

EXHIBIT 12  
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OVERLAP REQUIREMENTS  
New Rushmore Radio, Inc.  
Rapid City, SD

Figure 12.0 is an allocation study showing the interfering contours for the proposed K258AJ Channel 248 operating facilities in relation to the protected contours for all FM broadcast and FM translator stations operating on channels 245 through 251 which require protection consideration. As shown in this figure, these proposed operating facilities fail to provide the contour protection required by Section 74.1204(a) of the FCC Rules to KTPT(FM) - Rapid City, South Dakota, which operates on Channel 250C, and associated booster station KTPT-FM1 - Rapid City, South Dakota, which also operates on Channel 250. As is documented below in more detail, however, the proposed K258AJ operating facilities are not likely to result in any actual interference to KTPT or KTPT-FM1. 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.

The proposed K258AJ Channel 248 transmitter site, which is also the site authorized by the presently licensed K258AJ Channel 258 operating facilities, is located within the 60 dBu protected contours for both KTPT and KTPT-FM1, which operate on a second adjacent channel. As a result, Section 74.1204(a) of the FCC Rules prohibits any overlap between the proposed K258AJ 100 dBu contour and the 60 dBu protected contours for KTPT and KTPT-FM1. Compliance with this requirement, however, is obviously not possible from this site, since, as noted above, the proposed K258AJ site is located within the 60 dBu protected contours for both KTPT and KTPT-FM1.

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Figure 12.1 is a map exhibit depicting the predicted 100 dBu contour for the proposed K258AJ facilities. As shown in this figure, the predicted K258AJ 100 dBu contour extends 900 meters from the proposed site. This figure also shows, however, that there are isolated buildings and public highways located within this distance from the proposed site. For this reason, 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.

As part of this detailed analysis, it was determined that the predicted KTPT signal strength at the proposed site is 73.5 dBu, while the predicted KTPT-FM1 signal strength at the proposed site is 80.2 dBu.<sup>1</sup> Based on the 40 dB undesired to desired (“U/D”) signal ratio specified for second adjacent stations in Section 74.1204(a)(3) of the FCC Rules, a signal level exceeding 113.5 dBu would be required to cause predicted interference to KTPT and a signal level exceeding 120.2 dBu would be required to cause predicted interference to KTPT-FM1. The vertical radiation pattern data for the proposed Shively 6812-2 two bay full wave spaced antenna was utilized in conjunction with free space propagation prediction techniques to calculate the distance to the 113.5 dBu contour<sup>2</sup> for the proposed facilities at depression angles ranging from 0° down through 90°. The result of these calculations are tabulated in Table 12.2 and depicted in Figure 12.2, which shows a side view of the predicted 113.5 dBu contour for this proposed antenna system. As shown in this figure, the predicted 113.5 dBu contour for these proposed

