WVEP-FM

AUXILIARY FM APPLICATION FOR WEST VIRGINIA EDUCATIONAL BROADCASTING AUTHORITY

MARTINSBURG, WV

KESSLER & GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20061208

Prepared by Ryan Wilhour

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

TECHNICAL STATEMENT OF RYAN WILHOUR OF THE FIRM OF
KESSLER AND GEHMAN ASSOCIATES, INC., CONSULTING ENGINEERS
IN CONNECTION WITH AN APPLICATION FOR AN AUXILIARY FACILITY
WEST VIRGINIA EDUCATIONAL BROADCASTING AUTHORITY
WVEP-FM
MARTINSBURG, WEST VIRGINIA

APPLICATION SUMMARY

The instant analysis has been prepared on behalf of West Virginia Educational Broadcasting Authority in support of an application for a new auxiliary facility for WVEP-FM to be located at the main WVEP-FM transmitter site.

ATTACHED FIGURES

In carrying out the engineering studies, the following attached figures were prepared:

1) Proposed engineering specifications Exhibit E1.
2) Elevation drawing of the antenna system Exhibit E2.
3) USGS topographic map showing the transmitter site Exhibit E3.
4) Proposed transmitting antenna elevation pattern Exhibit E4.
5) Maps showing the auxiliary and main facility 1-mV/m contours Exhibit E5.
6) Radio Frequency Radiation Study as described in *OET Bulletin 65, Edition, 97-01* Exhibit E6.

PROPOSED OPERATION

It is proposed to side mount an auxiliary omni-directional FM broadcast antenna on the main tower as demonstrated in Exhibit E2 at the tower site demonstrated in Exhibit E3 using the technical parameters specified in Exhibits E1 and E4. Exhibit E5 demonstrates that the proposed auxiliary facility would have a 1 mV/m (60 dBu) contour completely subsumed by the main FM 1 mV/m (60 dBu) contour, and thus the proposed auxiliary facility satisfies the Section 73.1675(a)(1)(ii) requirement.

The 1 mV/m coverage contours demonstrated in the Exhibit E5 were generated using terrain extracted from a 3 arc second USGS terrain database. For each radial the average terrain is computed by picking terrain points at 0.1 km increments along the radial starting at 3 km and ending at 16 km from the transmitter site and then are averaged together. The contour is constructed from 360 radials and interpolation between the radials is used to form a continuous contour.

ENVIRONMENTAL IMPACT / RFR HAZARD ANALYSIS

An analysis has been made of the human exposure to RFR using the calculation methodology described in *OET Bulletin 65, Edition, 97-01*. Exhibit E6 is a RFR study demonstrating compliance within the most restrictive permissible exposure at any location 2 meters above ground using the relative field pattern demonstrated in Exhibit E4. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose facilities produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is well within 5%

of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR. Thus, contributions to exposure from other RF sources in the vicinity of the proposed FM auxiliary facility were not taken into account. The instant FM auxiliary facility complies with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

The applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary completely cutting it off in order to protect maintenance workers on the tower.

