

ENGINEERING EXHIBIT  
IN SUPPORT OF AN  
APPLICATION FOR CONSTRUCTION PERMIT  
KDWN – LAS VEGAS, NEVADA  
720 kHz – 25.0 kW DAY/4.0 kW NIGHT – DA-N  
FACILITY ID: 54686

Applicant: Audacy License, LLC

September, 2023



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FCC Form 301 – Section III

STATEMENT OF CYNTHIA M. JACOBSON, P.E.

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Facility ID: 54686

Applicant: Audacy License, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Virginia, Registration No. 0402027914.

GENERAL

This office has been authorized by Audacy License, LLC (“Audacy”), licensee of Standard Broadcast Station KDWN, Las Vegas, Nevada, to prepare this Engineering Statement, FCC Form 301 (Section III), and the attached figures in support of an Application for Construction Permit. The application requests relocation of the KDWN antenna system to the KXNT transmitter site. The KXNT site is located 18.5 kilometers at a bearing of 38.6° from the licensed KDWN transmitter site.

KDWN is presently licensed to operate on 720 kHz with a daytime power of 25.0 kW and a nighttime power of 7.5 kW.<sup>1</sup> The licensed daytime operation is non-directional while the licensed nighttime operation is directional, employing a three-tower array. The host station, KXNT is licensed to North Las Vegas, Nevada and operates on a frequency of 840 kHz, with a power of 50.0 kW during daytime hours and 25.0 kW during nighttime hours. The KXNT existing four-tower skewed parallelogram array is used for both the day and night directional operations, DA-2.

The instant application proposes a daytime non-directional operation from tower #2 of the KXNT array. KDWN will use towers #1, #3 and #4 of the existing five towers on the property for the proposed night directional operation. KDWN proposes to operate at a power of 25.0 kW during daytime hours and 4.0 kW during nighttime hours.<sup>2</sup>

#### ANTENNA SYSTEM

The instant application proposes the use of tower #2 (ASR #1059596) for the KDWN non-directional daytime operation. Towers #1, #3 and #4 (ASR #'s: 1059595, 1059597 and 1059598, respectively) will be used to generate the proposed KDWN night pattern. KDWN proposes operation at a power of 25.0 kW during daytime hours and 4.0 kW during nighttime hours. At KDWN's frequency of 720 kHz, the KXNT towers are 77.1 electrical degrees in height.

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<sup>1</sup> KDWN has been "silent" since March 1, 2023, FCC File No. 0000211966.

<sup>2</sup> AM station KXST – 1140 kHz, North Las Vegas, Nevada will concurrently (or shortly thereafter) file an Application for Construction Permit to relocate to the KXNT site, resulting in a triplex operation.

The proposed nighttime horizontal plane standard radiation pattern is shown in the polar graph Figure 1. The nighttime horizontal plane inverse distance fields are tabulated in Figure 2. Figures 3 through 14 contain tabulations of the vertical inverse distance fields for the proposed nighttime pattern.

### GROUND SYSTEM

The existing ground system consists of 120, 89.0 meter (0.214 wavelength), buried copper radials except where shortened due to property boundaries or where bonded to a transverse copper strap midway between adjacent towers. Due to the additional ground system around the existing towers that are not employed by the proposed KDWN day operation, an efficiency correction is not being applied to the nondirectional operation. Therefore, the proposed nondirectional daytime antenna Theoretical Efficiency will be 297.5 mV/m/kW at 1 km. It is also believed that the proposed directional antenna system will be fully efficient with the additional ground system of the unused towers. The proposed nighttime directional Theoretical RMS is calculated to be 618.6 mV/m at 1 km.

### FAA NOTIFICATION AND TOWER REGISTRATION

Because KDWN is proposing to utilize the KXNT existing towers without physical alteration, it is believed that no further notification to the Federal Aviation Administration (FAA) is necessary.

The existing towers are 90.2 meters AGL (760.8 meters AMSL). The Tower Registration Numbers are: Tower #1 - 1059595; Tower #2 – 1059596; Tower #3 - 1059597; Tower #4 -1059598 and Tower #5 – 1059599.<sup>3</sup>

#### SITE AND SURROUNDING TERRAIN

The proposed antenna/transmitter location and surrounding terrain characteristics are contained in the FCC's files for KXNT. The proposed center-of-array coordinates, as specified by KXNT, are:

##### NAD-27 Coordinates

North Latitude: 36° 23' 53"

West Longitude: 114° 54' 57"

##### NAD-83 Coordinates

North Latitude: 36° 23' 52.9"

West Longitude: 114° 55' 00.0"

These coordinates will be used to define the proposed daytime nondirectional operation and the proposed nighttime directional operation.

#### BLANKETING AND STATION INTERACTION

The population within the proposed KDWN daytime and nighttime 1000 mV/m contours is less than 300 persons. The proposed 1000 mV/m contours are shown on the

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<sup>3</sup> Tower numbering corresponds to the KXNT tower numbering sequence and ASR.

map of Figure 15 and the proposed 25 mV/m contours are shown on the map of Figure 16. In response to all complaints of blanketing interference, the applicant will undertake steps to mitigate the interference in accordance with the requirements of Section 73.88 of the Commission's Rules and Regulations.

It is proposed to collocate KDWN at the KXNT site and duplex onto the KXNT antennas, resulting in a triplex operation.<sup>4</sup> Filter and detuning networks will be installed by the applicant to minimize interaction between the three stations such that no adverse impact will result from the collocation of the two stations at the KXNT site. There are no other AM stations located within 3.2 kilometers of the proposed KDWN/KXST/KXNT site. There are three FM booster stations, and two FM auxiliary stations located within 10 kilometers of the proposed site. There are no TV stations located within 10 kilometers of the proposed site. It is expected that no detrimental interaction will occur with any station.

### COVERAGE CONTOURS

The present and proposed daytime 5.0 mV/m service contours are shown on the map of Figure 17. The proposed daytime 5.0 mV/m contour encompasses 100% of the city of license, Las Vegas, Nevada, therefore Section 73.24(i) of the Rules is satisfied.

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<sup>4</sup> It is proposed to also co-locate AM station KXST-1140 kHz, North Las Vegas, Nevada at the KXNT site. An Application for Construction Permit will be filed concurrently or shortly thereafter.

The present and proposed 2.0 mV/m daytime contours are shown on the map of Figure 18.

The present and proposed nighttime service contours are shown on the maps of Figures 22-23. The proposed nighttime interference-free contour is 4.3 mV/m. In the instance where the nighttime interference-free contour is less than the 5.0 mV/m contour, the 5.0 mV/m is considered the nighttime service contour. The proposed 5.0 mV/m nighttime contour will encompass 100% of the city of license, see Figure 23. Thus, Section 73.24(i) of the FCC Rules is satisfied, though no longer a requirement at night for an existing licensed AM facility.

#### DAYTIME ALLOCATION STUDY

Six stations were considered in detail regarding the daytime allocation. These stations are:

KBMB	710 kHz	Black Canyon, Arizona;
KSPN	710 kHz	Los Angeles, California;
KFIA	710 kHz	Carmichael, California;
XENVA2	720 kHz	San Luis Rio Colorado, SO, Mexico;
KSVN	730 kHz	Ogden, Utah; and
XEEBC	730 kHz	Ensenada, BN, Mexico.

The map of Figure 20 depicts the daytime allocation situation for the above cited stations as they pertain to the present and proposed KDWN operations. The distances



to all groundwave contours were calculated using the equivalent distance method. Contours were calculated at 5 degree intervals using ground conductivity values shown on the FCC's M-3 soil conductivity map. Tabulations of distances to groundwave contours and conductivity profiles are not included herein, but can be provided upon request. A further breakdown of the daytime allocation by channel relationship is detailed below.

#### CO-CHANNEL PROTECTION

As depicted on the map of Figure 20A, there is overlap of the present and proposed KDWN 0.025 mV/m interfering contour with the 0.5 mV/m protected contour of XENVA2. Due to the site relocation away from XENVA2, the overlap is reduced with the proposal. The present overlap of the KDWN 0.5 mV/m protected contour with the 0.025 mV/m interfering contour of XENVA2 will also be reduced with the proposal.

#### FIRST-ADJACENT CHANNEL PROTECTION

The map of Figure 20B shows existing overlap between the present and proposed 0.25 mV/m interfering and 0.5 mV/m protected contours of KDWN and the 0.5 mV/m protected and 0.25 mV/m interfering contours of KBMB and KSPN. The instant proposal would decrease the current area of overlap of the 0.25 mV/m and 0.5 mV/m contours with respect to KBMB and KSPN.

A detailed view of the area of contour overlap with KBMB is shown on the map of Figure 20C. Detailed overlap studies were conducted to determine that the overall overlap area between KDWN and KBMB was not increased. The table below supports this conclusion.

