

EXHIBIT 13  
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OVERLAP REQUIREMENTS  
Mid-West Management, Inc.  
Madison, WI

Figure 13.0 is an allocation study showing the interfering contours for the proposed W236AS facilities in relation to the protected contours for all FM broadcast and FM translator stations operating on channels 241 through 247 which require protection consideration. As shown in this figure, the proposed W236AS operating facilities provide the contour protection required by Section 74.1204(a) of the FCC Rules to all other stations requiring protection consideration except second adjacent channel station WMAD(FM) - Cross Plains, Wisconsin operates on Channel 242B1. As is documented below in more detail, however, the proposed W236AS facilities are not likely to result in any actual interference to WMAD. Thus, based on this lack of interference, Section 74.1204(d) of the FCC Rules permits the attached application to be granted in spite of this prohibited contour overlap.

Section 74.1204(a) of the FCC Rules prohibits any overlap between the proposed W236AS 97 dBu contour and the 57 dBu protected contour for WMAD. Compliance with this requirement, however, is obviously not possible from this site, since the proposed site is located within the 57 dBu protected contours for WMAD.

Figure 13.1 is a map exhibit depicting the predicted 97 dBu contour for the proposed W236AS facilities. As shown in this figure, the proposed 97dBu contour extends 1500 meters from the proposed site. This figure also shows that there are buildings and public highways located within this distance of the proposed site. As a result, it was necessary to undertake a more detailed analysis to document that there is no population that is predicted to receive interference within this area of prohibited overlap.

