

## **Exhibit 12.1**

### **Description of Proposed Antenna System**

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#### **DAYTIME/NIGHTTIME ANTENNA SYSTEM**

1. The common daytime/nighttime antenna system consists of one (1) non-directional KINSTAR© antenna system. The non-directional antenna system consists of five (5) wood poles mounted with a central pole and four poles at 90° perpendicular angles representing the cardinal bearings of north, south, east and west. The radiating element(s) consist of 28.8° electrical degree folded unipole four wire skirt mounted on the central tower with 61.2° electrical degree top-loaded wires running to each of the four perpendicular towers. Each pole is 18.9 meters (62 feet) in height above ground level. Given the ground elevation of 405.4 meters AMSL. Each pole will stand at a height of 424.3 meters AMSL. Antenna Structure Registration is not required.
2. The proposed ground system will consist of 120 buried copper radials, extending 53.6 meters (176 feet) in length, or 90.0° in electrical length, about the base of the tower. The material used for the radials will be #10 AWG, soft drawn copper wire or equivalent.
3. Based in information supplied from Kintronics, the KINSTAR© non-directional antenna system operates with 98% efficiency of a standard quarter-wave (90°) tower and quarter-wave (90°) ground system. Therefore, the theoretical efficiency for the proposed daytime/nighttime operation will be 300 mV/m/kW at 1 km ( $305.775 \text{ mV/m/kW at 1 km} * 0.980 = 300 \text{ mV/m/kW at 1 km}$ ). Given the common daytime and nighttime operating power of 1.0 kW, the theoretical radiation will remain 300 mV/m/kW at 1 km.

