

TECHNICAL EXHIBIT
MINOR CHANGE APPLICATION FOR
CONSTRUCTION PERMIT FOR AN
AUXILIARY ANTENNA OPERATION
STATION WRGB-DT (FACILITY ID 73942)
SCHENECTADY, NEW YORK

APRIL 1, 2005

CH 39 120 KW (MAX-DA) 355 M

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Table of Contents

Technical Narrative

Figure 1	Antenna and Supporting Structure
Figure 2	Antenna Patterns
Figure 3	Predicted DTV Coverage Contours

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Technical Narrative

This Technical Exhibit supports a minor change application for a construction permit (CP) for an auxiliary antenna operation for digital television (DTV) station WRGB-DT on channel 39 at Schenectady, New York (Facility ID 73942).

Station WRGB-DT is currently authorized to operate on channel 39 (BPCDT-19991029ADH). Station WRGB-DT is authorized to use a non-directional (ND) antenna system. The effective radiated power (ERP) is 746 kW and the antenna height above average terrain (HAAT) is 426 meters. The FCC antenna structure registration number is 1231728 and the transmitter site coordinates are 42-37-31, 74-00-38 (NAD-27).

Proposed Auxiliary DTV Facilities

Station WRGB-DT proposes to install an auxiliary antenna system on the present supporting structure. The proposed auxiliary antenna is an Andrew model ALP16M2-HSW-39 directional antenna (DA) system. The proposed antenna pattern is cardioid shaped and the major lobe will be oriented toward 50 degrees True. The proposed auxiliary antenna incorporates an electrical beam tilt of 0.5 degrees. An additional mechanical tilt of 0.25 degree will be installed at 50 degrees True. The proposed auxiliary antenna center of radiation will be located 68.6 meters (225 feet) above ground level (AGL), and 611.4 meters (2006 feet) above mean sea level (AMSL). The proposed auxiliary antenna HAAT is 355 meters. The proposed maximum ERP is 120 kW. The FCC antenna structure registration number is 1231728 and the site coordinates are 42-37-31, 74-00-38 (NAD-27).

Figure 1 is a sketch of the proposed auxiliary antenna and supporting structure.

Figure 2 shows the proposed auxiliary antenna's azimuth and vertical radiation patterns.

Figure 3 is a map showing the predicted 48 dBu and 41 dBu contours for the proposed WRGB-DT auxiliary operation, and the predicted 41 dBu contour for the WRGB-DT CP operation with the main antenna system. As shown, the 41 dBu contour for the proposed WRGB-DT auxiliary antenna operation is completely within the predicted 41 dBu contour for the WRGB-DT main antenna operation.

Allocation Study

Since this application is for an auxiliary antenna operation, no allocation study is required.

The following stations are also located on the proposed WRGB-DT structure (1231728).

WXXA-DT, Ch.7, Albany, NY
WNYT-DT, Ch.12, Albany, NY
WTEN-DT, Ch.26, Albany, NY
WMHT-DT, Ch.34, Schenectady, NY
WEWB-DT, Ch.43, Schenectady, NY
WEWB-TV, Ch.45, Schenectady, NY

There are no FM stations within 1.4 kilometer of the WRGB-DT site. There are no AM stations located within 5 kilometers (3.1 miles) of the WRGB-DT site. Although no adverse electromagnetic interaction is expected from WRGB-DT's proposed auxiliary antenna operation, the applicant recognizes its responsibility to correct prohibited interference problems that its proposed operation may create.

Radiofrequency Electromagnetic Field Exposure

The proposed WRGB-DT auxiliary facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 68.6 meters above ground level. The proposed maximum ERP of 120 kW is assumed. A conservative relative field value of 0.3 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.08135 mW/cm^2 . This is less than 20% of the FCC's recommended limit of 0.42 mW/cm^2 for channel 39 for an "uncontrolled" environment. The calculated power density is less than 4% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting equipment will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

