



ENGINEERING STUDY

NEW 202C3

Pocatello, ID

IDAHO STATE BOARD OF EDUCATION

Requesting a New facility

Pursuant to MB Docket No. 20-343, DA No. 21-463 (April 21, 2021)

November, 2021

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TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of Idaho State Board of Education, ("Boise State"), in support of a NEW NCE FM radio station on Channel 202C3 to be licensed to the community of Pocatello, Idaho.

TECHNICAL PARAMETERS

Facilities Proposed

Location (NAD83)	42° 55' 15" N Latitude, 112° 20' 47" W Longitude
Channel	202C3 (88.3MHz)
Tower Overall AGL Height-	189.9m
Tower ASR	1012051 (Exhibit D)
Proposed Antenna	2-Bay, Half-Wave spaced EPA Type 3- Non-Directional
Antenna AGL Height-	80m
Site AMSL Height-	1901.3m
COR AMSL Height	1981.3.8m
HAAT	366m
ERP	1kW Non-Directional

BASIS OF CALCULATIONS

All exhibits and calculations in this application were prepared using the USGS National Elevation Dataset (NED) 3 Second US Terrain database unless otherwise noted. Contours are calculated using 72 evenly spaced radials unless otherwise noted. All population calculations were based on the 2010 *Census Block Data* from the US Bureau of Census¹.

POPULATION SERVED

The proposed NCE facility will encompass 3,836 sq. km. total Sq. Km of that, 164.5km is water, therefore, 3,671.5 sq km is the total land-only area. There is a total of 111,044 people (2010 Census).

47 CFR § 73.509 COMPLIANCE

As demonstrated in Exhibit A, the proposed NCE facility will utilize a non-directional antenna and will meet all contour protection requirements toward other stations as specified in 47 CFR § 73.509. Select protection contours are shown in Exhibit A1. A closeup up the protections to/ from KBSY is shown in Exhibit A2. Exhibit A3 shows the Distance to Contour calculations to support contour protection from KBSY interfering 54dBu contour to the proposed 202C3 60dBu contour

There are no allocation issues to any Mexican or Canadian facilities or allotments.

SECTION 307(b) FAIR DISTRIBUTION OF SERVICE ANALYSIS.

As shown in Exhibit B, there are three NCE stations in Pocatello that cover the same area or greater as the proposed facility. Therefore, there are no fair distribution points available for this facility.

¹ As specified in FCC MB DA 21-885, Page 5, 6.

TV CHANNEL 6 PROTECTION

There are no full-power TV6 facilities within 257 km of the proposed facility; therefore, the proposed 207A at Pocatello, ID is compliant with 73.525.

REASONABLE ASSSURANCE

Reasonable assurance for the proposed tower was received by Joe Meleski, an authorized representative of the tower owner, Vertical Bridge Corporation, VP Broadcast Leasing, at (812) 430-3551 or jmeleski@verticalbridge.com

COMMUNITY COVERAGE

As demonstrated in Exhibit C, the proposed facility will cover 100% of Ft. Pocatello, ID in area and population with the 60dBu signal. Pocatello comprises 86 sq km (land area) and as of the 2010 Census the population of the city was 54,255.²

ENVIRONMENTAL CONSIDERATIONS

The proposed antenna will be attached to an existing tower. The tower is owned by Vertical Bridge. The ASR is shown in Exhibit D

The attachment of the proposed antenna will not alter the existing proposed tower structure for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106. There are no other non-excluded RF source located on the tower supporting the proposed antenna.

The proposed antenna will operate at a maximum power level of 1kW ERP and will operate at 80m AGL. Boise State proposes to operate with a 2-bay, half-wave spaced non-directional antenna. Based upon the FCC “FM Model”³ Power Density vs. Distance calculator using a “EPA Type 3, Opposed U Dipole” type antenna setting, the maximum power density at 2m AGL contributed by the

² https://en.wikipedia.org/wiki/Pocatello,_Idaho

³ <https://www.fcc.gov/general/fm-model>

proposed antenna is expected to be $0.98\mu\text{W}/\text{cm}^2$ or 0.5% of the permitted $200\mu\text{W}/\text{cm}^2$ limit for uncontrolled exposure. There are no tall buildings near the proposed tower. There are other non-excluded facilities operating on the proposed tower, however because the contribution of the proposed facility will be under 5% of the maximum allowable NIER, the proposed facility may be considered independently from the other sources.

