

TECHNICAL EXHIBIT  
APPLICATION FOR MODIFICATION OF DTV AUXILIARY FACILITY  
CONSTRUCTION PERMIT  
STATION WAXN-DT  
KANNAPOLIS, NORTH CAROLINA  
CH 50 23.5 KW 221 M

Technical Narrative

This Technical Exhibit supports the WAXN-DT auxiliary (stand-by) facility application for modification of construction permit. This application requests authorization for a digital television auxiliary operation on channel 50 at Kannapolis with a non-directional effective radiated power of 23.5 kilowatts.

Proposed Facilities

Station WAXN-DT proposes to operate DTV auxiliary channel 50 from its DTV transmitter site. The antenna height above average terrain for the channel 50 DTV auxiliary operation is 221 meters.

The proposed DTV transmitter site will be located at its analog transmitter site. Therefore, the proposed site location is:

35° 15' 41" North Latitude  
80° 43' 38" West Longitude

A sketch of antenna and pertinent elevations are included as Figure 1.

Figure 2 is a map showing the DTV predicted coverage contours for both the herein proposed auxiliary and its current main authorizations. As can be seen, the proposed auxiliary noise-limited contour is entirely encompassed by its main facility coverage contours.

#### Radiofrequency Electromagnetic Field Exposure

The proposed WAXN-DT facilities were evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level to workers and the general public. The radiation center for the proposed WAXN-DT auxiliary antenna is located 177 meters above ground level. The maximum effective radiated power is 23.5 kilowatts. A "worst-case" relative field value of 0.25 is assumed for the antenna's downward radiation. The calculated power density at a point 2 meters above ground level is less than  $0.002 \text{ mW/cm}^2$ . This is less than 5 percent of the Commission's recommended limit of  $0.46 \text{ mW/cm}^2$  for channel 50 for an "uncontrolled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site, an agreement will control access to the site. 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. The proposed WAXN-DT operation appears to be otherwise categorically excluded from environmental processing.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.

Charles Cooper

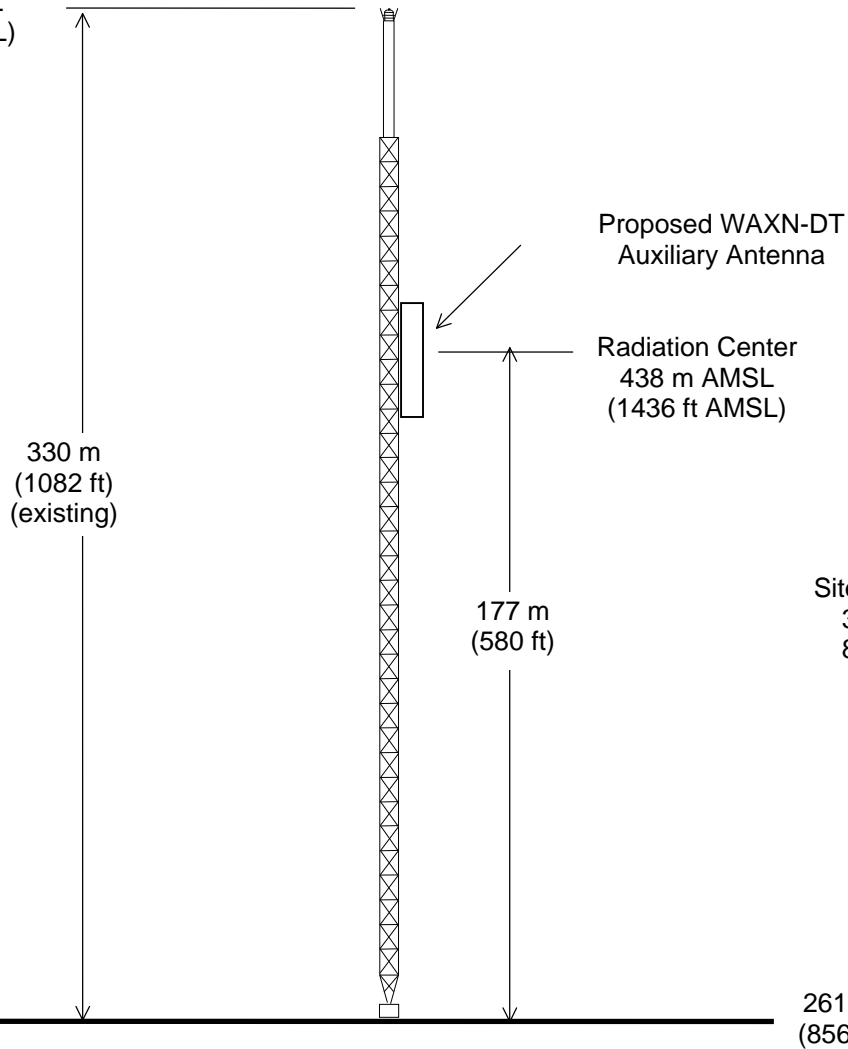
du Treil, Lundin & Rackley, Inc.  
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Sarasota, Florida 32437  
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February 17, 2010