	<b>PRESENT OVERLAP</b>	<b>PROPOSED OVERLAP</b>
Caused to KBMB	85,702 persons/23,413.6 sq. km	72,277 persons/22,408.7 sq. km
Received from KBMB	179,855 persons/23,059 sq. km	177,080 persons/21,083.5 sq. km

The map of Figure 20B confirms that there is no overlap between the present and proposed, protected and interfering contours with respect to first adjacent channel stations KFIA and KSVN. Figure 20B also indicates that there is no present or proposed overlap of the 0.5 mV/m contours between KDWN and XEEBC.

#### SECOND-ADJACENT CHANNEL PROTECTION

There are no second adjacent channel station within close proximity that warrant consideration.

#### THIRD-ADJACENT CHANNEL PROTECTION

There are no third adjacent channel stations within close proximity that warrant consideration.

#### NIGHTTIME ALLOCATION STUDY

Figure 21 is a tabulation of the present and proposed RSS calculations for co-channel and first-adjacent channel stations that may be impacted by the instant proposal. The proposed nighttime facility of KDWN will not raise the 25% or 50% RSS limit of any domestic station or the 50% RSS limit of any foreign station. Any protection towards a station resulting in a proposed margin greater than 1300 mV/m is not included in Figure 21. Based on the studies, the proposed KDWN nighttime facility is compliant with all current domestic and international nighttime allocations standards.

#### ENVIRONMENTAL IMPACT

This engineering statement certifies compliance with human exposure to radio-frequency radiation. The proposal described herein does not involve high intensity lighting as specified under Section 1.1307(a)(8), nor will it result in human exposure to radio-frequency radiation in excess of the standards specified in Section 1.1307(b).

#### RADIO-FREQUENCY IMPACT

On January 1, 1986, the FCC amended its Rules to implement the National Environmental Policy Act of 1969 (NEPA). This amendment established RF radiation protection guidelines to be used to determine if potentially harmful RF exposure is possible from an FCC-regulated transmission facility. Effective October 15, 1997, the FCC adopted revised guidelines and procedures for evaluating environmental effects of

RF emissions. These revised guidelines incorporate two tiers of exposure limits based on whether exposure occurs in a “controlled” (occupational) situation or an “uncontrolled” (general population) situation. The FCC has also revised OET Bulletin No. 65 entitled, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields,” to aid in the radiation exposure analysis. This bulletin, as well as other current literature, provides detailed information for conducting an analysis including tables and mathematical equations that can be used to determine compliance with the Commission’s guidelines.

The proposed facility will be co-located with the 840 kHz operation of KXNT and the proposed 1140 kHz operation of KXST<sup>5</sup> and thus is considered a multiple-use site.

### CALCULATION METHODS

Verification of compliance with FCC-specified guidelines for human exposure to RF radiation was obtained from OET Bulletin No. 65.

Tables 1-3 of Supplement A to OET Bulletin 65 (Edition 97-01) provides compliance distances for tower heights of 0.1 wavelength, 0.25 wavelength and 0.5 wavelength. The electrical height of the existing towers at the KDWN frequency of 720 kHz is 0.214 wavelength. The electrical height of the existing towers at the KXST

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<sup>5</sup> Ibid.

frequency of 1140 kHz is 0.339 wavelength. At KXNT's frequency of 840 kHz, the antenna height is 0.25 wavelength. Assuming a worst case tower height of 0.214 wavelength and a worst case frequency range of 535-740 kHz, the minimum fencing requirements were interpolated from Tables 1 and 2.

The power breakdown for each operating mode in each tower is tabulated below:

**DAY MODE (Power in Watts)**

	#1 ASR #1059595	#2 ASR #1059596	#3 ASR #1059597	#4 ASR #1059598	#5 ASR #1059599
KXNT	16,967.6	24,244.2	-113.4	8,901.6	----
KDWN Proposed	----	25,000.0	----	----	----
KXST Proposed	10,791.2	----	1,208.8	----	----
<b>TOTAL POWER</b>	<b>27,758.8</b>	<b>49,244.2</b>	<b>1,322.2</b>	<b>8,901.6</b>	<b>----</b>

**NIGHT MODE (Power in Watts)**

	#1 ASR #1059595	#2 ASR #1059596	#3 ASR #1059597	#4 ASR #1059598	#5 ASR #1059599
KXNT	8,483.8	12,122.1	-56.7	4,450.8	----
KDWN Proposed	3,136.5	----	687.6	175.9	----
KXST Proposed	-----	63.1	36.9	0.3	----
<b>TOTAL POWER</b>	<b>11,575.3</b>	<b>12,185.2</b>	<b>780.1</b>	<b>4,627.0</b>	<b>----</b>

The daytime mode represents the highest power levels for all towers. The highest combined input power to any tower is 49,244.2 watts at the input to Tower #2 during the daytime operating mode. A fence of no less than 6.1 meters (assuming worst case assumptions as defined above) from the base of tower #2 would be compliant with the

radio-frequency energy requirements of the FCC regarding the occupational/controlled and the general population/uncontrolled MPE limits.

For Towers #1, #3 and #4, the maximum power also occurs during the day mode. Tower #5 is unused. A summary of the minimum necessary fencing requirements for all the used towers are:

Tower #1: 4.6 meters  
Tower #2: 6.1 meters  
Tower #3: 1.6 meters  
Tower #4: 3.2 meters

The existing fencing will be modified if necessary to meet these fencing requirements. Each fence will be locked to preclude public access and appropriate warning signs will be installed on the fence. In addition, the perimeter of the tower site is fenced to prevent public access.

#### OCCUPATIONAL SAFETY

As stated above, access to the area surrounding the base of each of the KDWN/KXST/KXNT towers will be restricted to authorized maintenance personnel only. The licensee(s) of KDWN, KXST and KXNT will institute procedures to ensure protection of station personnel and tower contractors working on or in the immediate vicinity of the towers. Procedures will be followed during times of service or maintenance of the

transmission systems to ensure that personnel are not exposed to energy levels in excess of the maximum permissible exposure limit.

In light of the above, the proposed facility would be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

### CONCLUSION

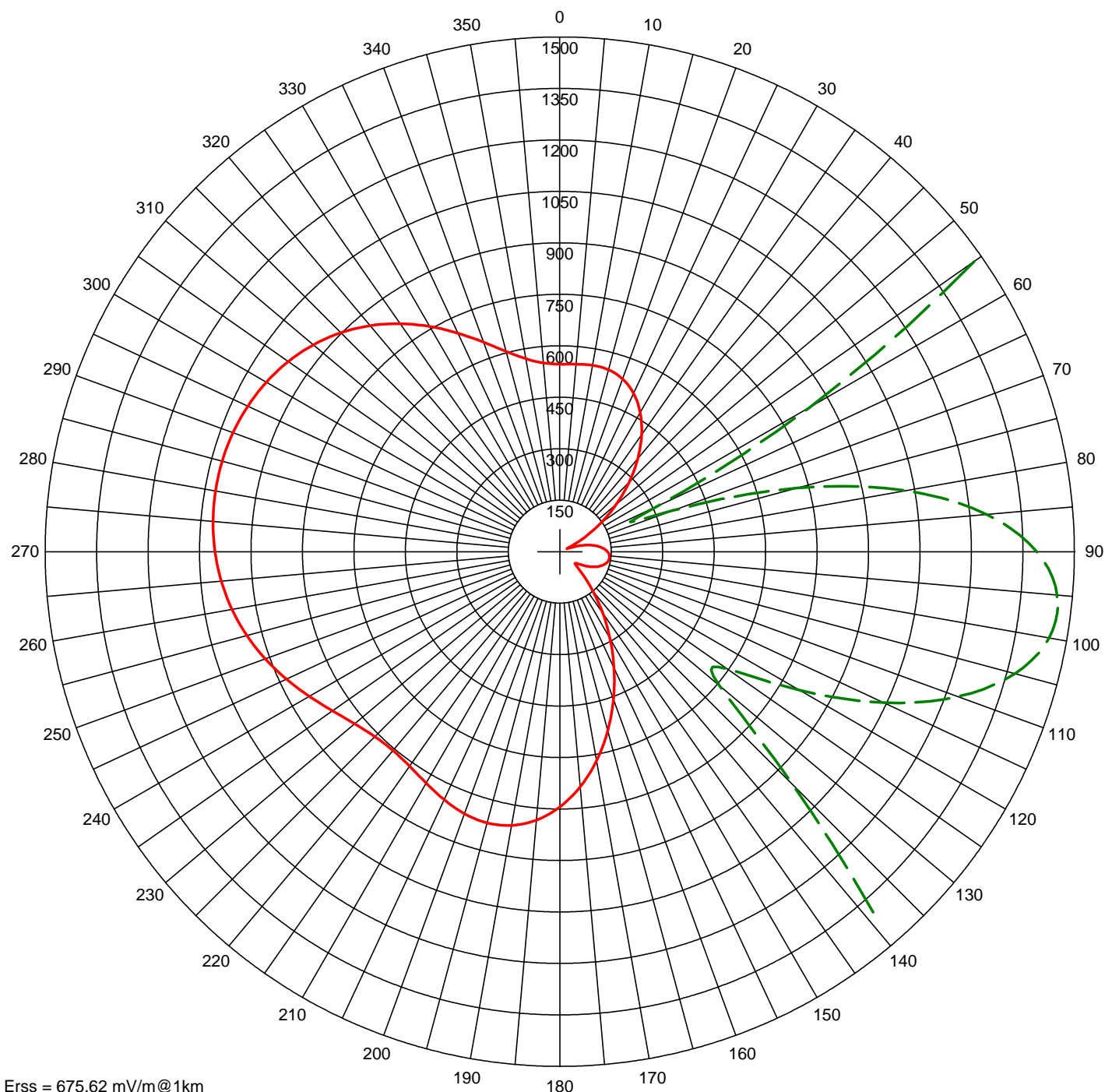
It is submitted that the proposed facility described herein would comply with the technical standards of the Commission's Rules and Regulations. This engineering statement, Section III of FCC Form 301, and the associated figures were prepared by me or under my direct supervision and are believed to be true and correct.