## Exhibit 12.2

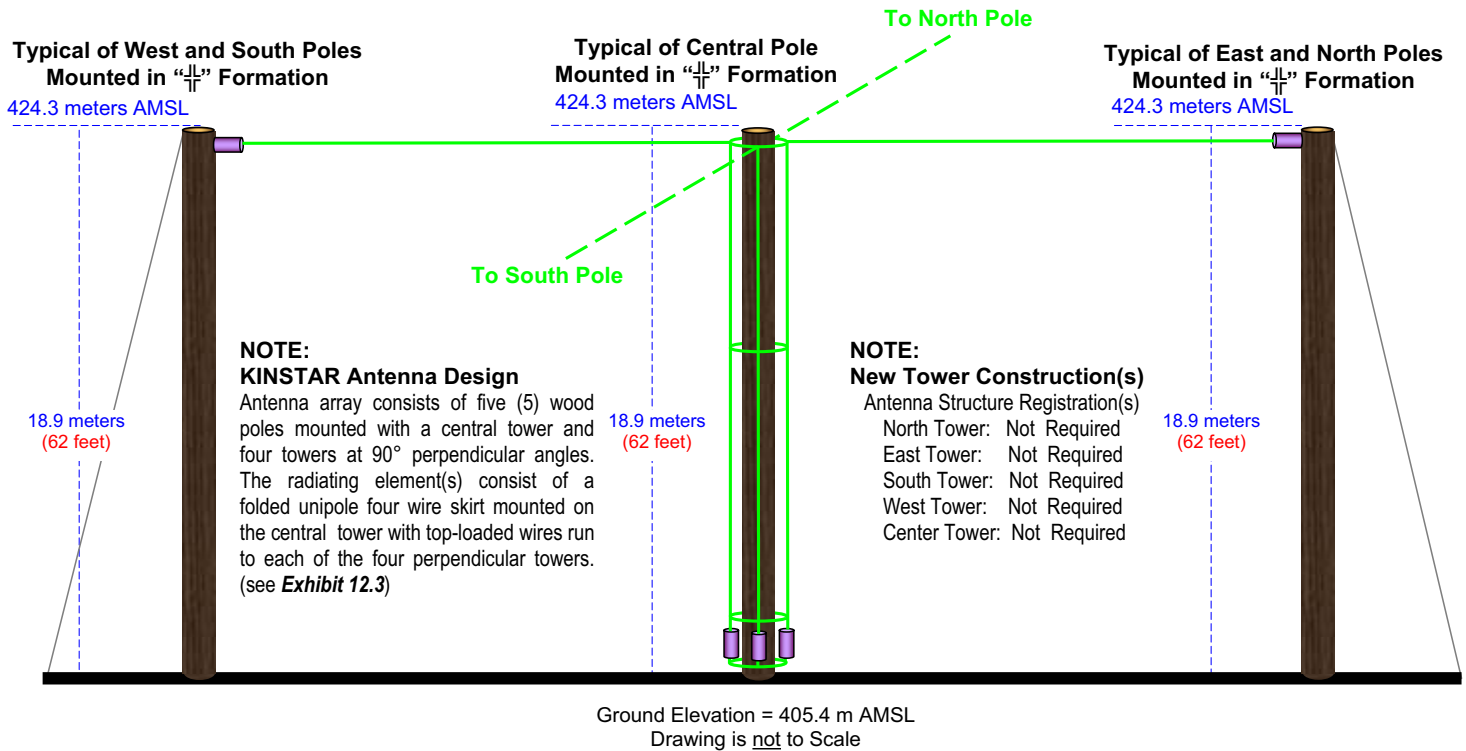
### Vertical Plan of Antenna System

The site is located 0.9 km north of the “JL” intersection of Rose Lane and Rossanley Drive, the city Medford, Jackson County, Oregon.

#### Site Location (NAD 27)

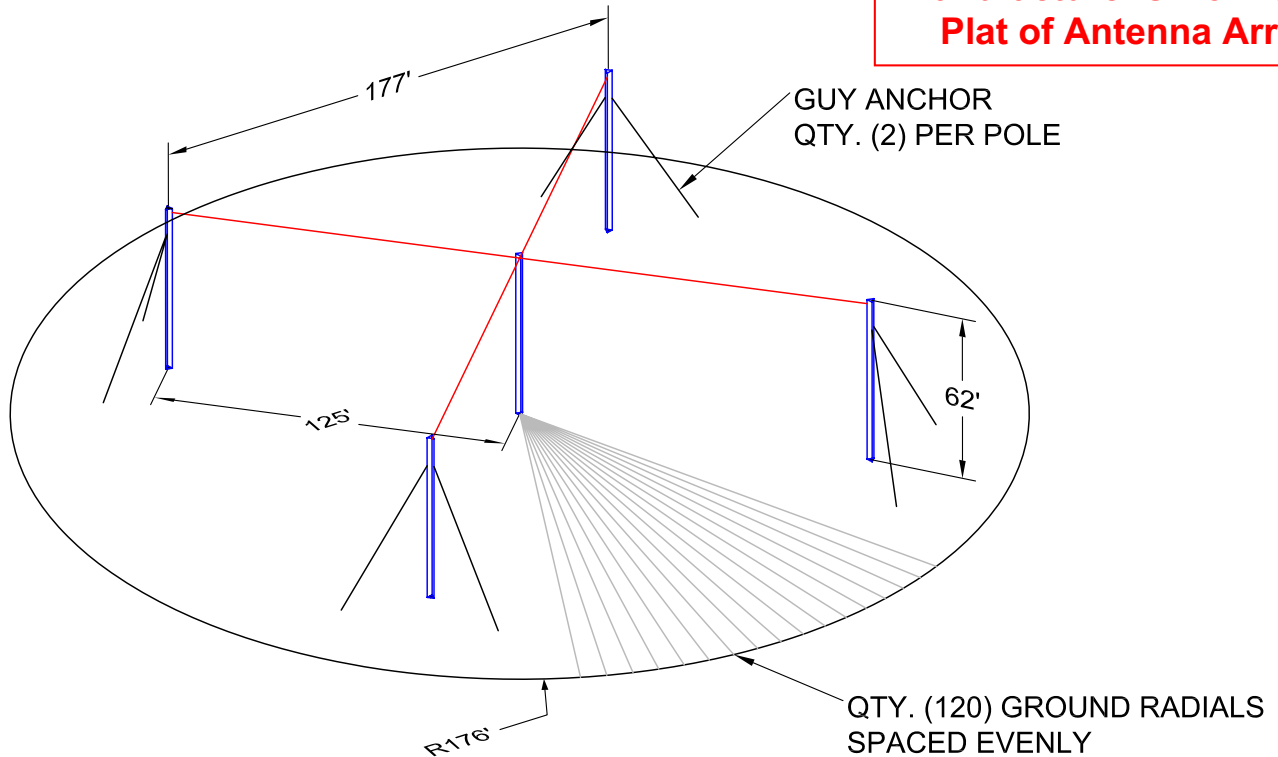
NL: 42° 20' 55"