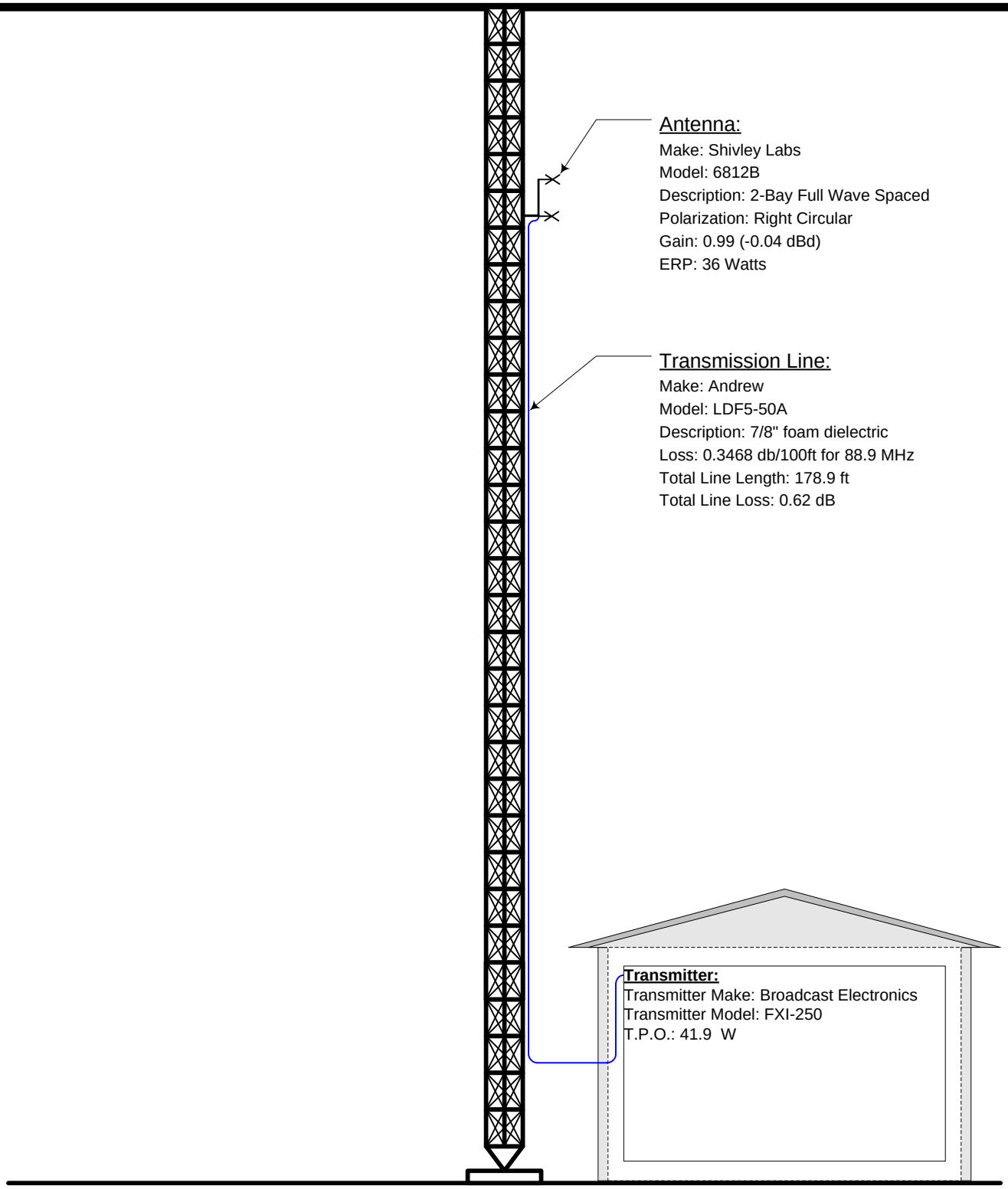
DECLARATION OF ENGINEER

I, Ryan Wilhour, declare and state that I am a graduate electrical engineer with a Bachelor of Science in Electrical Engineering and my qualifications are a matter of record with the Federal Communication Commission, and that I am an engineer in the firm of Kessler and Gehman Associates, Inc., and that firm has been retained by West Virginia Educational Broadcasting Authority to prepare the herein application.

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on December 8, 2006

KESSLER AND GEHMAN ASSOCIATES, INC.

