

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
DIGITAL COMPANION CHANNEL APPLICATION  
CLASS A STATION WOLP-CA  
FACILITY ID 36839  
GRAND RAPIDS, MICHIGAN  
CH 41 15 KW

Technical Narrative

The technical exhibit of which this narrative is part was prepared in response to the FCC Public Notice (Public Notice) dated August 31, 2006 and entitled "LPTV and TV Translator Digital Companion Channel Applications Non-Mutually Exclusive Proposals (Auction No. 85)" (DA 06-1748). Specifically, this technical exhibit was prepared in support of a complete FCC Form 346 as required by the Public Notice for WOLP-CA's proposed digital companion channel operation on channel 41 at Grand Rapids, Michigan (FCC File No. BSFDTL-20060630BRJ, Facility ID 167892). It is proposed to operate on digital channel 41 using a Scala model SL-8 nondirectional antenna system. The maximum ERP will be 15 kW and the antenna radiation center height above mean sea level will be 403 meters. The transmitter will employ a "stringent" out-of-channel emission mask to control adjacent channel interference.

Figure 1 depicts the 74 dBu for the licensed analog, and herein proposed 51 dBu contours for WOLP-CA. As indicated, the proposed 51 dBu contour will overlap a portion of the licensed 74 dBu contour. Thus, the proposal complies with the FCC requirement that there be contour overlap between the current analog and proposed digital operations.

Response to Paragraph 5 - Antenna Registration

Station WOLP-CA proposes to side-mount the directional antenna on an existing 312-meter supporting structure (Antenna Structure Registration Number 1236861).

### Response to Paragraph 13 - Interference

A study has been conducted using the provisions of Section 74.793 and the OET Bulletin 69 interference model.<sup>1</sup> The results indicate that the proposed operation will not create prohibited interference to stations in the Land Mobile Radio Service (LMRS) or other existing, authorized or proposed NTSC or DTV full-power, LPTV, TV translator or Class A stations.

### Interference Agreement

Based on the provisions of Section 74.793 and the OET Bulletin 69 interference model, the proposed digital channel 41 operation is predicted to cause excessive interference to the licensed NTSC operation of WOTV on channel 41 at Battle Creek, MI (BLCT-19961120KE). However, WOTV and WOLP-CA are co-owned and, as detailed elsewhere in this application, WOLP-CA has an interference agreement with WOTV to permit the WOLP-CA operation. Furthermore, WOTV has certified that it will operate its post-transition DTV operation on its current digital channel (20). In addition, WOLP-CA does not intend to implement the proposed digital operation on channel 41 until WOTV shuts down its current NTSC operation on channel 41 and activates its final DTV operation on channel 20 "post-transition".

### Canadian Coordination

The proposed channel 41 operation will be located 201.7 kilometers from the closest point of the US-Canadian common border. Since, there are no specific rules regarding digital low power stations along the common border, the rules regarding full power DTV stations were employed. Specifically, consideration was given to the existing US-Canadian TV Agreement (1994) and Letter of Understanding (LOU) between the FCC and Industry Canada related to DTV service along the common

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<sup>1</sup>The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed. A Sun based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

border (September 12, 2000).<sup>2</sup> On this basis, the proposed channel 41 digital operation would comply with the pertinent allocation criteria as it meets the first step minimum distance separations contained in the Letter of Understanding (LOU, September 22, 2000) concerning DTV service along the common US-Canadian border.

Response to Paragraph 14 - Environmental Protection Act

The proposed digital facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."<sup>3</sup> The calculated power density at the base of the tower was calculated using the appropriate equation of the Bulletin.

Using a greater than expected vertical relative field value of 0.3 at angles towards the tower base (see Figure 2) and a maximum effective radiated power of 15 kilowatts, the calculated power density at 2 meters above ground level at the base of the tower is 0.0020 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ) which is 0.5% of the recommended limit of  $0.42 \text{ mW}/\text{cm}^2$  for channel 41 applicable to uncontrolled exposure areas. Therefore, the facility complies with the FCC's RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that 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

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<sup>2</sup> See Letter of "Understanding Between the Federal Communications Commission of the United States of American and Industry Canada Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz Bands for the Digital Television Broadcasting Service Along the Common Border".

<sup>3</sup> See *Report and Order* in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also *First Memorandum Opinion and Order*, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and *Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

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.

