

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317FJJ

### **Description of Exhibit 12 Contents**

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all the applicable rule sections and that this application for a construction permit is in full compliance with 47 CFR 74.1204.

Page 2 of this exhibit is an explanation of the tabulated data, which is included as evidence on page 4 of this exhibit.

Page 3 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference protection provisions based on 47 CFR 74.1204(d), which states:

*"an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."*

In addition, page 3 includes a tabulation of the second and third adjacent stations which this application is required to protect and the field strengths of those stations in the vicinity of the proposed translator. The field strengths given were based on contours predicted using FCC contour algorithms and 3 arc second terrain data.

**Let it be noted that should any actual real world interference occur, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203.**

Page 4 of this exhibit is the tabulated data from the interference analysis, which shows all stations that this application had to consider for contour protection. These tabulated values were generated using high resolution 3 arc second terrain data for the best possible accuracy.

Page 5 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 min quadrangle at full scale with the calculated area of interference overlayed. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using a free-space calculation (see FCC 98-117, Appendix A, pg. 41 for reference to the equation used).

Since the proposed translator is 220.4 km from the Canadian border, 47 CFR 74.1235(d) has been taken into account and this applicant certifies that in no direction does the 34 dBu F(50,10) extend beyond 60 km, and this application is therefore in full compliance with 47 CFR 74.1235(d)(3), which states that "the distance to the 34 dBu interfering contour may not exceed 60 km in any direction," and hence in compliance with 47 CFR 74.1204(h).

## **Explanation of Frequency Finder Results**

The interference analysis for this application was performed using the "Frequency Finder" module in RadioSoft's Comstudy, version 2.2.

Frequency Finder analyzes data taken directly from the FCC's FM database and looks for prohibited overlap with contours of adjacent stations and prohibited proximity to stations 53 or 54 channels from the proposed station (IF) using 3 arc second terrain data and the FCC's contour algorithms. The results tabulated are the stations returned from that analysis. (Note: Because Comstudy was looking at the FCC's FM database, it took into account the proposed translator when doing the analysis and returned it in the tabulated results. For the sake of simplicity, that record has been deleted from all tabulated results.)

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "Clr" gives the proposed translator's "clearance" with respect to the tabulated station, either in dB or km. The values listed with no units are given in km and are for stations located on an IF to the proposed site's channel.

**A negative value in the "Clr" column does NOT necessarily represent prohibited contour overlap, as explained below.**

A negative value listed in the "Clr" column would indicate either overlap of interference and protected contours or prohibited proximity to an IF station except in the following situations:

- Since the proposed station's Effective Radiated Power (ERP) is 13 watts, a negative value in km (no units listed in the table) does not represent a violation of the CFR, according to 47 CFR 1204(g), which states that "FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements."

- A second or third adjacent LP100 station cannot represent a violation of the CFR, as 47 CFR 74.1204(a)(4) requires protection of only co-channel and first adjacent LP100 stations.

- 47 CFR 74.1204(a) requires only the protection of "AUTHORIZED commercial or noncommercial educational FM broadcast stations, FM translators, ..." Any entry with a status listed as "RSV," "USE" or "APP" does not represent an authorized station and therefore is not protected under 47 CFR 74.1204. The one exception is the case of LP100 applications. The note to 47 CFR 74.1204(a)(4) states that "LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities." Therefore, any first adjacent or co-channel LP100 station, no matter the status, is protected.

- Entries highlighted in red are those stations where there is overlap of predicted contours and lack of population has been demonstrated within the area of interference.

## Compliance with 47 CFR 74.1204(d)

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.013kW at 85 meters above ground level. According to 47 CFR, 74.1204(a), the desired to undesired ratio between 2nd/3rd adjacent stations is 40dB, making the proposed translator's interfering contour 110.3dBu F(50,10).