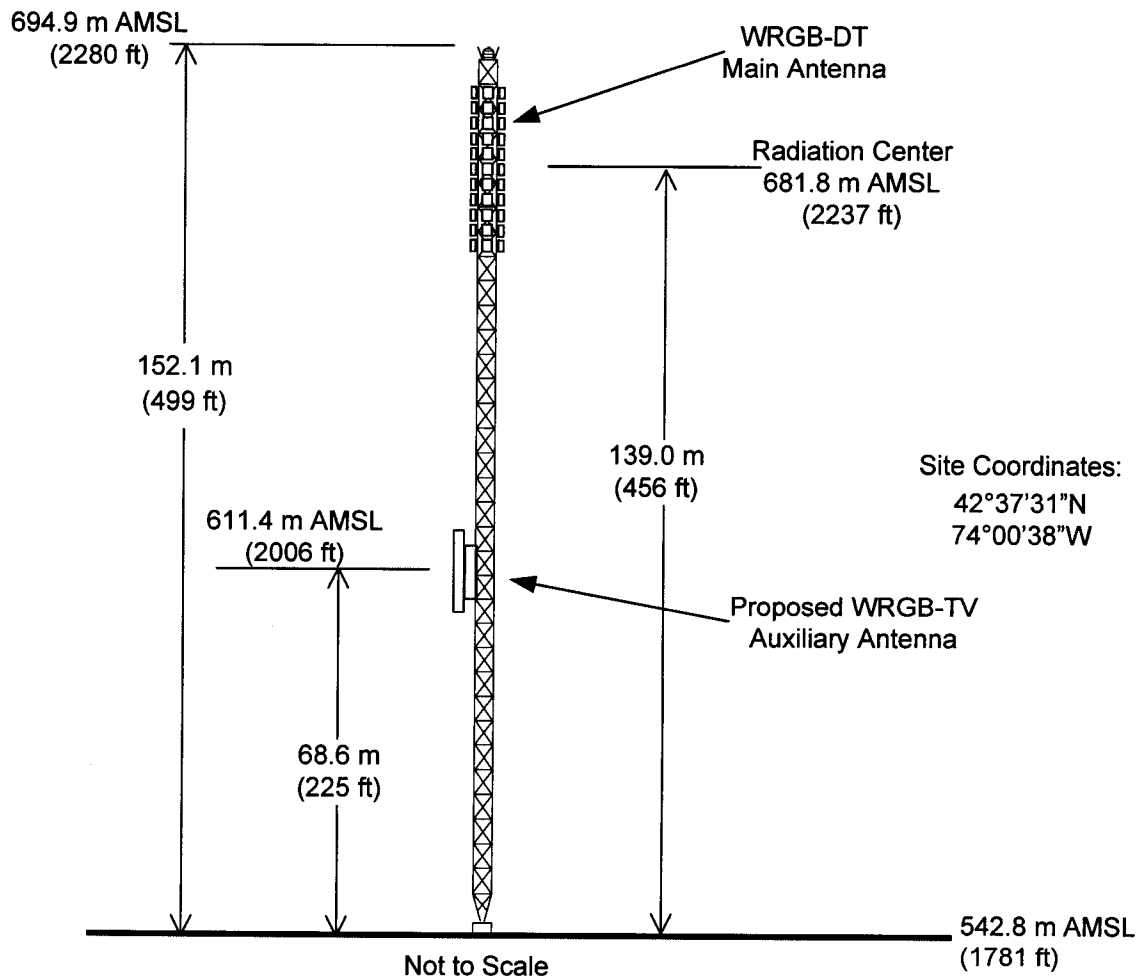
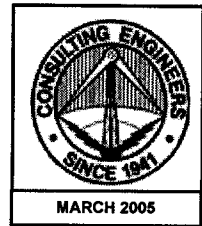
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April 1, 2005

