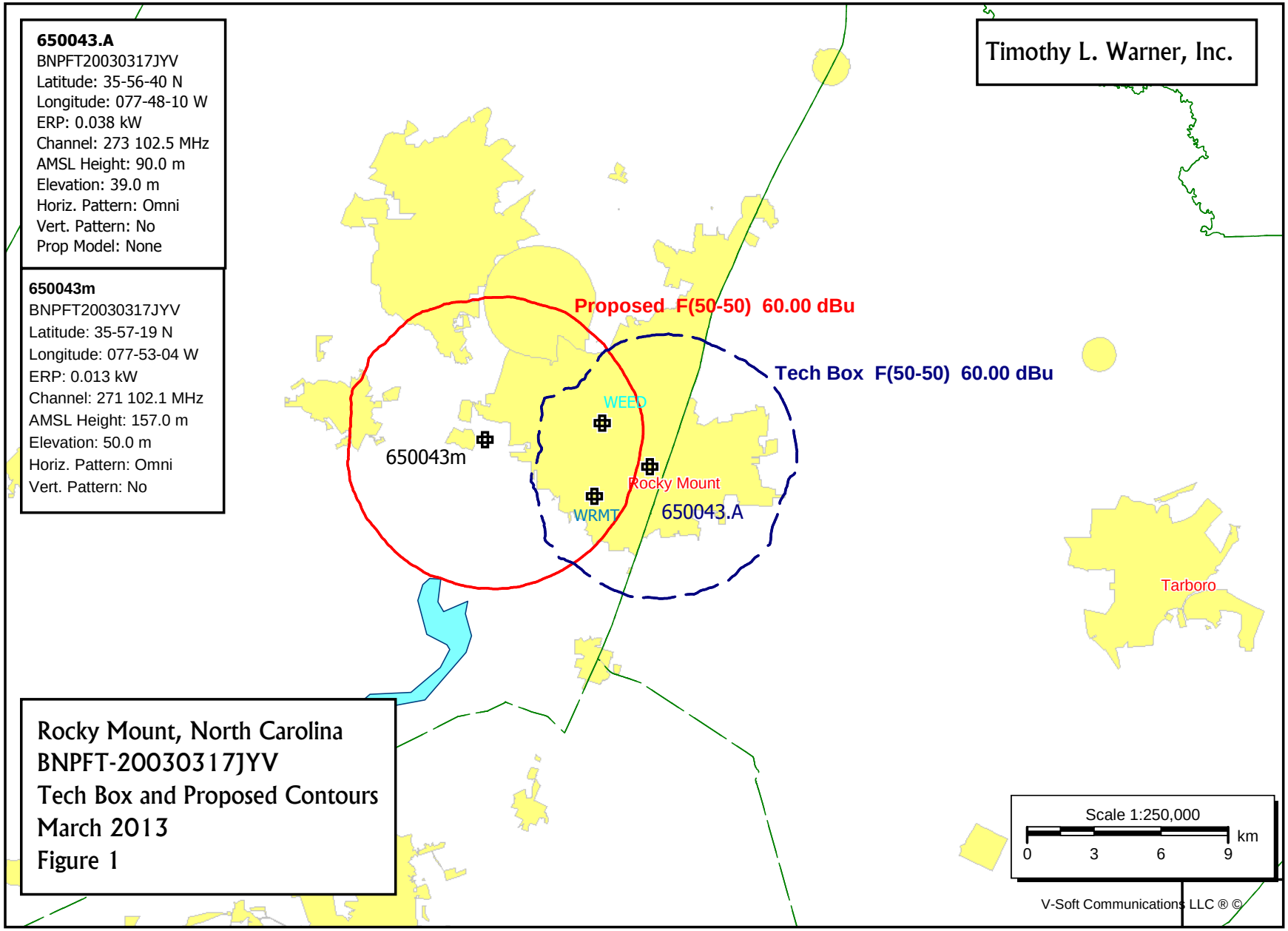
translator cease operation except for brief equipment tests, or may require filtering at the receivers which report interference.

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 also evaluated using terrain extracted from the V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database.

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.