DATED: September 20, 2023



FIGURE 1

## AM Directional Pattern



Erss = 675.62 mV/m@1km  
 Theo RMS: 618.6 mV/m@1km  
 Std RMS: 649.8 mV/m@1km  
 Q: 20.0 mV/m@1km

Standard Horizontal Plane Pattern

— Pattern (mV/m @ 1km)  
 - - - Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Switch	TL Switch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	77.1	0	0	0.0	0.0	0.0	0.0
2	0.790	103.4	77.1	90.0	77.1	0	0	0.0	0.0	0.0	0.0
3	0.240	-16.0	270.1	104.4	77.1	0	0	0.0	0.0	0.0	0.0

**PROPOSED NIGHTTIME HORIZONTAL PLANE  
 STANDARD RADIATION PATTERN  
 KDWN - LAS VEGAS, NEVADA  
 720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
 SEPTEMBER, 2023**

Call: KDWNPRO  
 Freq: 720 kHz  
 LAS VEGAS, NV, US  
 Hours: N  
 Lat: 36-23-53 N [NAD27]  
 Lng: 114-54-00 W  
 Power: 4.0 kW  
 Theo RMS: 618.6 mV/m@1km  
 @ 4.0 kW



FIGURE 2

## AM Radiation Report

Call: KDWNPRO  
 Freq: 720 kHz  
 LAS VEGAS, NV, US  
 Hours: N  
 Lat: 36-23-53 N [NAD27]  
 Lng: 114-54-00 W  
 Power: 4.0 kW  
 Theo RMS: 618.6 mV/m @ 1km @ 4.0 kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Switch	TL Switch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	77.1	0	0	0.0	0.0	0.0	0.0
2	0.790	103.4	77.1	90.0	77.1	0	0	0.0	0.0	0.0	0.0
3	0.240	-16.0	270.1	104.4	77.1	0	0	0.0	0.0	0.0	0.0

## Standard Horizontal Plane Pattern

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	546.32	120.0	80.64	240.0	842.98
5.0	548.44	125.0	59.52	245.0	879.01
10.0	551.51	130.0	60.86	250.0	913.53
15.0	548.85	135.0	96.16	255.0	944.29
20.0	535.54	140.0	151.29	260.0	970.01
25.0	508.94	145.0	218.14	265.0	990.23
30.0	468.64	150.0	293.32	270.0	1004.95
35.0	416.09	155.0	374.19	275.0	1014.41
40.0	354.04	160.0	457.75	280.0	1018.91
45.0	286.06	165.0	540.47	285.0	1018.61
50.0	215.95	170.0	618.40	290.0	1013.51
55.0	147.41	175.0	687.50	295.0	1003.36
60.0	83.97	180.0	744.10	300.0	987.72
65.0	31.88	185.0	785.40	305.0	966.02
70.0	35.06	190.0	809.98	310.0	937.67
75.0	71.65	195.0	818.23	315.0	902.28
80.0	102.40	200.0	812.57	320.0	859.86
85.0	124.84	205.0	797.43	325.0	811.10
90.0	139.06	210.0	778.79	330.0	757.69
95.0	145.54	215.0	763.27	335.0	702.52
100.0	144.79	220.0	756.64	340.0	649.75
105.0	137.32	225.0	762.33	345.0	604.37
110.0	123.56	230.0	780.57	350.0	571.03
115.0	104.12	235.0	808.79	355.0	552.15

FIGURE 3

**Standard Pattern  
Calculated at 5.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	544.09	120.0	77.33	240.0	836.94
5.0	546.24	125.0	57.52	245.0	872.51
10.0	549.27	130.0	61.50	250.0	906.67
15.0	546.63	135.0	98.13	255.0	937.16
20.0	533.46	140.0	153.37	260.0	962.73
25.0	507.19	145.0	219.86	265.0	982.85
30.0	467.41	150.0	294.47	270.0	997.53
35.0	415.51	155.0	374.61	275.0	1006.98
40.0	354.22	160.0	457.34	280.0	1011.47
45.0	287.03	165.0	539.17	285.0	1011.18
50.0	217.69	170.0	616.21	290.0	1006.08
55.0	149.83	175.0	684.49	295.0	995.93
60.0	86.91	180.0	740.40	300.0	980.30
65.0	34.43	185.0	781.19	305.0	958.65
70.0	31.96	190.0	805.48	310.0	930.41
75.0	67.59	195.0	813.64	315.0	895.21
80.0	98.10	200.0	808.07	320.0	853.08
85.0	120.45	205.0	793.12	325.0	804.75
90.0	134.66	210.0	774.67	330.0	751.90
95.0	141.17	215.0	759.23	335.0	697.41
100.0	140.51	220.0	752.49	340.0	645.41
105.0	133.14	225.0	757.86	345.0	600.80
110.0	119.53	230.0	775.62	350.0	568.12
115.0	100.33	235.0	803.29	355.0	549.69

FIGURE 4

**Standard Pattern  
Calculated at 10.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	537.42	120.0	67.84	240.0	819.10
5.0	539.66	125.0	52.69	245.0	853.27
10.0	542.58	130.0	64.45	250.0	886.33
15.0	539.98	135.0	104.26	255.0	916.04
20.0	527.26	140.0	159.54	260.0	941.09
25.0	501.96	145.0	224.92	265.0	960.92
30.0	463.67	150.0	297.78	270.0	975.45
35.0	413.70	155.0	375.75	275.0	984.85
40.0	354.63	160.0	456.00	280.0	989.33
45.0	289.78	165.0	535.20	285.0	989.03
50.0	222.72	170.0	609.63	290.0	983.93
55.0	156.92	175.0	675.50	295.0	973.80
60.0	95.58	180.0	729.39	300.0	958.24
65.0	42.78	185.0	768.69	305.0	936.76
70.0	24.35	190.0	792.10	310.0	908.86
75.0	55.77	195.0	800.01	315.0	874.25
80.0	85.43	200.0	794.70	320.0	833.03
85.0	107.47	205.0	780.30	325.0	785.97
90.0	121.62	210.0	762.41	330.0	734.80
95.0	128.24	215.0	747.21	335.0	682.35
100.0	127.80	220.0	740.18	340.0	632.61
105.0	120.77	225.0	744.64	345.0	590.26
110.0	107.63	230.0	761.00	350.0	559.52
115.0	89.20	235.0	787.05	355.0	542.41

FIGURE 5

**Standard Pattern  
Calculated at 15.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	526.45	120.0	54.14	240.0	790.24
5.0	528.80	125.0	49.18	245.0	822.11
10.0	531.55	130.0	71.99	250.0	853.32
15.0	529.01	135.0	114.90	255.0	881.66
20.0	517.01	140.0	169.61	260.0	905.80
25.0	493.25	145.0	232.94	265.0	925.07
30.0	457.35	150.0	302.86	270.0	939.30
35.0	410.47	155.0	377.24	275.0	948.56
40.0	354.96	160.0	453.46	280.0	952.98
45.0	293.87	165.0	528.41	285.0	952.67
50.0	230.50	170.0	598.63	290.0	947.58
55.0	168.05	175.0	660.64	295.0	937.52
60.0	109.43	180.0	711.29	300.0	922.12
65.0	57.60	185.0	748.21	305.0	900.99
70.0	21.81	190.0	770.23	310.0	873.73
75.0	37.62	195.0	777.74	315.0	840.16
80.0	65.22	200.0	772.83	320.0	800.50
85.0	86.57	205.0	759.32	325.0	755.61
90.0	100.54	210.0	742.34	330.0	707.22
95.0	107.28	215.0	727.57	335.0	658.10
100.0	107.20	220.0	720.10	340.0	612.01
105.0	100.74	225.0	723.16	345.0	573.26
110.0	88.49	230.0	737.34	350.0	545.56
115.0	71.66	235.0	760.79	355.0	530.50

