



ENGINEERING STUDY

KKFT(FM)

Application for a Minor Modification to
License BLH-20180921ABM

Channel 256C2 (99.1MHz)

Gardnerville-Minden, NV

Facility ID 9136

September 2020

KKFT (FM)

Application for a Minor License Modification

TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of The Evans Broadcasting Company, Inc., licensee of radio station KKFT (FM), Channel 256C2, Gardnerville-Minden, Nevada.

KKFT seeks to relocate their facility to an existing tower 0.4km from the currently licensed site.

ALLOCATION

The proposed operation will utilize a non-directional antenna and will meet all spacing requirements under 73.207 to all stations except KARA (256B1). KKFT will operate under 73.215 to KARA. The 73.207 allocation study attached as Exhibit A. The map demonstrating compliance to KARA under 73.215 is attached as Exhibit B. It is noted that all contours to and from each facility noted have been computed using FCC 30 second terrain data. Distance to Contour Reports are included in Exhibit D for KKFT (37dBu f50,10) and KARA (57dBu f50,50).

The proposed facility is not within 320km of any border between the US and Mexico or Canada.

COMMUNITY OF LICENSE COVERAGE

The Proposed antenna will be relocated 0.4km to a different tower on the same antenna farm located on McClellan Peak. The signal will be almost identical to that already licensed with the same ERP however from a slightly higher AMSL and apparent height to the community of license, Gardnerville-Minden, NV. As shown in Exhibit C, just over 50% of the community is covered using FCC 50,50, therefore Longley-Rice was used to verify 70dBu coverage. Using a 3 second terrain database and Land-Use clutter, it is demonstrated that 100 percent of the population and 98.7% of the land area of Gardnerville and Minden is covered with the Mean 70dBu calculated contour using Longley-Rice.

Proposed Facility Specifications

Coordinates (NAD83)	39°-15'-28.6" N Latitude, 119°-42'-40.4" W Longitude
Tower Overall AGL	57m
Site AMSL	2,263m
Antenna COR AGL	52m
Antenna COR AMSL	2,315m
Antenna HAAT	633m
Antenna Pattern	NON-Directional
Proposed Antenna	ERI LPX-2
ERP	1.9kW

ENVIRONMENTAL CONSIDERATIONS

The proposed KKFT antenna will operate from an existing 57m self-supporting tower at a maximum power level of 1,900W H+V and will operate at 52m AGL. KKFT proposes to operate with a 2-bay, non-directional antenna. Based upon the FCC online calculator "FM Model"¹ Power Density vs. Distance calculator using an EPA Type 3 Opposed U Dipole antenna, the maximum power density at 2m AGL is expected to be 7.3 μ W/cm² at 33.6 meters from the tower base, or 3.7% of the permitted 200 μ W/cm² limit for uncontrolled exposure. There are no tall buildings within 500m of the proposed tower. The existing tower was analyzed for ASR requirements using TOWAIR and registration is not required. The TOWAIR calculation is attached as Exhibit E.

There are other non-excluded facilities operating near the proposed antenna, however since the contribution of the proposed antenna is under 5% of the maximum allowed MPE (Maximum allowed Public Exposure), this facility may operate without consideration of other facilities in the vicinity. Based upon the preceding, it is believed that the modified KKFT-FM facility will be in compliance with

¹ <https://www.fcc.gov/general/fm-model>

environmental requirements and is excluded from further environmental assessment under 47CFR 1.1306 and 1.1307.

Radio station KKFT (FM) 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 cursive script, reading "Bert Goldman", followed by a long horizontal flourish.

Bert Goldman
Technical Consultant

EXHIBIT A- Allocation Study

ComStudy 2.2 search 73.207 of channel 256 (99.1 MHz Class C2) at 39-15-33.7 N, 119-42-24.6 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
KARA	WILLIAMS	CA 256 B1	182.58	200.00	268.8	-17.4 Exhibit B 73.215
KYSA-CP	SPARKS	NV 202 C3	36.91	17.00	347.7	19.9
KWLU	CHESTER	CA 255 C2	155.97	130.00	314.4	26.0
KKTU-FM	FALLON	NV 258 A	80.62	55.00	71.1	25.6
KYSA	SPARKS	NV 202 C1	59.32	27.00	20.2	32.3
KKFT-FM1	STATELINE	NV 256 D	38.96	0.00	211.5	39.0