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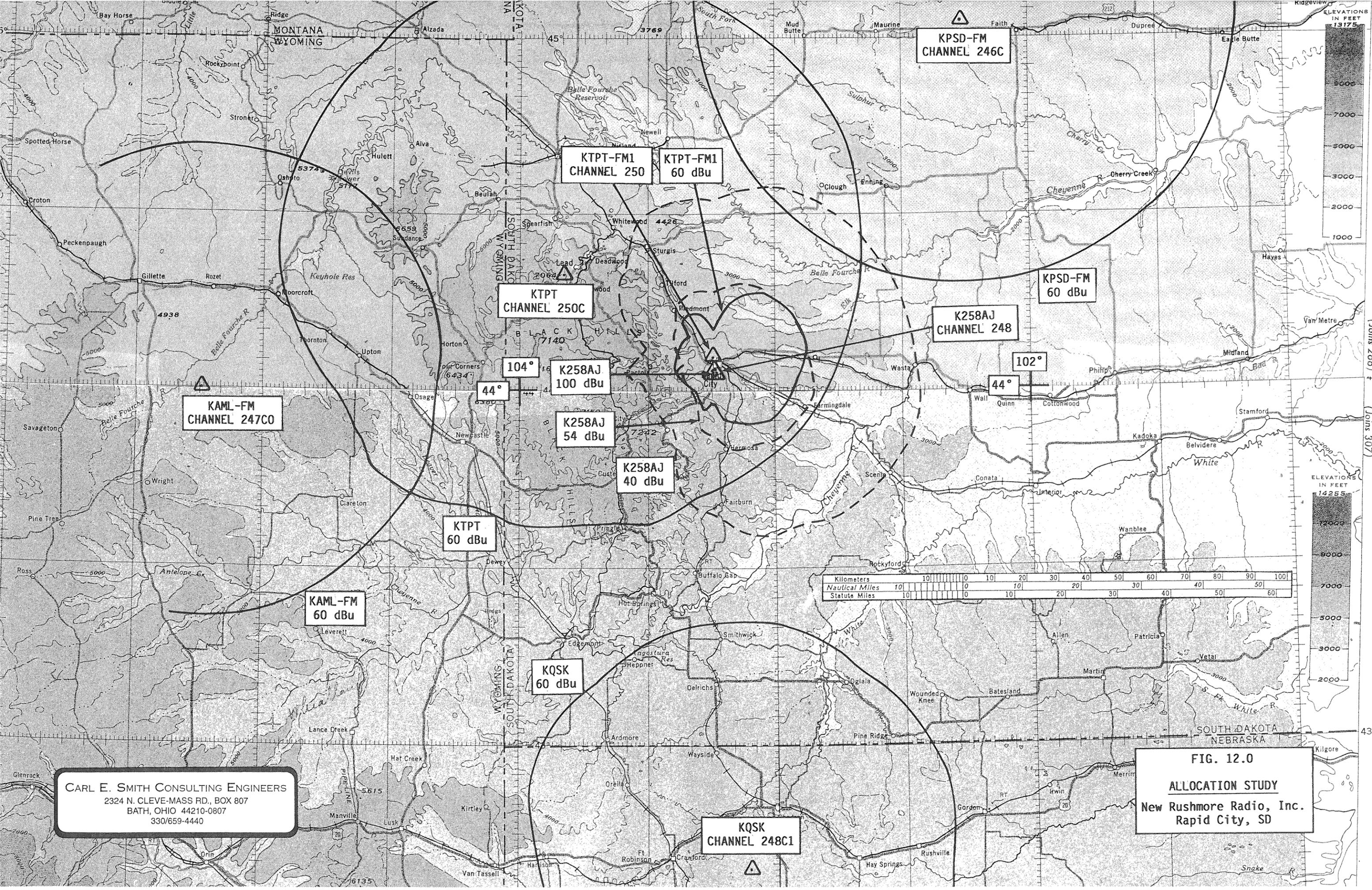
<sup>1</sup>These signal strength calculations were made using the F(50,50) curves from Section 73.333 of the FCC Rules and terrain data extracted from the NGDC 30 second terrain database.

<sup>2</sup>The area where the predicted signal strength exceeds 120.2 dBu will be totally contained within the area where the predicted signal strength exceeds 113.5 dBu.

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operating facilities never reaches ground level, with its closest approach being 43.6 meters (143 feet) at a depression angle of  $61^{\circ}$ . Since, as shown in Figure 12.1, 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 interference being predicted to either KTPT or KTPT-FM1. 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.

It should be noted that because the proposed K258AJ facilities will operate on Channel 248 it is not necessary to demonstrate compliance with the intermediate frequency separation requirements outlined in Section 73.207 of the FCC Rules.