Based upon the preceding evaluation, the proposed antenna it is believed that the proposed antenna is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

The proposed FM station along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted

A handwritten signature in dark ink, appearing to read "Bert Goldman", with a long, sweeping horizontal line extending to the right.

Bert Goldman
Technical Consultant

EXHIBIT A- ALLOCATION STUDY (LMS)

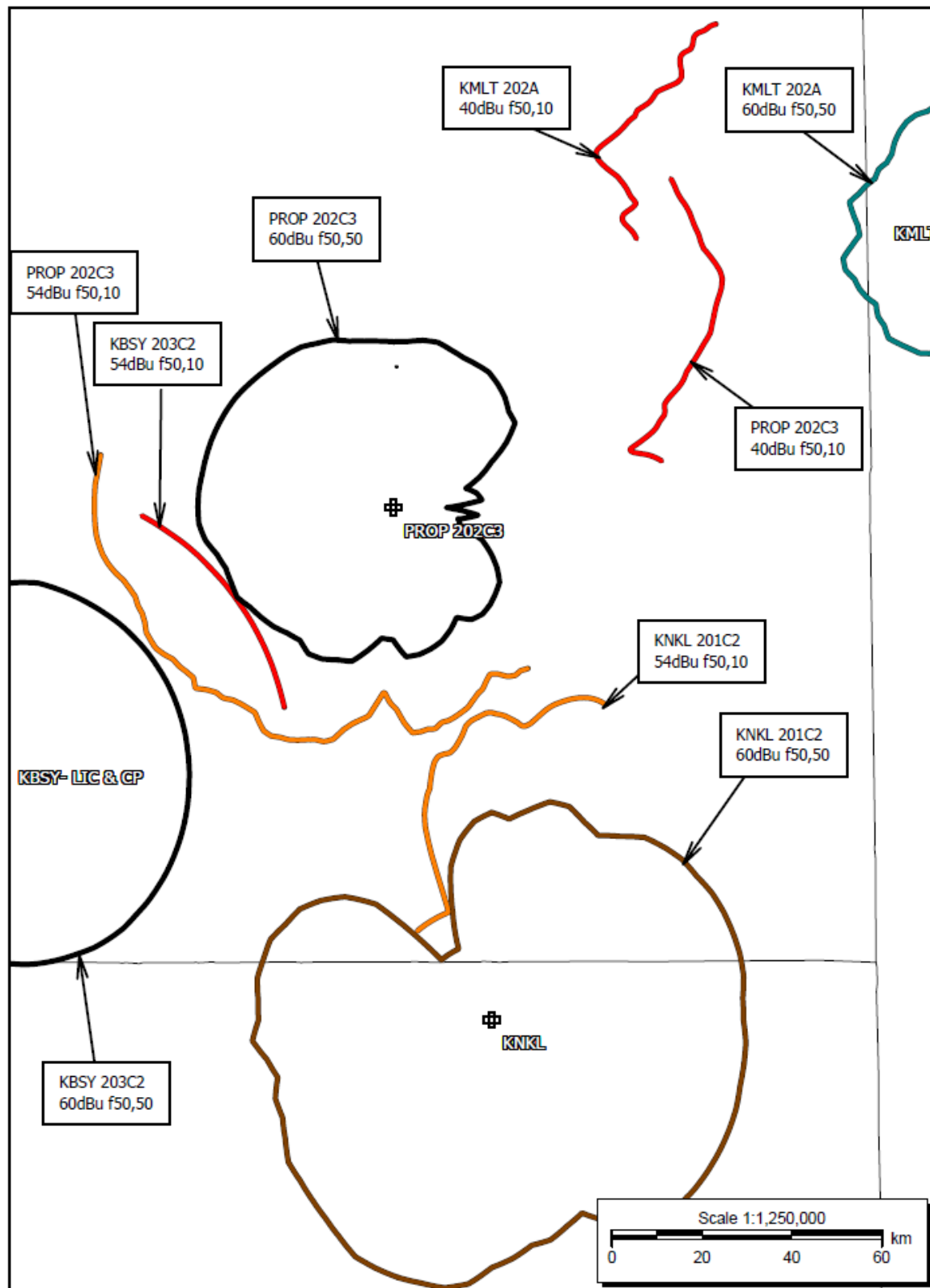
ComStudy 2.2 search of channel 202 (88.3 MHz Class A) at 42-55-15.0 N, 112-20-47.0 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
KBSY-CP	BURLEY	ID 203 C2	110.16	106.00	235.9	0.26 dB Exhibit A1, A2
KBSY	BURLEY	ID 203 C2	110.16	106.00	235.9	0.26 dB Exhibit A1, A2
KNKL	TREMONTON	UT 201 C2	116.02	106.00	169.0	6.64 dB Exhibit A1
KMLT	JACKSON	WY 202 A	142.71	115.00	64.5	7.10 dB Exhibit A1
KTFY	BUHL	ID 201 C1	170.82	133.00	263.5	11.23 dB
KYSK	RIRIE	ID 204 C	120.12	95.00	41.0	14.23 dB
KCPW-FM	SALT LAKE CITY	UT 202 C2	254.92	166.00	175.9	21.21 dB
KDPI	KETCHUM	ID 203 A	186.07	72.00	297.0	25.43 dB
KUAO	NORTH OGDEN	UT 204 C1	147.85	75.00	176.9	27.61 dB
KCPW-FM	SALT LAKE CITY	UT 202 C3	254.92	142.00	175.9	29.28 dB
KEFX	TWIN FALLS	ID 205 C0	170.51	86.00	263.5	30.97 dB