FIGURE 6

**Standard Pattern  
Calculated at 20.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	511.37	120.0	42.23	240.0	751.64
5.0	513.82	125.0	53.97	245.0	780.34
10.0	516.33	130.0	85.83	250.0	808.94
15.0	513.89	135.0	130.03	255.0	835.30
20.0	502.83	140.0	183.08	260.0	858.03
25.0	481.10	145.0	243.27	265.0	876.40
30.0	448.31	150.0	309.05	270.0	890.09
35.0	405.49	155.0	378.52	275.0	899.05
40.0	354.69	160.0	449.30	280.0	903.34
45.0	298.59	165.0	518.56	285.0	903.00
50.0	240.15	170.0	583.20	290.0	897.95
55.0	182.25	175.0	640.11	295.0	888.04
60.0	127.48	180.0	686.50	300.0	872.98
65.0	78.15	185.0	720.30	305.0	852.46
70.0	37.22	190.0	740.49	310.0	826.23
75.0	20.14	195.0	747.46	315.0	794.25
80.0	39.38	200.0	743.08	320.0	756.86
85.0	59.05	205.0	730.74	325.0	715.03
90.0	72.52	210.0	714.97	330.0	670.48
95.0	79.33	215.0	700.83	335.0	625.87
100.0	79.73	220.0	692.91	340.0	584.65
105.0	74.19	225.0	694.24	345.0	550.59
110.0	63.61	230.0	705.62	350.0	526.77
115.0	50.33	235.0	725.67	355.0	514.28

FIGURE 7

**Standard Pattern  
Calculated at 25.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	492.41	120.0	45.49	240.0	704.96
5.0	494.92	125.0	70.47	245.0	729.73
10.0	497.13	130.0	105.70	250.0	754.99
15.0	494.82	135.0	148.93	255.0	778.70
20.0	484.87	140.0	199.02	260.0	799.49
25.0	465.53	145.0	254.95	265.0	816.51
30.0	436.43	150.0	315.43	270.0	829.34
35.0	398.40	155.0	378.80	275.0	837.79
40.0	353.16	160.0	442.94	280.0	841.82
45.0	303.03	165.0	505.34	285.0	841.40
50.0	250.55	170.0	563.32	290.0	836.45
55.0	198.22	175.0	614.17	295.0	826.84
60.0	148.31	180.0	655.53	300.0	812.35
65.0	102.77	185.0	685.64	305.0	792.81
70.0	63.26	190.0	703.68	310.0	768.09
75.0	32.10	195.0	710.00	315.0	738.31
80.0	18.56	200.0	706.24	320.0	703.96
85.0	28.59	205.0	695.28	325.0	666.07
90.0	40.07	210.0	680.99	330.0	626.34
95.0	46.62	215.0	667.70	335.0	587.24
100.0	47.72	220.0	659.40	340.0	551.82
105.0	44.05	225.0	658.88	345.0	523.23
110.0	37.72	230.0	667.10	350.0	503.81
115.0	34.93	235.0	683.18	355.0	494.14

FIGURE 8

**Standard Pattern  
Calculated at 30.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	469.87	120.0	67.44	240.0	652.17
5.0	472.35	125.0	95.37	245.0	672.44
10.0	474.21	130.0	129.75	250.0	693.70
15.0	472.06	135.0	170.16	255.0	714.14
20.0	463.34	140.0	216.06	260.0	732.39
25.0	446.61	145.0	266.66	265.0	747.57
30.0	421.53	150.0	320.86	270.0	759.14
35.0	388.75	155.0	377.17	275.0	766.80
40.0	349.66	160.0	433.74	280.0	770.41
45.0	306.16	165.0	488.44	285.0	769.87
50.0	260.36	170.0	538.99	290.0	765.09
55.0	214.39	175.0	583.15	295.0	755.96
60.0	170.18	180.0	618.98	300.0	742.37
65.0	129.40	185.0	645.06	305.0	724.23
70.0	93.37	190.0	660.74	310.0	701.58
75.0	63.14	195.0	666.35	315.0	674.67
80.0	39.73	200.0	663.24	320.0	644.11
85.0	24.71	205.0	653.80	325.0	610.97
90.0	19.61	210.0	641.19	330.0	576.88
95.0	20.84	215.0	628.98	335.0	544.04
100.0	23.06	220.0	620.50	340.0	515.00
105.0	25.96	225.0	618.22	345.0	492.23
110.0	32.78	230.0	623.21	350.0	477.37
115.0	46.42	235.0	635.05	355.0	470.49

FIGURE 9

**Standard Pattern  
Calculated at 35.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	444.02	120.0	97.78	240.0	595.40
5.0	446.36	125.0	124.05	245.0	610.82
10.0	447.86	130.0	155.46	250.0	627.63
15.0	445.89	135.0	191.76	255.0	644.25
20.0	438.46	140.0	232.48	260.0	659.44
25.0	424.42	145.0	276.90	265.0	672.28
30.0	403.48	150.0	324.04	270.0	682.16
35.0	376.13	155.0	372.60	275.0	688.72
40.0	343.44	160.0	421.02	280.0	691.72
45.0	306.89	165.0	467.54	285.0	691.02
50.0	268.19	170.0	510.28	290.0	686.50
55.0	229.08	175.0	547.47	295.0	678.08
60.0	191.15	180.0	577.57	300.0	665.73
65.0	155.83	185.0	599.47	305.0	649.47
70.0	124.23	190.0	612.71	310.0	629.46
75.0	97.22	195.0	617.56	315.0	606.07
80.0	75.41	200.0	615.12	320.0	579.97
85.0	59.20	205.0	607.25	325.0	552.23
90.0	48.77	210.0	596.45	330.0	524.33
95.0	44.03	215.0	585.52	335.0	498.13
100.0	44.65	220.0	577.14	340.0	475.64
105.0	50.31	225.0	573.41	345.0	458.63
110.0	60.97	230.0	575.40	350.0	448.09
115.0	76.75	235.0	583.06	355.0	443.74



FIGURE 10

**Standard Pattern  
Calculated at 40.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	415.14	120.0	129.59	240.0	536.69
5.0	417.23	125.0	152.72	245.0	547.29
10.0	418.36	130.0	180.12	250.0	559.46
15.0	416.59	135.0	211.47	255.0	571.94
20.0	410.44	140.0	246.31	260.0	583.65
25.0	399.05	145.0	283.99	265.0	593.74
30.0	382.18	150.0	323.62	270.0	601.59
35.0	360.16	155.0	364.10	275.0	606.76
40.0	333.79	160.0	404.17	280.0	608.98
45.0	304.19	165.0	442.39	285.0	608.06
50.0	272.67	170.0	477.32	290.0	603.89
55.0	240.58	175.0	507.58	295.0	596.42
60.0	209.22	180.0	532.02	300.0	585.66
65.0	179.74	185.0	549.82	305.0	571.73
70.0	153.11	190.0	560.65	310.0	554.86
75.0	130.08	195.0	564.73	315.0	535.51
80.0	111.21	200.0	562.92	320.0	514.36
85.0	96.85	205.0	556.60	325.0	492.39
90.0	87.24	210.0	547.66	330.0	470.87
95.0	82.46	215.0	538.19	335.0	451.26
100.0	82.50	220.0	530.26	340.0	435.02
105.0	87.30	225.0	525.53	345.0	423.28
110.0	96.79	230.0	525.01	350.0	416.51
115.0	110.91	235.0	528.91	355.0	414.24

FIGURE 11

**Standard Pattern  
Calculated at 45.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	383.48	120.0	158.71	240.0	477.84
5.0	385.23	125.0	178.12	245.0	484.04
10.0	386.00	130.0	200.98	250.0	491.76
15.0	384.45	135.0	226.96	255.0	500.09
20.0	379.54	140.0	255.59	260.0	508.18
25.0	370.63	145.0	286.29	265.0	515.30
30.0	357.56	150.0	318.32	270.0	520.87
35.0	340.55	155.0	350.77	275.0	524.46
40.0	320.14	160.0	382.64	280.0	525.78
45.0	297.15	165.0	412.85	285.0	524.63
50.0	272.53	170.0	440.31	290.0	520.91
55.0	247.31	175.0	464.01	295.0	514.57
60.0	222.47	180.0	483.12	300.0	505.69
65.0	198.93	185.0	497.06	305.0	494.41
70.0	177.47	190.0	505.61	310.0	481.04
75.0	158.75	195.0	508.95	315.0	466.02
80.0	143.25	200.0	507.69	320.0	449.99
85.0	131.35	205.0	502.84	325.0	433.78
90.0	123.27	210.0	495.72	330.0	418.38
95.0	119.16	215.0	487.83	335.0	404.84
100.0	119.09	220.0	480.67	340.0	394.10
105.0	123.06	225.0	475.50	345.0	386.80
110.0	131.04	230.0	473.18	350.0	383.02
115.0	142.96	235.0	474.02	355.0	382.27