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), this proposed translator's F(50,10) interference contour was calculated and plotted on the pertinent portion of a USGS quadrangle (page 5 of this exhibit). As demonstrated on the quadrangle, there are no populated structures or highways within the calculated area of interference (Note: FCC 02-244, II, A, 6 states that USGS quadrangles are sufficient for demonstrating lack of population). Hence, in accordance with 47 CFR 74.1204(d) and the clarification provided by the FCC in the decision Re: Living Way Ministries (FCC 02-244), a lack of population has been demonstrated within the area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

CORAGL: 85m

Antenna Manufacturer: SWR

Maximum ERP: 0.013kW

Antenna Model: FM1

F(50,10) Interfering Contour: 110.3dBu

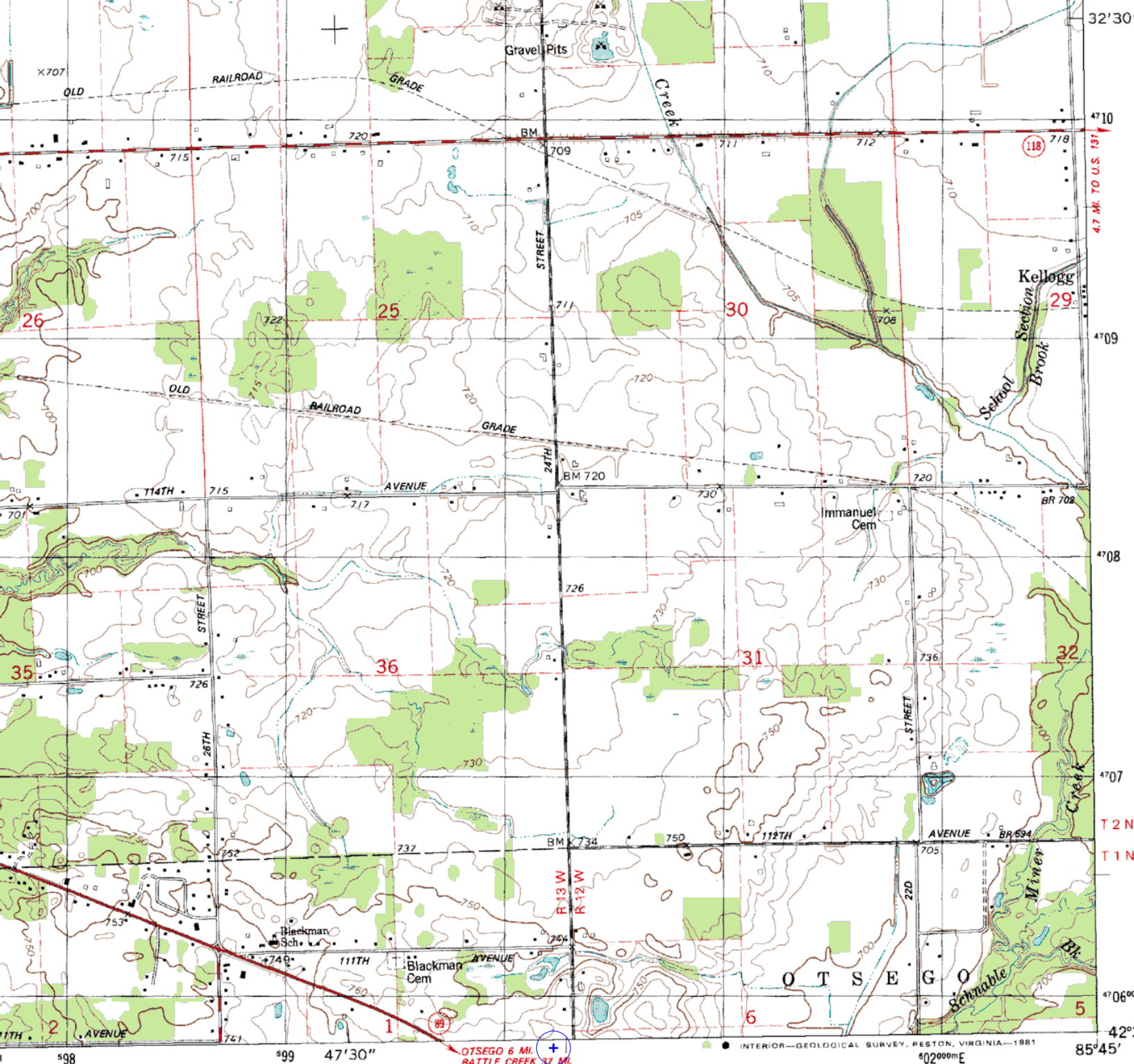
F(50,10) Max Distance: 77.3m

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. Column three shows the station's signal level at the proposed translator's tower site, and column four gives the minimum value within the entire proposed translator's standard F(50,10) contour (100 dBu for most classes, 94 dBu for class B's, 97 dBu for class B1's). For signal levels too great to determine, 999 was entered. The minimum F(50,50) contour within the proposed translator's standard F(50,10) contour was used to calculate the proposed translator's interference contour, thereby assuring a minimum undesired-to-desired ratio of 40dB for all relevant adjacent stations, as required in 47 CFR, 74.1204(a).