LMS DATA AS OF 9/8/2020

EXHIBIT B Allocation Contours

KKFT PROP (256C2) to KARA (256B1)

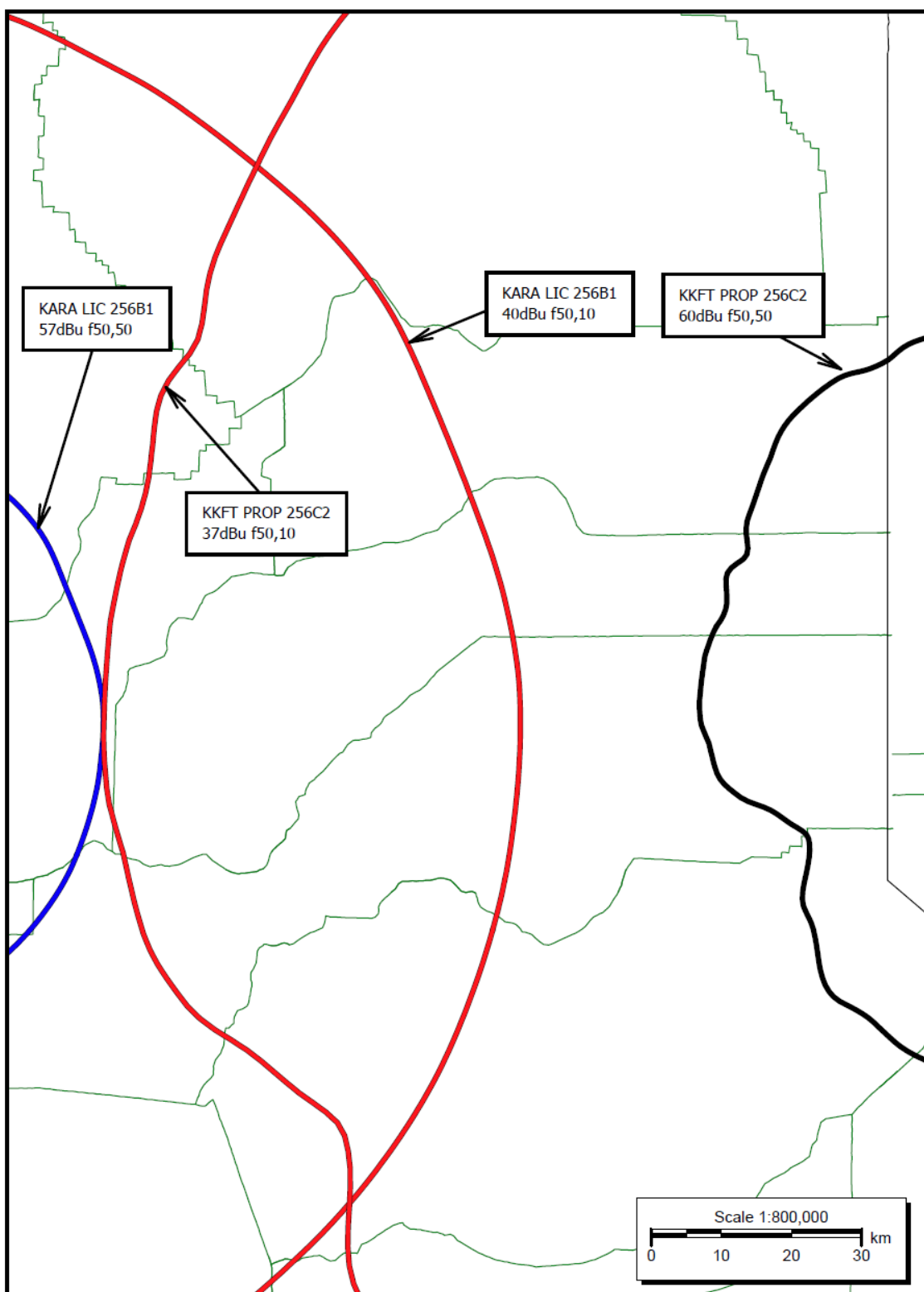


EXHIBIT B1 Allocation Contours (Closeup map KKFT Prop Interfering to KARA Protected)