Ryan Wilhour
Consulting Engineer



NOTE: NOT TO SCALE

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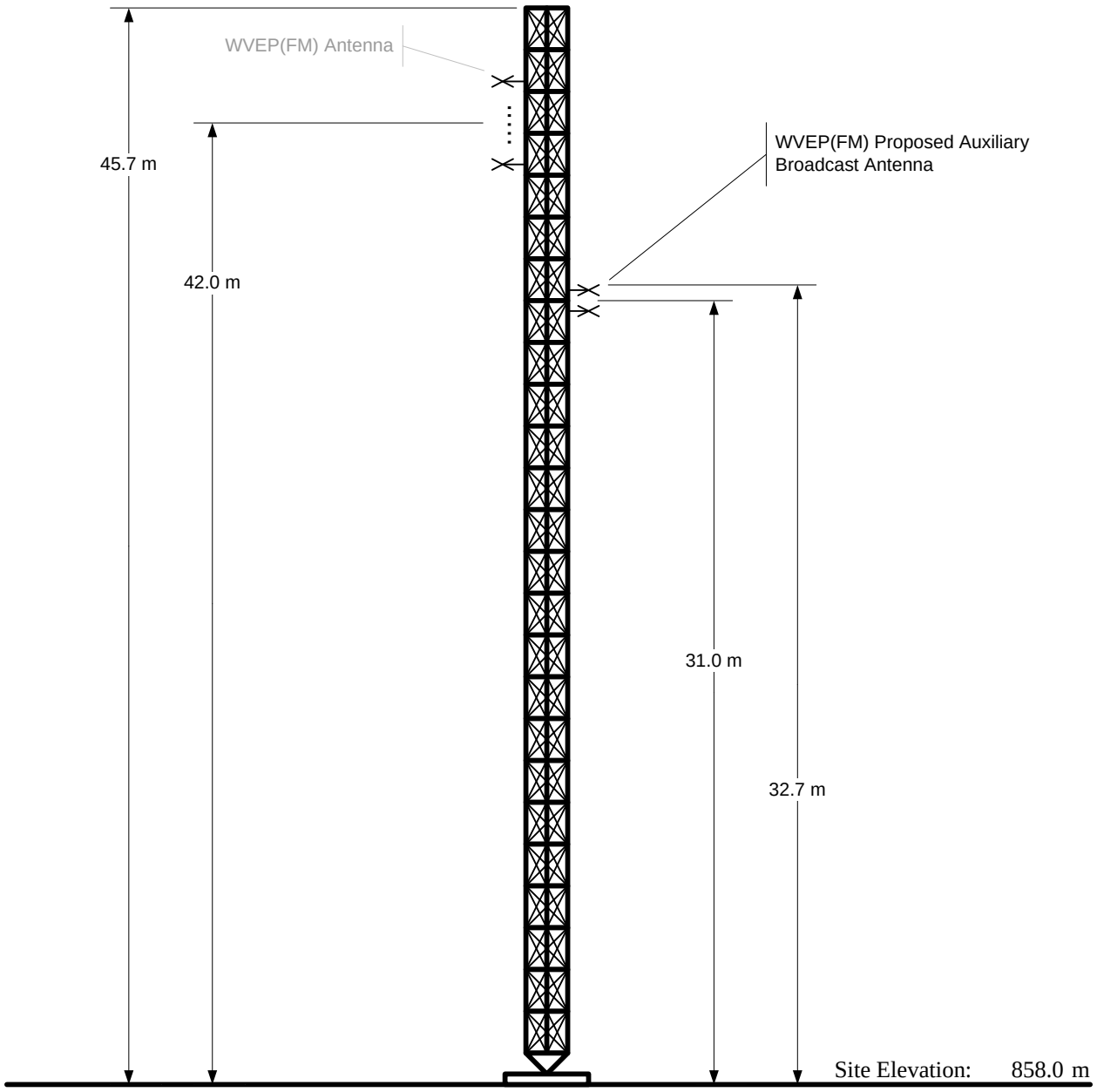
EXHIBIT E1



Overall Height AGL:	45.7 m
Overall Height AMSL:	903.7 m
Radiation Center AGL:	31.0 m
Radiation Center AMSL:	889.0 m

NAD 27 Coordinates:	
N. Latitude:	39º 08' 38"
W. Longitude:	78º 26' 09"
FAA Aeronautical Study Number:	1987-AEA-203-OE
FCC Tower Registration Number:	N/A