FIGURE 12

**Standard Pattern  
Calculated at 50.0 Degrees Elevation**

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	349.26	120.0	181.81	240.0	420.20
5.0	350.61	125.0	197.34	245.0	422.77
10.0	351.07	130.0	215.52	250.0	426.64
15.0	349.75	135.0	236.03	255.0	431.21
20.0	345.96	140.0	258.47	260.0	435.89
25.0	339.30	145.0	282.34	265.0	440.10
30.0	329.62	150.0	307.04	270.0	443.38
35.0	317.08	155.0	331.88	275.0	445.36
40.0	302.03	160.0	356.10	280.0	445.76
45.0	285.04	165.0	378.92	285.0	444.41
50.0	266.75	170.0	399.55	290.0	441.20
55.0	247.91	175.0	417.31	295.0	436.12
60.0	229.23	180.0	431.61	300.0	429.26
65.0	211.39	185.0	442.08	305.0	420.79
70.0	195.02	190.0	448.56	310.0	410.98
75.0	180.62	195.0	451.21	315.0	400.24
80.0	168.62	200.0	450.42	320.0	389.10
85.0	159.35	205.0	446.89	325.0	378.18
90.0	153.04	210.0	441.48	330.0	368.18
95.0	149.84	215.0	435.21	335.0	359.75
100.0	149.84	220.0	429.10	340.0	353.43
105.0	153.08	225.0	424.04	345.0	349.49
110.0	159.54	230.0	420.70	350.0	347.84
115.0	169.16	235.0	419.41	355.0	348.02

FIGURE 13

**Standard Pattern  
Calculated at 55.0 Degrees Elevation**

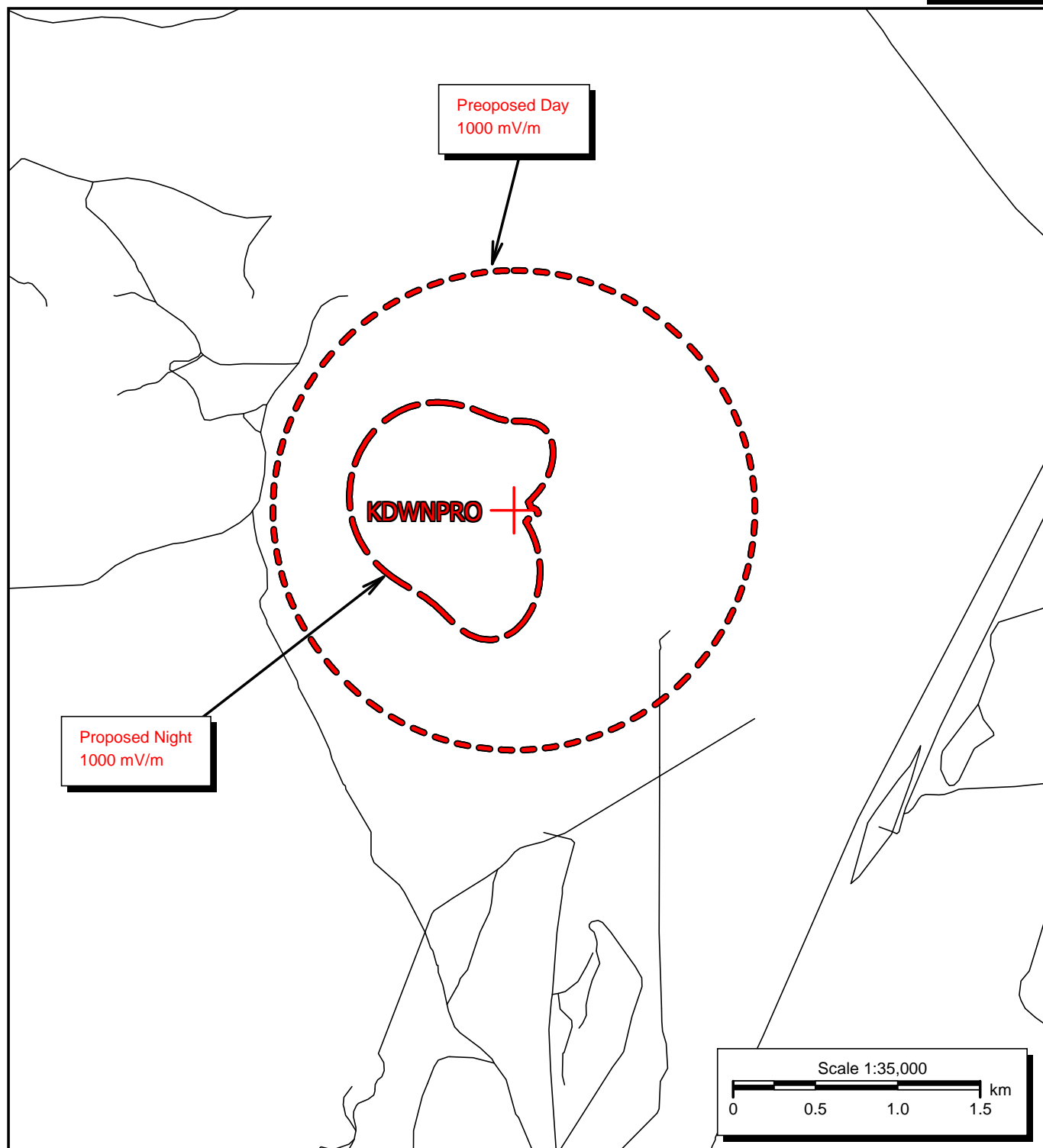
Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	312.68	120.0	196.15	240.0	364.46
5.0	313.61	125.0	207.90	245.0	364.47
10.0	313.80	130.0	221.55	250.0	365.44
15.0	312.72	135.0	236.85	255.0	367.03
20.0	309.93	140.0	253.46	260.0	368.87
25.0	305.19	145.0	271.00	265.0	370.60
30.0	298.41	150.0	289.01	270.0	371.87
35.0	289.67	155.0	307.00	275.0	372.42
40.0	279.21	160.0	324.42	280.0	372.02
45.0	267.37	165.0	340.74	285.0	370.54
50.0	254.60	170.0	355.44	290.0	367.90
55.0	241.37	175.0	368.06	295.0	364.10
60.0	228.18	180.0	378.23	300.0	359.22
65.0	215.52	185.0	385.71	305.0	353.41
70.0	203.83	190.0	390.41	310.0	346.89
75.0	193.49	195.0	392.42	315.0	339.99
80.0	184.85	200.0	392.01	320.0	333.06
85.0	178.16	205.0	389.59	325.0	326.52
90.0	173.63	210.0	385.71	330.0	320.79
95.0	171.40	215.0	381.01	335.0	316.23
100.0	171.56	220.0	376.14	340.0	313.07
105.0	174.14	225.0	371.66	345.0	311.38
110.0	179.15	230.0	368.06	350.0	311.00
115.0	186.52	235.0	365.63	355.0	311.61