Closeup KKFT PROP (256C2) to KARA (256B1)

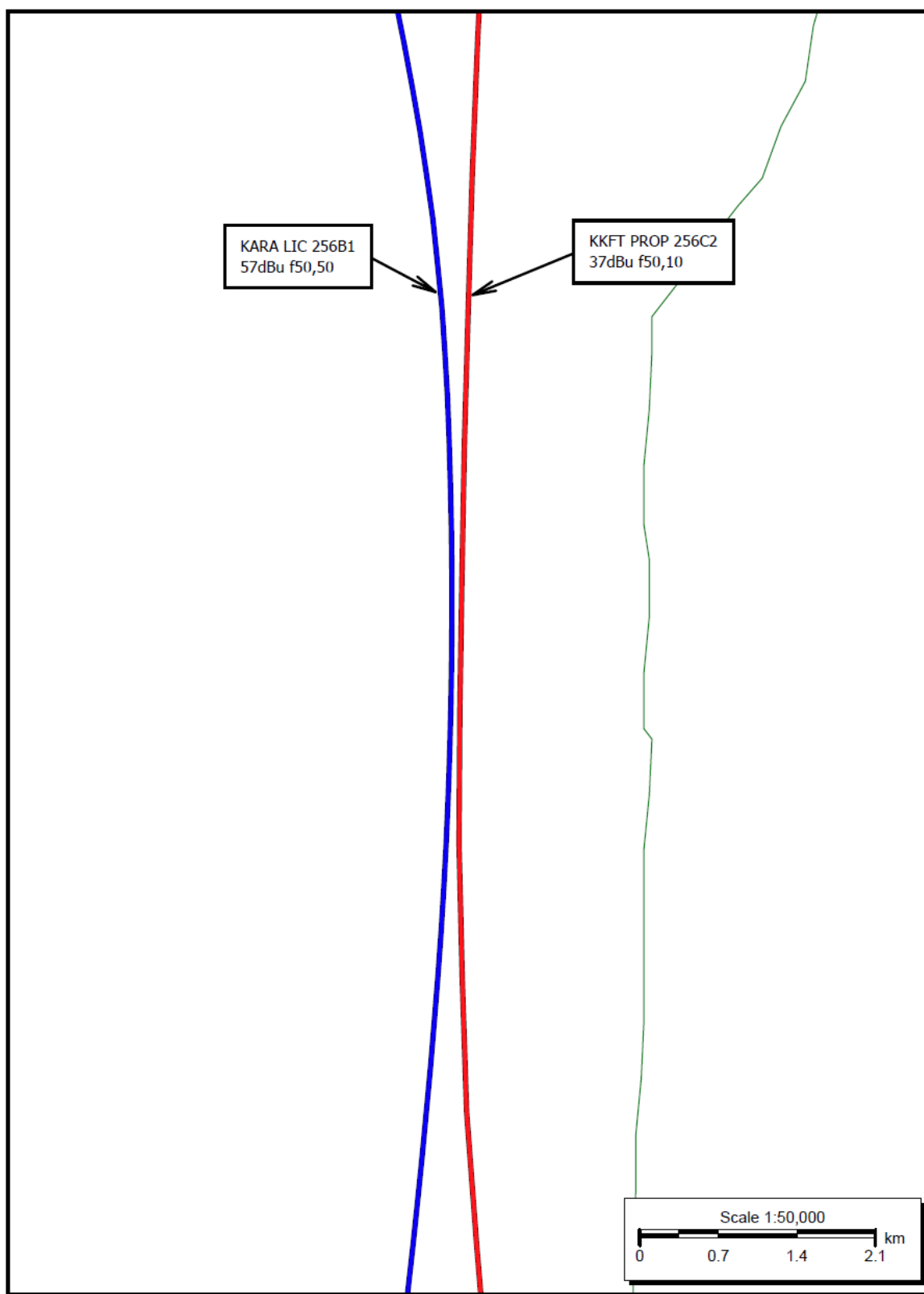


EXHIBIT C Community Coverage, Gardnerville-Minden, Nevada

KKFT PROP (256C2) Community of License