

AMEND BMPH-20011011ABB
LOVETT COMMUNICATIONS, INC.
WSLE (FM) RADIO STATION
CH 272C2 - 102.3 MHZ - 9.0 KW
CAIRO, GEORGIA
November 2001

EXHIBIT A

Compliance with §73.315(a)
Using Supplemental City Grade Analysis

The proposed tower site for WSLE is located 33.0 kilometers southeast of the community of Cairo, Georgia. From the proposed WSLE facility, the predicted 3.16 mV/m contour, using the Commission's standard method of predicting city grade coverage as outlined in §73.313, does not totally encompass the community of Cairo. However, in this particular case, we find a supplemental method of depicting city grade coverage, as noted in §73.313(e) of the Commission's rules, is appropriate.² We have analyzed the terrain in 2.0° increments from 313° to 317° to determine the terrain variations on each of these radials. §73.313 of the rules notes that the Commission's propagation curves are based on a 50 meter terrain variation (delta H). Using the 30 second terrain database, on the three pertinent radials toward the community of Cairo, from the site out to 16.0 kilometers, the individual radial delta H values never exceeds 29.2 meters, with one as low as 27.7 meters. As such, the terrain along the pertinent radials varies from the 50 meter variation used in the Commission's field strength curves.³

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- 2) The facilities authorized in BPH-20000118ADW also utilized an alternate propagation model. This instant application proposes a site closer to Cairo than authorized in BPH-20000118ADW.
- 3) The eight cardinal radials were similarly reviewed. The 0°, 45°, 90°, 135°, 225° and 270° radials also varied widely and were reviewed using the supplemental methodology. The remaining radial (180°) utilized the standard FCC prediction methodology.

The proposed WSLE antenna system is to be located in rural Jefferson County, Florida, at geographic coordinates North Latitude 30° 40' 06" and West Longitude 83° 58' 10". The community of Cairo, Georgia, is located on bearings between 313° and 317° true from the proposed WSLE site. Running individual radials, in 2° increments, from the WSLE site through the community, we have determined the location of the city grade contour based on the standard utilization of the Commission's 50/50 curves (see Exhibit A1). We have alternatively determined the location of the 70 dBu coverage, using the Diffcomb program, which is a variation of the irregular terrain model, taking into consideration diffraction loss over knife edge and rounded obstacle obstructions. Further, reductions of calculation signal strength are also made to account for foliage and buildings (Clutter Loss).⁴ This model is a more representative prediction of field strength than the standard methodology.

On the pertinent bearings toward the community of Cairo, we have tabulated the distance to the city grade contour using both the FCC method and supplemental method to demonstrate the differences to the contour and find that the supplemental depiction distances are in excess of 10% higher than the distances using the Commission's standard methodology (see Exhibit A2). Based on the Staff's policy, we find that the terrain on these pertinent radials varies widely from the 3.0 to 16.0 kilometer average (as detailed above) and the differences to the contour distances, as determined by the supplemental method, exceed the standard method by more than 10%. Therefore, pursuant to §73.313(e), a supplemental method of depicting the city grade coverage is acceptable. It is noted that at no point does the supplemental city grade distance extend beyond the predicted 60 dBu (50/50) protected contour.

4) To insure coverage of the proposed community, the Diffcomb model was set at 52.0 kilometers as the point of interest.

Using the supplemental method calculations, we find that the city grade contour in the direction of Cairo, Georgia, in 2° increments between 313° and 317° , extends at least 39.6 kilometers out from the site on the pertinent radials, extending well beyond the community of Cairo. As visually demonstrated on Exhibit A3, the predicted 70 dBu signal, as calculated using the Diffcomb model, shows Cairo, Georgia, within the predicted city grade contour. There are no terrain obstructions in the path between the proposed transmitter site and the community. Attached as Exhibits A4 through A6 are the terrain profiles depicting the radials toward the community in 2° increments.

A sample calculation was made, based on the 315° radial, between the site and the community, to verify the location of the city grade, using a free space signal formula: 106.9 + power in dBk-20 log (distance in kilometers to point of interest). Based on the proposed WSLE facility, the distance to the 70 dBu contour was calculated using the Diffcomb program and found to extend 40.1 kilometers. Based on the proposed facility, the 70 dBu contour, corrected to allow for a 5.0 dB clutter loss (the 75 dBu contour), is being sought.

$$106.9 + 9.54 \text{ dBk} - 20 \log 40.1 = 84.4$$

Attenuation due to diffracted signal over terrain - 9.4 dB

Clutter Loss -5.0

Signal at point of interests 70.0 dBu

Therefore, based on the supplemental depiction, we find the community of Cairo to be within the city grade contour of the proposed WSLE facility in compliance with the Commission's rules.