WL: 122° 54' 51"



**MUNN-REESE, INC.**  
Broadcast Engineering Consultants  
Coldwater, MI 49036

**Exhibit 12.3 - Copy of  
Manufacturer's Horizontal  
Plat of Antenna Array**



**KINTRONIC LABORATORIES INC.**  
BLUFF CITY, TN.

TYPICAL KINSTAR ANTENNA LAYOUT  
WITH PHYSICAL DIMENSIONS  
FREQ. = 1,400 KHz

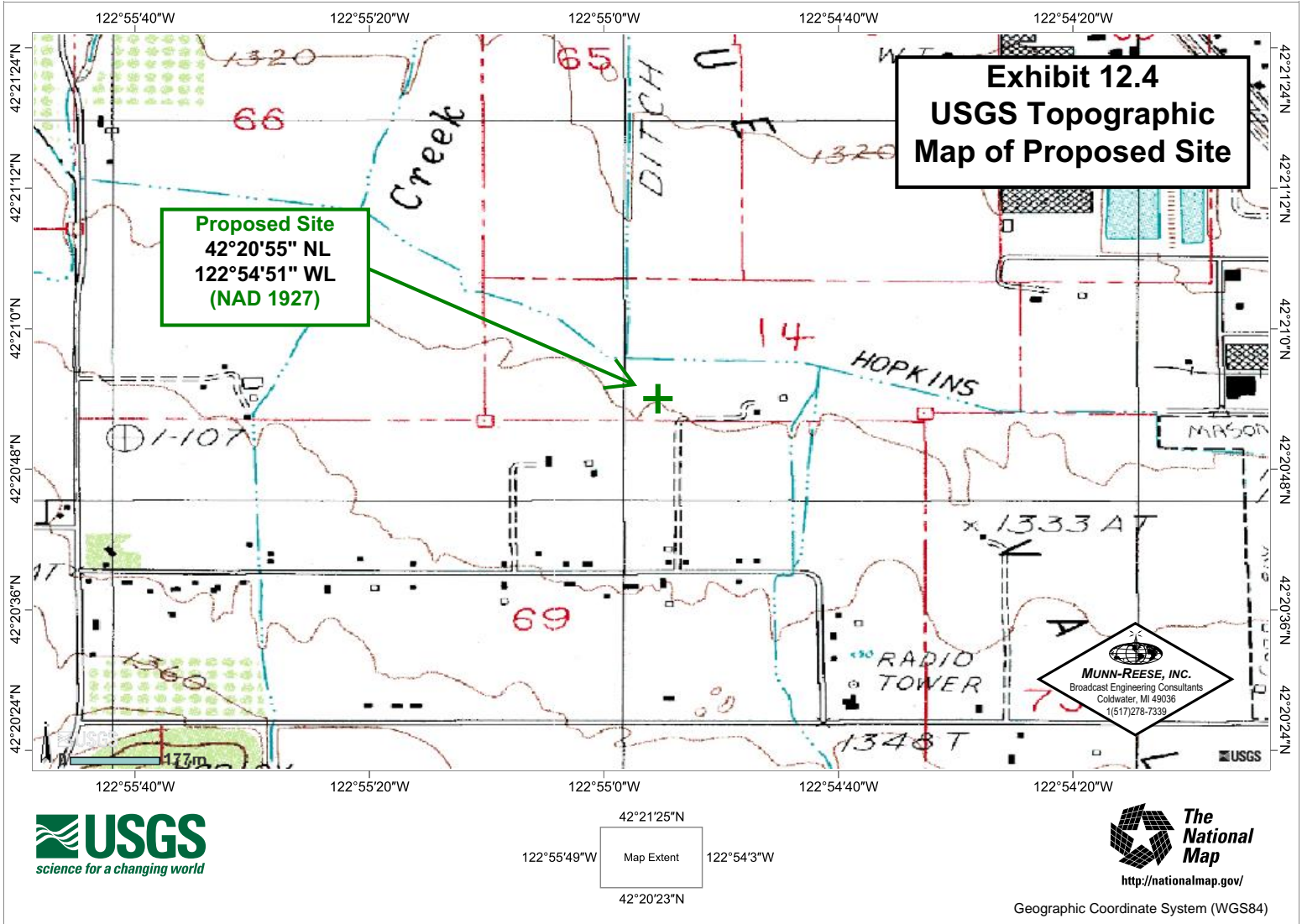
REF DWG:	DRAWN:	DESIGNED:
	SCD	B. COX
REV:	CHECKED:	APPROVED:
1-28-10		
DWG NO:	DATE:	SCALE:
A-5471(1400)	1-09-09	N. A.

