

EXHIBIT 1
FCC FORM 442
ITEM 4e

TPS-70 Solid State Radar
Pulse Characteristics

Beacon Interrogator:

Tx Frequency	1030MHz
Pulse rise time	0.1 μ Sec
Pulse width	0.8 μ Sec
Pulse fall time	0.1 μ Sec
Pulse Repetition Frequency	Variable-200 to 1300 Hz

Radar Transmitter:

Tx Frequency	2800 to 3100 MHz, 1MHz NLFM
Pulse rise time	1.6-2 μ Sec
Pulse widths	15, 90, and 245 μ Sec
Pulse fall time	1.6-2 μ Sec
Pulse Repetition Frequency	250, 275, 300, 650, and 825 Hz

Radar Modes:

Mode	Pulses	PRF	Notes
Baseline	15 μ S @ F1 and 245 μ S @ F2	250 Hz avg,	Frequency Diversity F2-F1 $\geq$ 60MHz
Enhanced MTI	15 μ S @ F1 and 245 μ S @ F2	275 Hz avg,	Frequency Diversity F2-F1 $\geq$ 60MHz
Rain/Chaff Detect	9 pulses @ 90 μ S each	650 Hz	MTD
	3 pulses @ 245 μ S each	300 Hz	MTI
	9 pulses @ 90 μ S each	825 Hz	MTD
	3 pulses @ 245 μ S each	300 Hz	MTI

**EXHIBIT 2
FCC FORM 442
ITEM 5b**

This experimental program will require two transmitter sites.

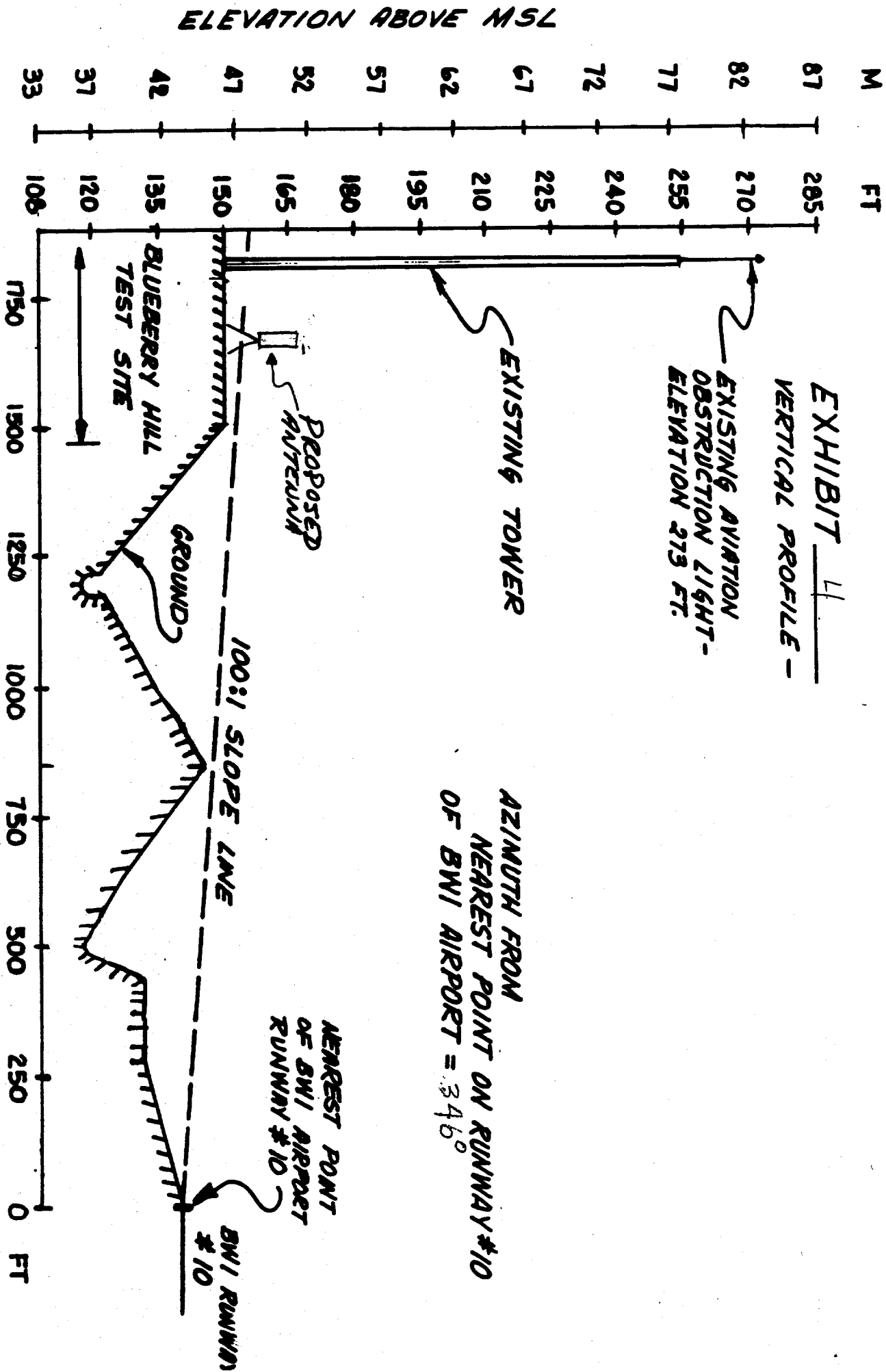
Site #1 is the Stoney Run Test Site tower located at 1160 Stoney Run RD, Hanover (Anne Arundel) MD. The NAD83 coordinates for this site are 39-11-08.59 N, 076-42-10.26 W.