KPSD-FM  
CHANNEL 246C

KTPT-FM1  
CHANNEL 250

KTPT-FM1  
60 dBu

KTPT  
CHANNEL 250C

KPSD-FM  
60 dBu

K258AJ  
CHANNEL 248

KAML-FM  
CHANNEL 247C0

104°

K258AJ  
100 dBu

102°

44°

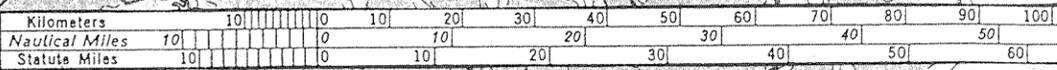
K258AJ  
54 dBu

44°

K258AJ  
40 dBu

KTPT  
60 dBu

KAML-FM  
60 dBu

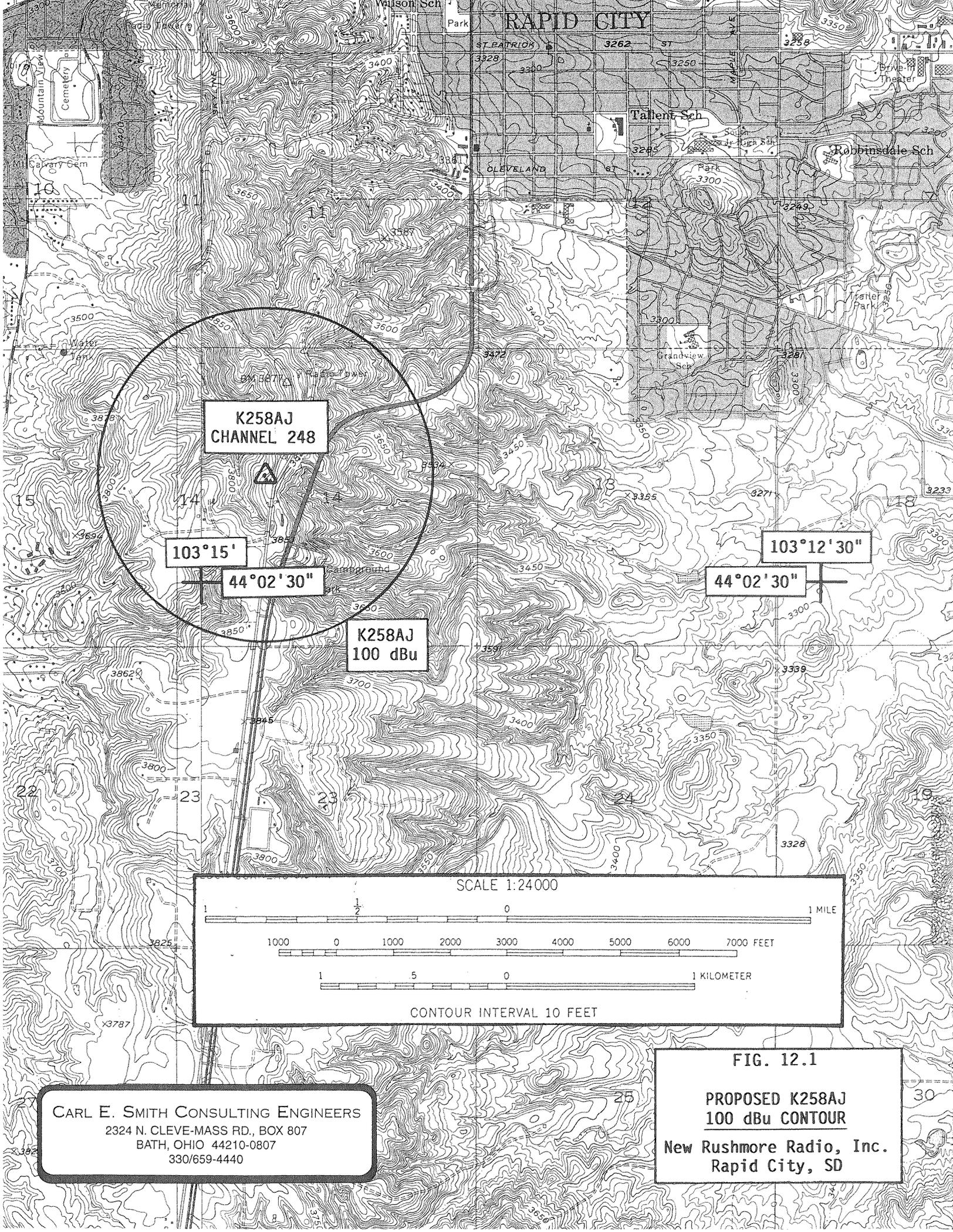


KQSK  
60 dBu

KQSK  
CHANNEL 248C1

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FIG. 12.0  
ALLOCATION STUDY  
New Rushmore Radio, Inc.  
Rapid City, SD



**K258AJ  
CHANNEL 248**

**103°15'**

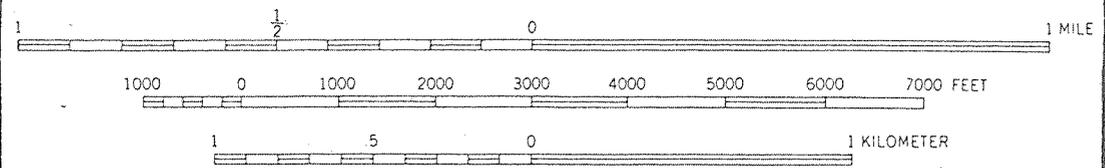
**44°02'30"**

**K258AJ  
100 dBu**

**103°12'30"**

**44°02'30"**

SCALE 1:24000



CONTOUR INTERVAL 10 FEET

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**FIG. 12.1**  
**PROPOSED K258AJ  
100 dBu CONTOUR**  
**New Rushmore Radio, Inc.**  
**Rapid City, SD**

