

EXHIBIT A

ENGINEERING STATEMENT

This engineering data contained herein have been prepared on behalf of CHRISTIAN BROADCASTING, INC., applicant for a new non-commercial FM station on Channel 214C1 in Fairbanks, Alaska.

It is proposed to mount a five-bay circularly polarized half-wave-spaced omnidirectional FM antenna at the 15.2-meter level of an existing 30.5-meter tower located on Ester Dome near Fairbanks. The proposed effective radiated power is 10 kW (H,V). The predicted 60 dBu service contour of the proposed facility is plotted in Exhibit B. As shown, the 60 dBu contour fully encompasses Fairbanks, the proposed city of license. It is important to note that we used the FCC 30-meter terrain database and 360 azimuths to calculate all contours associated with this application. In addition, we employed the 2010 U.S. database to calculate population within the predicted service contour.

An elevation pattern for a typical 5-bay half-wave-spaced antenna is provided in Exhibit C.

A contour overlap analysis is provided in Exhibit D. It shows that the proposed Fairbanks NCFM facility meets the FCC's Rules with respect to all co-channel and adjacent-channel stations of concern.

A power density calculation is provided in Exhibit D.

Since no change in the overall height or location of the existing tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the FCC has issued Antenna Structure Registration Number 1200445 to this tower.

EXHIBIT A

I declare, under penalty of perjury, that the foregoing statements and the attached exhibits are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher", with a stylized, elongated final letter.