FIGURE 14

**Standard Pattern  
Calculated at 60.0 Degrees Elevation**

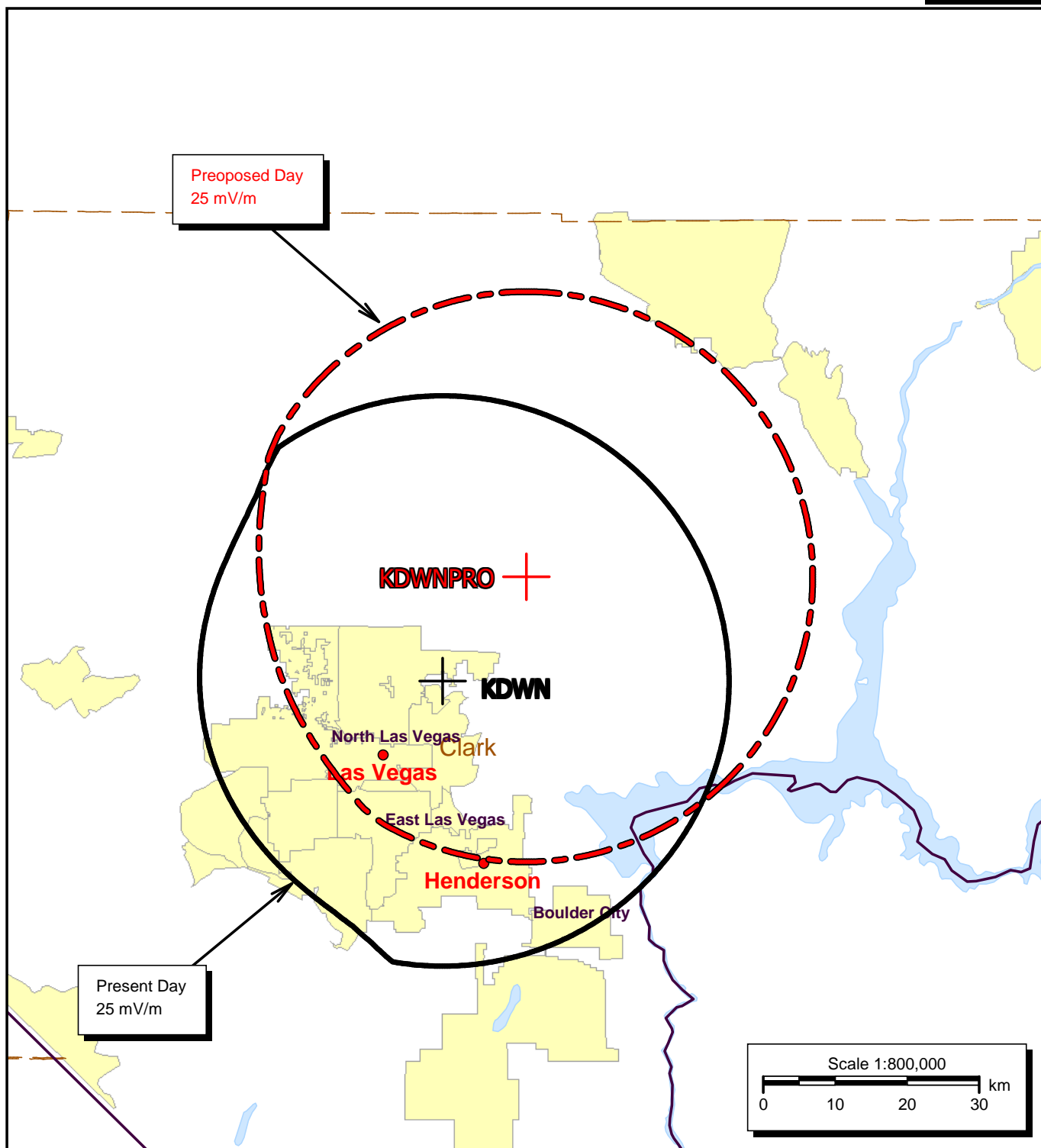
Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	273.87	120.0	199.64	240.0	310.69
5.0	274.42	125.0	207.93	245.0	309.30
10.0	274.42	130.0	217.49	250.0	308.50
15.0	273.56	135.0	228.13	255.0	308.14
20.0	271.62	140.0	239.60	260.0	308.04
25.0	268.45	145.0	251.61	265.0	308.00
30.0	264.01	150.0	263.87	270.0	307.82
35.0	258.34	155.0	276.02	275.0	307.33
40.0	251.57	160.0	287.74	280.0	306.40
45.0	243.93	165.0	298.66	285.0	304.93
50.0	235.67	170.0	308.46	290.0	302.87
55.0	227.09	175.0	316.87	295.0	300.24
60.0	218.50	180.0	323.66	300.0	297.09
65.0	210.23	185.0	328.69	305.0	293.52
70.0	202.56	190.0	331.91	310.0	289.69
75.0	195.77	195.0	333.36	315.0	285.80
80.0	190.10	200.0	333.21	320.0	282.07
85.0	185.73	205.0	331.69	325.0	278.71
90.0	182.82	210.0	329.11	330.0	275.94
95.0	181.48	215.0	325.84	335.0	273.90
100.0	181.80	220.0	322.25	340.0	272.67
105.0	183.80	225.0	318.69	345.0	272.23
110.0	187.47	230.0	315.45	350.0	272.45
115.0	192.78	235.0	312.74	355.0	273.10

FIGURE 15



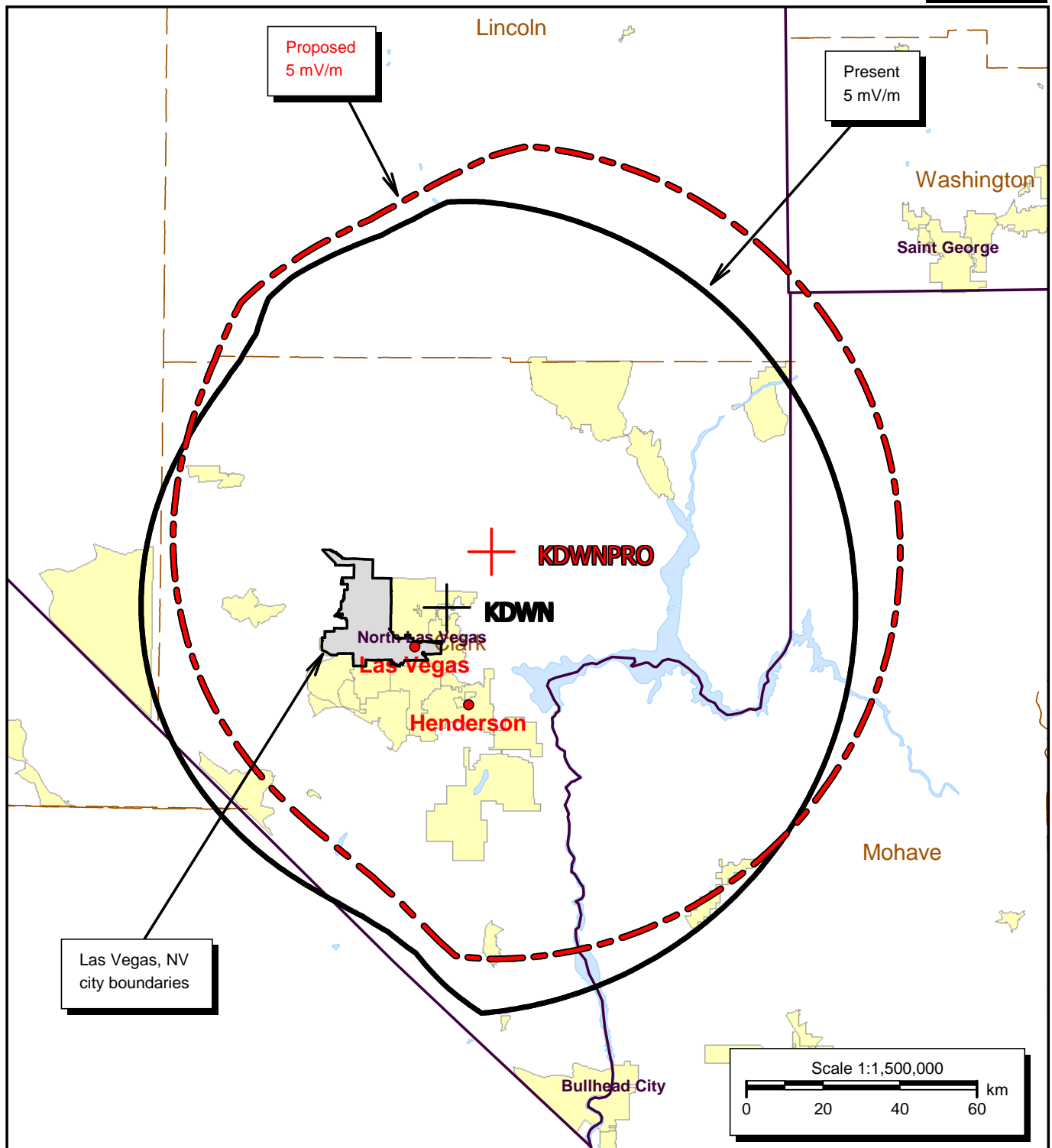
PRESENT AND PROPOSED 1000 MV/M  
DAYTIME AND NIGHTTIME COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

FIGURE 16



PRESENT AND PROPOSED 25.0 MV/M  
DAYTIME COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