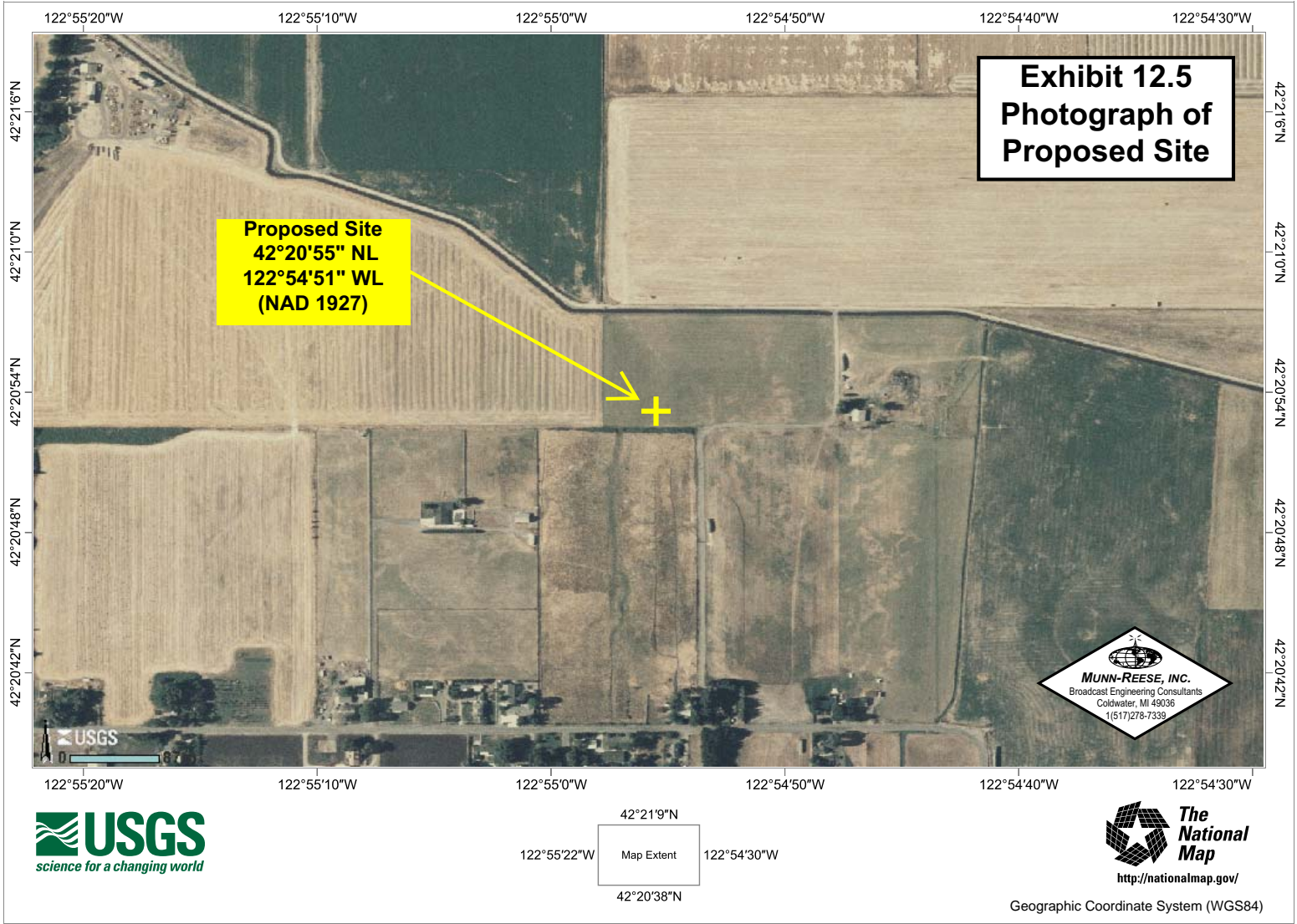
**NOTES:**

1. ALL DIMENSIONS ARE APPROXIMATE
2. SYSTEM SCALED FOR 1400kHz
3. MINIMUM TOWER HEIGHT SHOWN

The proposed ground system will consist of 120 buried copper radials, extending 53.6 meters (176 feet) in length, or 90.0° in electrical length, about the base of the tower. The material used for the radials will be #10 AWG, soft drawn copper wire or equivalent.