NOTE: NOT TO SCALE

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20061208 EXHIBIT E2

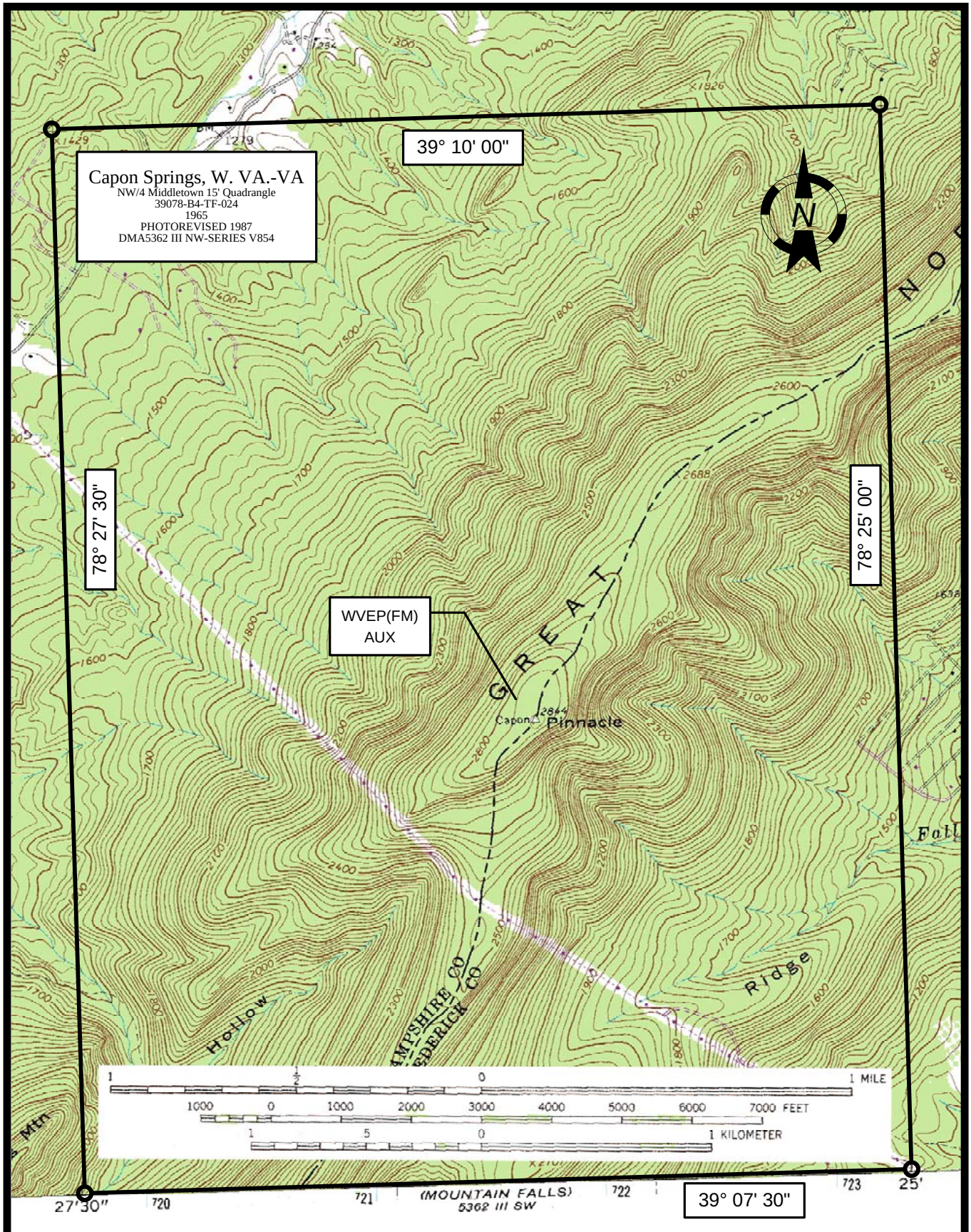

