

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION KVOS-DT (FACILITY ID 35862)
BELLINGHAM, WASHINGTON

JANUARY 3, 2006

CH 35 580 KW (MAX-DA) 799 M

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION KVO5-DT (FACILITY ID 35862)
BELLINGHAM, WASHINGTON
CH 35 580 KW (MAX-DA) 799 M

Table of Contents

Technical Narrative

Figure 1	Proposed Transmitter Site
Figure 2	Proposed Antenna and Supporting Structure
Figure 3	Predicted FCC Coverage Contours
Figure 4	Antenna Patterns

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION KVOS-DT (FACILITY ID 35862)
BELLINGHAM, WASHINGTON
CH 35 580 KW (MAX-DA) 799 M

Technical Narrative

This Technical Exhibit supports a minor modification application for digital television station KVOS-DT on channel 35 at Bellingham, Washington. Station KVOS-DT is authorized to operate with a non-directional antenna visual effective radiated power (ERP) of 612.2 kW and an antenna height above average terrain (HAAT) of 716 meters (BPCDT-19991101AGI).

This application proposed to change transmitter site, employ a directional antenna, increase antenna height and reduce ERP. There is no proposed change in channel (35) or city of license (Bellingham). The proposed site coordinates are (NAD27): 48-40-50 N, 122-50-22 W. A directional antenna maximum ERP of 580 kW and antenna HAAT of 799 meters are proposed.

The proposed KVOS DTV service contour covers less geographical area than the KVOS allotted service contour. Specifically, the allotment encompasses 47,500 square kilometers while the proposed operation encompasses 46,000 square kilometers. Thus, the proposal complies with Section 73.622(f)(5) concerning maximum power and antenna heights.

The proposed facility will not result in any extension of the authorized noise-limited contour as shown in Figure 3. Therefore, the proposal meets the terms of the FCC Filing Freeze for digital television stations.¹

¹ See August 2004 Filing Freeze PN, DA 04-2446 (MB released Aug. 3, 2004).

The proposed antenna structure is being registered with the FCC. Once a registration number is assigned, the FCC will be notified. The FAA has already issued a Determination of No Hazard in aeronautical study number 2003-ANM-2385-OE.

Allocation Considerations

An interference analysis using the provisions of the FCC’s OET-69 program was conducted. The OET-69 results indicate that only “de minimis” interference will be caused to any station. The results are shown below:

<u>Ch.</u>	<u>Call</u>	<u>City</u>	<u>St</u>	<u>Status</u>	<u>Application Ref. No.</u>	<u>Before</u>	<u>After</u>	<u>Baseline</u>	<u>Change</u>	<u>%</u>
20	KTBW-TV	TACOMA	WA	LIC	BLCT -19840409KG	There is no interference to station 1				
34	951122KT	Bellingham	WA	APP	BPET -19951122KT	101,434	59,884	246,528	-41,550	-16.85%
34	950908KG	Bellingham	WA	APP	BPET -19950908KG	14,492	10,888	320,302	-3,604	-1.13%
35	KORK-CA	Portland	OR	LIC	BLTTA -20020722ABG	There is no interference to station 4				
35	KORK-CA	Portland	OR	CP	BLTTA -20040604ACO	There is no interference to station 5				
35	KAPP	YAKIMA	WA	LIC	BLCT -2022	There is no interference to station 6				
36	KSTW-DT	TACOMA	WA	PLN	DTVPLN -DTVP1038	13,236	13,643	3,013,894	407	0.01%
36	KSTW	TACOMA	WA	LIC	BLCDT -20050509ABV	15,521	14,458	3,013,894	-1,063	-0.04%

The closest FCC monitoring station is at Ferndale, Washington, approximately 37 kilometers to the northeast. A signal of 90.4 dBu (33.1 mV/m) is proposed at the monitoring station. While this exceeds the FCC limit of 80 dBu (10 mV/m) it is less than both the allotted and licensed (analog) facilities. The DTV allotment for KVOS-DT would radiate a signal of 91.6 dBu (37.8 mV/m) while the currently licensed analog facility radiates a level of 94.4 dBu (52.2 mV/m). All calculations were based on the standard FCC F(50,50) propagation curves.