KFJL.C  
BMP-20091118AGY  
Freq: 1400 kHz  
Class: C  
Latitude: 42-20-55 N  
Longitude: 122-54-51 W  
Power: 1 kW  
RMS: 312.749 mV/m @1km  
# Towers: 1

5.0 mV/m  
Total Population: 130,009  
Coverage Area: 535 sq. km

2.0 mV/m  
Total Population: 158,318  
Coverage Area: 1,249 sq. km

0.5 mV/m  
Total Population: 238,529  
Coverage Area: 4,258 sq. km

KFJL.P  
Proposed Operation  
Freq: 1400 kHz  
Class: C  
Latitude: 42-20-55 N  
Longitude: 122-54-51 W  
Power: 1 kW  
RMS: 300 mV/m @1km  
# Towers: 1

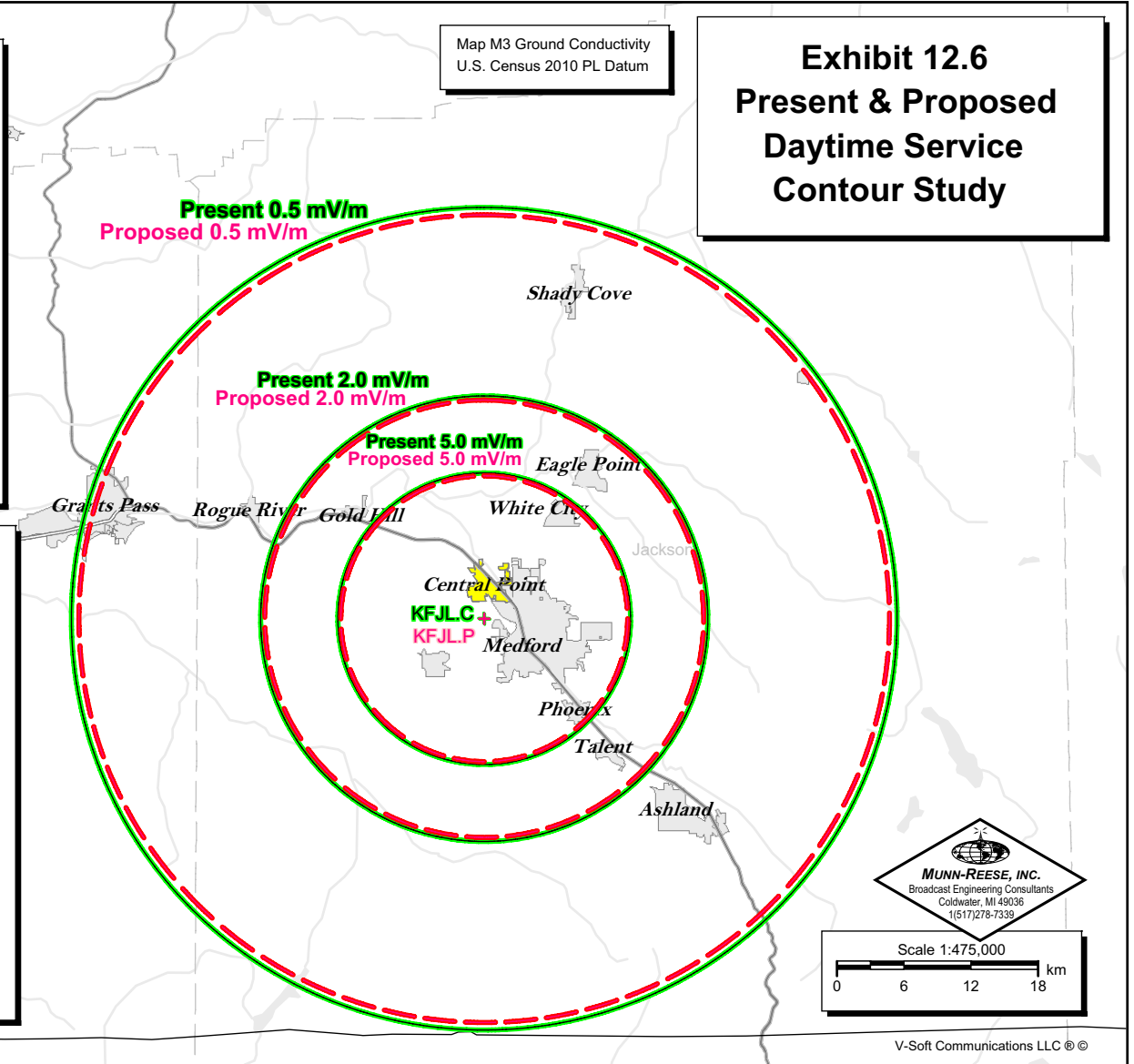
5.0 mV/m  
Total Population: 129,459  
Coverage Area: 514 sq. km