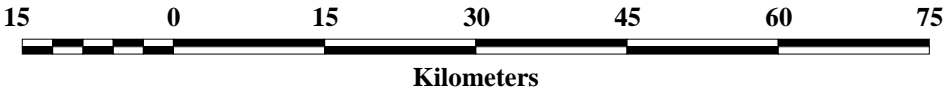
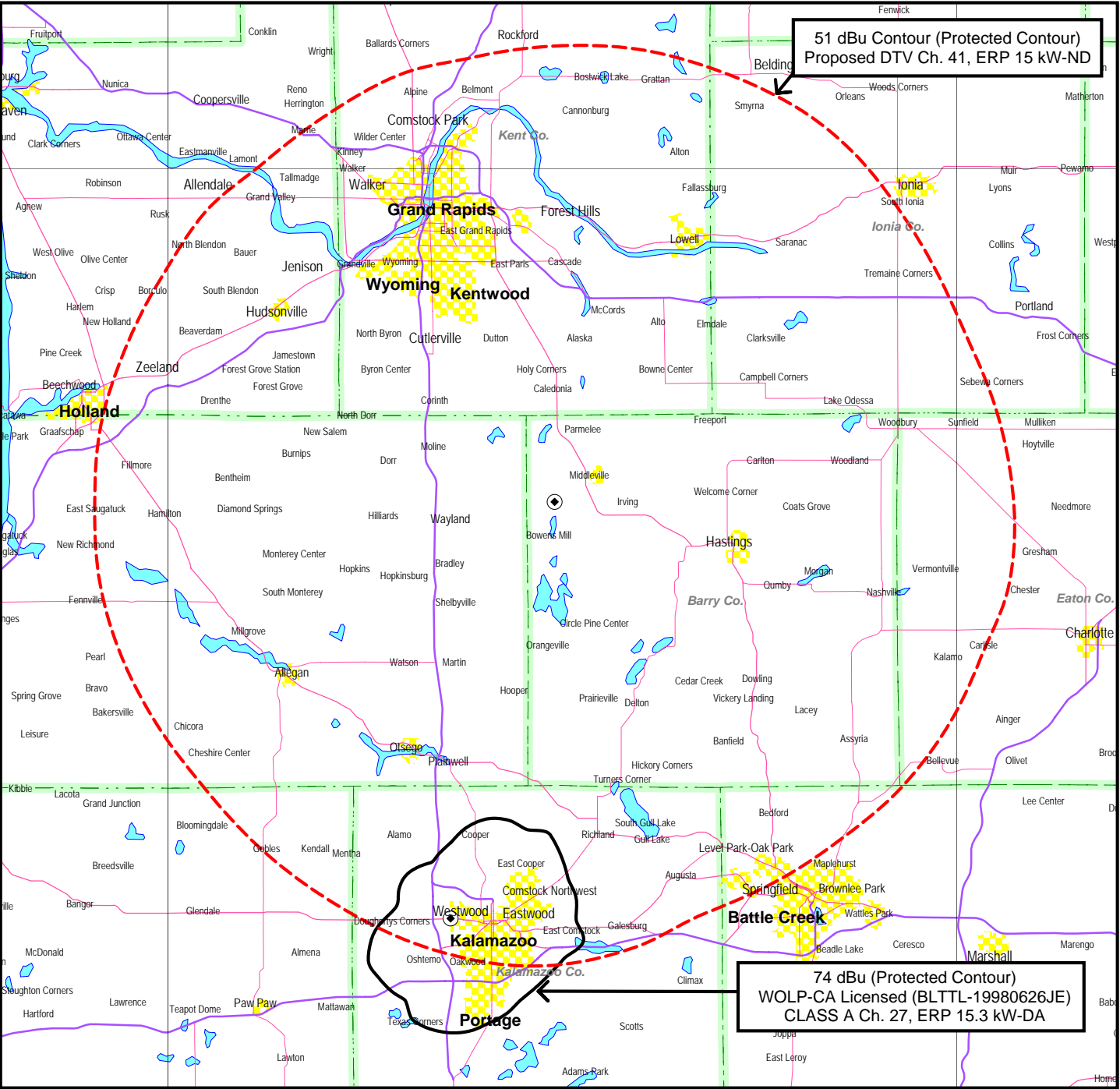