FCC File Number	Call Sign	F(50,50) Contour at Tower	Min. F(50,50) Contour
BMLH19931005KD	WOOD-FM	83dBu	82.6dBu
BXPH20020222AAF	WOOD-FM	70.8dBu	70.3dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Application's 100dBu F(50,10) Contour:			<b>70.3dBu</b>

# Frequency Finder

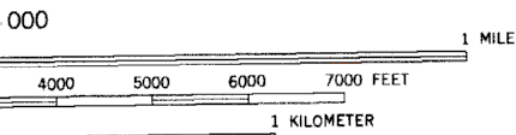
Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
WOOD-FM	MI	GRAND RAPIDS	289	265000	CLEAR CHANNEL BROADCASTING LIC	BMLH19931005KD	B	LIC	30.43	-29.44 dB	73605
WOOD-FM	MI	GRAND RAPIDS	289	33000	CLEAR CHANNEL BROADCASTING LIC	BXPH20020222AAF	B	CP	30.46	-17.20 dB	73605
NEW	MI	PORTAGE	286	100	CITY OF PORTAGE, MICHIGAN	BNPL20000830AAQ	LP100	APP	34.56	6.49 dB	126107
WSNX-FM	MI	MUSKEGON	283	32000	CLEAR CHANNEL BROADCASTING LIC	BLH19880930KC	B	LIC	80.89	6.39 dB	24644
NEW	MI	SOUTH HAVEN	286	27	EDGEWATER BROADCASTING INC.	BNPFT20030317FQY	D	APP	38.76	6.88 dB	150333
NEW	MI	FENNVILLE	285	100	OPEN DOOR WORSHIP CENTER	BNPL20000828ACM	LP100	APP	26.5	12.79 dB	125878
WFRN-FM	IN	ELKHART	284	50000	PROGRESSIVE BROADCASTING SYSTE	BLH20001229AAC	B	LIC	98.66	13.78 dB	53639
NEW	MI	DOWAGIAC	286	13	EDGEWATER BROADCASTING INC.	BNPFT20030317FLH	D	APP	60.8	16.13 dB	150329
NEW	MI	THREE RIVERS	286	13	EDGEWATER BROADCASTING INC.	BNPFT20030317FRI	D	APP	62.93	17.34 dB	150335
WWKN	MI	MARSHALL	285	6000	CASPTAR TX LIMITED PARTNERSHIP	BMLH19900518KC	A	LIC	73.05	19.85 dB	37463
NEW	MI	KENTWOOD	285	10	CALVARY CHAPEL OF TWIN FALLS, INC	BNPFT20030310ATM	D	APP	34.97	22.70 dB	138605
WOOD-FM	MI	GRAND RAPIDS	289	0	CLEAR CHANNEL BROADCASTING LICENSES, INC.		B	USE	30.43	22.74 dB	73605
WOJO	IL	EVANSTON	286	5700	TICHENOR LICENSE CORPORATION ("T	BPH20000613ABB	B	CP	166.19	23.88 dB	67073
WCXT	MI	HART	287	50000	WATERS BROADCASTING CORPORATI	BPH20020116AAR	C2	CP	118.63	23.44 dB	71090
WOJO	IL	EVANSTON	286	8400	TICHENOR LICENSE CORPORATION ("T	BLH19910104KA	B	LIC	166.19	23.97 dB	67073
NEW	MI	GRAND RAPIDS	285	10	RADIO ASSIST MINISTRY, INC.	BNPFT20030317JEV	D	APP	50.86	24.56 dB	150639
NEW	IN	ELKHART	286	10	EDGEWATER BROADCASTING INC.	BNPFT20030317EVZ	D	APP	98.66	27.13 dB	150311
WKLQ	MI	HOLLAND	233	50000	CITADEL BROADCASTING COMPANY	BLH19840309AR	B	LIC	42.26	27.3	41678
WKLQ	MI	HOLLAND	233	0	CITADEL BROADCASTING COMPANY		B	USE	42.26	27.3	41678
WCXT	MI	HART	287	28000	WATERS BROADCASTING CORPORATI	BLH20011019AAD	C2	LIC	135.92	29.02 dB	71090
NEW	MI	NUNICA	285	13	CALVARY CHAPEL OF TWIN FALLS, INC	BNPFT20030317CZZ	D	APP	66.23	31.42 dB	155701