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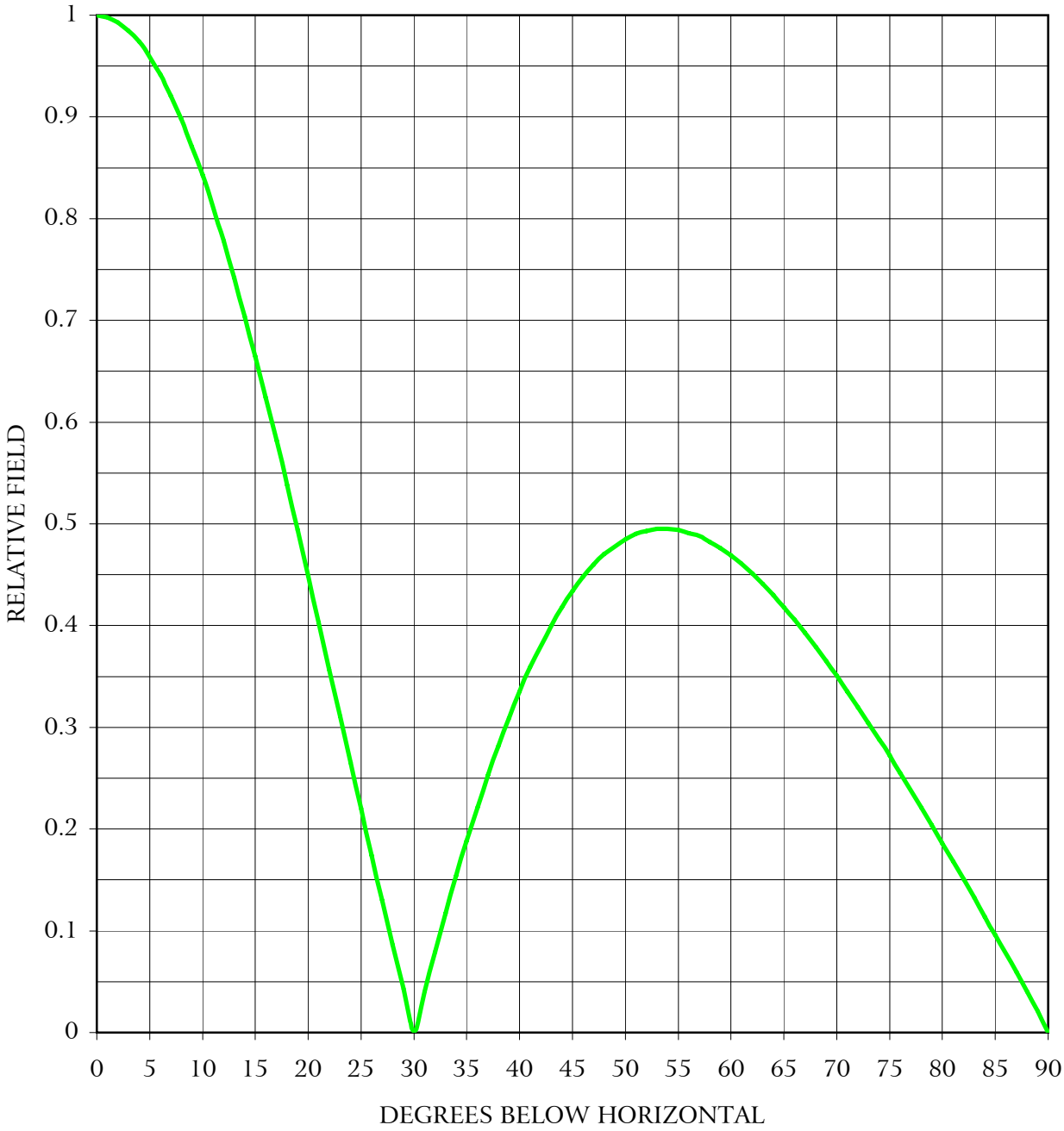
EXHIBIT E3

