

**SELLMEYER ENGINEERING**

BROADCAST AND COMMUNICATION CONSULTING ENGINEERS  
P.O. Box 356 McKinney, Texas 75070  
MEMBER AFCCE  
(214) 495-9764

EXHIBIT E1-1  
DESCRIPTION OF ANTENNA SYSTEM  
RADIO STATION KROO  
1430 KHZ, 0.017 KW, 0.64 KW-LS, ND-U  
BRECKENRIDGE, TEXAS

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ANTENNA SYSTEM

The antenna system consists of a single guyed uniform cross section vertical radiator. The antenna is shared with co-located Station KLXK (FM) as proposed in BPH-20020829AAG. The tower will be electrically shortened to 165° by use of a 57.5° three wire skirt assembly tuned to control the current distribution of the tower to an electrical length of 165°. The lower section of the tower will be utilized as a series fed vertical radiator for Station KROO with the upper sections of the tower detuned by the skirt assembly.

A base insulator will be located atop a short base pier to permit excitation of the AM radiator.

The tower will support a six element FM antenna having full wave spacing near the top of the tower and a receiving antenna for the studio-transmitter link approximately 100 feet above grade level.

The FM antenna and studio-transmitter receiving antenna will be isolated by Isocouplers at ground level. The tower lights will be isolated by a three wire choke assembly located within the antenna coupling network for Station KROO (AM).

Frequency:	1430 kHz
Theoretical Efficiency:	362.69 mV/m/kW/kM (From 73.190, Figure 8)
Operating Power:	0.64 kW - Day;      0.017 kW - Night
Efficiency at Operating Power:	290.15 mV/m - Day;   47.29 mV/m - Night
Type of Tower:	Guyed, Uniform Cross Section, Base Insulated Vertical Radiator
Effective Electrical Height:	96.0 Meters (315 Ft), 165°
Overall Height Above:	
Ground Level:	152.0 Meters (499 Ft)
Sea Level:	522.4 Meters (1714 Ft)
Geographic Coordinates:	32° 47' 32"
(NAD-27)	98° 56' 24"

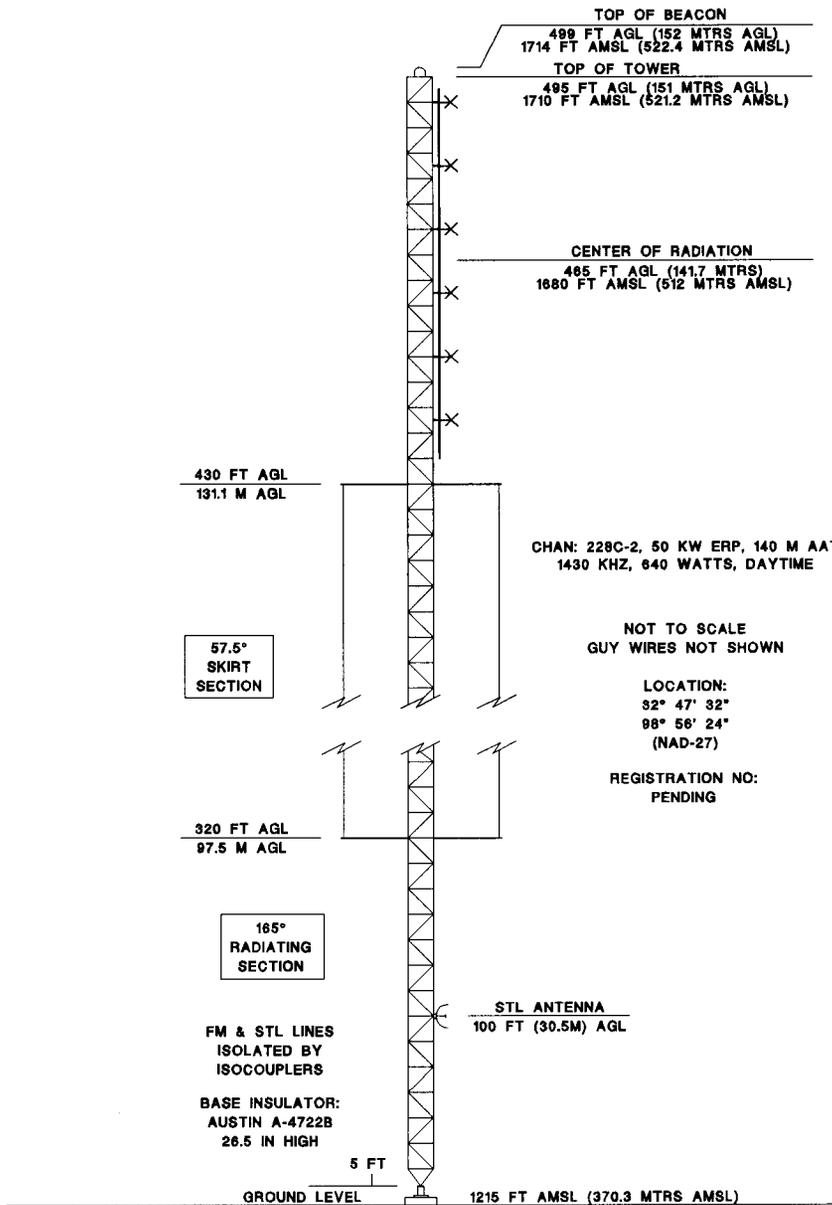
GROUND SYSTEM

The ground system will consist of 120 copper wire radials uniformly spaced around the base of the tower four to eight inches below grade level extending to a radius of 68.5 Meters (225 feet) plus 120 copper wire radials interspersed, 15 Meters (50 feet) in length. The radials will be securely bonded at the tower base and connected to the antenna coupler by a suitable copper strap.

