

Comprehensive Engineering Statement

prepared for

Polnet Communications, Inc.

W276BM Chicago, IL

Facility ID 140663

Channel 276D 0.12 kW 360 meters AGL

Polnet Communications, Ltd. (“*Polnet*”), has entered into an agreement to acquire W276BM from Calvary Radio Network, Inc. An assignment application seeking the Commission’s approval of this assignment was filed on April 13, 2017 (FCC File No. BALFT - 20170413ABA). Calvary has consented to the filing of the instant minor modification application while the assignment application is pending. The instant application asserts that the proposed modification complies with §74.1201(g), and is allowed under footnote 22 of the AM Revitalization R&O¹. *Polnet* seeks to relocate this FM translator for use with WRDZ(AM), and change the location, Effective Radiated Power (ERP), antenna pattern and height of the translator. In particular, *Polnet* proposes to move the station to the tower with Antenna Structure Registration Number 1279395 located at 41° 53’ 20.6”N, 87° 37’ 35.8”W (NAD 27). The proposed antenna is a Scala CL-FM single-bay directional antenna oriented at 209 degrees True, mounted at 360 meters AGL. An ERP of 120 Watts is being specified.

Allocation Considerations

The location of the 60 dBu coverage contour of the licensed and proposed translator lies within the 40 km (25-mile) radius of the licensed coordinates of WRDZ(AM), FCC File Number BL-19910227AE, as shown in the map provided as **Figure 1**. As demonstrated, the existing and the proposed translator coverage contours remain completely within the 40 km radius of WRDZ(AM), thus complying with §74.1201(g). The proposed modified translator’s 60 dBu contour is also wholly contained within the WRDZ(AM) 2 mV/m daytime coverage contour. A map demonstrating this can be supplied upon request.

A study of nearby FM facilities on co-channel, adjacent-channel, and intermediate frequencies was conducted to identify which stations require further study to demonstrate compliance under §74.1204. Contour protection for pertinent co-channel stations is demonstrated in **Figure 2**. The nearest first adjacent channel stations are W277CV, Ch. 277D at 67.51 km and WQBH-LP, Ch. 275L1 at a distance of 99.46 km.

¹ Second Report and Order In the Matter of Revitalization of the AM Radio Service, Released February 24, 2017, MB Docket No. 13-249.

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A waiver of the second adjacent contour protection rule is hereby requested. Protection of second-adjacent stations WKSC-FM and WVAZ(FM) is achieved pursuant to §74.1204(d) by demonstrating that the proposed translator's interfering contour does not reach populated areas. Both the WKSC-FM and the WVAZ(FM) contour-method field strength is at least 110 dBμ at the proposed translator site. Thus, based on the -40 dB desired-to-undesired ratio specified in §74.1204(a)(3), the appropriate second-adjacent interfering signal level at this location is 150 dBμ for a calculated distance of 3.5 meters at its maximum reach. Thus, considering the antenna height and elevation pattern, the proposed translator signal does not exceed the level of 150 dBμ that would be considered interference to surrounding population at ground level or nearby buildings. An allocation study reveals that there are no facilities that are separated by 53 or 54 channels within 15 kilometers of the proposed transmitter site. The nearest IF station is WPWX(FM), Channel 222B, Hammond, Indiana, at a distance of 29.88 km.

The proposed site is located more than 360 km from the Canadian or Mexican borders, well beyond the 320 km coordination distance required for translators specified in §74.1235(d). The nearest FCC monitoring station is 159.23 km distant at Allegan, MI. This distance exceeds the threshold minimum distance specified in §73.1030 that would suggest consideration of the monitoring station.

It is therefore believed that the proposed facility satisfies all of the pertinent Commission Rules and Policies now in effect regarding allocation matters.

Environmental Considerations

The proposed facility will operate with a horizontally-polarized ERP of 120 Watts with a Scala model CL-FM single bay directional antenna, oriented to 206 degrees True (see **Figure 3**), at 360 meters AGL on the Trump Chicago Tower, ASRN 1279395, which also provides support for a number of other broadcast facilities. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. Because no change in structure height is proposed, no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this

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application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Radiation

The proposed operation was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility meets the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The general population/uncontrolled maximum permitted exposure ("MPE") limit specified in §1.1310 for the entire FM broadcast band is $200 \mu\text{W}/\text{cm}^2$. For the purpose of this study, "public access" will be considered at the base of the tower at a location two-meters above ground.