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EXHIBIT A1

Predicted Contours:

N. Lat. = 30 40 06 - Predicted Service Contours
W. Lng. = 83 58 10 - WSLE Radio Station Cairo, Georgia

FCC Method - 03 Arc Second terrain database

| Azi. | AV EL | HAAT | kW | dBk | Field | 70 .5 | 60 .5 |
|------|-------|-------|--------|------|-------|-------|-------|
| 000 | 58.1 | 340.2 | 9.0000 | 9.54 | 1.000 | 32.54 | 51.74 |
| 045 | 57.6 | 340.7 | 9.0000 | 9.54 | 1.000 | 32.57 | 51.77 |
| 090 | 57.2 | 341.1 | 4.4100 | 6.44 | .700 | 27.47 | 45.28 |
| 135 | 43.5 | 354.8 | 9.0000 | 9.54 | 1.000 | 33.28 | 52.66 |
| 180 | 29.5 | 368.8 | 9.0000 | 9.54 | 1.000 | 33.92 | 53.51 |
| 225 | 47.6 | 350.7 | 9.0000 | 9.54 | 1.000 | 33.07 | 52.41 |
| 270 | 45.3 | 353.0 | 9.0000 | 9.54 | 1.000 | 33.19 | 52.55 |
| 315 | 59.8 | 338.5 | 9.0000 | 9.54 | 1.000 | 32.45 | 51.63 |

Ave El= 49.80 M HAAT= 348.50 M AMSL= 398.3 M

Additional Radials (Not Considered in Average):

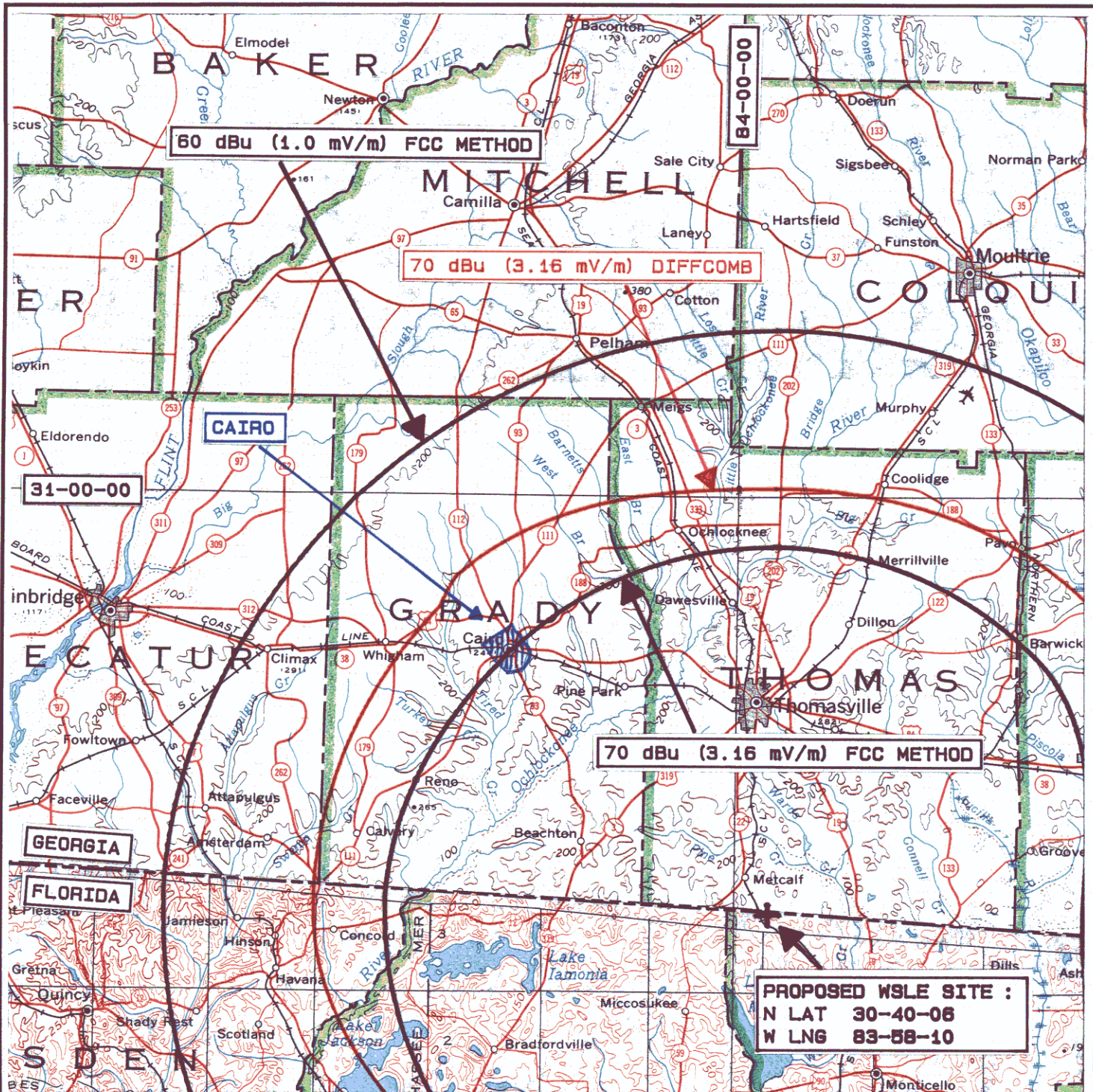
| | | | | | | | |
|-----|------|-------|--------|------|-------|-------|-------|
| 313 | 61.4 | 336.9 | 9.0000 | 9.54 | 1.000 | 32.37 | 51.53 |
| 317 | 61.0 | 337.3 | 9.0000 | 9.54 | 1.000 | 32.39 | 51.56 |