Figure 1

FCC Tower ID: 1231728



AUXILIARY ANTENNA AND SUPPORTING STRUCTURE

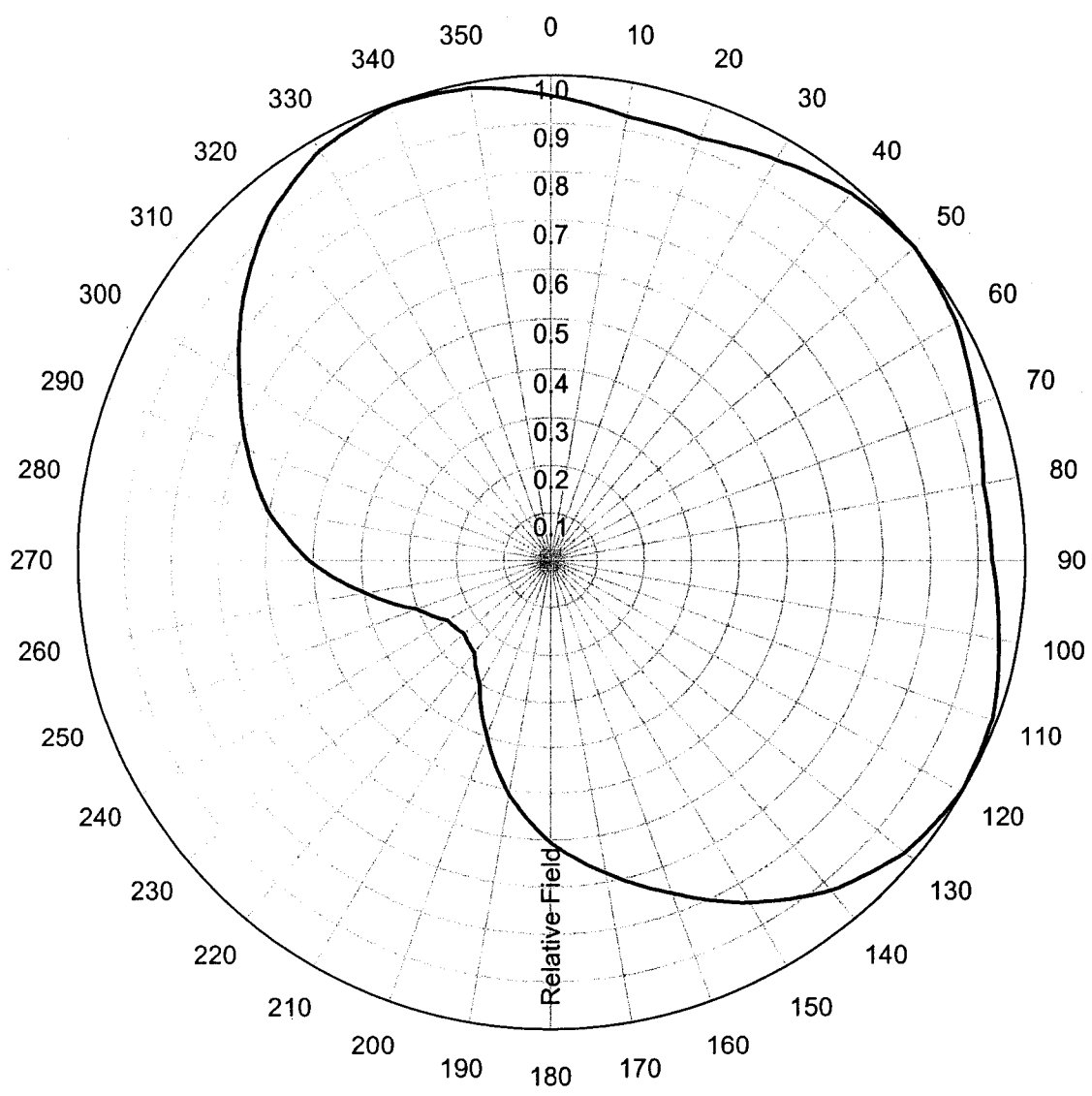
STATION WRGB-DT
SCHENECTADY, NEW YORK
CH 39 120 KW (MAX-DA) 355 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



ANDREW. **AZIMUTH PATTERN**

Type:	ALP-W	
	Numeric	dBd
Directivity:	1.56	1.93
Peak(s) at:		
Polarization:	Horizontal	
Channel:	39	
Location:		
Note:		