KEVIN T. FISHER

November 1, 2021

CONTOUR POPULATION
2010 U.S. CENSUS DATA
97,008 (40,738 HOUSEHOLDS)
AREA : 11,390 SQ. KM

SMITH AND FISHER, LLC

PROPOSED FCC 60 DBU
SERVICE CONTOUR

Proposed Site

Ester

Fox

Fairbanks

North Pole

Moose Creek

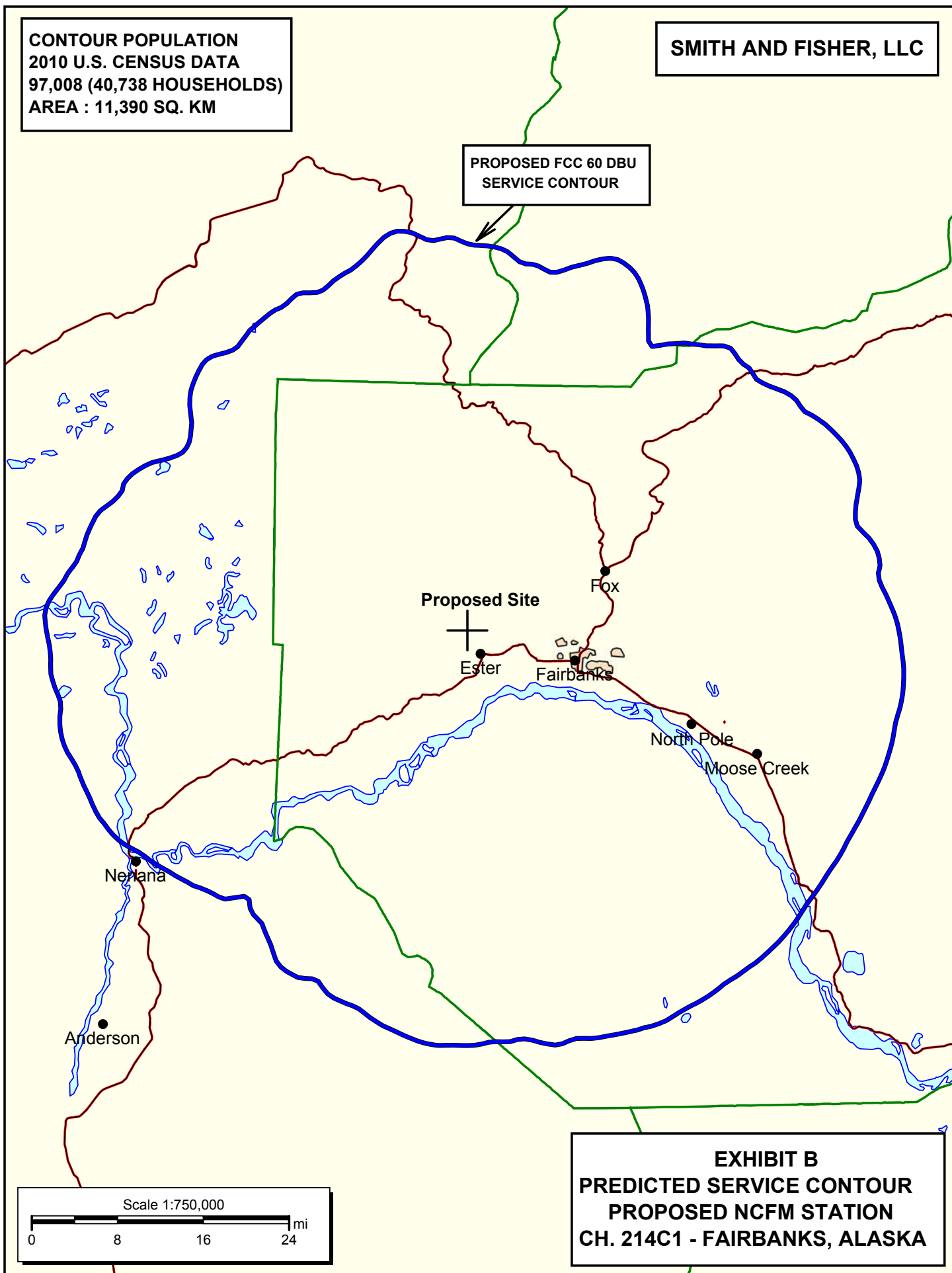
Nerlana

Anderson

Scale 1:750,000

0 8 16 24 mi

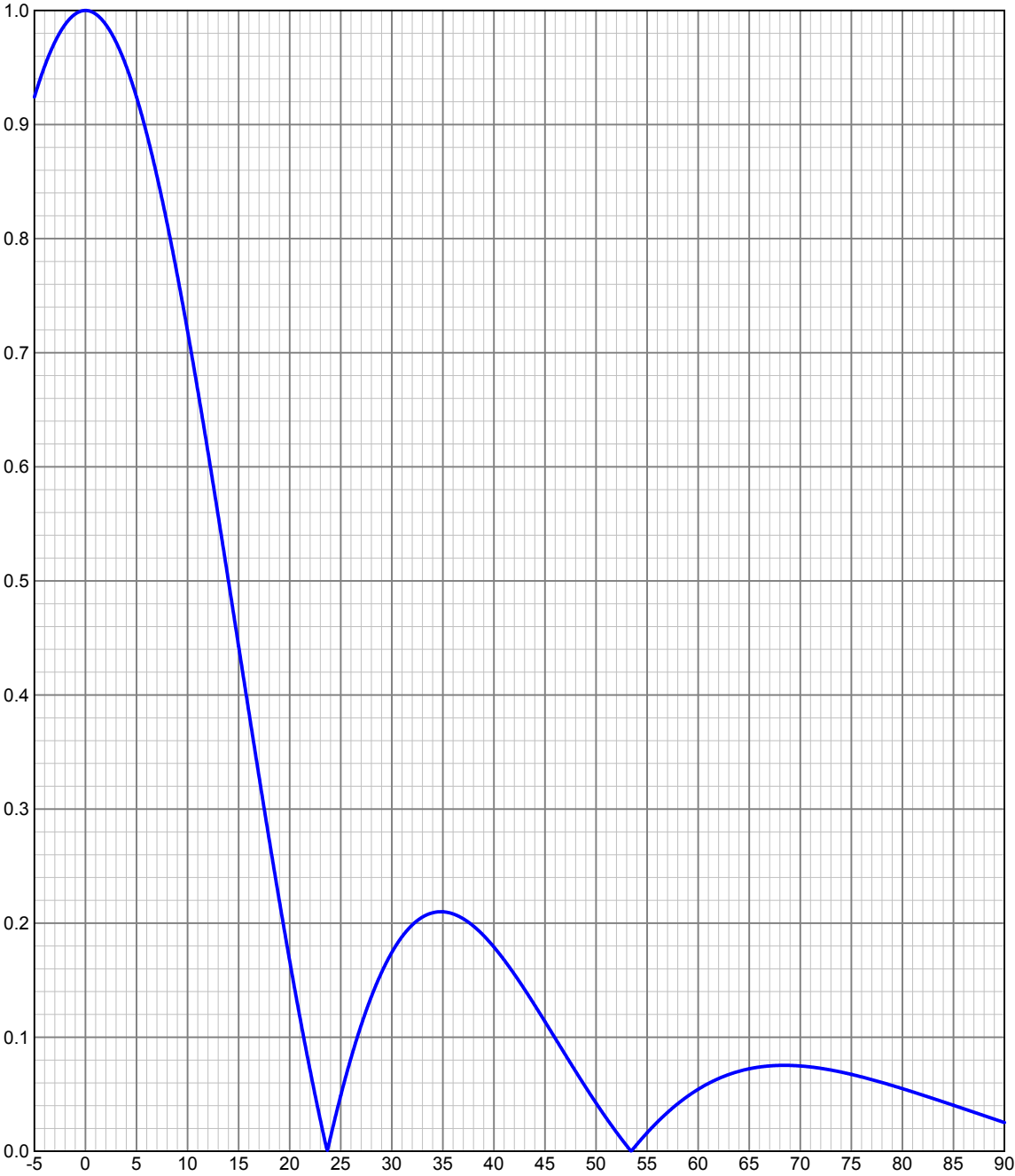
EXHIBIT B
PREDICTED SERVICE CONTOUR
PROPOSED NCFM STATION
CH. 214C1 - FAIRBANKS, ALASKA