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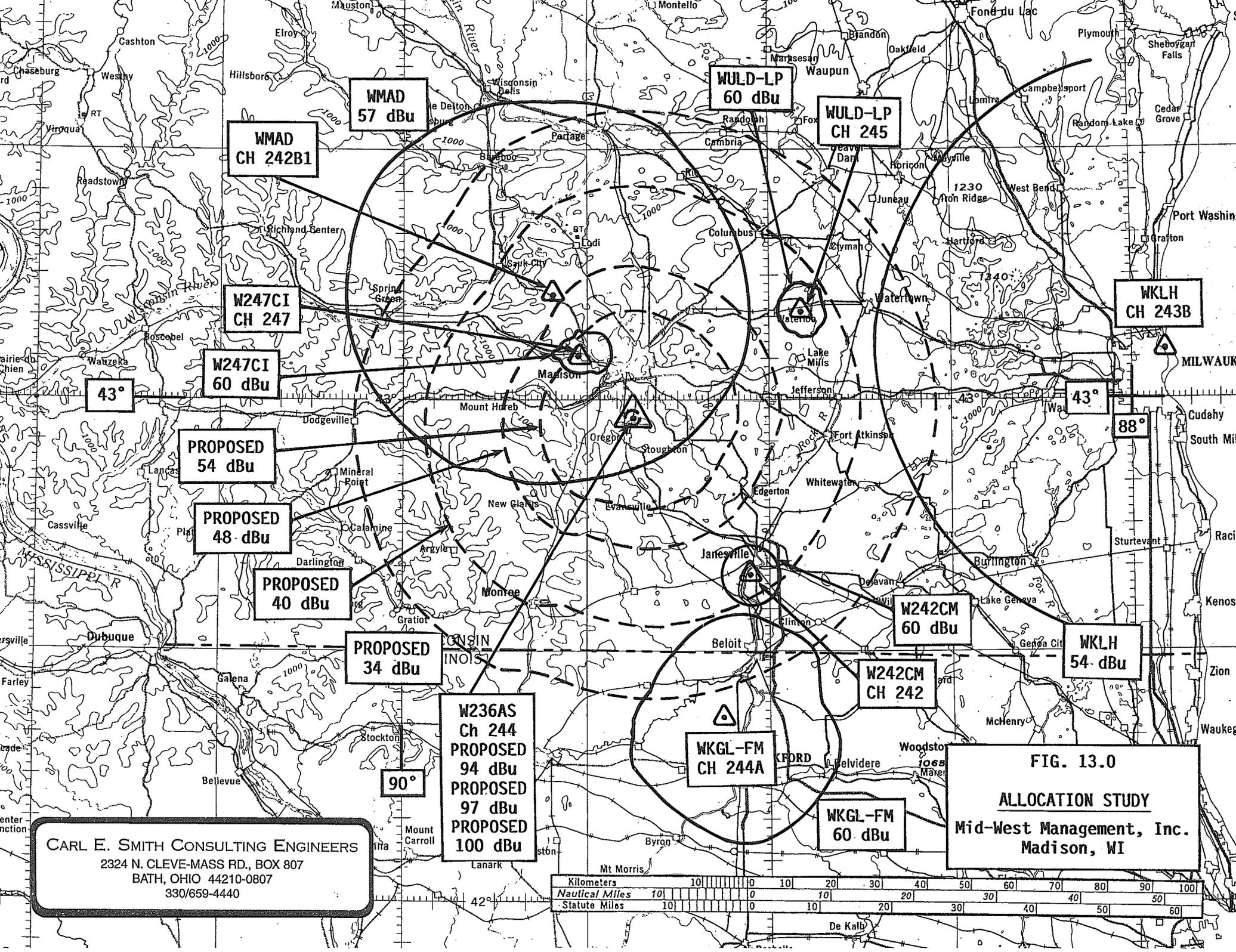
As part of this detailed analysis, it was determined that the predicted WMAD signal strength at the proposed site is 62.8 dBu.<sup>1</sup> Based on the 40 dB undesired to desired (“U/D”) signal strength ratio specified for second adjacent channel stations in Section 74.1204(a)(3) of the FCC Rules, a signal level exceeding 102.8 dBu would be required to cause predicted interference to WMAD. The vertical radiation pattern data for the proposed four bay 0.75 wavelength spaced antenna was utilized in conjunction with free space propagation prediction techniques to calculate the distance to the 102.8 dBu contour for the proposed facilities at depression angles ranging from 0° down through 90°. The results of these calculations are tabulated in Table 13.2 and depicted in Figure 13.2, which shows a side view of the predicted 102.8 dBu contour for this proposed antenna system. As shown in this figure, the predicted 102.8 dBu contour for these proposed operating facilities never reaches ground level, with its closest approach being 14.6 meters (48 feet) at a depression angles of 30° and 55°. Since, as shown in Figure 13.1, there are no tall buildings or other publicly accessible tall structures located near the proposed site, it is obvious that there is no population within the area where this overlap would result in interference being predicted to WMAD. Thus, pursuant to Section 74.1204(d) of the FCC Rules, the attached application can be granted in spite of this prohibited contour overlap, due to the total lack of population within the area of predicted interference. If it is deemed to be necessary, a waiver of Section 74.1204(a) of the FCC Rules is respectfully requested with regard to this situation.