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EXHIBIT A2

Tabulation of City Grade Contours
in Arc Towards Cairo, Georgia

| <u>Radial</u> <u>(Bearing)</u> | <u>Location of 70 dBu</u> | | <u>% of Chg</u> | <u>Method</u> <u>Used</u> |
|-----------------------------------|---------------------------|--------------------|-----------------|------------------------------|
| | <u>FCC Method (F)</u> | <u>Diffcomb(D)</u> | | |
| 0 | 32.5 km | 37.7 km | + 16.0 | D |
| 45 | 32.6 km | 39.0 km | + 19.6 | D |
| 90 | 27.5 km | 33.8 km | + 22.9 | D |
| 135 | 33.3 km | 40.9 km | + 22.8 | D |
| 180 | 33.9 km | N/A | N/A | F |
| 225 | 33.1 km | 35.0 km | + 5.7 | F |
| 270 | 33.2 km | 39.6 km | + 19.3 | D |
| 315 | 32.5 km | 40.1 km | + 23.4 | D |
| 313 | 32.4 km | 39.6 km | + 22.2 | D |
| 317 | 32.4 km | 40.5 km | + 25.0 | D |



CITY GRADE COVERAGE MAP

MAP IS A PORTION OF THE 1: 500, 000 SCALE
U.S.G.S. BASE MAPS OF GEORGIA AND FLORIDA.