The formula used for calculating FM signal density in this analysis is essentially the same as equation ten (10) in OET 65:

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

S = power density in microwatts/cm²

F = relative field factor

ERP = total (average ERP in Watts)

D = distance in meters

Using the above formula, facility ERP, and a maximum worst-case relative-field value of 100%, it was determined that the proposed facility would contribute an RF power density of $0.03 \mu\text{W}/\text{cm}^2$ at two meters above ground level near the antenna support structure, less than 0.02 percent of the general population/uncontrolled limit.

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§1.1307(b)(3) states that facilities at locations with multiple emitters are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent of the pertinent MPE limit. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy will not be caused by the proposal at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will continue to be restricted and controlled through the use of a locked door. According to information provided by the applicant, appropriate RF exposure warning signs are posted. In the event that maintenance or other workers gain access to the roof, power output of the translator will be decreased or shut off to protect workers.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations. Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under §1.1306 of the Rules, hence preparation of an Environmental Assessment is not required.

Conclusion

It is therefore believed that the proposed facility satisfies all of the pertinent Commission Rules and Policies now in effect.

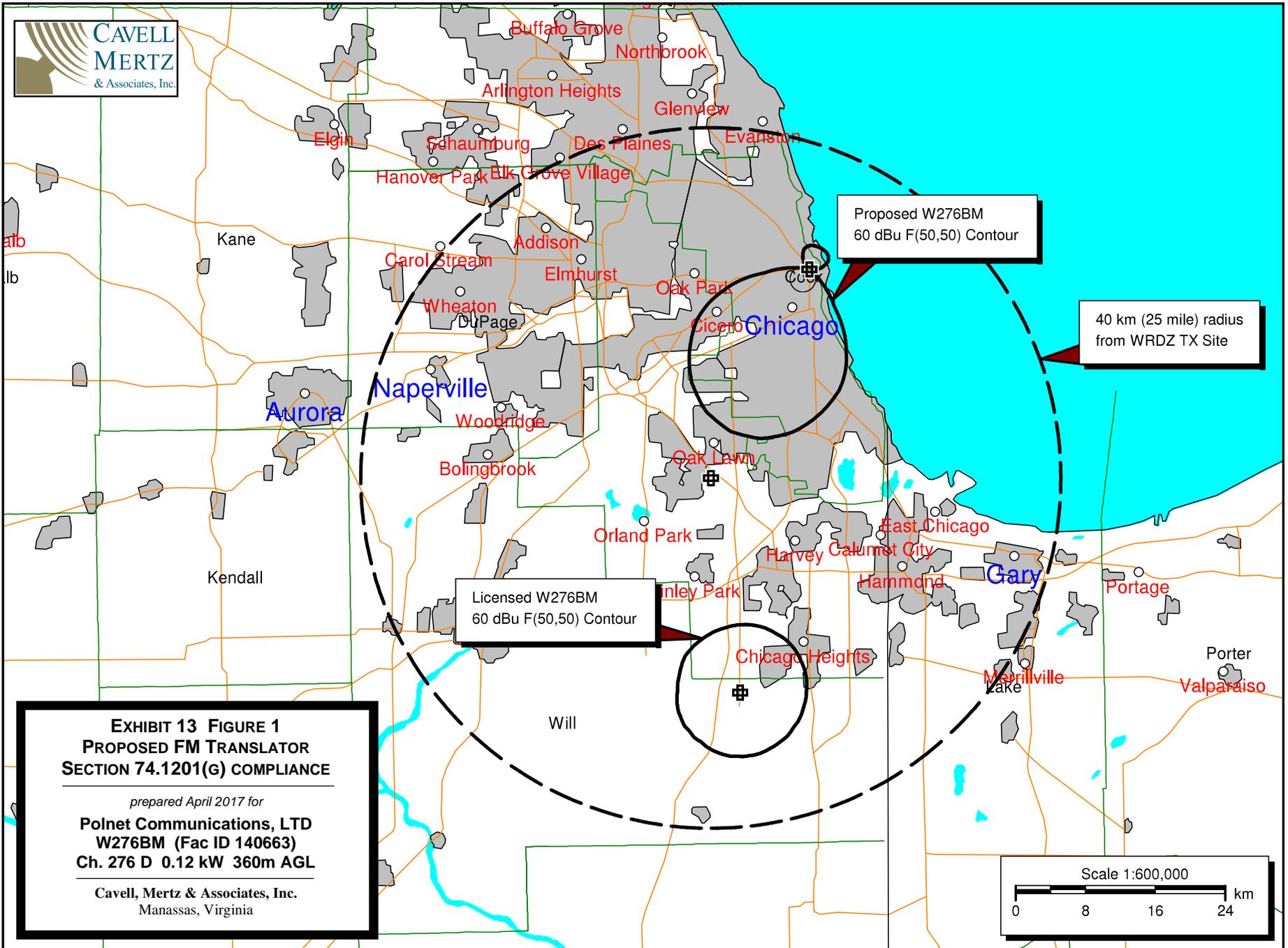


EXHIBIT 13 FIGURE 1
PROPOSED FM TRANSLATOR
SECTION 74.1201(G) COMPLIANCE

prepared April 2017 for
Polnet Communications, LTD
W276BM (Fac ID 140663)
Ch. 276 D 0.12 kW 360m AGL