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

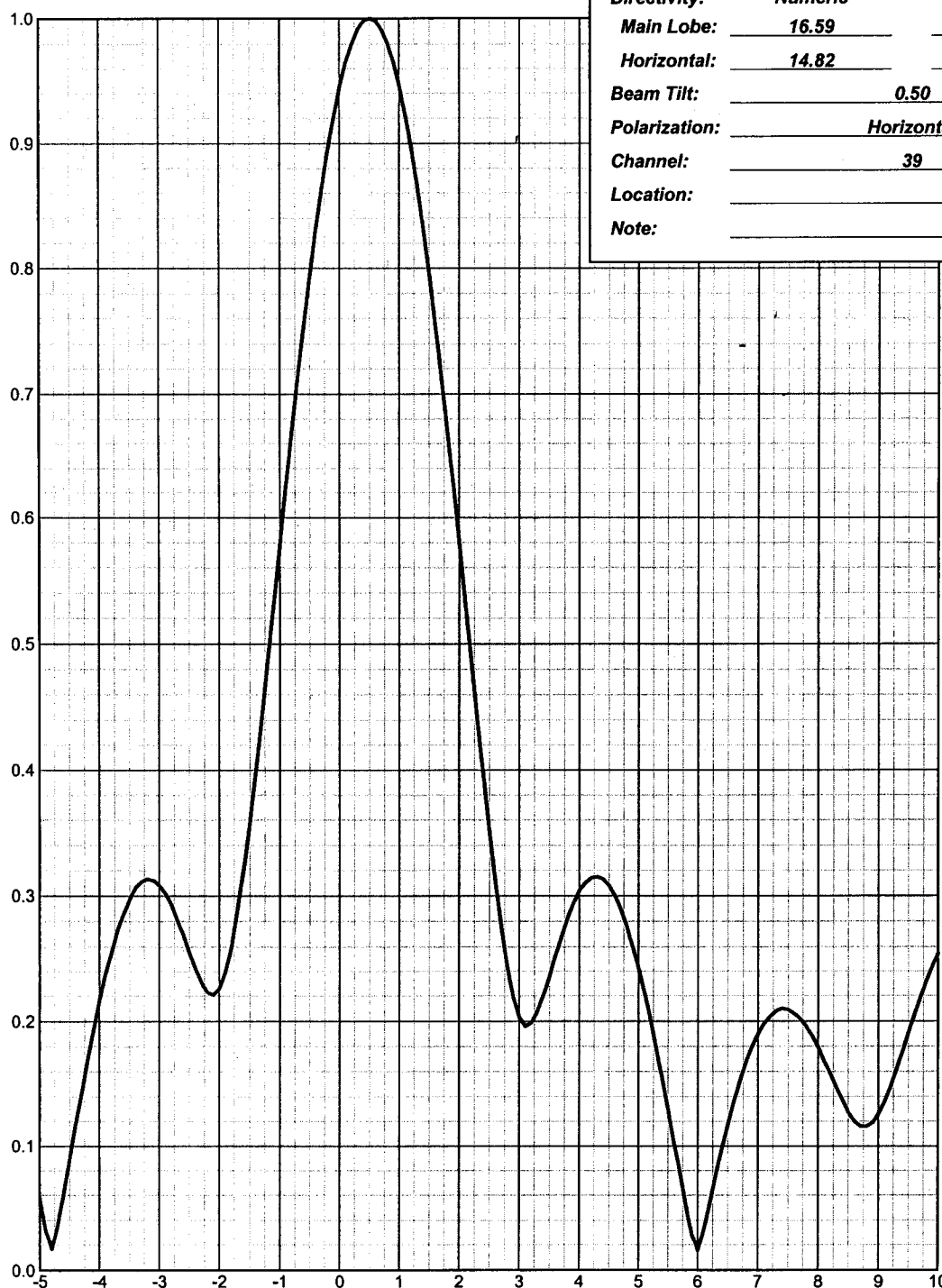


ANDREW.