Site #2 is the Blueberry Hill Test Site located at 7323 Aviation Blvd, Linthicum (Anne Arundel) MD, with NAD83 coordinates of 39-10-45 N, 076-41-22 W.

**EXHIBIT 3
FCC FORM 442
ITEM 10**

Northrop Grumman Corporation is developing a solid state transmitter to upgrade the AN/TPS-70 radar system. The purpose experiment is to test and evaluate the new transmitter and integrate it into the physical space occupied in the shelter unit by the current tube-based transmitter. The objective of this program is to develop a more reliable TPS-70 radar with enhanced capabilities. Future use of site #2 includes system demonstrations to potential customers.

EXHIBIT 4 VERTICAL PROFILE -



ELEVATION ABOVE MSL

FT

M

EXHIBIT 5

VERTICAL PROFILE -

AZIMUTH FROM RUNWAY #15 (NW. END)
TO EXISTING TOWER = 272°

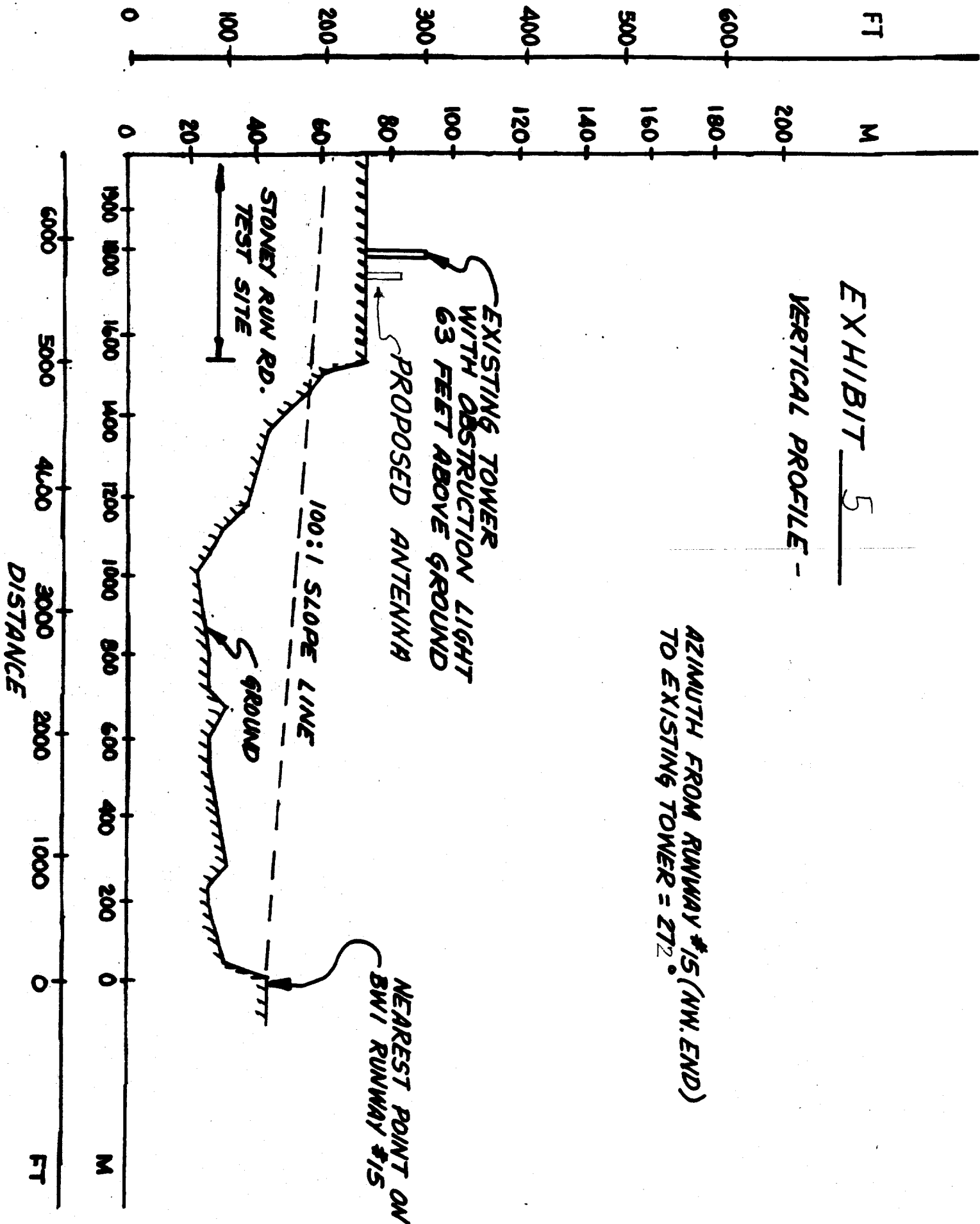


EXHIBIT 6
FCC FORM 442
ITEM 15e