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<sup>1</sup>These signal strength calculations were made using the F(50,50) curves from Section 73.333 of the FCC Rules and terrain data extracted from the NGDC 30 second terrain database.

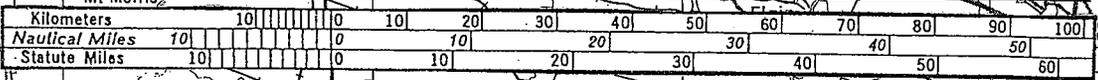
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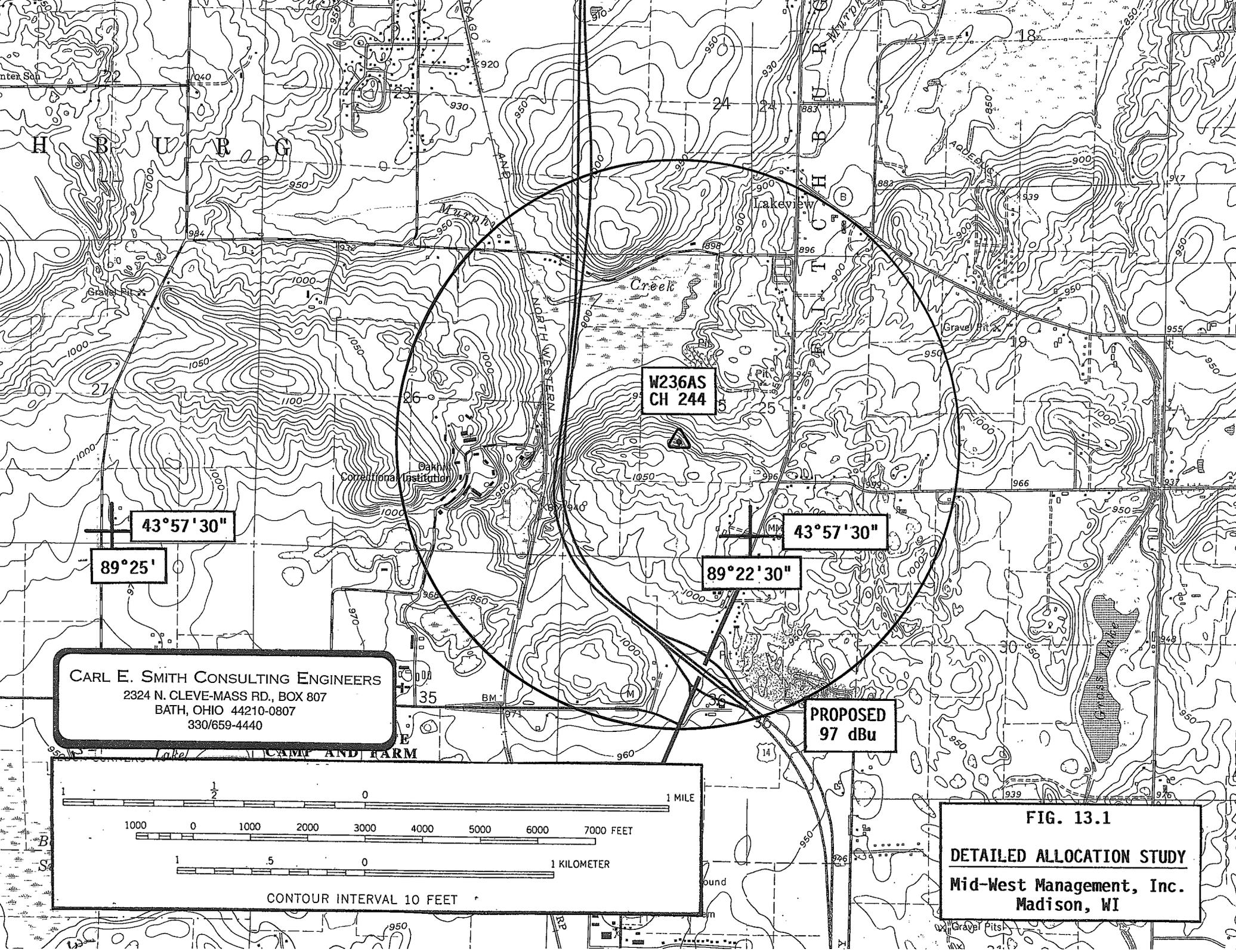
Table 13.3 is an FM spacing study which demonstrates that the proposed facilities will comply with the intermediate frequency separation requirements outlined in Section 73.207 of the FCC Rules with regard to all existing or proposed stations operating on FM Channels 297 and 298.



**CARL E. SMITH CONSULTING ENGINEERS**  
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 330/659-4440

**FIG. 13.0**  
**ALLOCATION STUDY**  
 Mid-West Management, Inc.  
 Madison, WI





43°57'30"

89°25'

43°57'30"

89°22'30"

W236AS  
CH 244

PROPOSED  
97 dBu

CARL E. SMITH CONSULTING ENGINEERS  
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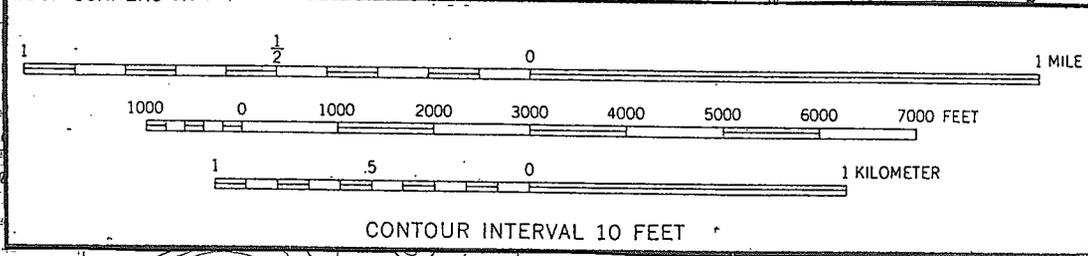