Cavell, Mertz & Associates, Inc.
Manassas, Virginia

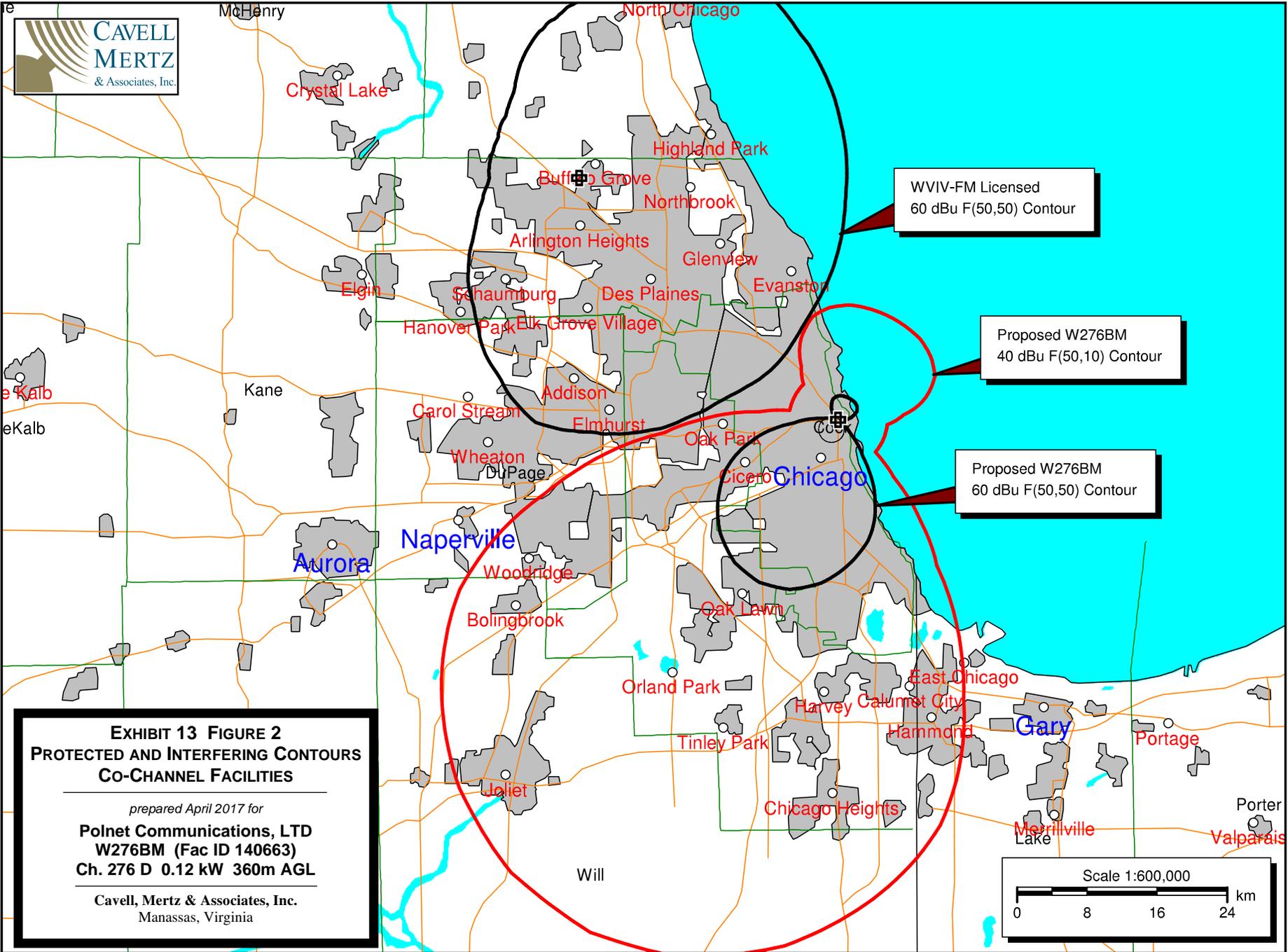


EXHIBIT 13 FIGURE 2
PROTECTED AND INTERFERING CONTOURS
CO-CHANNEL FACILITIES

prepared April 2017 for

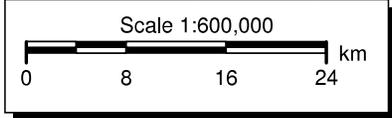
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Cavell, Mertz & Associates, Inc.
 Manassas, Virginia