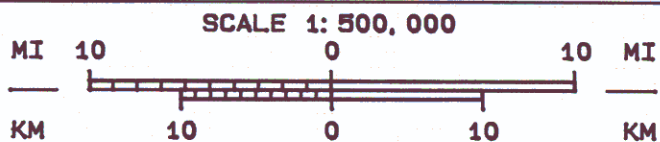


EXHIBIT #A3

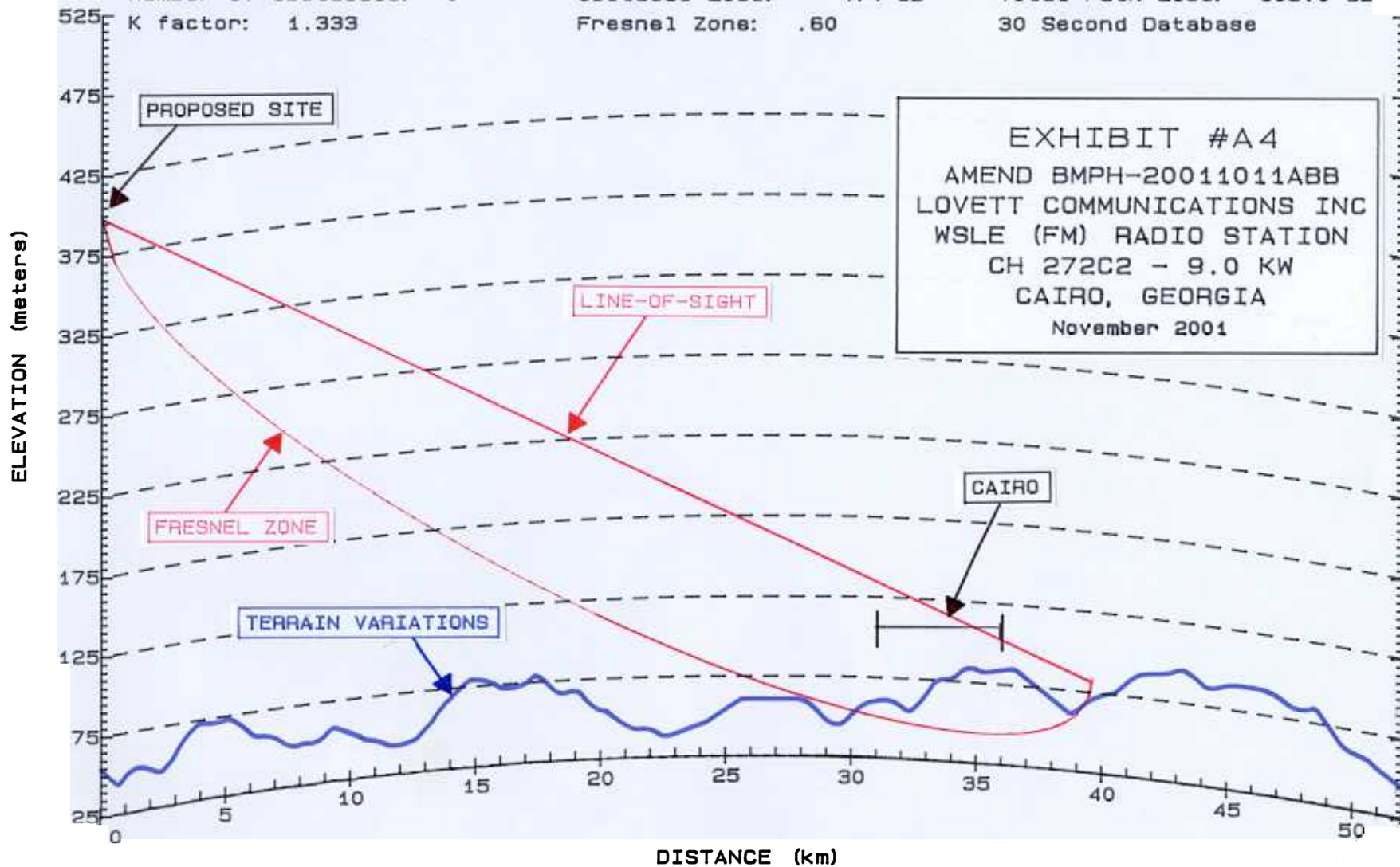
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GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS

WSLE Site: 30-40-6 83-58-10
Frequency: 102.3 MHz
Number of Obstacles: 0
K factor: 1.333

Azimuth: 313.00 degs.
Ant. Elev.: 398.3 m AMSL
Obstacle Loss: 4.4 dB
Fresnel Zone: .60

Receiver Dist.: 39.6 km
Rec. Elev.: 82.3 m AMSL
Total Path Loss: 109.0 dB
30 Second Database



WSLE TERRAIN VARIATIONS

313 DEG.

NOV 2001

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS

WSLE Site: 30-40-6 83-58-10

Frequency: 102.3 MHz

Number of Obstacles: 0

K factor: 1.333

Azimuth: 315.00 degs.