2.0 mV/m  
Total Population: 157,361  
Coverage Area: 1,203 sq. km

0.5 mV/m  
Total Population: 232,126  
Coverage Area: 4,104 sq. km

Map M3 Ground Conductivity  
U.S. Census 2010 PL Datum

## Exhibit 12.6 Present & Proposed Daytime Service Contour Study





KFJL.C  
BMP-20091118AGY  
Freq: 1400 kHz  
Class: C  
Latitude: 42-20-55 N  
Longitude: 122-54-51 W  
Power: 1 kW  
RMS: 312.749 mV/m @1km  
# Towers: 1

22.4 mV/m N.I.F. Contour  
(Nighttime Interference Free)

Total Population: 72,759  
Coverage Area: 107 sq. km

KFJL.P  
Proposed Operation  
Freq: 1400 kHz  
Class: C  
Latitude: 42-20-55 N  
Longitude: 122-54-51 W  
Power: 1 kW  
RMS: 300 mV/m @1km  
# Towers: 1

22.4 mV/m N.I.F. Contour  
(Nighttime Interference Free)

Total Population: 70,143  
Coverage Area: 101 sq. km

Map M3 Ground Conductivity  
U.S. Census 2010 PL Datum

## Exhibit 12.7 Present & Proposed Nighttime Service Contour Study

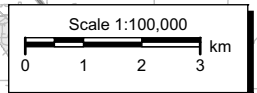
Present 22.4 mV/m N.I.F.  
Proposed 22.4 mV/m N.I.F.

Central Point

KFJL.C+  
KFJL.P

Medford

Jacksonville



V-Soft Communications LLC ©

KFJL.C  
BMP-20091118AGY  
Freq: 1400 kHz  
Class: C  
Latitude: 42-20-55 N  
Longitude: 122-54-51 W  
Power: 1 kW  
RMS: 312.749 mV/m @1km  
# Towers: 1  
# Aucs: 0

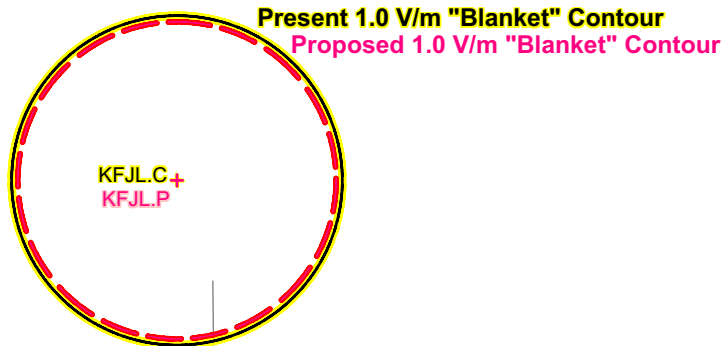
1.0 V/m "Blanket" Contour  
Total Population: None

KFJL.P  
Proposed Operation  
Freq: 1400 kHz  
Class: C  
Latitude: 42-20-55 N  
Longitude: 122-54-51 W  
Power: 1 kW  
RMS: 300 mV/m @1km  
# Towers: 1

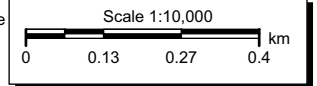
1.0 V/m "Blanket" Contour  
Total Population: None

Map M3 Ground Conductivity  
U.S. Census 2010 PL Datum

## Exhibit 12.8 Present & Proposed Daytime / Nighttime 1.0 V/m "Blanket" Contour Study



"+" Represents U.S. Census 2010 - Population Centroid Datum (PL)



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