



EXHIBIT #1
ENGINEERING STATEMENT

Concerning the Application of
1400 Inc.
To Build an FM Translator Station at
Blue Earth, Minnesota

August 2003

This engineering statement supports the application of the 1400, Inc. of Minneapolis, Minnesota to build a new FM translator station on channel 222 to serve Blue Earth, Minnesota. Channel 222 has been listed by the FCC as a “singleton” assigned to the applicant and available for application filing.

Under the instant proposal, the off-air audio signal of primary station KGAC, channel 213, Saint Peter, will be delivered to a Crown 500R translator unit. This unit will deliver 0.1 kW to the input of a Shively two-bay 6812-2 antenna. The antenna has a power gain of 0.99 resulting in an effective radiated power of 0.099 kW, polarized circularly.

A total of 12 evenly spaced radials were used to determine the antenna height above average terrain. The highest radial of the 12 was used to determine the maximum effective radiated power. The USGS 30 arc-second terrain elevation database was employed to determine the elevations along the radials that were averaged using the required four-point interpolation method. The resulting averaged radial antenna heights were employed using the Commission's own TVFMINT algorithm to project the distances to signal contours. A tabular listing of the distance to the 1 mV/m contour can be found on page #3 of this exhibit. A coverage map can be found on page #4.

Exhibit #12 is an allocation study showing that no overlap interference is caused station licenses, construction permits and applications. Page #1 of this exhibit is a tabular study showing the proposed translator's relationship to all stations, construction permits and

applications having a frequency and distance relationship. Page #2 of this study is a narrative explaining the abbreviations and conventions used in the channel printout. There are no contour overlaps with licensed stations, construction permits or with pending applications.

Exhibit #16 is an RF hazard statement showing that workers and the general public are protected from radio frequency emissions.

The proposed station is not located within 320 kilometers from the US border with Canada and the 34 dBu does not extend past 60 kilometers in any direction. The proposed facility is not within the critical distance to any AM station. The proposed facility is okay with respect to FCC monitoring stations, Table Mountain and the West Virginia Quiet Zone.

The applicant requests “unattended operation”. The translator can be turned off in cases of an emergency by the staff at the applicant’s headquarters in Saint Paul, Minnesota.

Page #5 of this **Engineering Exhibit** is a statement of the qualifications of the preparer.

Doug Vernier

Doug Vernier, Telecommunications Consultants
 N. Lat. = 43 40 01 W. Lng. = 94 07 19
 HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Blue Earth - KGAC Primary

Azi .	AV EL	HAAT	ERP kW	dBk	Field	60-F5	34-F1
000	327.3	70.7	0.0990	-10.04	1.000	8.66	42.17
030	324.8	73.2	0.0990	-10.04	1.000	8.81	42.87
060	329.3	68.7	0.0990	-10.04	1.000	8.53	41.62
090	331.5	66.5	0.0990	-10.04	1.000	8.39	40.96
120	331.6	66.4	0.0990	-10.04	1.000	8.38	40.94
150	327.2	70.8	0.0990	-10.04	1.000	8.66	42.20
180	321.8	76.2	0.0990	-10.04	1.000	8.99	43.70
210	323.9	74.1	0.0990	-10.04	1.000	8.87	43.12
240	335.0	63.0	0.0990	-10.04	1.000	8.16	39.94
270	335.2	62.8	0.0990	-10.04	1.000	8.15	39.90
300	328.9	69.1	0.0990	-10.04	1.000	8.55	41.71
330	317.0	81.0	0.0990	-10.04	1.000	9.28	44.99