ELEVATION PATTERN

Type:	LPX5H		Channel:	214
Directivity:	Numeric	dBd	Location:	
Main Lobe:	1.61	2.07	Beam Tilt:	0.00
Horizontal:	1.61	2.07	Polarization:	Circular

Relative Field



Preliminary, subject to final design and review.

EXHIBIT D

PROPOSED NCFM STATION											
CH. 214C1 - FAIRBANKS, ALASKA											
CH# 214C1 - 90.7 MHz, Pwr= 10 kW, HAAT= 732.0 M, COR= 727 M											
Average Protected F(50-50)= 72.53 km											
Omni-directional											
DISPLAY DATES											
DATA 10-20-21											
SEARCH 10-21-21											

CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kW)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	

212A	KIAO	LIC_CN		127.4	147.42	64 03 24.6	0.460	1.5	30.0	73.6	111.3
Delta Junction		AK		309.6	BLED20120830AHE	145 39 15.4	51	401	Delta Junction	Seventh-Day	

213C3	KXGA	LIC_CN		162.3	322.74	62 06 29.2	3.200	97.6	66.0	152.8	150.6
Glennallen		AK		344.0	BLED19970813KD	146 10 32.8	229	941	Terminal Radio, Inc.		

Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM											
Contour distances are on direct line to and from reference station. Reference zone= , Co to 3rd adjacent.											
All separation margins (if shown) include rounding.											
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)											
« = Station meets FCC minimum distance spacing for its class.											

EXHIBIT E

POWER DENSITY CALCULATION
PROPOSED NCFM STATION
CHANNEL 214C1 (90.7 MHZ) – FAIRBANKS, ALASKA

Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 10.0 kW (H,V), an antenna radiation center 15.2 meters above ground level and the elevation pattern for a typical 5-bay half-wave-spaced FM antenna, maximum power density two meters above ground of 0.056 mW/cm^2 is calculated to occur approximately 19 meters from the base of the supporting structure. Since this RF value is only 5.6 percent of the 1.0 mW/cm^2 reference for controlled environments (areas without public access) surrounding a facility operating in the FM band and since the site is inaccessible to the public, a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation. If the Commission believes that a power density survey of the site is warranted once the new station is constructed, one will be completed by this firm.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing electromagnetic radiation.