ELEVATION PATTERN

SHIVELY LABS - 6812B
2 BAY FULL WAVE SPACED



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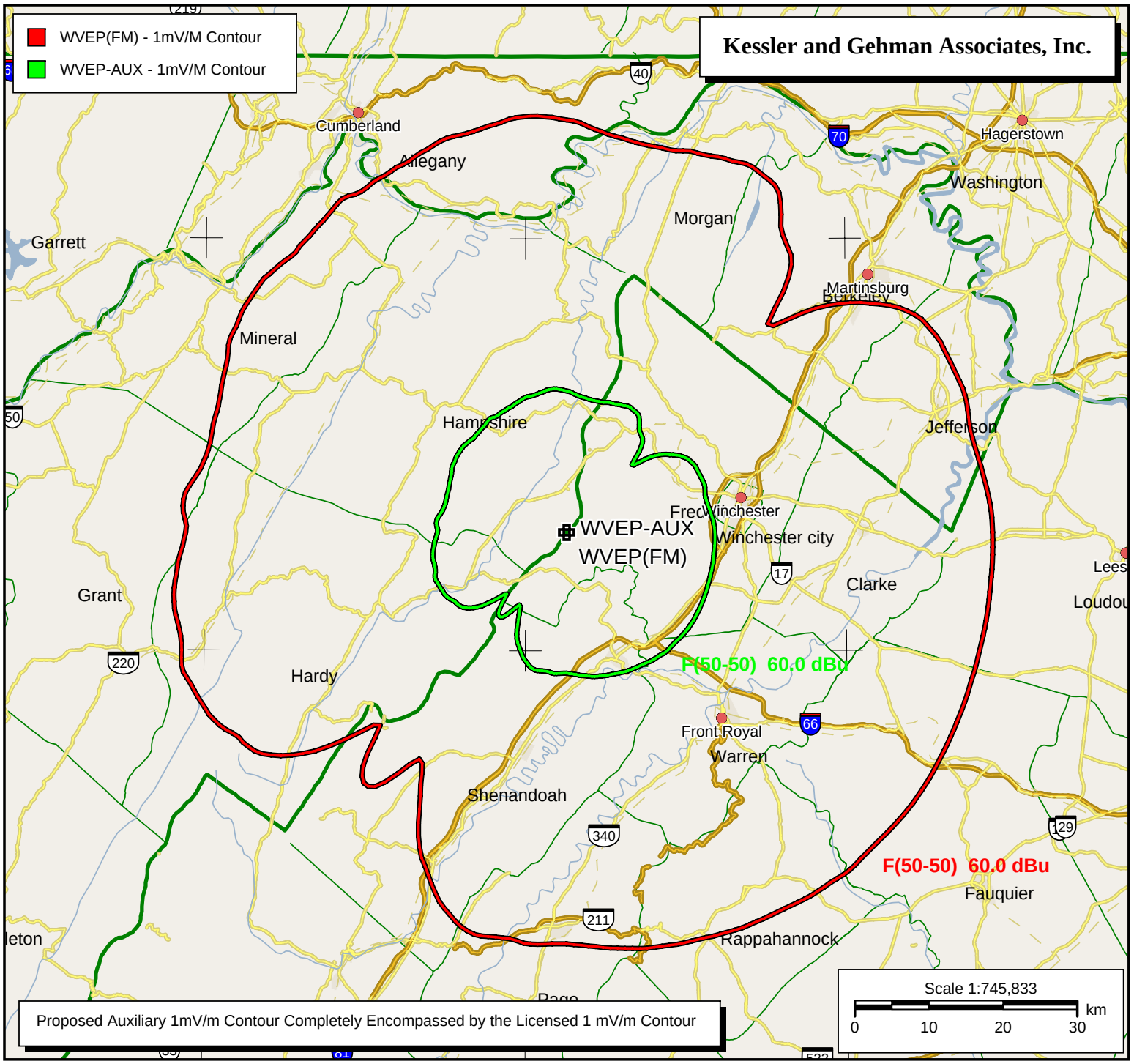

WVEP(FM)
BLED19870220KA
Latitude: 39-08-38 N
Longitude: 078-26-09 W
ERP: 3.60 kW
Channel: 205
AMSL Height: 900.0 m
HAAT: 484.31 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WVEP-AUX
PROPOSED AUX
Latitude: 39-08-38 N
Longitude: 078-26-09 W
ERP: 0.036 kW
Channel: 205
AMSL Height: 889.0 m
HAAT: 473.31 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Exhibit E5