LMS as of 11/5/2021

EXHIBIT A1

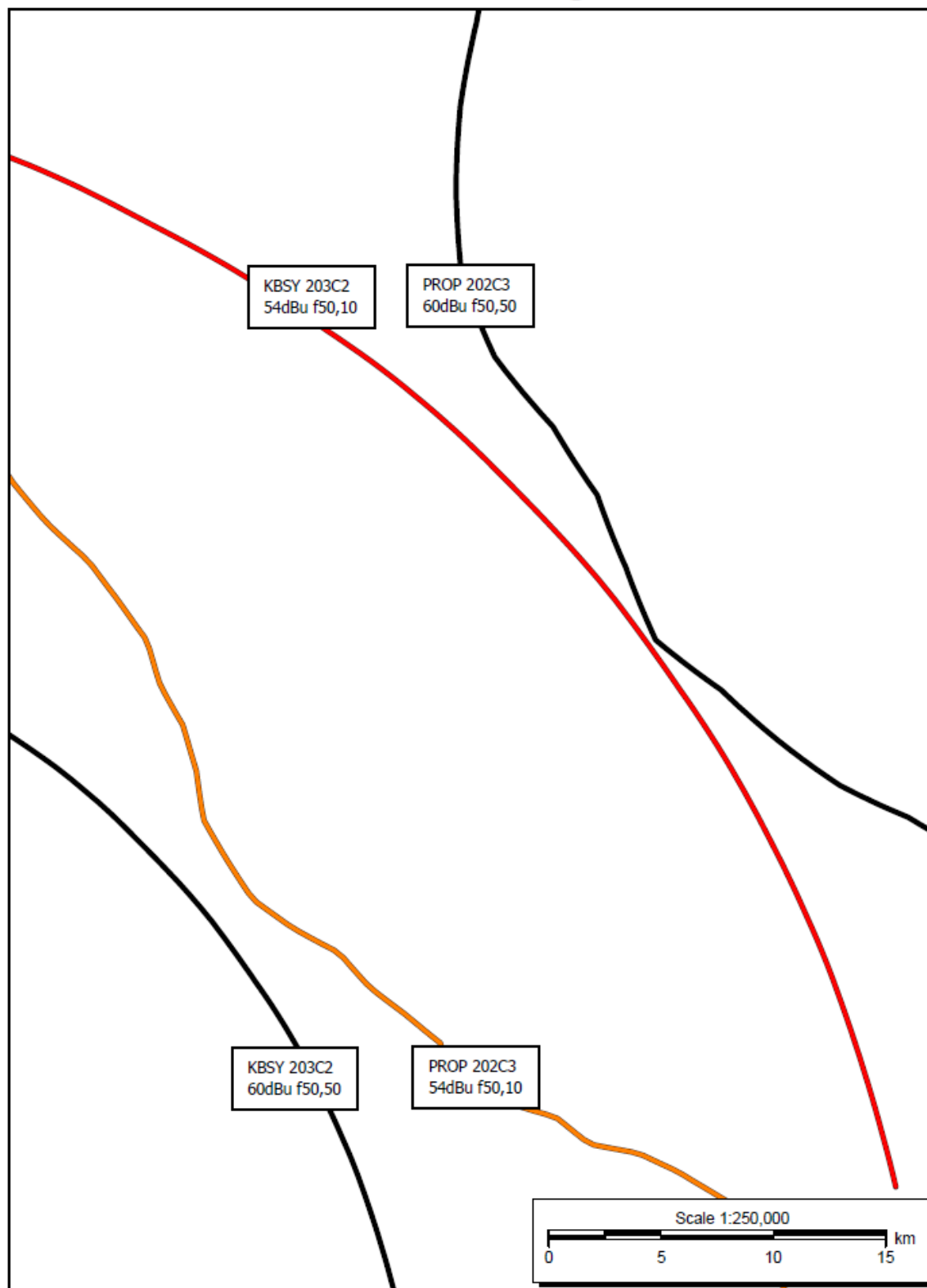
Pocatello, Channel 202C3, 1kW @ 366m HAAT



* Note: KBSY LIC and CP use identical technical facilities

EXHIBIT A2 Closeup KBSY to Proposed 202C3

Pocatello, Channel 202C3, 1kW @ 366m HAAT



* Note: KBSY LIC and CP use identical technical facilities

EXHIBIT A3- Distance to Contour Tables

Distance to Contour Report

PROPOSED 202C3 60dBu f50,50

Type of contour: FCC

Location Variability: 50.0 %

Time Variability: 50.0 %

of Radials Calculated: 72

FCC Matching HAAT Calculation Used

Field Strength: 60.00 dBuV/m

Primary Terrain: NED 3 Second US Terrain

Secondary Terrain: FCC 30 Second US Database

Transmitter Information:

Call Letters: PROP 202C3

File Number: BLFT20150317ABC

Latitude: 42-55-15 N

Longitude: 112-20-47 W

ERP: 1.00 kW

Channel: 202

Frequency: 88.3 MHz

AMSL Height: 1981.3 m

Elevation: 1901.3 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)
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180.0	29.45
185.0	29.17
190.0	32.26
195.0	35.43
200.0	36.08
205.0	37.22
210.0	37.62
215.0	36.11
220.0	36.56
225.0	37.55
230.0	38.20
235.0	38.83
240.0	40.07
245.0	39.74
250.0	39.66
255.0	40.60
260.0	42.45
265.0	43.41
270.0	43.47

Distance to Contour Report

KBSY 54dBu f50,10

Type of contour: FCC

Location Variability: 50.0 %

Time Variability: 10.0 %

of Radials Calculated: 72

FCC Matching HAAT Calculation Used

Field Strength: 54.00 dBuV/m

Primary Terrain: NED 3 Second US Terrain

Secondary Terrain: FCC 30 Second US Database

Transmitter Information:

Call Letters: KBSY- LIC & CP

File Number: 0000117288

Latitude: 42-21-41.70 N

Longitude: 113-27-20 W

ERP: 0.59 kW

Channel: 203

Frequency: 88.5 MHz

AMSL Height: 2191.0 m

Elevation: 2167.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)
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20.0	69.28
25.0	69.28
30.0	69.28
35.0	69.47
40.0	69.75
45.0	69.79
50.0	69.88
55.0	69.82
60.0	69.80
65.0	69.69
70.0	69.51
75.0	69.34
80.0	69.34
85.0	69.34
90.0	69.34

EXHIBIT B- Fair Distribution Exhibit

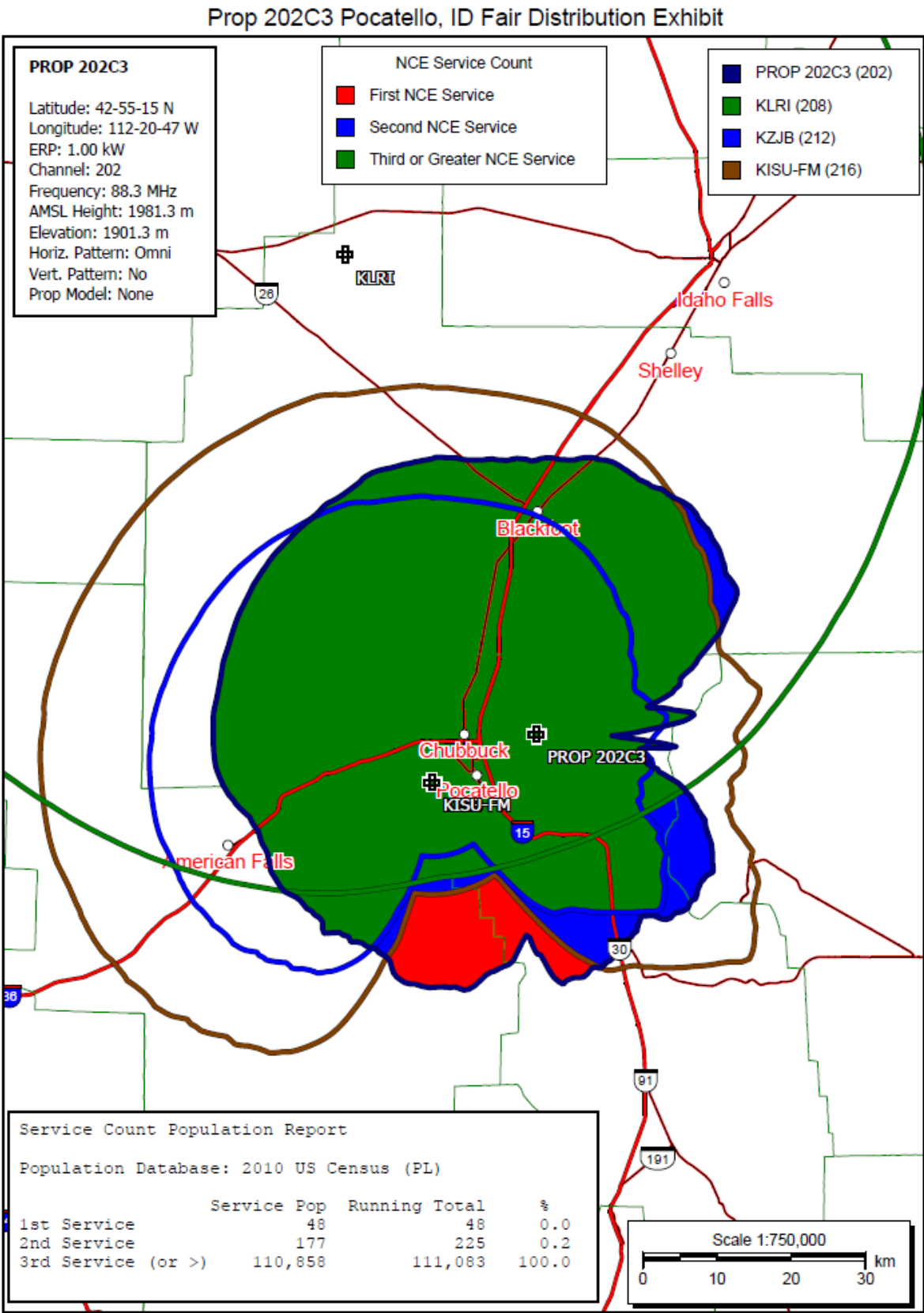


EXHIBIT C Community Coverage

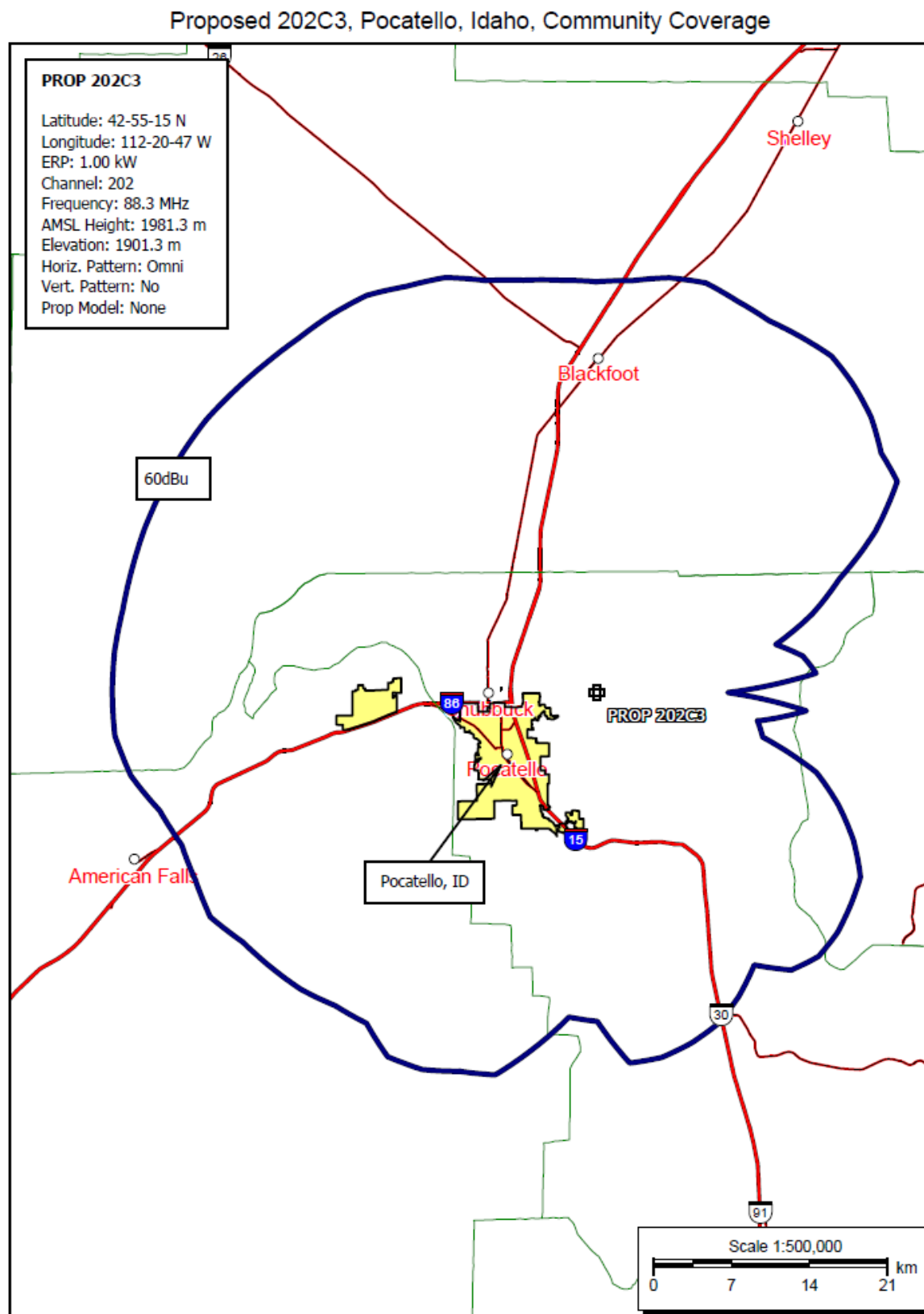


EXHIBIT D, ASR Registration

Registration 1012051

 [Map Registration](#)

Registration Detail			
Reg Number	1012051	Status	Constructed
File Number	A1170676	Constructed	06/05/1973
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	TOWER - Free standing or Guyed Structure used for Commu		
Location (in NAD83 Coordinates)			
Lat/Long	42-55-15.0 N 112-20-47.0 W	Address	5 MI NE
City, State	POCATELLO , ID	County	BANNOCK
Zip	83201	Position of Tower in Array	
Center of AM Array			
Heights (meters)			
Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)		
1901.3	189.9		
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances		
2091.2	188.9		
Painting and Lighting Specifications			
FCC Paragraphs 1, 3, 5, 14, 21			
FAA Notification			
FAA Study		FAA Issue Date	
Owner & Contact Information			
FRN	0026904490	Owner Entity Type	Limited Liability Company
Owner			
VB-S1 Assets, LLC Attention To: Richard Hickey 750 Park of Commerce Dr. Suite 200 Boca Raton , FL 33487		P: (561)406-4105 F: E: fcc-faa@verticalbridge.com	
Contact			
Hickey , Richard Attention To: Richard Hickey 750 Park of Commerce Dr. Suite 200 Boca Raton , FL 33487		P: (561)406-4105 F: E: fcc-faa@verticalbridge.com	