650043.A
BNPFT20030317JYV
Latitude: 35-56-40 N
Longitude: 077-48-10 W
ERP: 0.038 kW
Channel: 273 102.5 MHz
AMSL Height: 90.0 m
Elevation: 39.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None
650043m
BNPFT20030317JYV
Latitude: 35-57-19 N
Longitude: 077-53-04 W
ERP: 0.013 kW
Channel: 271 102.1 MHz
AMSL Height: 157.0 m
Elevation: 50.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Timothy L. Warner, Inc.
Proposed F(50-50) 60.00 dBu
Tech Box F(50-50) 60.00 dBu
WEED
650043m
Rocky Mount
WRMT
650043.A
Tarboro
Rocky Mount, North Carolina
BNPFT-20030317JYV
Tech Box and Proposed Contours
March 2013
Figure 1
Scale 1:250,000
km
0
3
6
9
V-Soft Communications LLC ® ©

Rocky Mount, North Carolina Shaw Channel 271D

Universal Transverse Mercator (UTM) Projection Zone 18
North American Datum of 1983

1:3000 scale

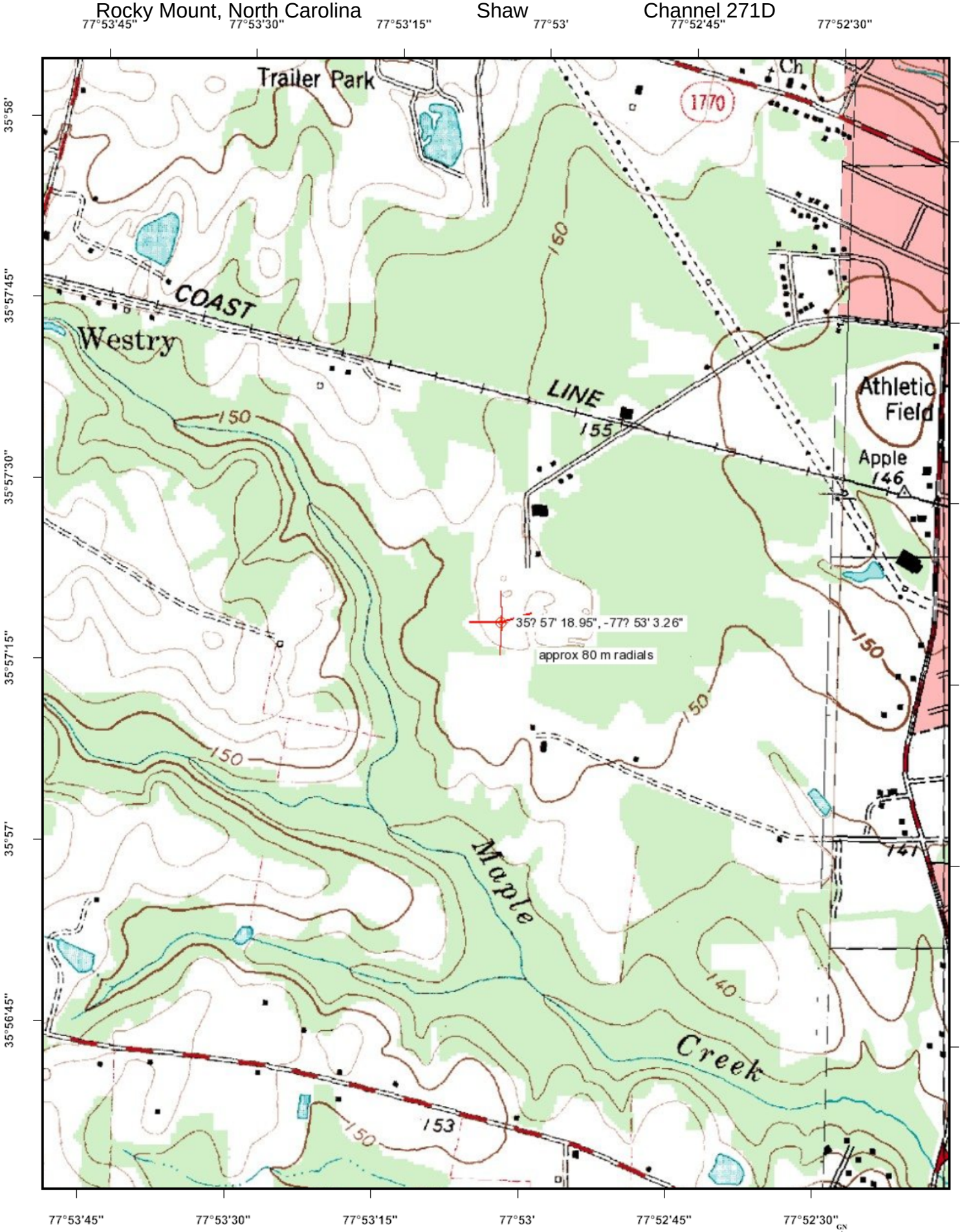
0 100 200 300 400 500 Feet

0 50 100 150 Meters

Magnetic declination of 11W at center of map on March 17, 2011

Figure 2

Rocky Mount, North Carolina Shaw Channel 271D



Universal Transverse Mercator (UTM) Projection Zone 18
North American Datum of 1983

1:12500 scale

0 0.1 0.2 0.3 0.4 0.5 Miles

0 0.1 0.2 0.3 0.4 0.5 Kilometers

GN MN 11° TN 2°

Magnetic declination of 11W at center of map on March 17, 2011

Figure 3