FAR FIELD EXPOSURE TO RF EMISSIONS

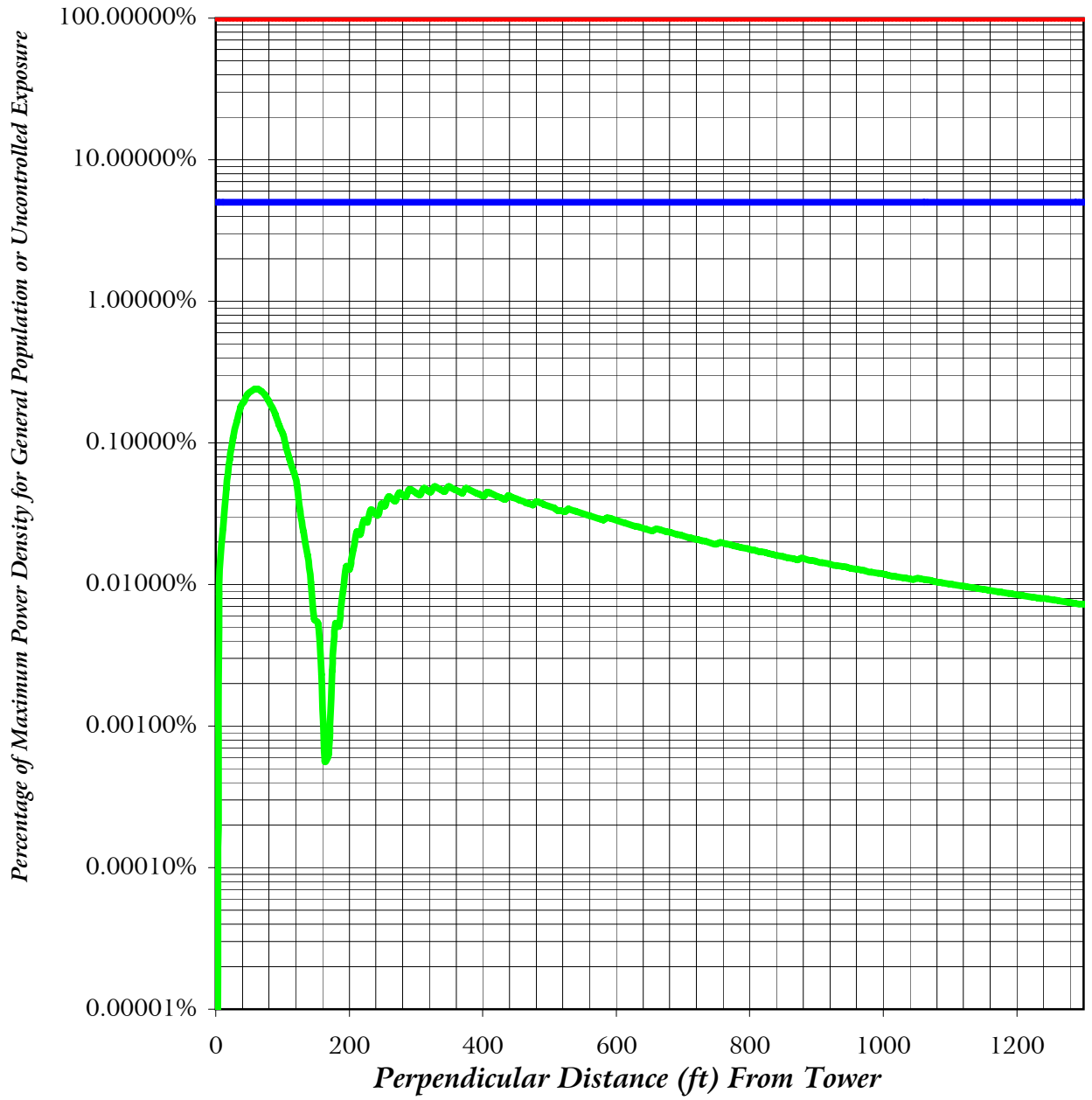

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EXHIBIT E6

METHODOLOGY AND EXPLANATION OF ENVIRONMENTAL IMPACT / RADIO FREQUENCY RADIATION HAZARD ANALYSIS

A theoretical analysis has been conducted of the human exposure to radio frequency radiation ("RFR") using the calculation methodology described in *OET Bulletin 65, Edition 97-01*. The RFR analysis is conducted pursuant to the following methodology:

> Terrain[1] extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

> Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

[1] Terrain extraction is based upon a 3 arc second point spacing terrain database.