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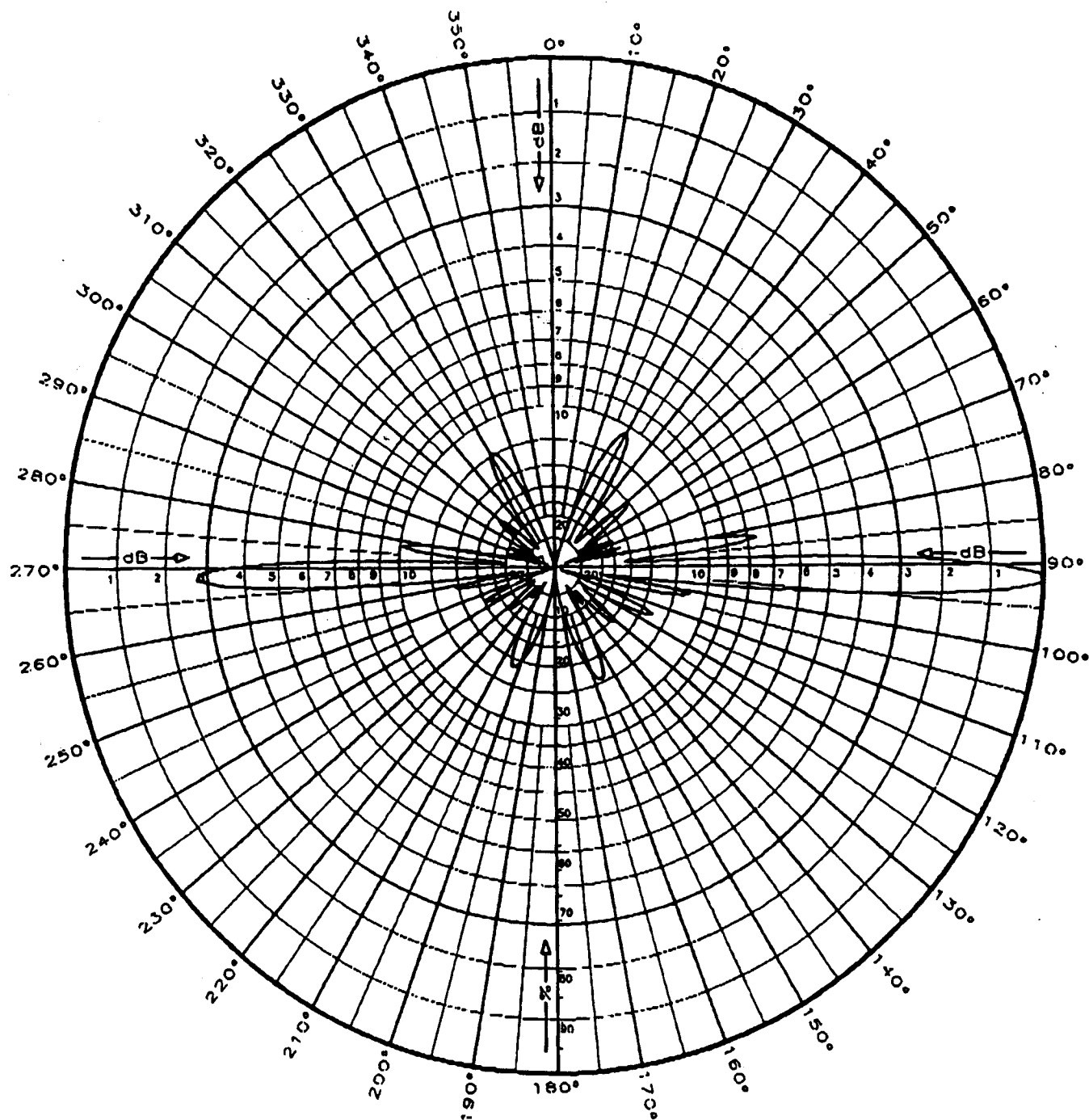
Figure 1



**FCC PREDICTED COVERAGE CONTOURS**

**CLASS A STATION WOLF-CA**  
**GRAND RAPIDS, MICHIGAN**  
**DTV COMPANION CH 41**  
**15 KW**

Figure 2



ONE SCALA SL-8 PARASLOT  
 WITH 1.75 DEGREE DOWNTILT  
 ANY SPECIFIED UHF-TV CHANNEL  
 GAIN: 11.4 dBd.  
 POWER GAIN: 13.8  
 HORIZONTAL POLARIZATION  
 VERTICAL PLANE PATTERN

**SCALA**

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