Environmental Considerations

An evaluation was conducted for the proposed facility concerning compliance with Section 1.1307(b) of the FCC Rules regarding human exposure to radio frequency (RF) energy.² Calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01)

² See FCC Office of Engineering and Technology Bulletin No. 56 for background information on non-ionizing RF energy of the type discussed here. Internet web reference:
http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

indicate that the proposal will not result in human exposure to RF radiation at ground level in excess of FCC standards. Power density calculations were conducted at 2-m above ground³ based on the following conservative assumptions, with the following results:

Call Sign	Channel	Total Peak ERP (kW)	Relative Field Factor ⁴	FCC Limit ⁵ (mW/cm ²)	Percentage of Limit
KVOS-DT	35	580	0.1	0.4	2.4%

As indicated above, the total exposure to RF radiation at 2-m above ground level will not exceed 5% of the FCC limit for general population / uncontrolled exposure. Therefore, the proposal complies with the FCC limits for human exposure to RF energy.

The applicant, in coordination with other users of the transmission facility, shall reduce power or cease operation as necessary to protect persons having access to the KVOS-DT tower or antenna from radio frequency radiation in excess of the FCC guidelines.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.



Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941) 329-6000

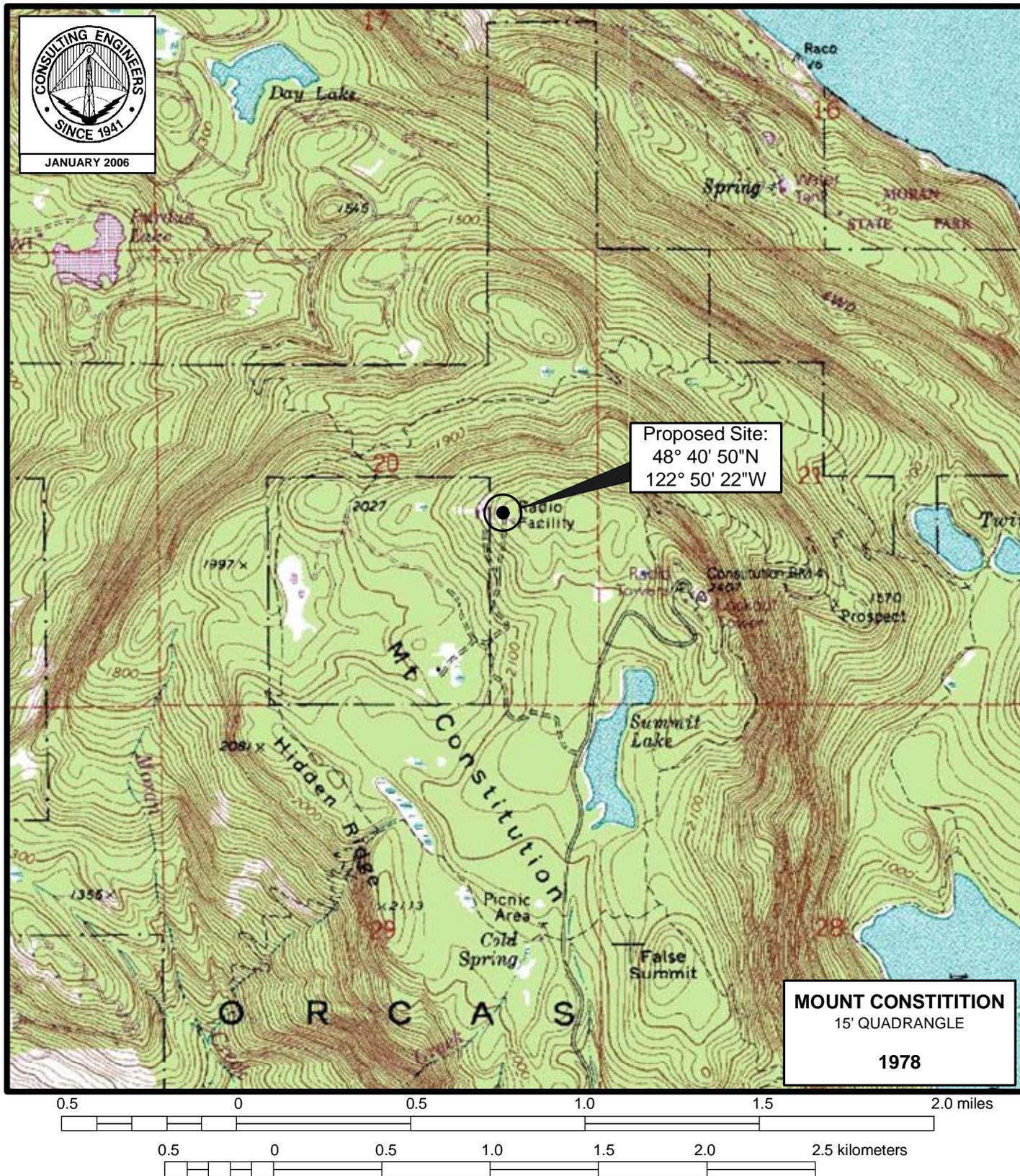
January 3, 2006

³ The antenna radiation center height above ground is 143 m.