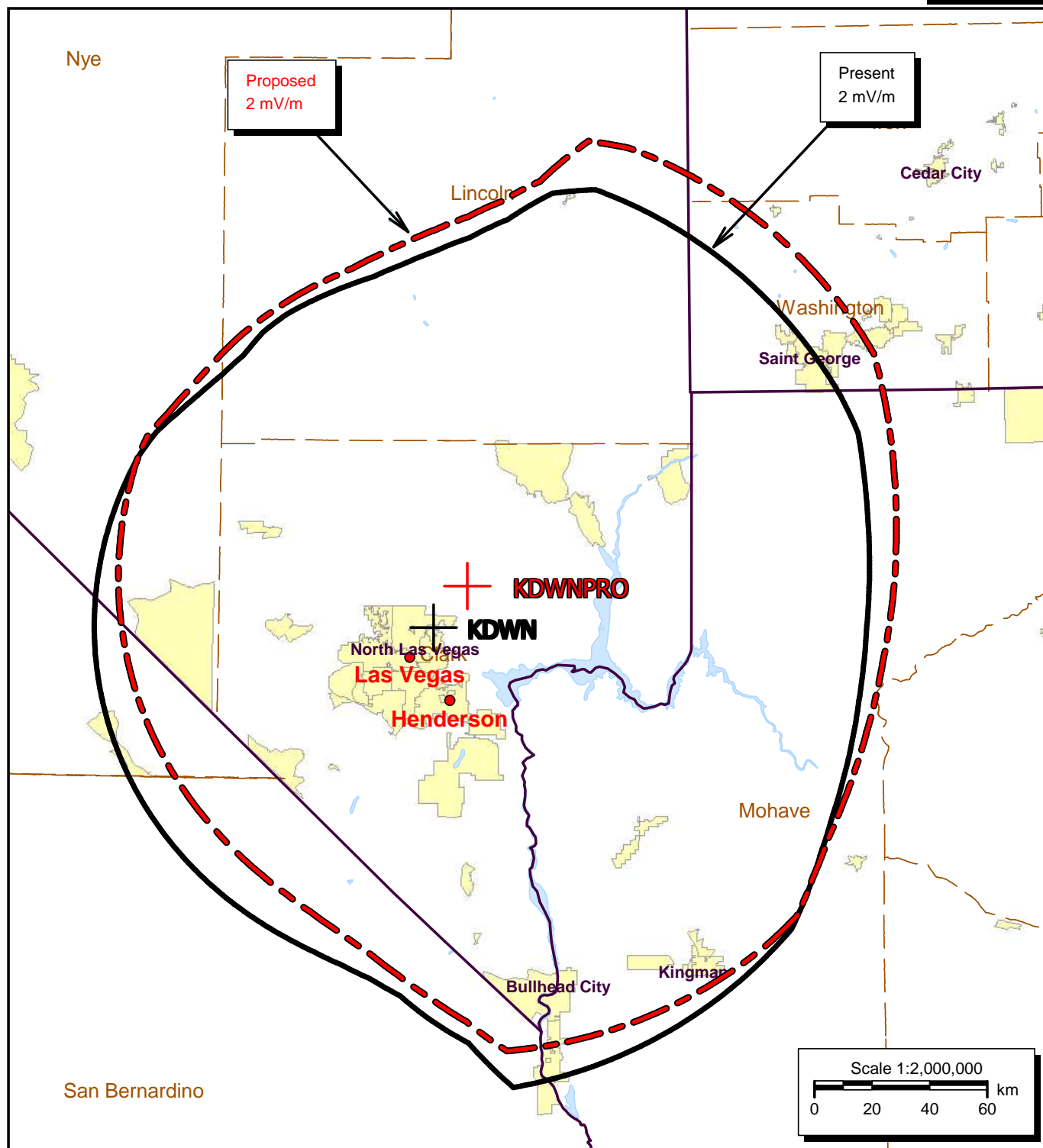
FIGURE 17



PRESENT AND PROPOSED 5.0 MV/M  
DAYTIME COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

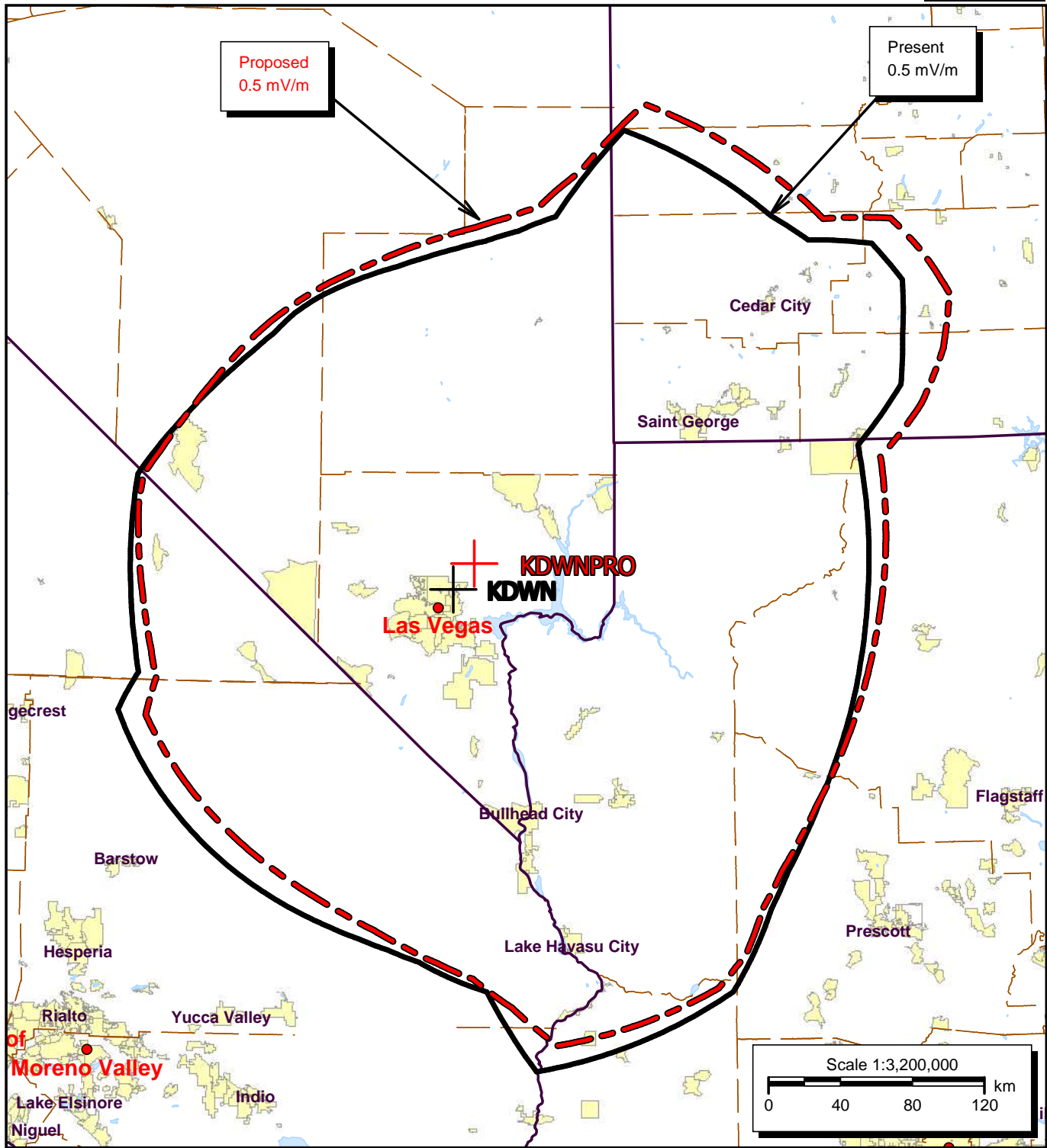


FIGURE 18



PRESENT AND PROPOSED 2.0 MV/M  
DAYTIME COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

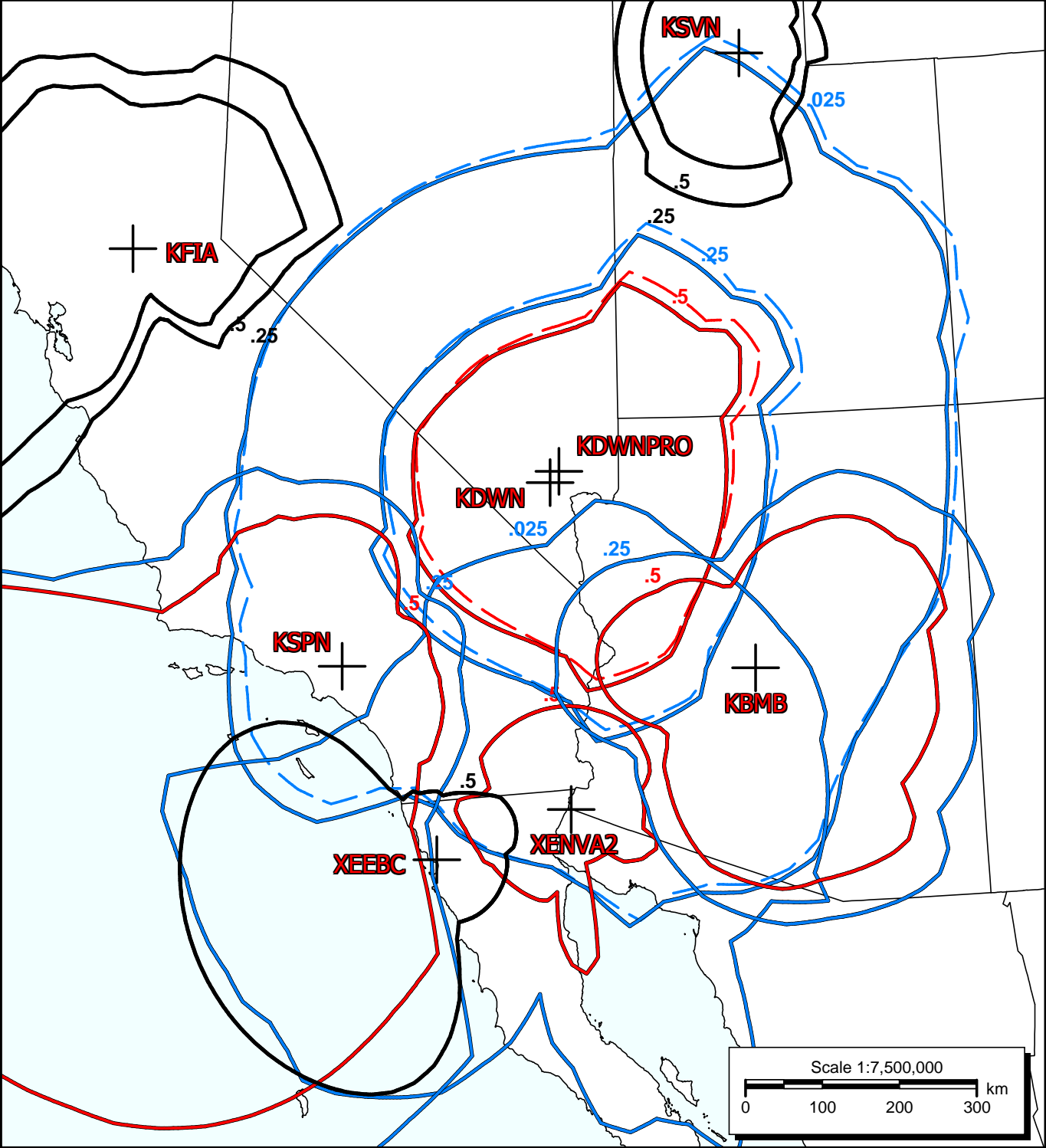
FIGURE 19



PRESENT AND PROPOSED 0.5 MV/M  
DAYTIME COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023