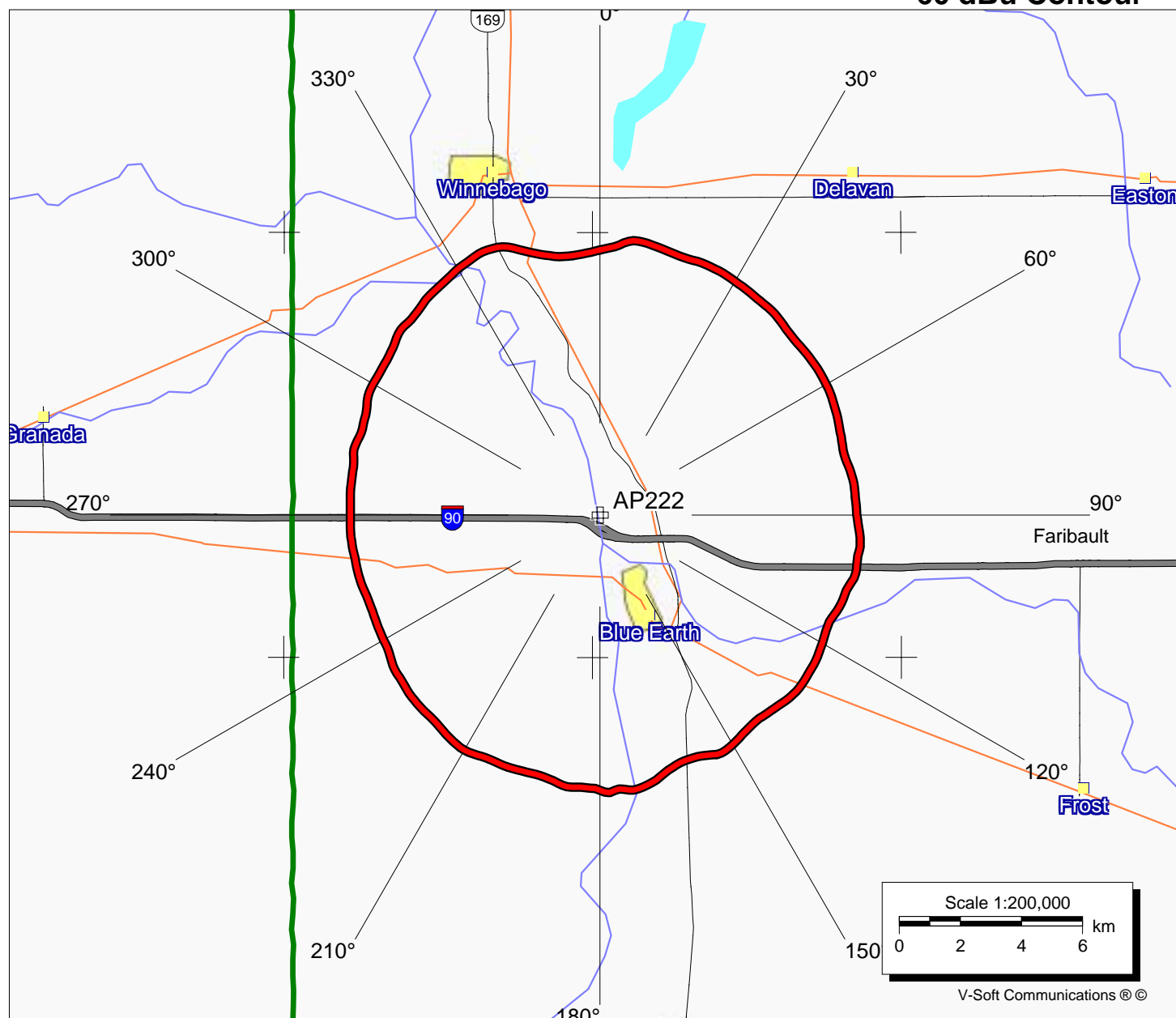
Ave EI = 327.81 M HAAT= 70.19 M AMSL= 398

60 dBu Contour

AP222

Latitude: 43-40-01 N
Longitude: 094-07-19 W
ERP: 0.099 kW
Channel: 222
Frequency: 92.3 MHz
AMSL Height: 398.0 m
Elevation: 322 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

V Doug Vernier
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Declaration:

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 30 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Re-certified 10/2000.)

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by 1400, Inc. Saint Paul, Minnesota, to prepare the engineering showings appended hereto:

That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.



Douglas L. Vernier

Executed on August 18, 2003