ELEVATION PATTERN

Type:	ALP16M2	
Directivity:	Numeric	dBd
Main Lobe:	16.59	12.20
Horizontal:	14.82	11.71
Beam Tilt:	0.50	
Polarization:	Horizontal	
Channel:	39	
Location:		
Note:		

Relative Field



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10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

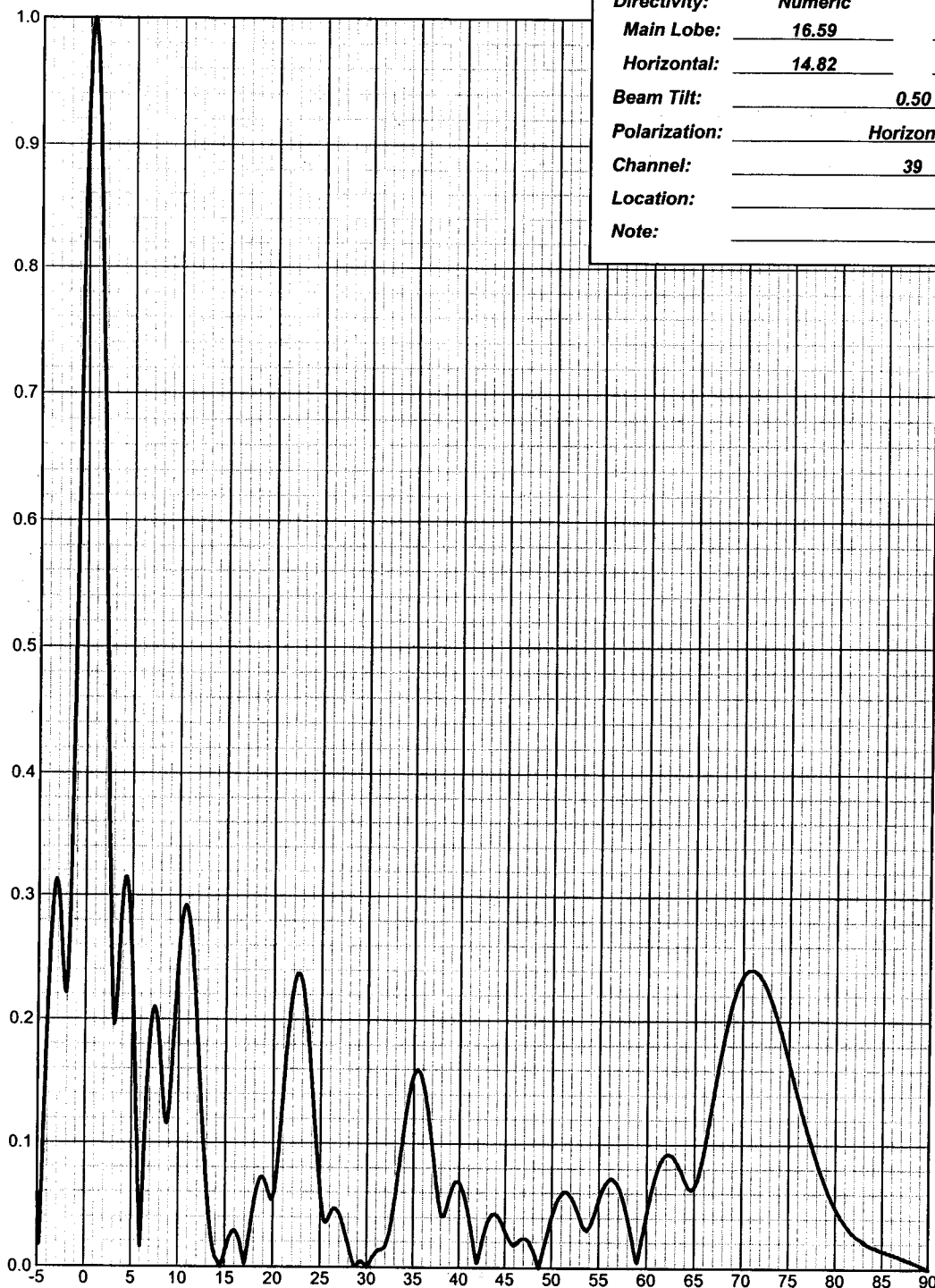


ANDREW.