WWIV-FM Licensed
 60 dBu F(50,50) Contour

Proposed W276BM
 40 dBu F(50,10) Contour

Proposed W276BM
 60 dBu F(50,50) Contour



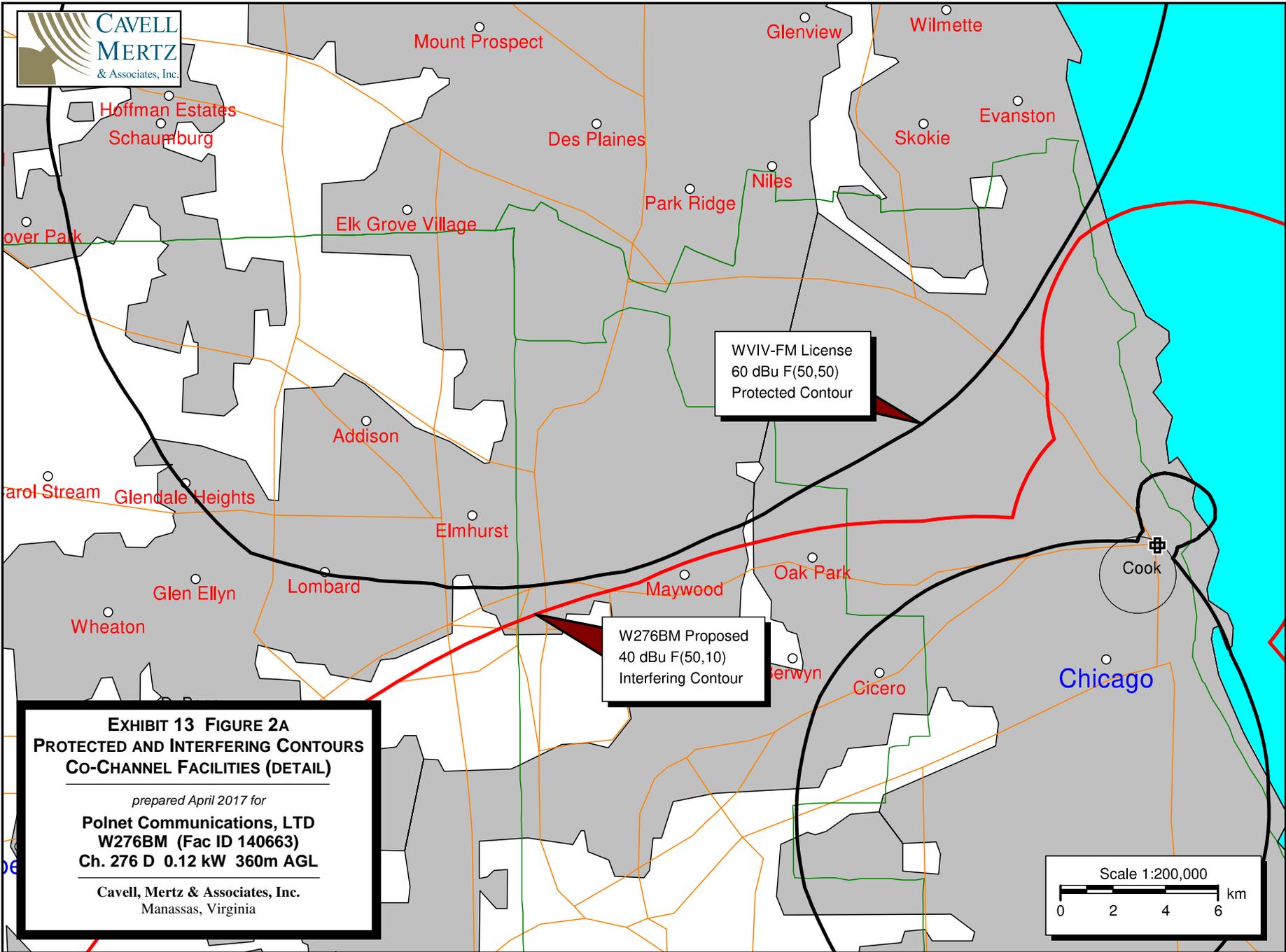


EXHIBIT 13 FIGURE 2A
PROTECTED AND INTERFERING CONTOURS
CO-CHANNEL FACILITIES (DETAIL)

