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JOB

Palmer, AK
K208BC
Radio Free Palmer, Inc.
1.4
115083

CONSOLIDATED

ENGINEERING EXHIBIT

FCC Form 349 - Section III-A - Engineering

ENGINEERING STATEMENT
MINOR CHANGE OF LICENSED FM TRANSLATOR
K208BC, PALMER, AK

SUMMARY

Radio Free Palmer (RFP) hereby submits this proposal for a minor-change to K208BC. RFP proposes to move to a site 510 meters NE from the current site, using the same antenna. The ERP and antenna azimuth would also change.

ANTENNA INFORMATION

A Kathrein/Scala HDCA-10/HRM antenna is proposed, aimed at 260 degrees true.

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

EXHIBIT 13

FM OVERLAP REQUIREMENTS

INTERFERENCE PROTECTION

This application meets all requirements of 47 CFR §74.1204 regarding interference protection to other stations and authorizations.

Stations considered:

ID	City	St	Chan	CL	Stat	Prefix	ARN	FID	Dist	Notes
Co-channel										
K208BC	PALMER	AK	208	DX	LIC	BLFT	19860122TA	807	0.51	Current license
KVRF	SUTTON	AK	208	A	LIC	BLED	20110907AAJ	177165	14.53	See below
1st Adjacent Channel										
KATB	ANCHORAGE	AK	207	C2	CP	BPED	20151022AAN	10933	72.81	
KATB	ANCHORAGE	AK	207	C3	LIC	BLED	19930817KB	10933	72.81	
2nd & 3rd Adjacent Channel										
KJLP	PALMER	AK	205	A	LIC	BLED	20050822ANL	91481	0.75	3rd Adj. Protection by Ratio Method
KAUG	ANCHORAGE	AK	210	DM	LIC	BLED	20070827ABI	165582	31.9	
K206AO	EAGLE RIVER	AK	206	DX	LIC	BLFT	20011003AAD	10938	41.2	

As shown by **Exhibit 13a**, nearly all of the licensed coverage contour (in gray) is duplicated by the proposed contour (in red), qualifying this as a minor-change.

Exhibit 13b shows the co-channel contour relationship with KVRF, the only co-channel station within range. KVRF is co-owned with K208BC, and the translator rebroadcasts KVRF. This exhibit shows that no part of the overlap between the K208BC interfering contour, and the KVRF protected contour, occurs over the KVRF community of license.

Exhibits 13c and 13d show that (with the exception of KJLP, Palmer, AK), contour protection is easily provided to all other first, second, and third-adjacent stations.

CONTOUR PROTECTION TO 2nd AND 3rd- ADJACENT STATIONS

Contour protection to 3rd-adjacent station KJLP is provided using the ratio method. The F(50/50) contour of KJLP is 104.0dBu at the proposed translator site. Using the appropriate U/D ratio of 40dB, the corresponding interfering contour of the proposed translator is therefore 144.0dBu. At 65 watts ERP, this contour would extend to a distance of 4 meters from the antenna. The antenna is 10 meters above the ground, therefore no interference will occur in populated areas.

This proposal is exempt from I.F. spacing requirements in that the proposed ERP is less than 100 watts.

MAXIMUM ERP COMPLIANCE

The site is west of the Mississippi River and not in Zone 1-A. Compliance with 74.1235(b)(2), regarding the Maximum Allowable ERP (MAERP) for each of the cardinal radials, is demonstrated below.

Radial (Degrees)	Radial HAAT (m)	ERP (Watts)	MAERP at HAAT (W)
0	-21.5	0.0	250
30	50.6	1.0	250
60	-506.1	2.3	250
90	-829.3	3.1	250
120	-965.8	0.9	250
150	194	0.0	62
180	41.1	0.0	250
210	277.7	0.9	34
240	252.2	40.8	41
260		65.0	75
270	186.6	57.2	75
300	123.6	6.2	170
330	5.4	0.0	250

Exhibit 13a - Proposed vs. Licensed K208BC

Brown Broadcast Services, Inc.
Job: K208BC Move Jan 2016.fmj
Master Database: 2016_Jan_03.fmd
Lat: N61:37:03 Lon: W149:00:36 NAD-27
Scale: 1:150000
Channel: 208 Class: DX

rfInvestigator Version 3.8.13
by rfSoftware, Inc.
Date: 1/19/2016 3:25:16 PM

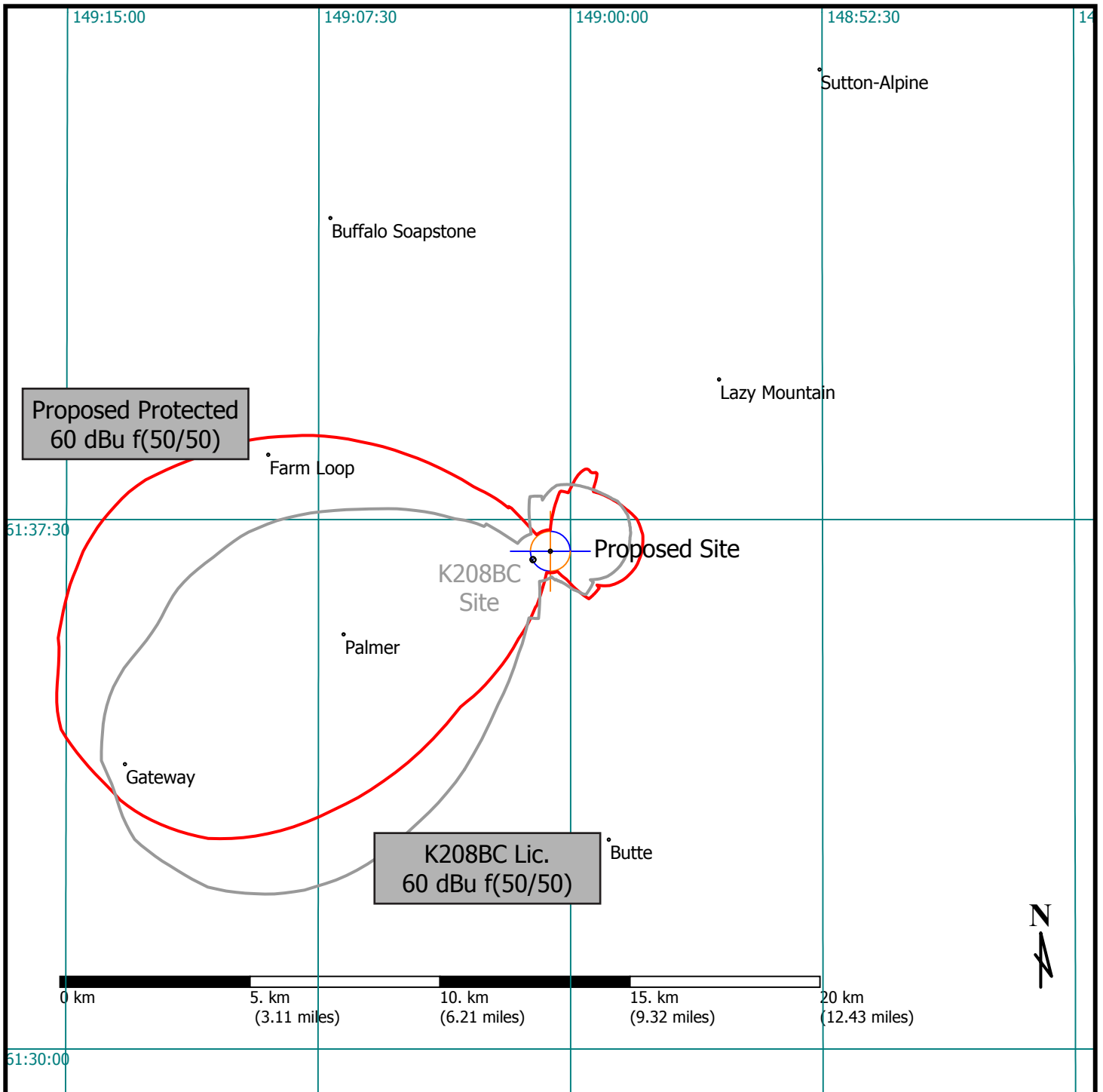


Exhibit 13b - Co-Channel Contour Protection

Brown Broadcast Services, Inc.
Job: K208BC Move Jan 2016.fmj
Master Database: 2016_Jan_03.fmd
Lat: N61:37:03 Lon: W149:00:36 NAD-27
Scale: 1:500000
Channel: 208 Class: DX

PROPOSED
Interfering: 40dBu F(50,10)
AFFECTED
Protected: 60dBu F(50,50)

rfInvestigator Version 3.8.13
by rfSoftware, Inc.
Date: 1/25/2016 5:03:44 PM

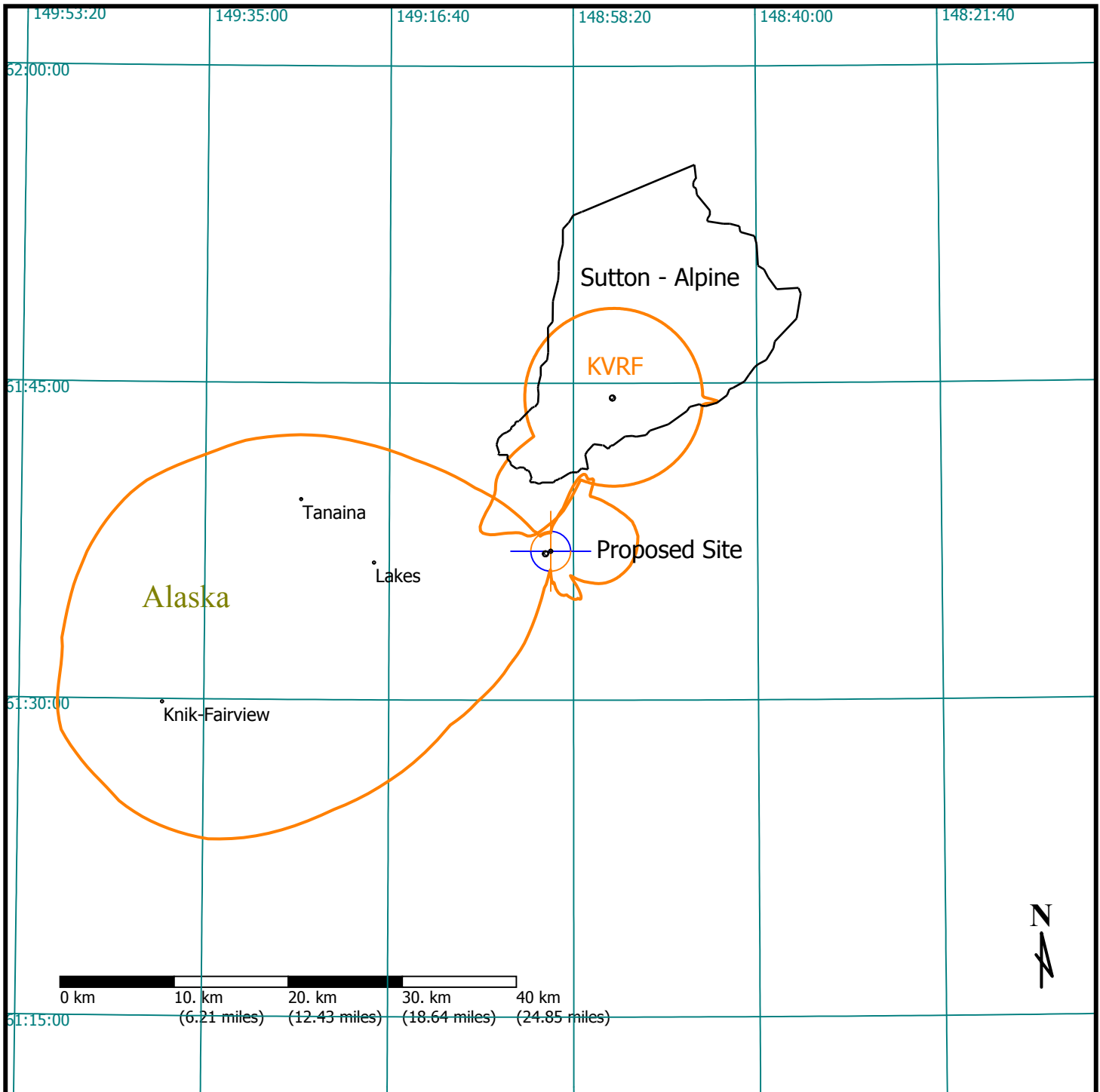


Exhibit 13c - 1st Adjacent Channel Contour Protection

Brown Broadcast Services, Inc.
Job: K208BC Move Jan 2016.fmj
Master Database: 2016_Jan_03.fmd
Lat: N61:37:03 Lon: W149:00:36 NAD-27
Scale: 1:1000000
Channel: 208 Class: DX

PROPOSED
Interfering: 54dBu F(50,10)
AFFECTED
Protected: 60dBu F(50,50)

rfInvestigator Version 3.8.13
by rfSoftware, Inc.
Date: 1/19/2016 6:29:15 PM

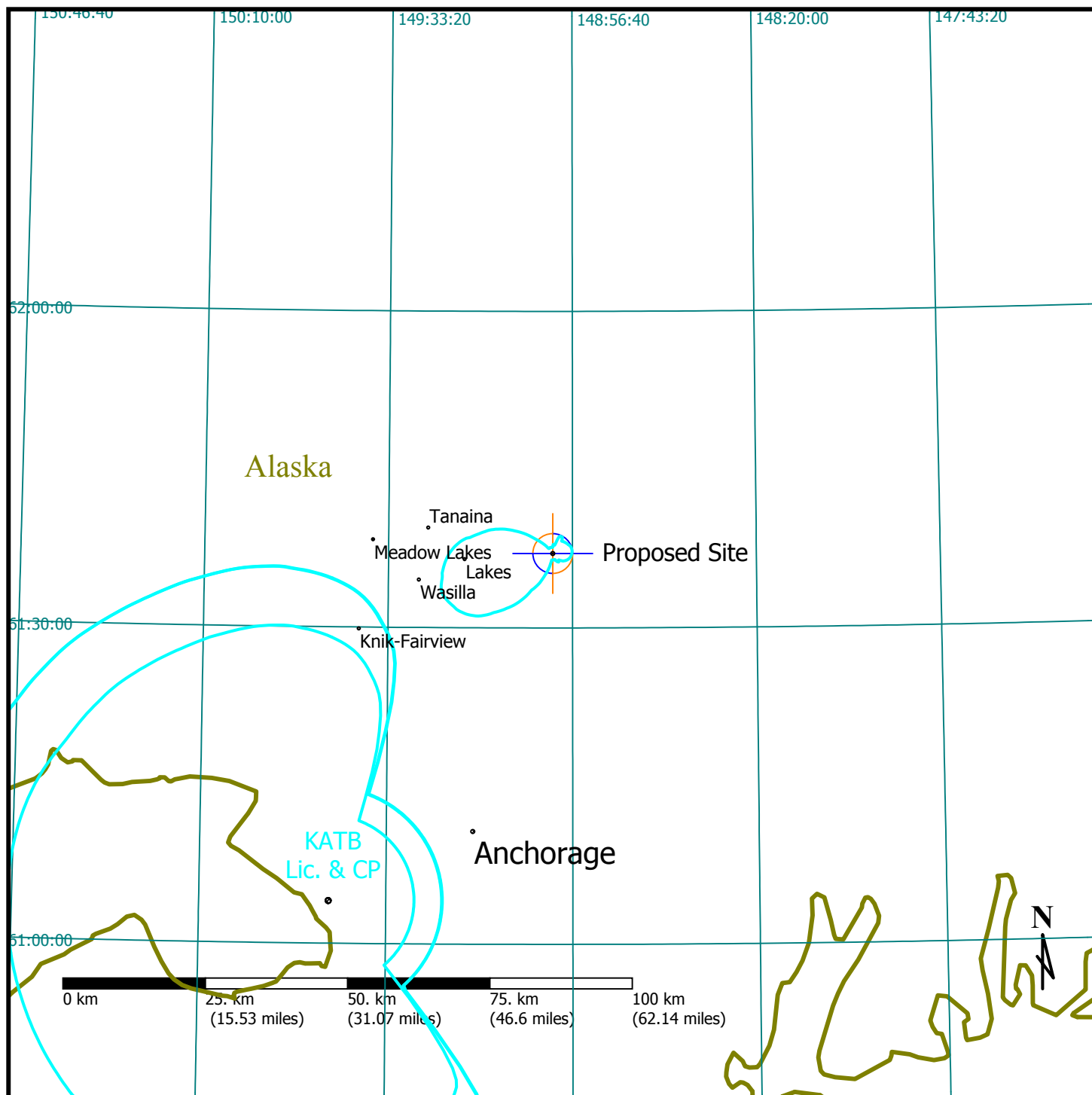


Exhibit 13d - 2nd & 3rd Adjacent Channel Contour Protection

Brown Broadcast Services, Inc.
Job: K208BC Move Jan 2016.fmj
Master Database: 2016_Jan_03.fmd
Lat: N61:37:03 Lon: W149:00:36 NAD-27
Scale: 1:500000
Channel: 208 Class: DX

PROPOSED
Interfering: 100dBu F(50,10)
AFFECTED
Protected: 60dBu F(50,50)

rfInvestigator Version 3.8.13
by rfSoftware, Inc.
Date: 1/19/2016 3:46:44 PM

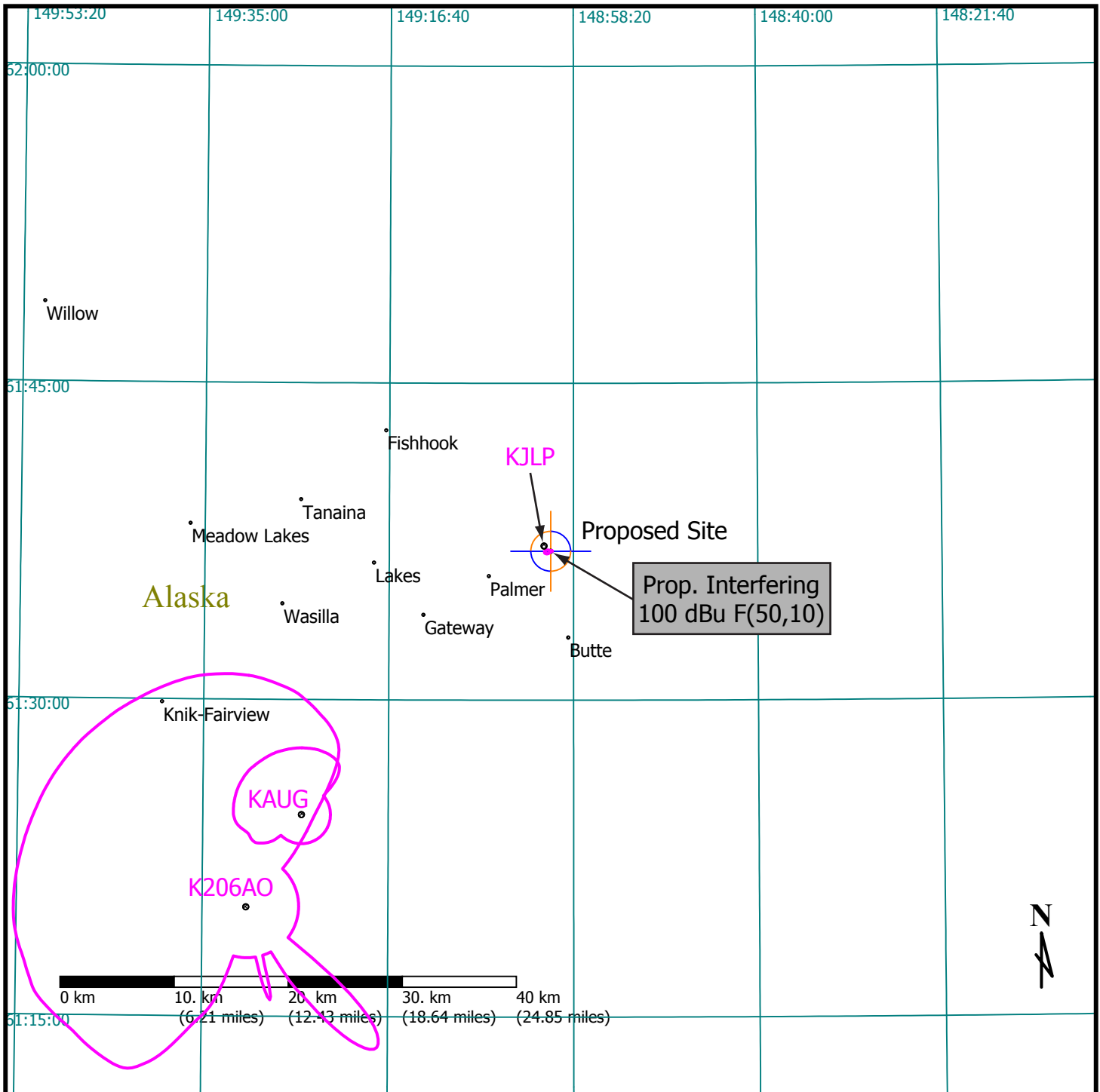


EXHIBIT 14

TV CHANNEL 6 PROTECTION

TV Channel 6 stations within range:

ID	City	St	Chan	CL	Stat	FID	Dist	Min 1205	Clear 1205
KNIK-LP	ANCHORAGE	AK	6		LIC	0	66.45	135	-68.55
K06MF	KENAI	AK	6		LIC	0	164.8	135	29.78
K06MF	KENAI	AK	6		CP	0	181.8	135	46.75

A written agreement between the applicant and Fireweed Communications LLC, the owner of all of these facilities, is included in Exhibit 14a. It gives their consent to this proposal.

BROWN BROADCAST SERVICES

INCORPORATED
Michael D. Brown 3740 S.W. Comus St. Portland, Oregon 97219-7418 503-245-6065



January 21, 2016

Mike Chmielewski – COO
Radio Free Palmer
550 S. Alaska Street
Suite 201
Palmer, AK 99645

Dear Mr. Chmielewski:

We understand that you are applying to modify FM translator K208BC, Palmer, AK, by moving it 510m to the northeast from its current licensed location. Based on the specifications presented to me today by your consultant, Michael Brown, we hereby give our consent to the grant of your application, subject to the following conditions:

1. Radio Free Palmer (RFP) will notify Fireweed Communications, LLC, at least 7 days prior to commencing operation at the new location.
2. RFP will furnish Fireweed copies of any reception complaints, and any corrective action.
3. RFP agrees to furnish suitable notch filters to Channel 6 users, as needed, to remove any interference.
4. RFP will provide the email and phone number(s) for the person(s) to contact, should any complaints to Channel 6 reception arise.
5. These provisions will apply both to KNIK-LP, Anchorage, and to K06MF, Kenai. Both of these stations are owned by Fireweed, and both are within the critical distances from K208BC.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeremy Lansman". The signature is fluid and stylized, with a large loop at the beginning and a long, sweeping underline.

Jeremy Lansman

Member

Fireweed Communications LLC.

EXHIBIT 17

ENVIRONMENTAL PROTECTION ACT / NEIR ANALYSIS

The applicant proposes mounting a Kathrein-Scala HDCA-10/HRM, at 10m AGL. Calculations were made using FM Model for Windows, version 2.10. Since the exact antenna to be employed is not modeled by the software, the Phelps-Dodge “Ring Stub” or Dipole “worst-case” setting was employed. This setting indicated a peak exposure of $9.3\mu\text{W}/\text{cm}^2$, at 4.0 meters ground distance from the antenna. This represents 4.65% of the Maximum Permissible Exposure (MPE) of $200\mu\text{W}/\text{cm}^2$ for uncontrolled environments. 47 CFR §1.1307(b)(3) exempts applicants from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

The applicant will ensure that public access is restricted by fencing, anti-climb devices, or other appropriate measures. The site will be posted with appropriate RF exposure warning signs. If climbing by authorized personnel becomes necessary, transmitter power will be reduced operation will cease, as necessary, so as to not exceed the RF exposure limits.

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