TABLE 12.2

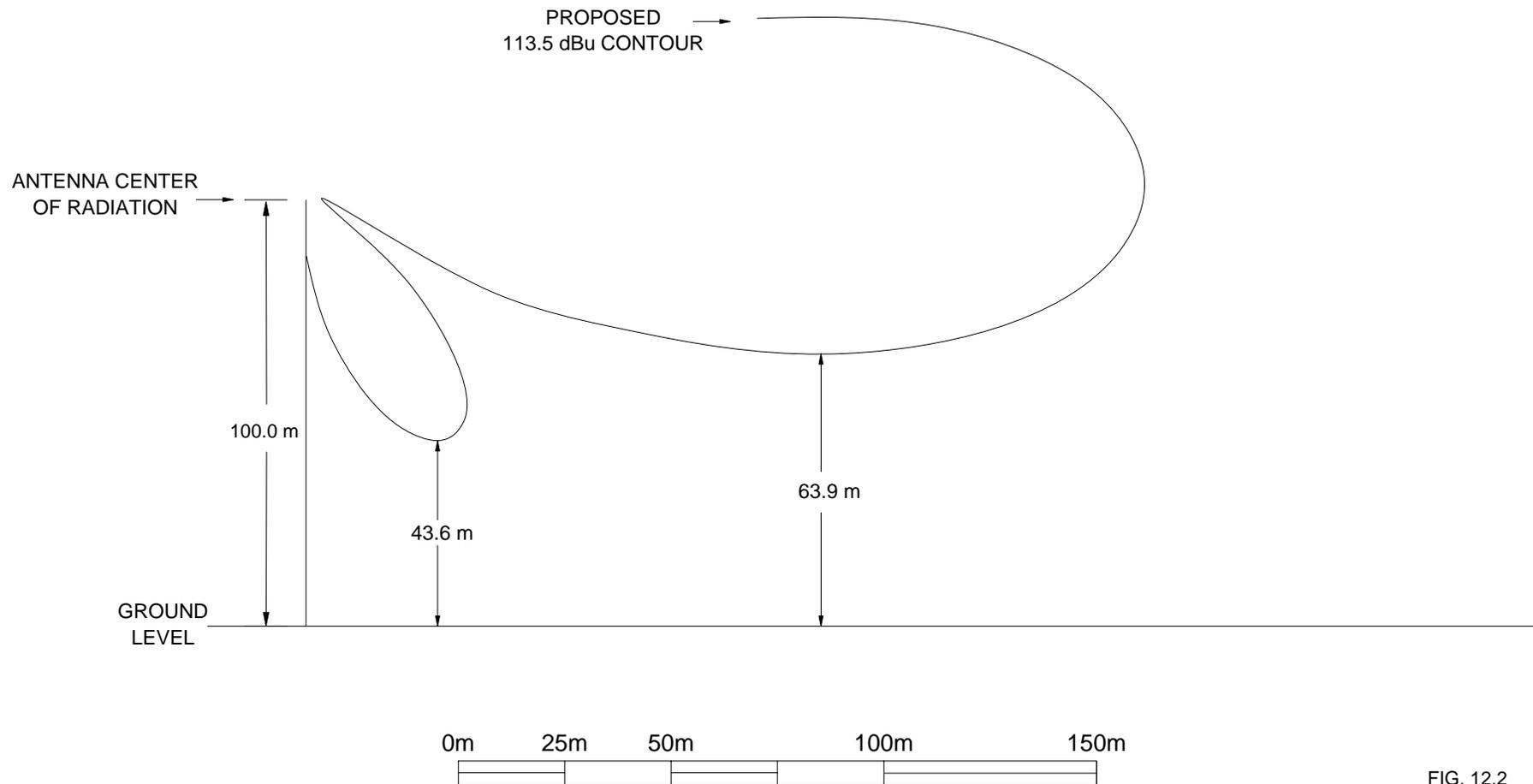
PROPOSED 113.5 DBU CONTOUR

New Rushmore Radio, Inc.  
Rapid City, SD

<u>Depression Angle (Degrees)</u>	<u>Relative Field</u>	<u>ERP (dBk)</u>	<u>113.5 dBu Contour* (Meters)</u>
0	1.000	-7.45	198.4
5	0.969	-7.72	192.3
10	0.881	-8.55	174.8
15	0.745	-10.00	147.8
20	0.576	-12.24	114.3
25	0.389	-15.65	77.2
30	0.203	-21.30	40.3
35	0.032	-37.34	6.4
40	0.112	-26.46	22.2
45	0.224	-20.44	44.5
50	0.299	-17.93	59.3
55	0.339	-16.84	67.3
60	0.347	-16.64	68.9
65	0.328	-17.13	65.1
70	0.288	-18.26	57.2
75	0.231	-20.18	45.8
80	0.162	-23.26	32.1
85	0.085	-28.86	16.9
90	0.000	0.00	0.0

Horizontal ERP = 180 Watts = -7.45 dBk

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



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FIG. 12.2  
 PROPOSED K258AJ  
 113.5 dBu CONTOUR  
 NEW RUSHMORE RADIO, INC.  
 RAPID CITY, SD