Ant. Elev.: 398.3 m AMSL

Obstacle Loss: 4.0 dB

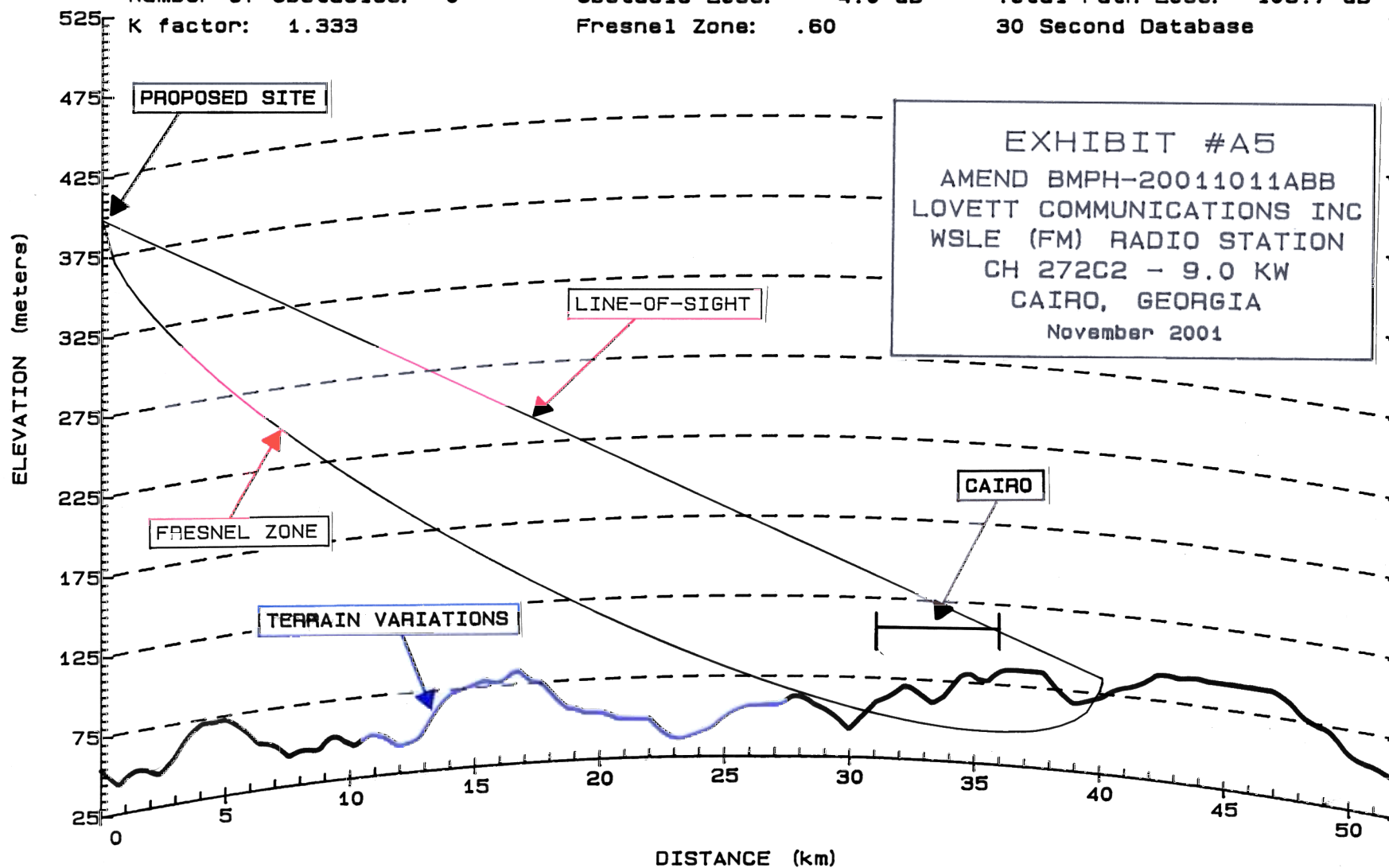
Fresnel Zone: .60

Receiver Dist.: 40.1 km

Rec. Elev.: 84.4 m AMSL

Total Path Loss: 108.7 dB

30 Second Database



WSLE TERRAIN VARIATIONS

315 DEG.

NOV 2001

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS

WSLE Site: 30-40-6 83-58-10
Frequency: 102.3 MHz
Number of Obstacles: 0
K factor: 1.333

Azimuth: 317.00 degs.
Ant. Elev.: 398.3 m AMSL
Obstacle Loss: 5.0 dB
Fresnel Zone: .60

Rec. Dist.: 40.5 km
Receiver Elev.: 84.2 m AMSL
Total Path Loss: 109.8 dB
30 Second Database