Coverage, Gardnerville-Minden, NV

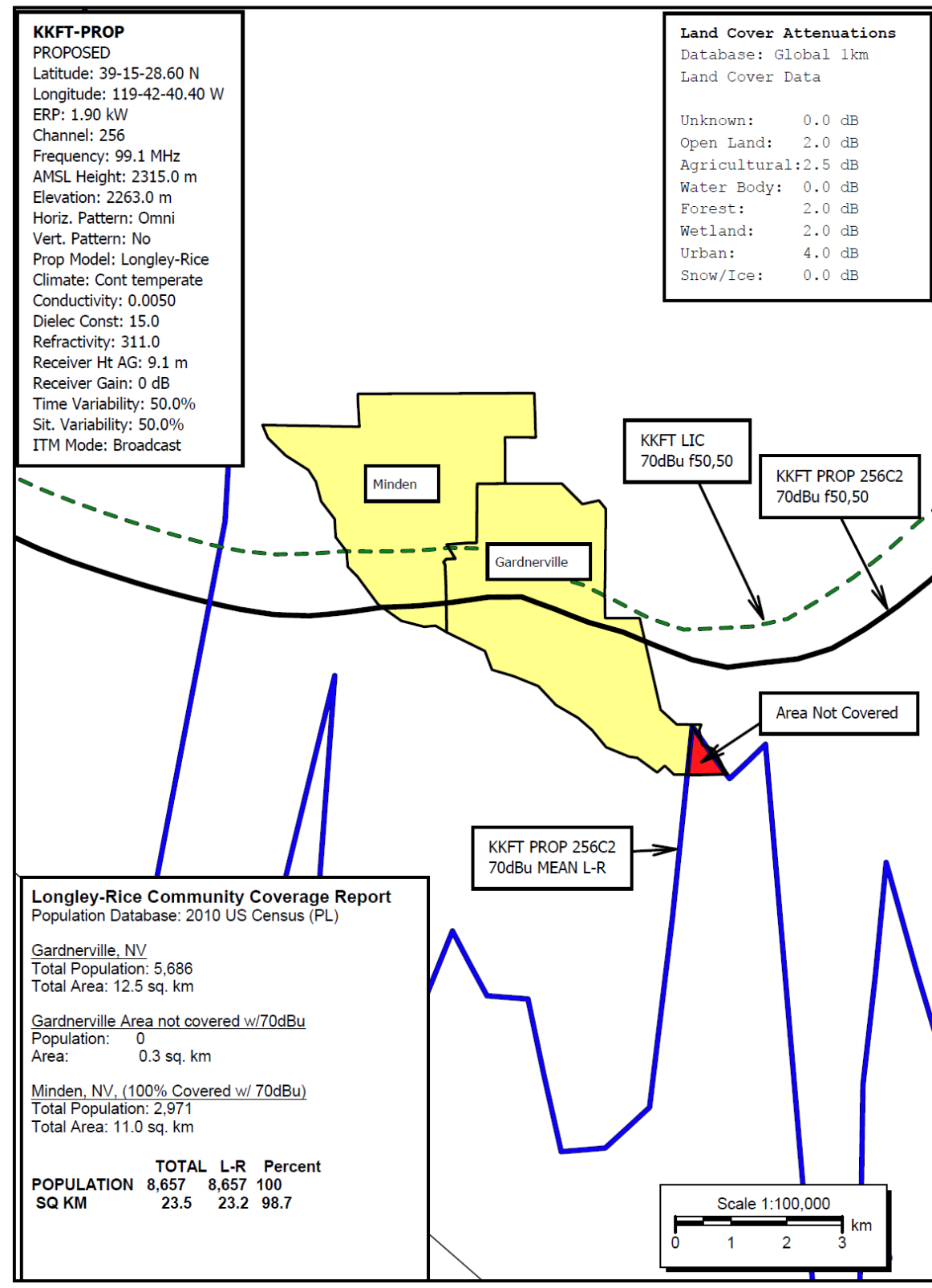


EXHIBIT D1**Distance to Contour Report****Distance to Contour Report- KKFT PROP 37dBu f50,10 Interfering Contour**