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EXHIBIT E1-2  
VERTICAL SKETCH OF PROPOSED ANTENNA SYSTEM  
GRAHAM NEWSPAPERS, INC.  
RADIO STATION KLXK (FM)  
CHANNEL 228C-2  
RADIO STATION KROO (AM)  
1430 KHZ  
BRECKENRIDGE, TEXAS



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**EXHIBIT E1-3**  
**PLAT OF PROPOSED ANTENNA SYSTEM**  
**RADIO STATION KROO**  
**1430 KHZ, 0.017 KW, 0.64 KW, ND-U**  
**BRECKENRIDGE, TEXAS**

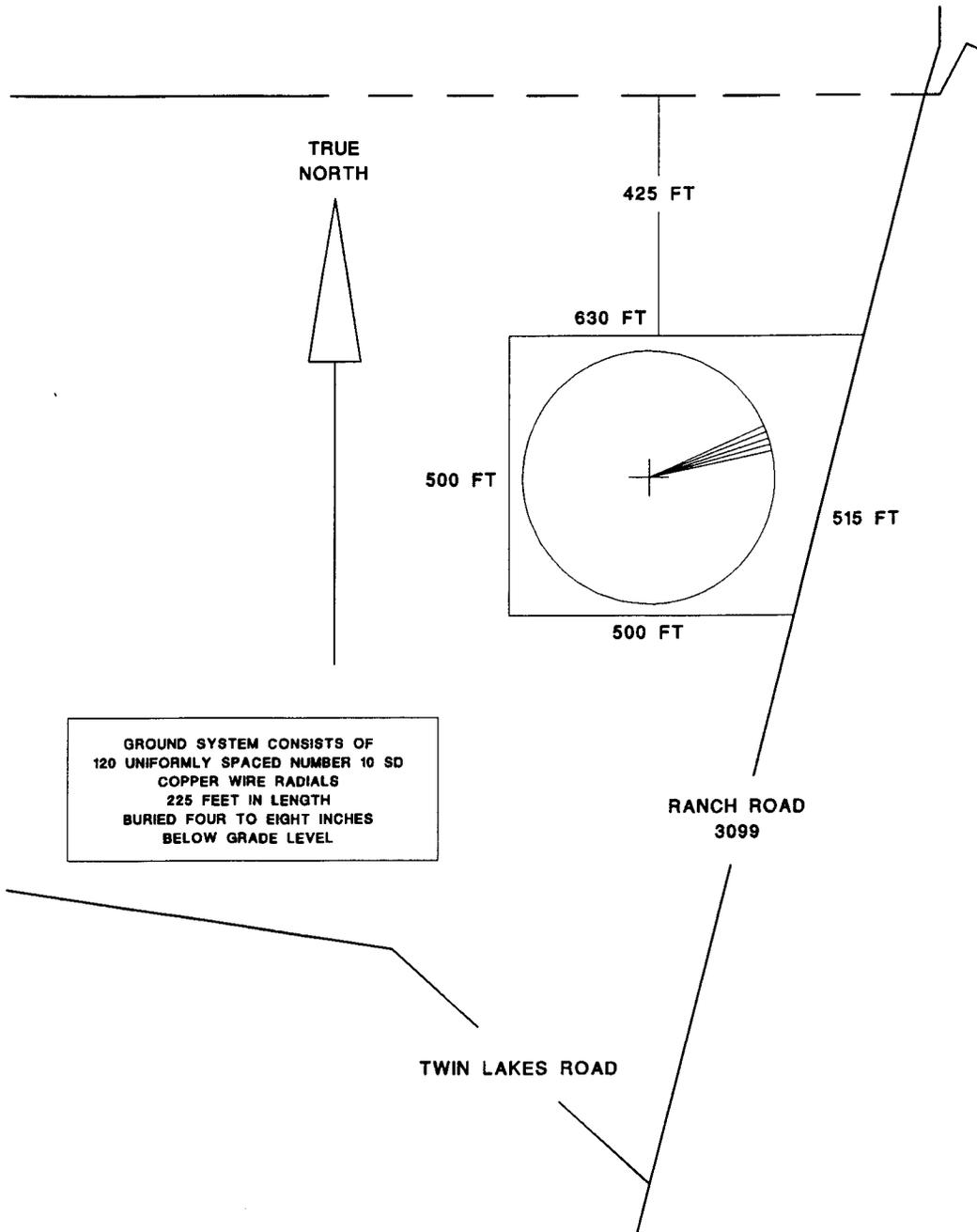
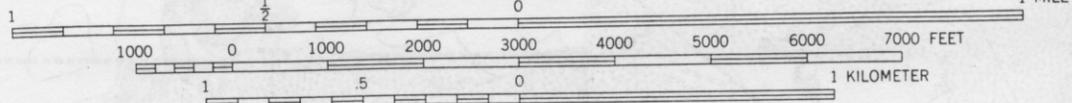


EXHIBIT E1-4  
SITE MAP  
RADIO STATION KROO  
1430 KHZ, 0.017 KW, 0.68 KW-LS, ND-U  
BRECKENRIDGE, TEXAS

32-50-00  
98-55-00

SCALE 1:24 000



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

PROPOSED SITE  
32-47-32  
98-56-24  
1215 FT MSL

32-47-30  
98-57-30

BRECKENRIDGE, TEX.  
N245-W9852.5/7.5

1958  
PHOTOREVISED 1981  
DMA 6249 IV SW-SERIES V882