WTHD	IN	LAGRANGE	288	3600	LAKE CITIES BROADCASTING CORPOF	BLH19940928KC	A	LIC	100.8	32.41 dB	36274
WMGC-FM	MI	DETROIT	286	13500	GREATER BOSTON RADIO, INC.	BLH19990708KD	B	LIC	215.21	33.93 dB	40407
WTHD	IN	LAGRANGE	288	2400	LAKE CITIES BROADCASTING CORPOF	BPH20020607AAK	A	CP	103.74	33.78 dB	36274
WMGC-FM	MI	DETROIT	286	50000	GREATER BOSTON RADIO, INC.	BXPH20030123ABX	B	CP	215.21	33.31 dB	40407
WMGC-FM	MI	DETROIT	286	14000	GREATER BOSTON RADIO, INC.	BMLH20000918AAW	B	LIC	212.1	34.03 dB	40407
WQHK-FM	IN	DECATUR	286	13500	JAM COMMUNICATIONS, INC.	BLH19930603KA	B1	LIC	182.16	34.30 dB	29859
NEW	MI	BENTON HARBOF	287	100	THE FLATS ECONOMIC DEVELOPMENT	BNPL20000901AEU	LP100	CP	69.58	34.42 dB	126875
WMGC-FM	MI	DETROIT	286	16500	GREATER BOSTON RADIO, INC.	BLH19990708KE	B	LIC	215.21	34.48 dB	40407
	MI	COOPERSVILLE	287	0		RM10545	B	APP	90.35	36.47 dB	0
	MI	COOPERSVILLE	287	0		RMKS135	B	APP	90.26	36.45 dB	0
NEW00467	IL	EVANSTON	286	0	GENESIS BROADCASTING LIMITED		B	USE	166.19	36.09 dB	23605
WWKN	MI	MARSHALL	285	0	CASPTAR TX LIMITED PARTNERSHIP		A	USE	73.05	37.48 dB	37463
WIOT	OH	TOLEDO	284	50000	JACOR BROADCASTING CORPORATIO	BMLH20020611AAX	B	LIC	215.4	37.01 dB	19628
	MI	COOPERSVILLE	287	0		RM10545	B	APP	94.01	37.13 dB	0
WQBX	MI	ALMA	285	6000	JACOM, INC.	BMLH19960617KB	A	LIC	136.1	39.90 dB	60788
WQBX	MI	ALMA	285	6000	JACOM, INC.	BPH20020909ABG	A	CP	136.1	39.58 dB	60788
WWCK-FM	MI	FLINT	288	25000	CUMULUS LICENSING CORP.	BLH19970124KD	B1	LIC	183.32	39.55 dB	39678
WKHM-FM	MI	BROOKLYN	287	2200	JACKSON RADIO WORKS, INC.	BLH19940201KC	A	LIC	119.93	39.52 dB	9247



ARN: BNPFT-20030317FJJ F(50,10);

#### ROAD CLASSIFICATION

- |                                    |  |
|------------------------------------|--|
| Primary highway,<br>hard surface   | Light-duty road, hard or<br>improved surface |
| Secondary highway,<br>hard surface | Unimproved road                              |
| Interstate Route                   | U. S. Route                                  |
| State Route                        |  |



AL 10 FEET  
5-FOOT CONTOURS  
CAL DATUM OF 1929

MAP ACCURACY STANDARDS  
URVEY, RESTON, VIRGINIA 22092  
L SURVEY DIVISION  
OURCES, LANSING, MICHIGAN 48909  
D SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION

#### ALLEGAN, MICH.

SE/4 ALLEGAN 15' QUADRANGLE  
N4230-W8545/7.5

1981

DMA 3869 III SE-SERIES V862



MERSON QUADRANGLE  
MICHIGAN  
7.5 MINUTE SERIES (TOPOGRAPHIC)  
NE/4 GOBLES 15' QUADRANGLE