⁴ See attached Figure 4

⁵ For general population/uncontrolled environments

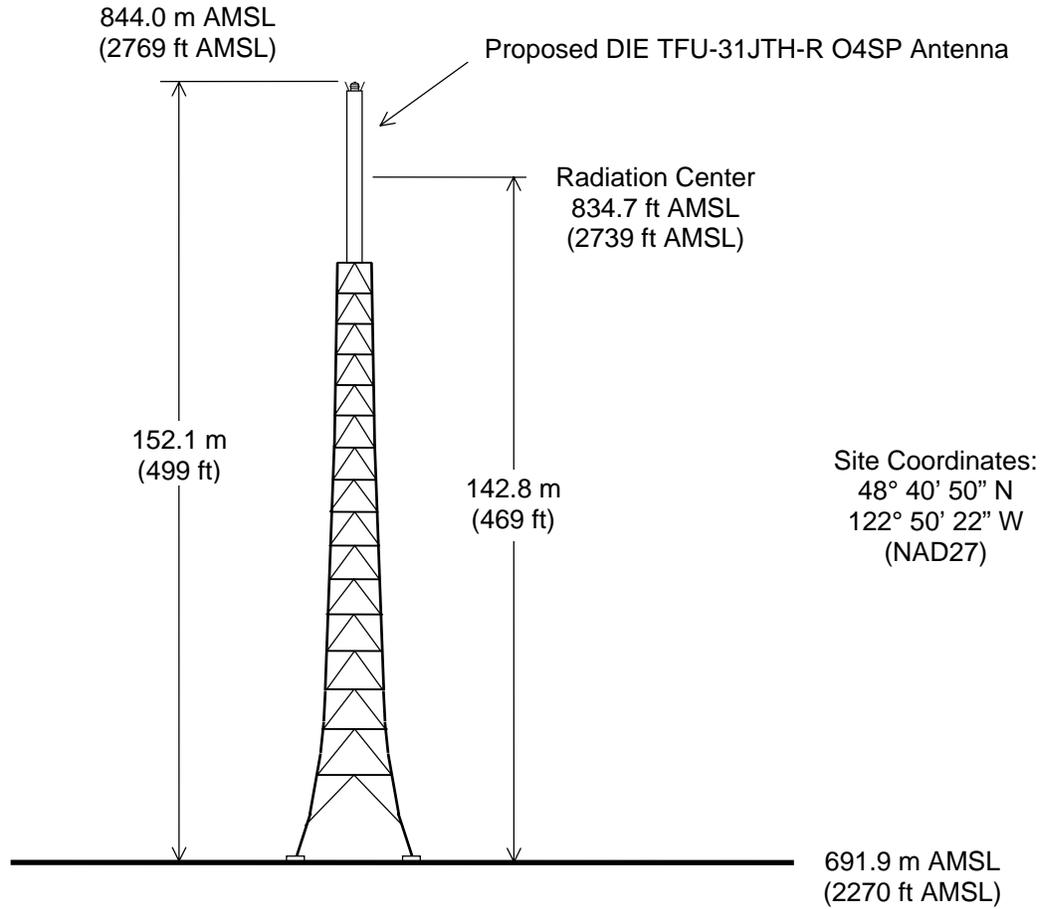
Figure 1



PROPOSED TRANSMITTER SITE

STATION KVOS-DT
BELLINGHAM, WASHINGTON
CH 35 580 KW (MAX-DA) 799 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



Not to Scale

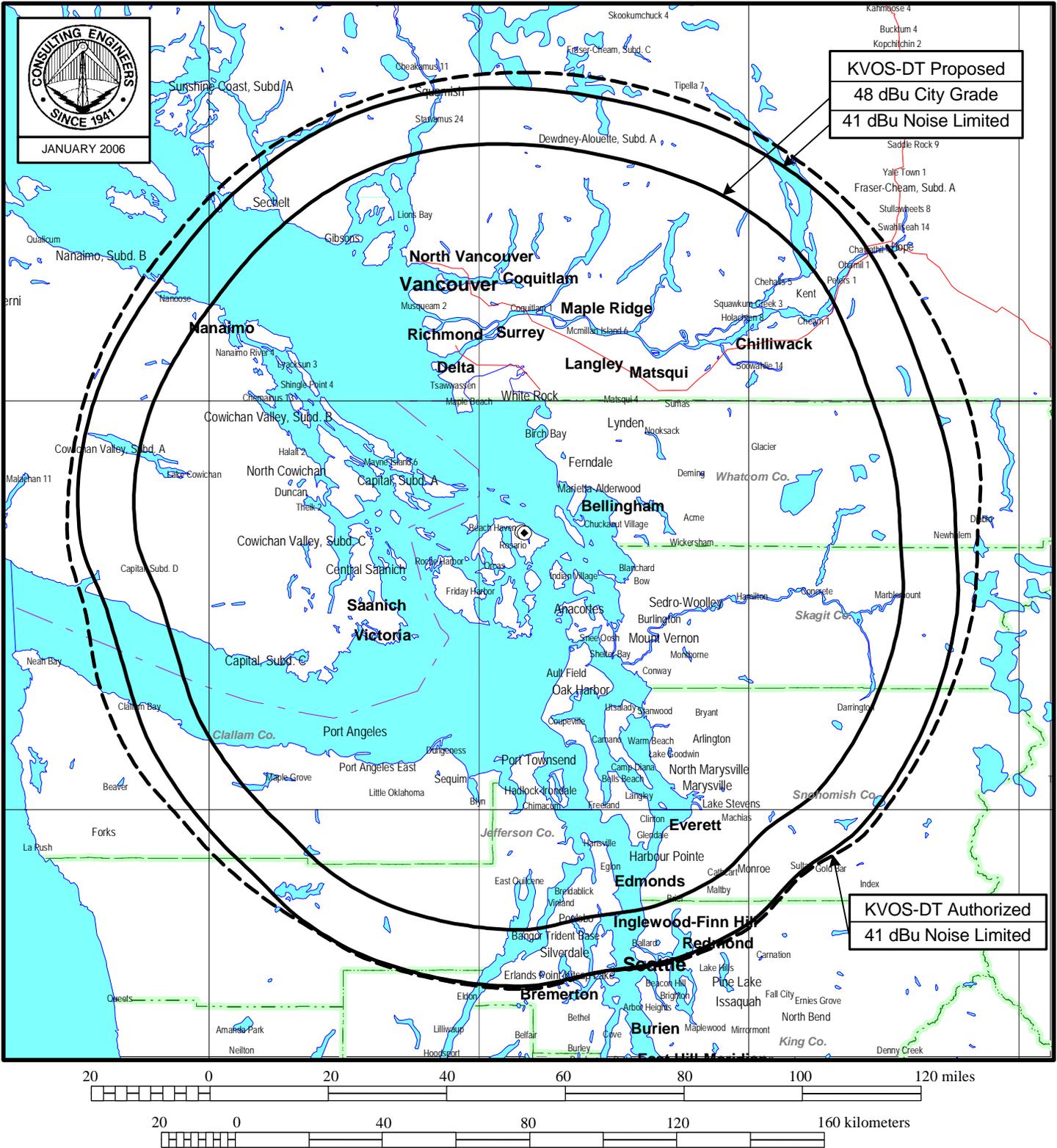
PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION KVOS-DT

BELLINGHAM, WASHINGTON

CH 35 580 KW (MAX-DA) 799 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



PREDICTED COVERAGE CONTOURS

STATION KVOS-DT

BELLINGHAM, WASHINGTON

CH 35 580 KW (MAX-DA) 799 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida

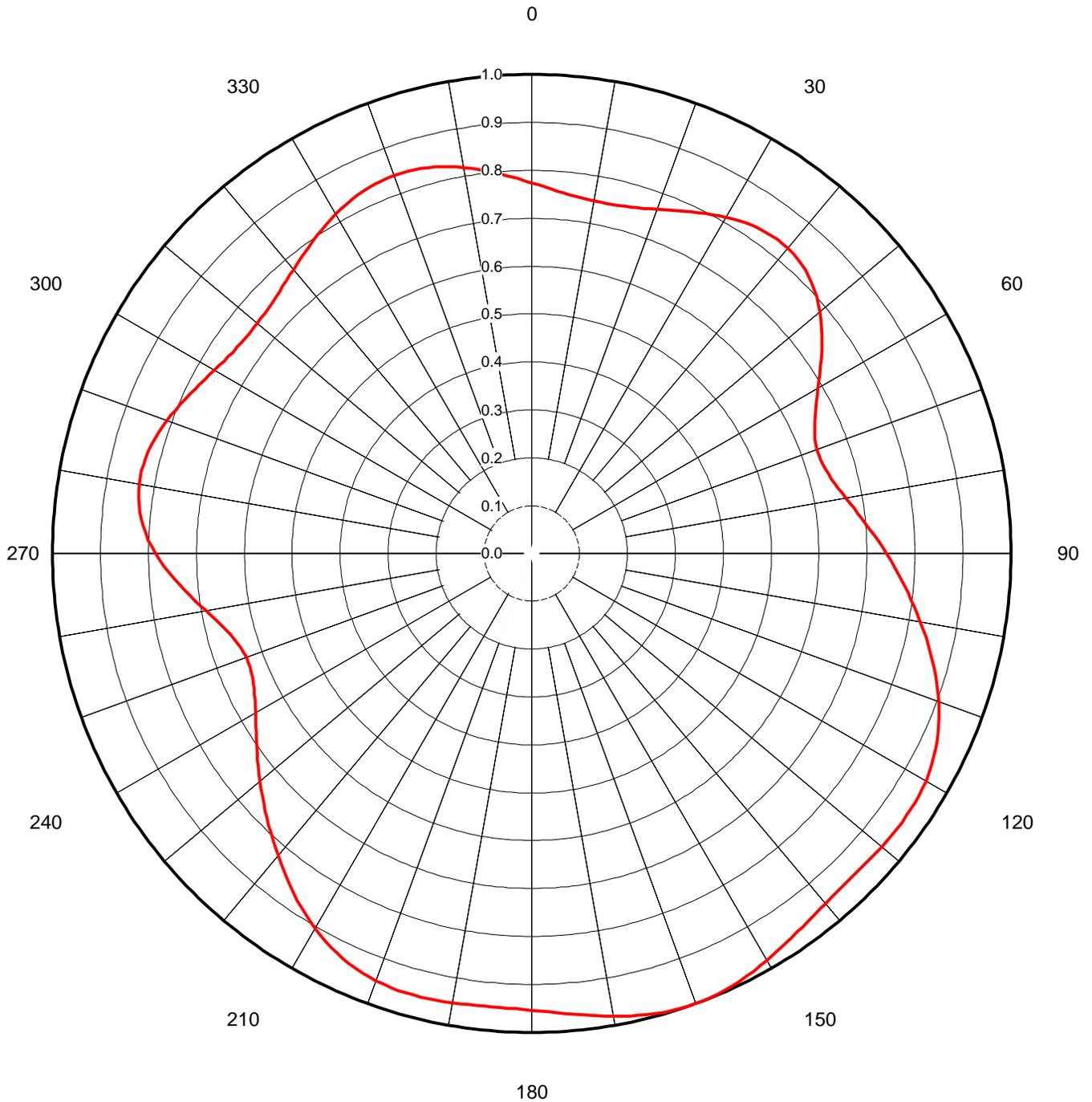
Figure 4A



Proposal Number	DCA-11143	Revision:	2
Date	2-Nov-05		
Call Letters	KVOS-DT	Channel	35
Location	Bellingham, WA		
Customer	Clear Channel		
Antenna Type	TFU-31JTH-R O4SP		

AZIMUTH PATTERN

Gain	1.50	(1.76 dB)	Frequency	599.00 MHz
Calculated / Measured		Calculated	Drawing #	TFU-O4SP-5990





Proposal Number **DCA-11143** Revision: **2**
Date **2-Nov-05**
Call Letters **KVOS-DT** Channel **35**
Location **Bellingham, WA**
Customer **Clear Channel**
Antenna Type **TFU-31JTH-R O4SP**

ELEVATION PATTERN

RMS Gain at Main Lobe	29.00 (14.62 dB)	Beam Tilt	1.00 deg
RMS Gain at Horizontal	10.40 (10.17 dB)	Frequency	599.00 MHz
Calculated / Measured	Calculated	Drawing #	31J290100



Figure 4C



Proposal Number **DCA-11143** Revision: **2**
Date **2-Nov-05**
Call Letters **KVOS-DT** Channel **35**
Location **Bellingham, WA**
Customer **Clear Channel**
Antenna Type **TFU-31JTH-R O4SP**

ELEVATION PATTERN

RMS Gain at Main Lobe	29.00 (14.62 dB)	Beam Tilt	1.00 deg
RMS Gain at Horizontal	10.40 (10.17 dB)	Frequency	599.00 MHz
Calculated / Measured	Calculated	Drawing #	31J290100-90