FIG. 13.1  
DETAILED ALLOCATION STUDY  
Mid-West Management, Inc.  
Madison, WI

TABLE 13.2

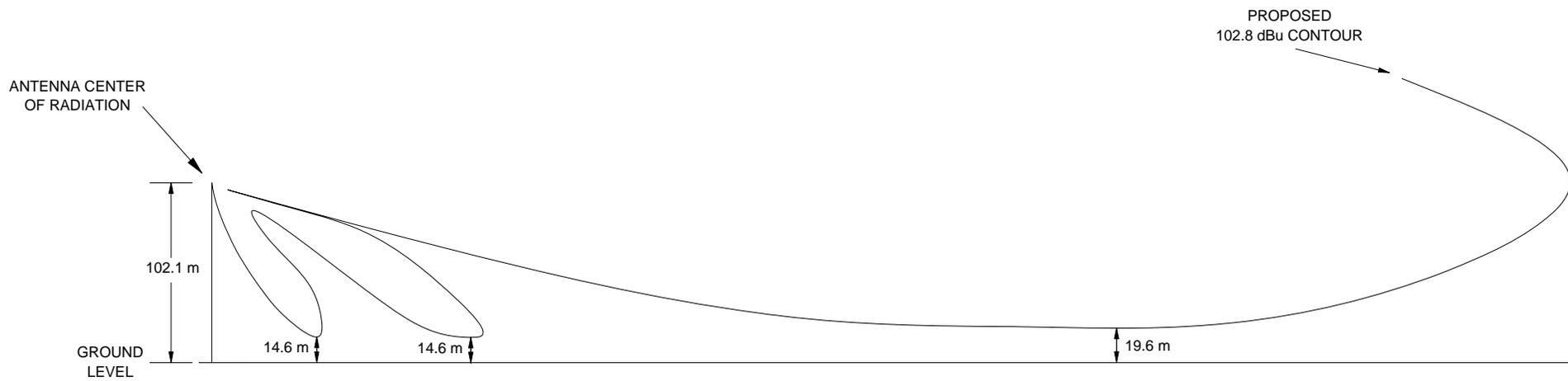
PROPOSED 102.8 DBU CONTOUR

Mid-West Management, Inc.  
Madison, WI

<u>Depression Angle (Degrees)</u>	<u>Relative Field</u>	<u>ERP (dBk)</u>	<u>102.8 dBu Contour* (Meters)</u>
0	1.000	-6.38	770.9
5	0.892	-7.38	678.1
10	0.611	-10.66	471.0
15	0.265	-17.92	204.2
20	0.026	-38.08	20.0
25	0.195	-20.58	150.3
30	0.227	-19.26	175.0
35	0.152	-22.74	117.2
40	0.040	-34.34	30.8
45	0.061	-30.68	47.0
50	0.124	-24.51	95.6
55	0.138	-23.59	106.3
60	0.120	-24.80	92.5
65	0.087	-27.59	67.1
70	0.054	-31.73	41.6
75	0.026	-38.08	20.0
80	0.009	-47.30	6.9
85	0.002	-60.36	1.5
90	0.000	0.00	0.0

Horizontal ERP = 230 Watts = -6.38dBk

\* - Contour distance calculated using free space calculation techniques.



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FIG. 13.2

PROPOSED 102.8 dBu CONTOUR

MID-WEST MANAGEMENT, INC.  
 MADISON, WI

TABLE 13.3

## FM ALLOCATION STUDY - CHANNEL 244A (96.7 MHz) - MADISON, WI

MID-WEST MANAGEMENT, INC.  
MADISON, WI

STUDY COORDINATES: 42/57/46 89/22/47

STATION	LOCATION	CHANNEL	CLASS	SPACING (km)	REQUIRED SPACING*	NOTES
WSJY	FORT ATKINSON, WI	297	B	32.11	15.0	
WDBQ-FM	GALENA, IL	298	A	104.28	10.0	

\* Required Spacing Per Section 73.207 of The FCC Rules

## Notes:

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| 1 - Applied For Under Section 73.215 | 7 - Pending Application          |
| 2 - Construction Permit              | 8 - Petition For Reconsideration |
| 3 - Channel Deletion Proposed        | 9 - Proposed Rulemaking          |
| 4 - Move From This Channel Ordered   | 10 - Rulemaking Petition         |
| 5 - Move to This Channel Ordered     | 11 - Short-Spaced                |
| 6 - One Step Reference Site          | 12 - Vacant Allotment            |