ASRN: 1004745

591 m AMSL  
(1938 ft AMSL)



Not to Scale

## ANTENNA AND SUPPORTING STRUCTURE

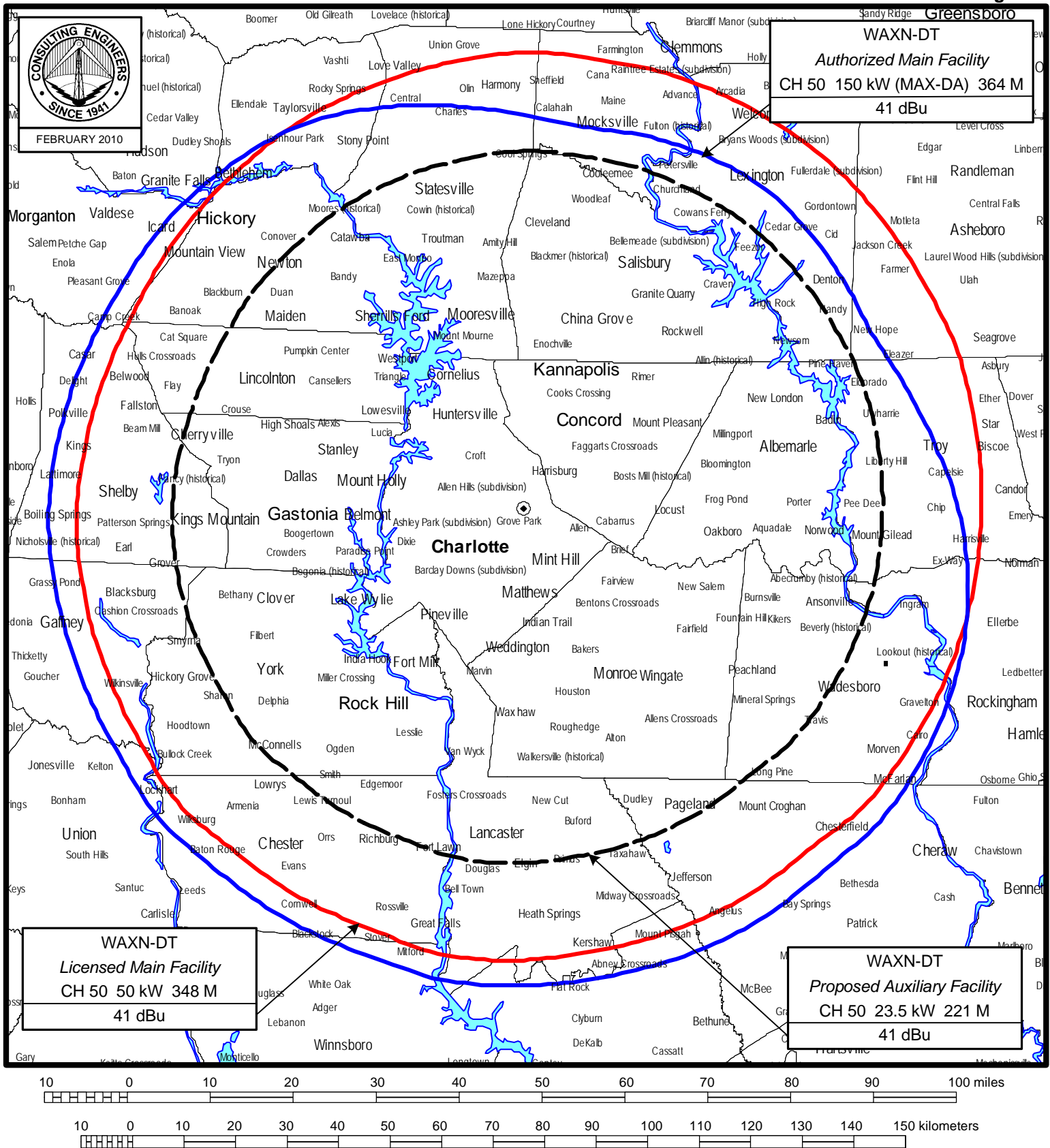
DTV STATION WAXN-DT – AUXILIARY FACILITY

KANNAPOLIS, NORTH CAROLINA

CH 50 23.5 KW 221 M

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

**Figure 2**



**PREDICTED COVERAGE CONTOURS**  
**STATION WAXN-DT - AUXILIARY ANTENNA**  
**KANNAPOLIS, NORTH CAROLINA**  
**CH 50 23.5 KW 221 M**

du Treil, Lundin & Rackley, Inc Sarasota, Florida