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 10.0 %
of Radials Calculated: 360
FCC Matching HAAT Calculation Used
Field Strength: 37.00 dBuV/m

Primary Terrain: FCC 30 Second US Database
Secondary Terrain: NED 3 Second US Terrain

Transmitter Information:

Call Letters: KKFT-PROP
File Number: BLH20180921ABM
Latitude: 39-15-28.60 N
Longitude: 119-42-40.40 W
ERP: 1.90 kW
Channel: 256
Frequency: 99.1 MHz
AMSL Height: 2315.0 m
Elevation: 2263.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)	HAAT (m)
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0.0	136.21	609.4
10.0	121.61	436.4
20.0	104.07	296.8
30.0	98.46	240.5
40.0	111.88	356.9
50.0	128.43	497.9
60.0	137.50	635.8
70.0	141.45	717.6
80.0	145.92	821.9
90.0	146.47	836.0
100.0	147.29	857.8
110.0	147.25	856.6
120.0	145.96	823.0
130.0	143.94	773.4
140.0	139.53	677.1
150.0	140.34	693.9
160.0	141.70	723.0
170.0	142.44	739.2
180.0	146.01	824.1
190.0	145.52	811.8
200.0	145.84	819.9
210.0	142.72	745.4
220.0	140.15	690.0
230.0	132.85	547.6
240.0	121.78	437.8
250.0	133.11	551.4
260.0	136.04	606.0
270.0	136.30	611.2
280.0	133.73	561.3
290.0	133.34	554.9
300.0	135.14	587.4
310.0	138.14	648.8
320.0	139.15	669.3
330.0	136.69	619.3
340.0	137.36	632.8
350.0	138.21	650.2

EXHIBIT D2**Distance to Contour Report****Distance to Contour Report- KARA (256B1) Protected 57dBu f50,50 Contour**

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 50.0 %
of Radials Calculated: 360
FCC Matching HAAT Calculation Used
Field Strength: 57.00 dBuV/m

Primary Terrain: FCC 30 Second US Database
Secondary Terrain: NED 3 Second US Terrain

Transmitter Information:

Call Letters: KARA
File Number: BLED20080718ARA
Latitude: 39-12-19.60 N
Longitude: 121-49-12.80 W
ERP: 0.55 kW
Channel: 256
Frequency: 99.1 MHz
AMSL Height: 657.0 m
Elevation: 639.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)	HAAT (m)
-----	-----	-----
0.0	45.17	591.8
10.0	45.23	593.4
20.0	45.23	593.5
30.0	44.84	583.2
40.0	44.68	578.9
50.0	45.06	588.9
60.0	44.59	576.9
70.0	44.28	569.0
80.0	45.04	588.3
90.0	45.55	602.0
100.0	45.71	606.4
110.0	45.97	613.6
120.0	46.36	624.1
130.0	46.41	625.4
140.0	46.42	625.9
150.0	46.50	628.1
160.0	46.40	625.2
170.0	46.39	625.0
180.0	46.51	628.4
190.0	46.52	628.6
200.0	46.60	630.8
210.0	46.53	628.8
220.0	46.56	629.7
230.0	46.40	625.4
240.0	46.48	627.6
250.0	46.43	626.0
260.0	46.15	618.5
270.0	46.20	619.7
280.0	46.05	615.6
290.0	46.12	617.4
300.0	46.08	616.4
310.0	45.98	613.8
320.0	45.77	607.9
330.0	45.80	608.8
340.0	45.28	594.7
350.0	44.68	579.0

EXHIBIT E- TOWAIR CALCULATION

TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results							
PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7524.90 MTRS (7.52489 KM) AWAY							
						Lowest Elevation (m)	
Type	C/R	Latitude	Longitude	Name	Address		Runway Length (m)
AIRP	R	39-11-39.00N	119-44-35.00W	CARSON	CARSON CITY CARSON CITY, NV	1431.2	1859.5999999999999
Your Specifications							
NAD83 Coordinates							
Latitude						39-15-28.6 north	
Longitude						119-42-40.4 west	
Measurements (Meters)							
Overall Structure Height (AGL)						57	
Support Structure Height (AGL)						0	
Site Elevation (AMSL)						2263	
Structure Type							
LTOWER - Lattice Tower							