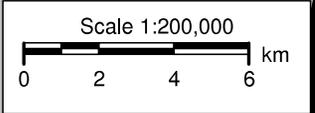
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 Manassas, Virginia

WVIV-FM License
 60 dBu F(50,50)
 Protected Contour

W276BM Proposed
 40 dBu F(50,10)
 Interfering Contour



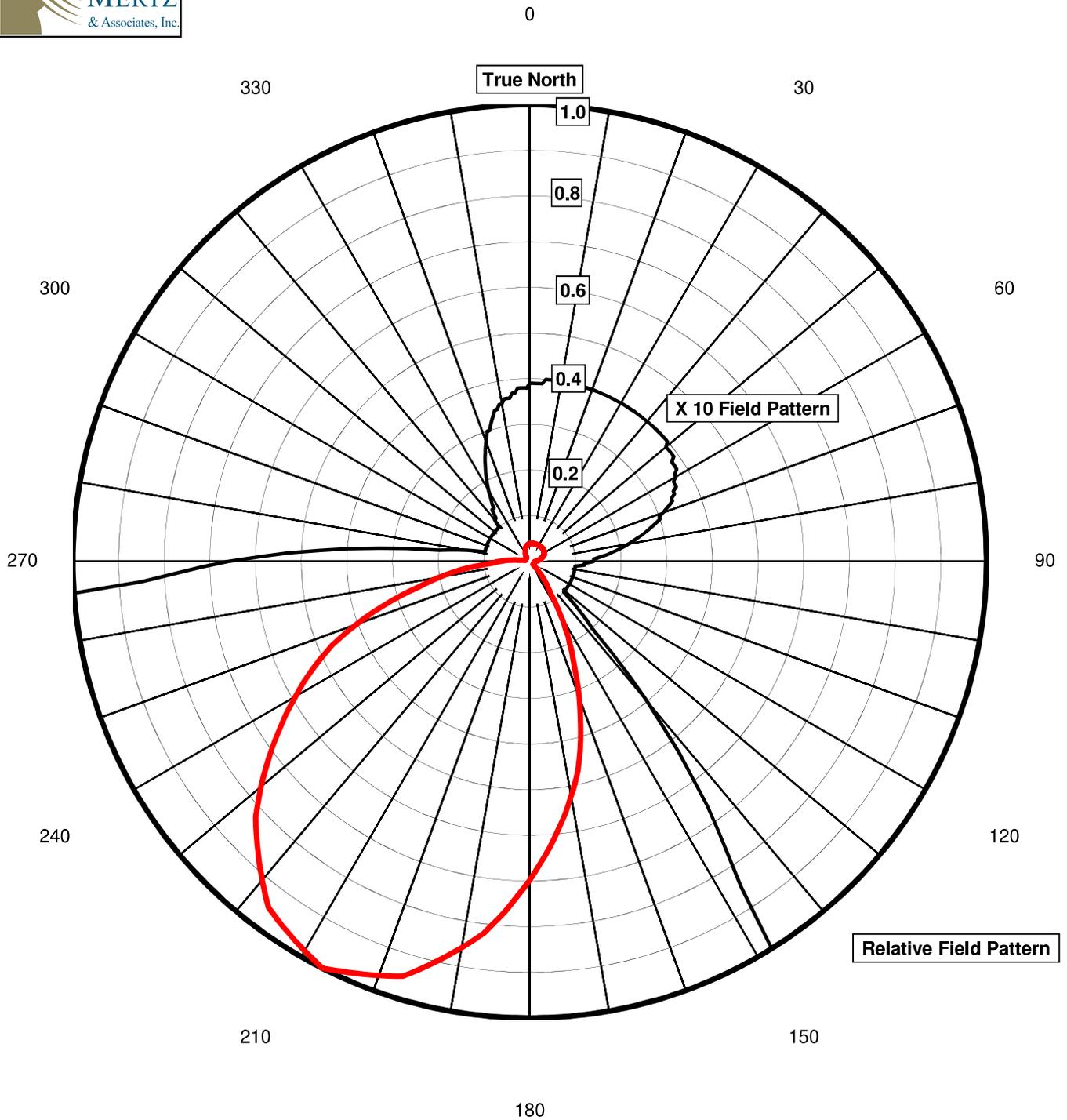


EXHIBIT 13 FIGURE 3
ANTENNA HORIZONTAL PLANE
RADIATION PATTERN ROTATED 206 DEG
HORIZONTAL POLARIZATION ONLY

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