ELEVATION PATTERN

Type:	ALP16M2	
Directivity:	Numeric	dBd
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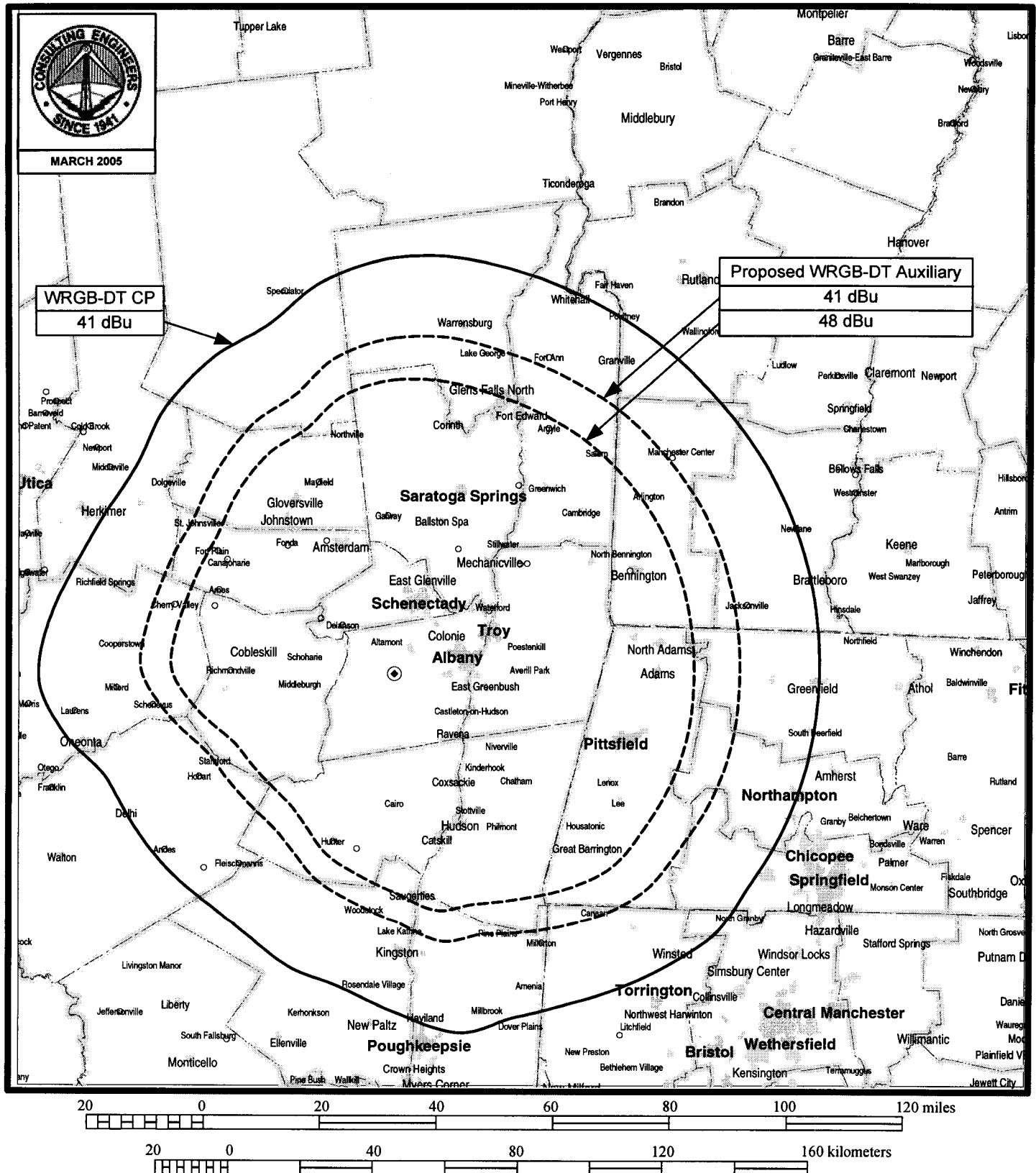
Relative Field



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Figure 3



PREDICTED DTV COVERAGE CONTOURS

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida