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ENGINEERING REPORT

APPLICATION for CONSTRUCTION PERMIT
to RELOCATE ANTENNA

KOAN(AM)
1080 kHz
Anchorage, Alaska

Facility ID 12961

10 kW ND-U

Falcon Broadcasting LLC

June 2020

TABLE OF CONTENTS

Purpose of Application

Allocation Considerations

Facilities Proposed

Exhibits Per FCC Form 301

Transmitter Site Photograph

Transmitter Site Map

Daytime Allocation Study Maps

Licensed & Proposed Daytime Coverage of City of License

Site to Site RSS Calculations

Statement of Engineer

Purpose of Application

This Engineering Report has been prepared in support of an application by Falcon Broadcasting LLC to relocate the antenna site of KOAN(AM), using the existing tower formerly used by KBYR(AM).

Allocation Considerations

Daytime

The proposed 10 kW non-directional operation of KOAN will not create any prohibited contour overlap with any licensed or proposed facility, as demonstrated by the daytime allocation study map included in this application. All allocation studies are based on data from the June 1, 2020 edition of the Commission's CDBS. Region II ground conductivity was used in all cases. This allocation study contains a map for third adjacent channel stations only, there are no other adjacent or co channel stations close enough to Anchorage to warrant study.

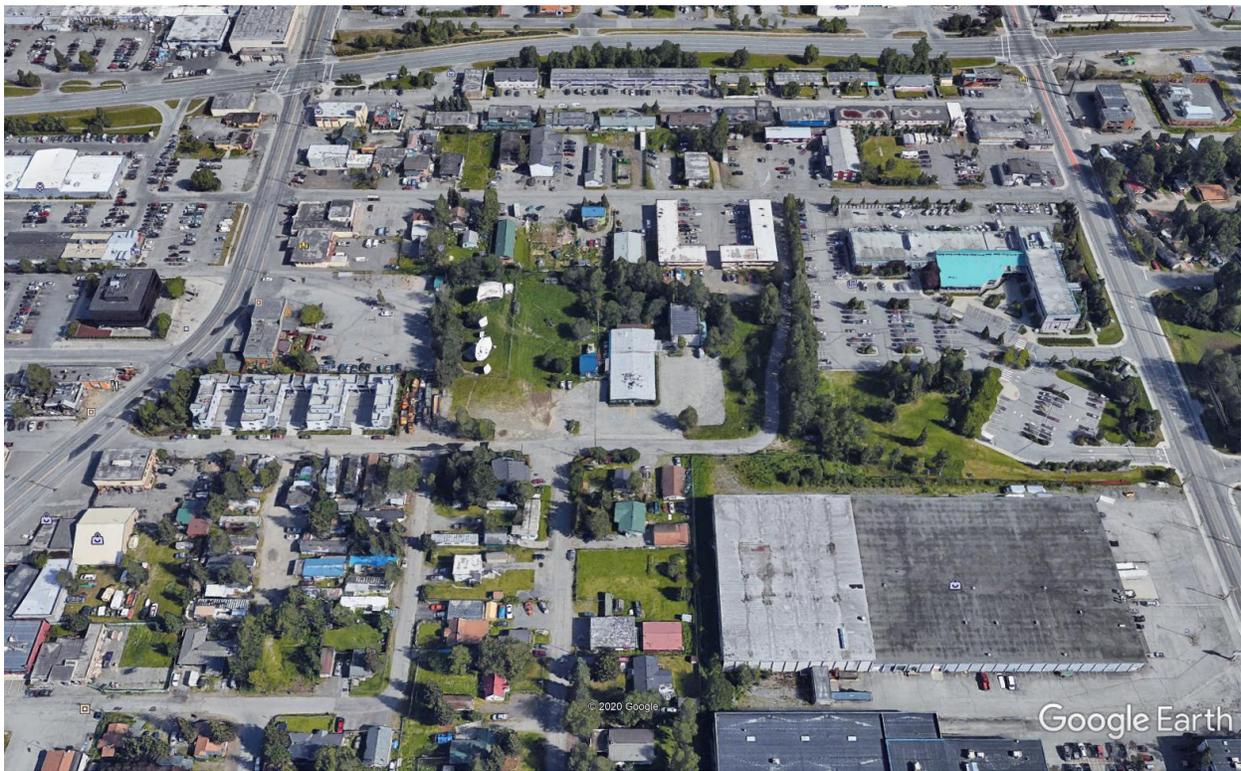
Nighttime

The proposed 10 kW nighttime operation of KOAN will not enter the 25% RSS of any domestic facility, or the 50% RSS of any Canadian facility, as demonstrated by the site to site RSS calculations included in this report. This exhibit includes calculations for all station to which KOAN exceeds the 10% RSS threshold.

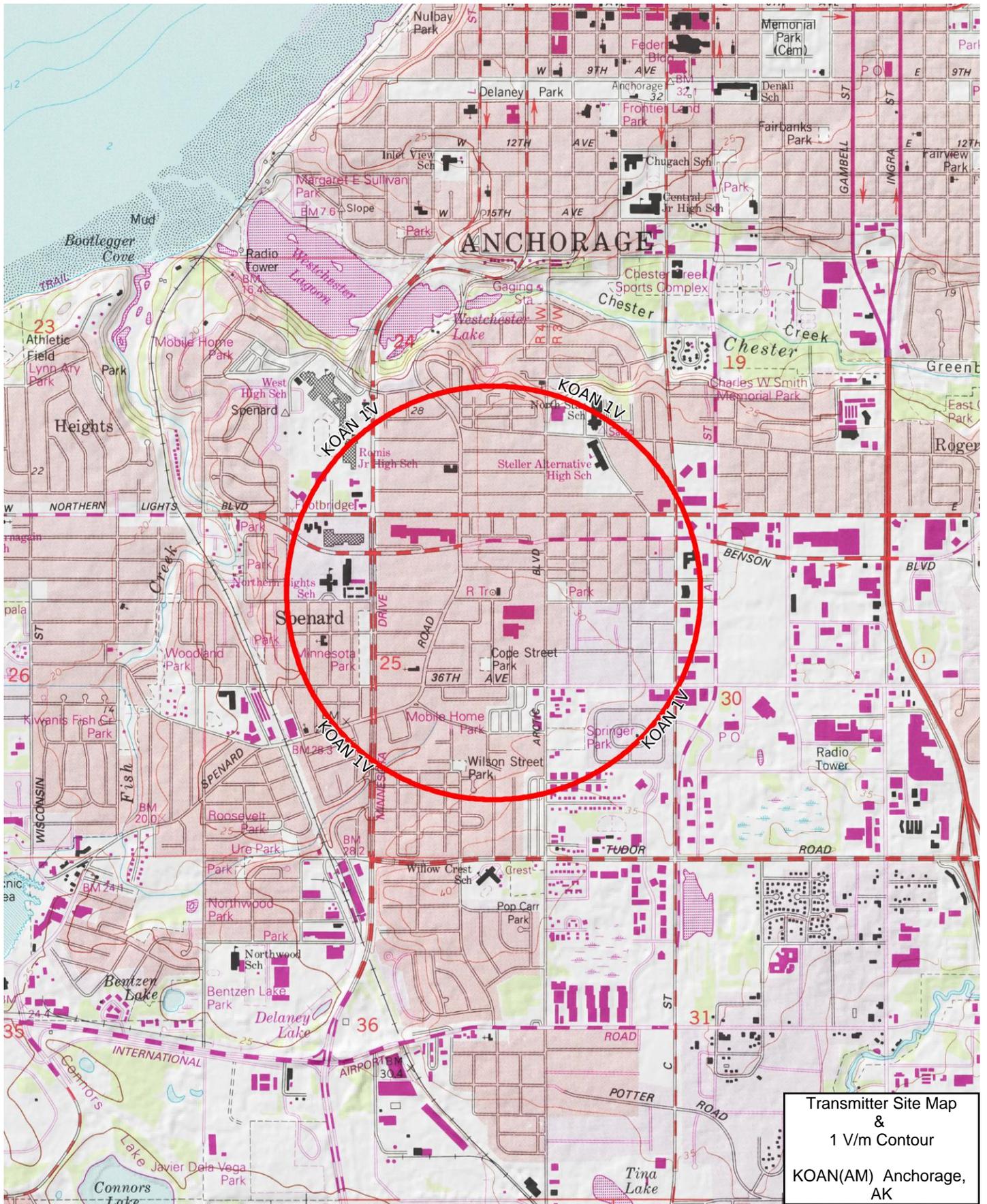
Facilities Proposed

Falcon proposes continued operation of KOAN on 1080 kHz with a power of 10 kW unlimited time, using an omni-directional antenna (ND-U). An slant wire feed will be used on an existing tower. As this tower was previously used by a station operation at a lower frequency (700 kHz) it is assumed that the existing ground system will be adequate. Using the MiniNec model attached to this report, the efficiency of this antenna is calculated be 306.3 mV/m/km at 1 kW. The proposed daytime 5 mV/m contour will cover 95.5% of the population of Anchorage.

Antenna tower access will be restricted by a fence with a locked gate that will be at least 2 meters from the tower base, as required by OET-65. The antenna tower is posted with warning signs, and all station personnel and contractors will be required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.



Proposed KOAN(AM) Transmitter Site



Mercator Projection
 WGS84
 USNG Zone 6VUN
 CalTopo



Transmitter Site Map
 &
 1 V/m Contour
 KOAN(AM) Anchorage,
 AK



KOAN

Freq: 1080 kHz

Class: A

Latitude: 61-11-33 N

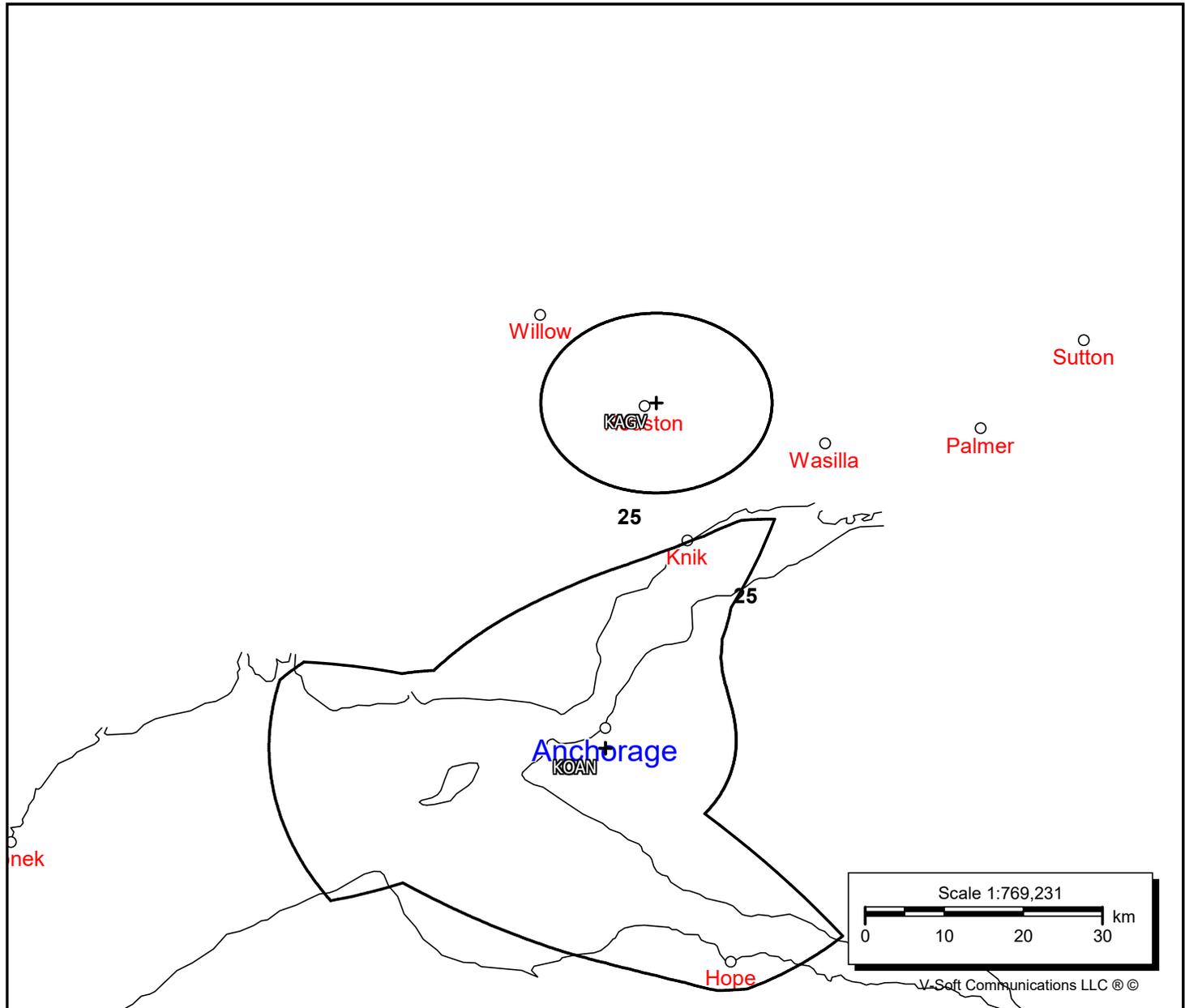
Longitude: 149-54-01 W

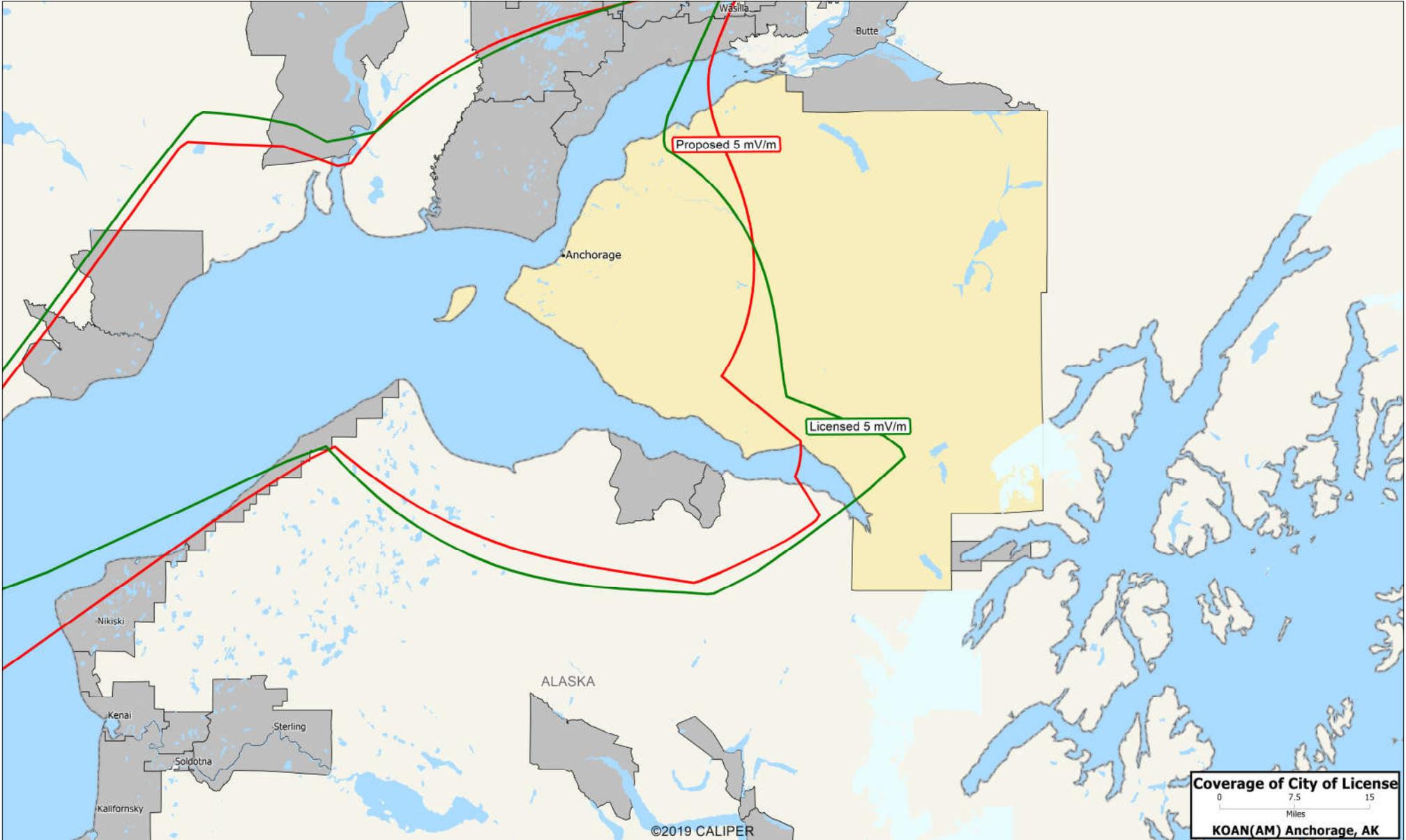
Power: 10 kW

RMS: 306.276 mV/m @1km

Towers: 1

Augs: 0





Site-to-Site RSS Calculations

Protected Station: KWAI, 1080 kHz - HONOLULU, HI, US
 Coordinates: 21-19-27.20 N, 157-52-47.10 W
 Standard: FCC Rules (1992 Skywave Propagation Model) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
KSCO	1080	1.635	100.0
KRLD	1080	1.630	99.6
KFXX	1080	1.356	58.7
-----	50%	-----	
-----	25%	-----	
*KOAN	1080	0.635	23.7
KFNQ	1090	0.310	11.2
HCFD2-A	1080	0.309	11.1
HJJS-A	1080	0.302	10.8
KNX	1070	0.300	10.6
HCVH6-A	1080	0.295	10.4
OAX4F-A	1080	0.294	10.3

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
KSCO	1080	1.635	100.0
KRLD	1080	1.630	99.6
KFXX	1080	1.356	58.7
-----	50%	-----	
-----	25%	-----	
*KOAN-PRO	1080	0.574	21.4
KFNQ	1090	0.310	11.3
HCFD2-A	1080	0.309	11.2
HJJS-A	1080	0.302	10.8
KNX	1070	0.300	10.7
HCVH6-A	1080	0.295	10.5
OAX4F-A	1080	0.294	10.4

Protected Station: KWAI, 1080 kHz - HONOLULU, HI, US
 Coordinates: 21-17-41 N, 157-51-49 W
 Standard: FCC Rules (1992 Skywave Propagation Model) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
KSCO	1080	1.636	100.0
KRLD	1080	1.631	99.7
KFXX	1080	1.356	58.7
-----	50%	-----	
-----	25%	-----	
*KOAN	1080	0.634	23.6
KFNQ	1090	0.310	11.2
HCFD2-A	1080	0.309	11.1
HJJS-A	1080	0.302	10.8
KNX	1070	0.300	10.6
HCVH6-A	1080	0.295	10.4
OAX4F-A	1080	0.294	10.3

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
KSCO	1080	1.636	100.0
KRLD	1080	1.631	99.7
KFXX	1080	1.356	58.7
-----	50%	-----	
-----	25%	-----	
*KOAN-PRO	1080	0.573	21.3
KFNQ	1090	0.310	11.3
HCFD2-A	1080	0.309	11.2
HJJS-A	1080	0.302	10.8
KNX	1070	0.300	10.7
HCVH6-A	1080	0.295	10.5
OAX4F-A	1080	0.294	10.4

Coordinates: 53-13-17 N, 110-00-26 W
 Standard: Canadian (Figure 4) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
KRLD	1080	2.991	100.0
KVNI	1080	1.618	54.0
-----	50%	-----	-----
WTIC	1080	1.446	42.5
WNWI	1080	1.397	37.8
*KOAN	1080	1.195	30.2
-----	25%	-----	-----
KFXX	1080	0.897	21.7

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
KRLD	1080	2.991	100.0
KVNI	1080	1.618	54.0
-----	50%	-----	-----
WTIC	1080	1.446	42.5
WNWI	1080	1.397	37.8
*KOAN-PRO	1080	1.084	27.4
-----	25%	-----	-----
KFXX	1080	0.897	21.8

Protected Station: CKKY(1)/ , 1080 kHz - Wainwright, AB, CA
 Coordinates: 52-48-59 N, 110-45-36 W
 Standard: Canadian (Figure 4) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
KRLD	1080	3.119	100.0
KVNI	1080	1.770	56.7
-----	50%	-----	-----
WTIC	1080	1.405	39.1
WNWI	1080	1.301	33.7
*KOAN	1080	1.212	29.8
-----	25%	-----	-----
KFXX	1080	1.002	23.6

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
KRLD	1080	3.119	100.0
KVNI	1080	1.770	56.7
-----	50%	-----	-----
WTIC	1080	1.405	39.1
WNWI	1080	1.301	33.7
*KOAN-PRO	1080	1.100	27.0
-----	25%	-----	-----
KFXX	1080	1.002	23.7

KOAN

Freq: 1080 kHz

Class: A

Latitude: 61-11-33 N

Longitude: 149-54-01 W

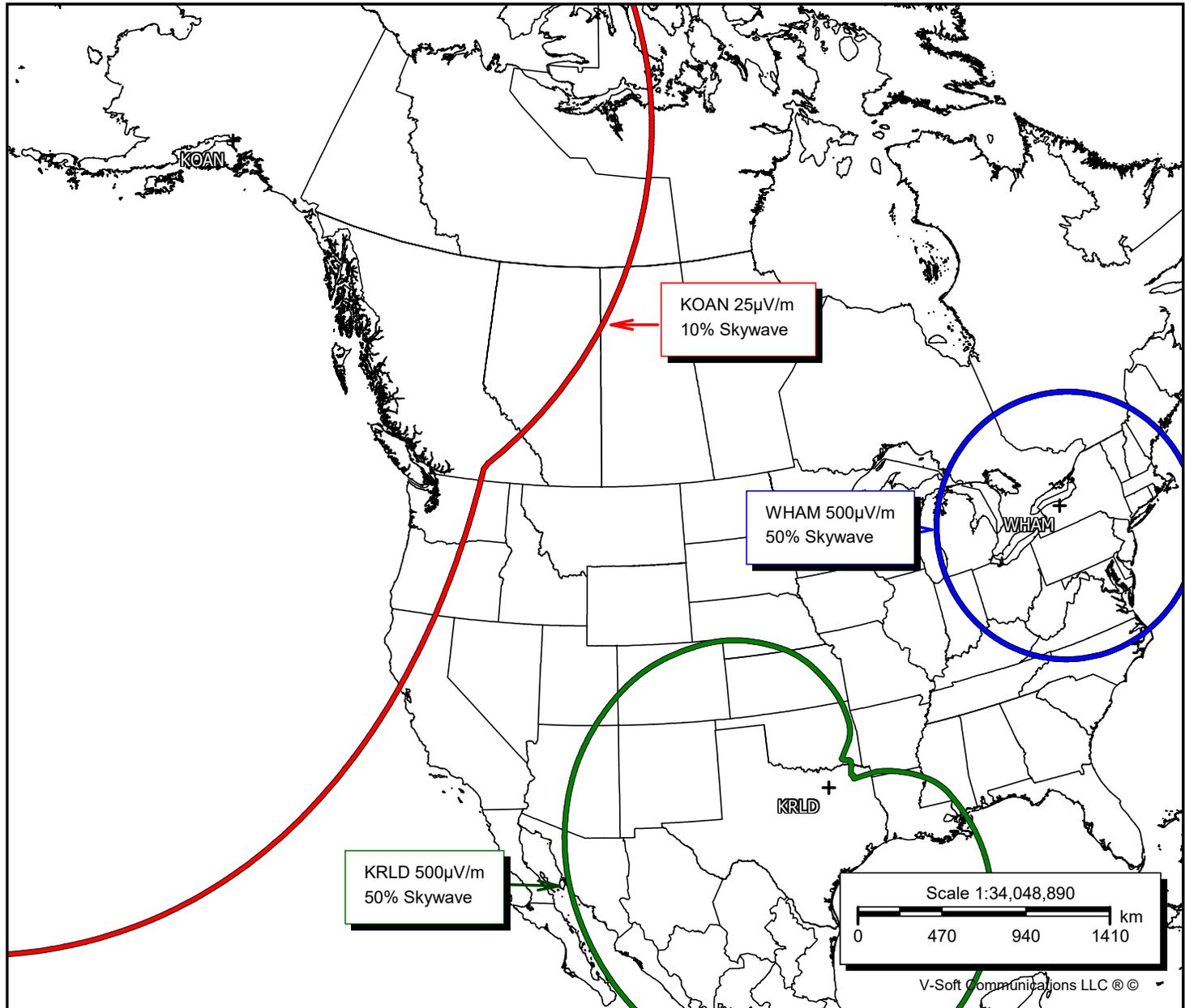
Power: 10 kW

RMS: 306.276 mV/m @1km

Towers: 1

Augs: 0

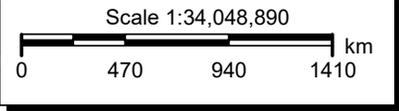
Skywave Protection
of Co-Channel
Class A Stations



KOAN 25µV/m
10% Skywave

WHAM 500µV/m
50% Skywave

KRLD 500µV/m
50% Skywave



V-Soft Communications LLC ©

KOAN, 1080 kHz, Anchorage, AK
STATEMENT OF ENGINEER

This Engineering Report prepared for KOAN has been prepared by me or under my direct supervision. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am a partner in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington, Alaska, and Wyoming.

Stephen S. Lockwood

5 May 2020



Hatfield & Dawson Consulting Engineers