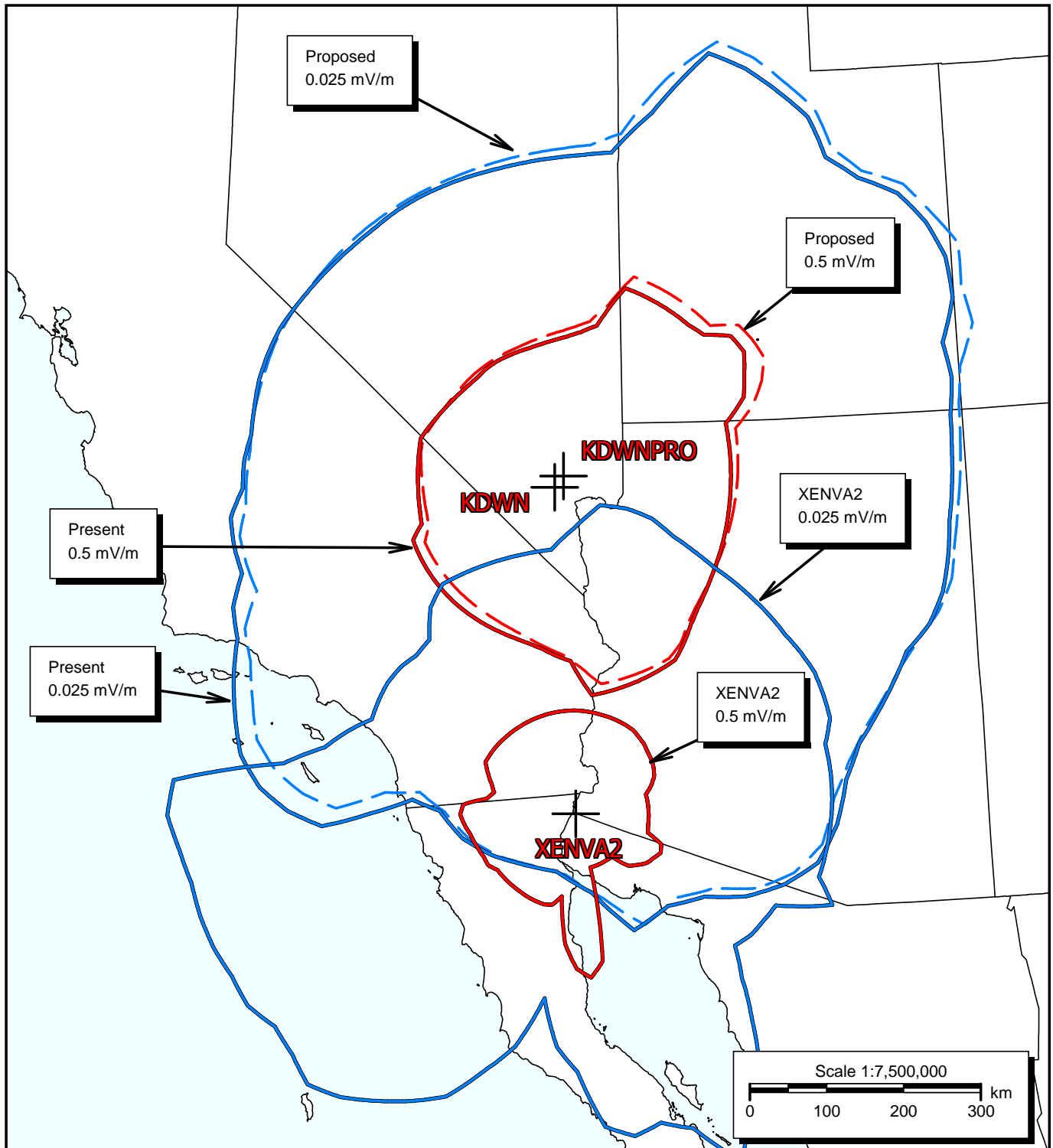
FIGURE 20



DAYTIME ALLOCATION STUDY  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

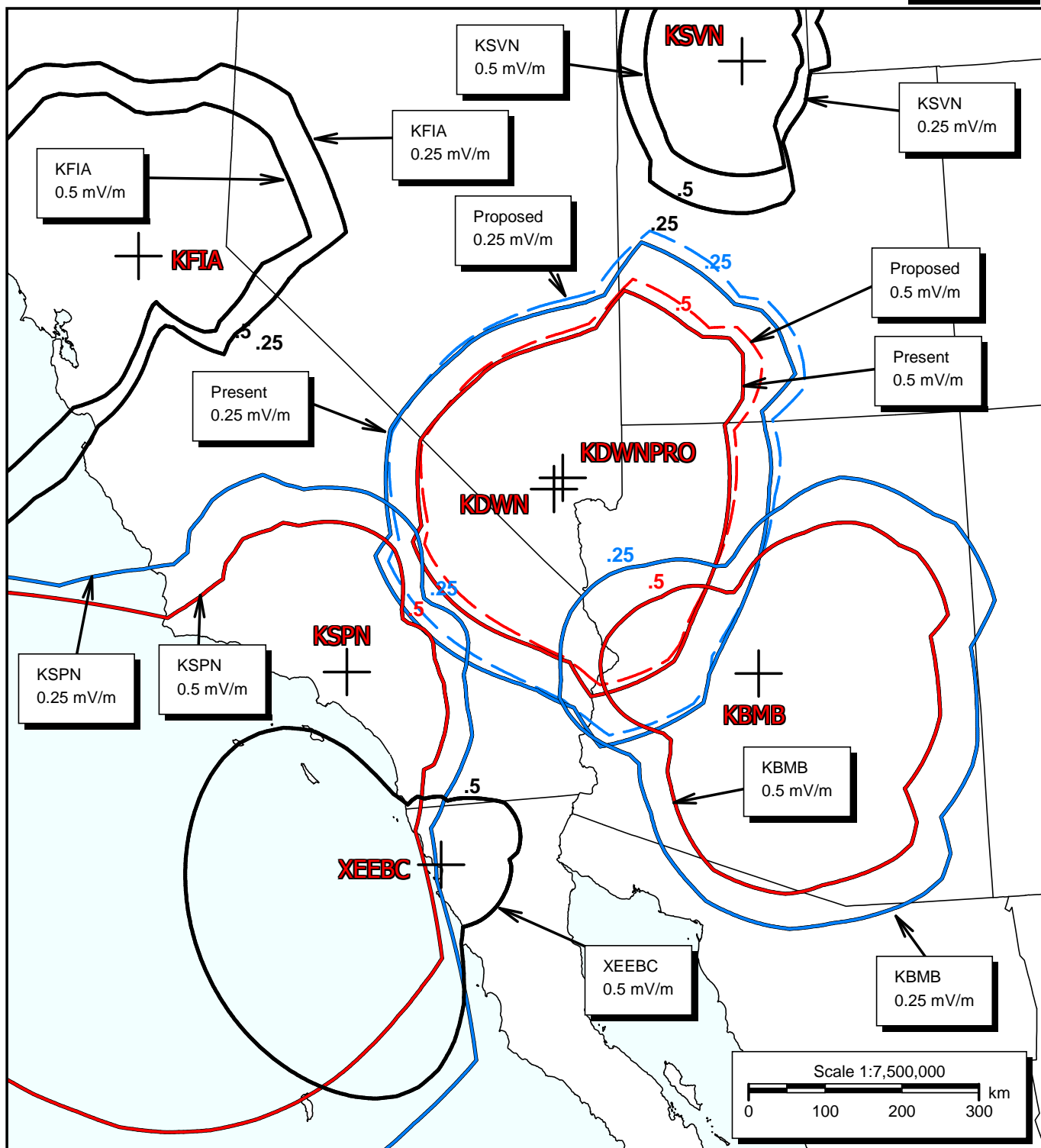


FIGURE 20A



DAYTIME ALLOCATION STUDY  
CO-CHANNEL STATIONS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

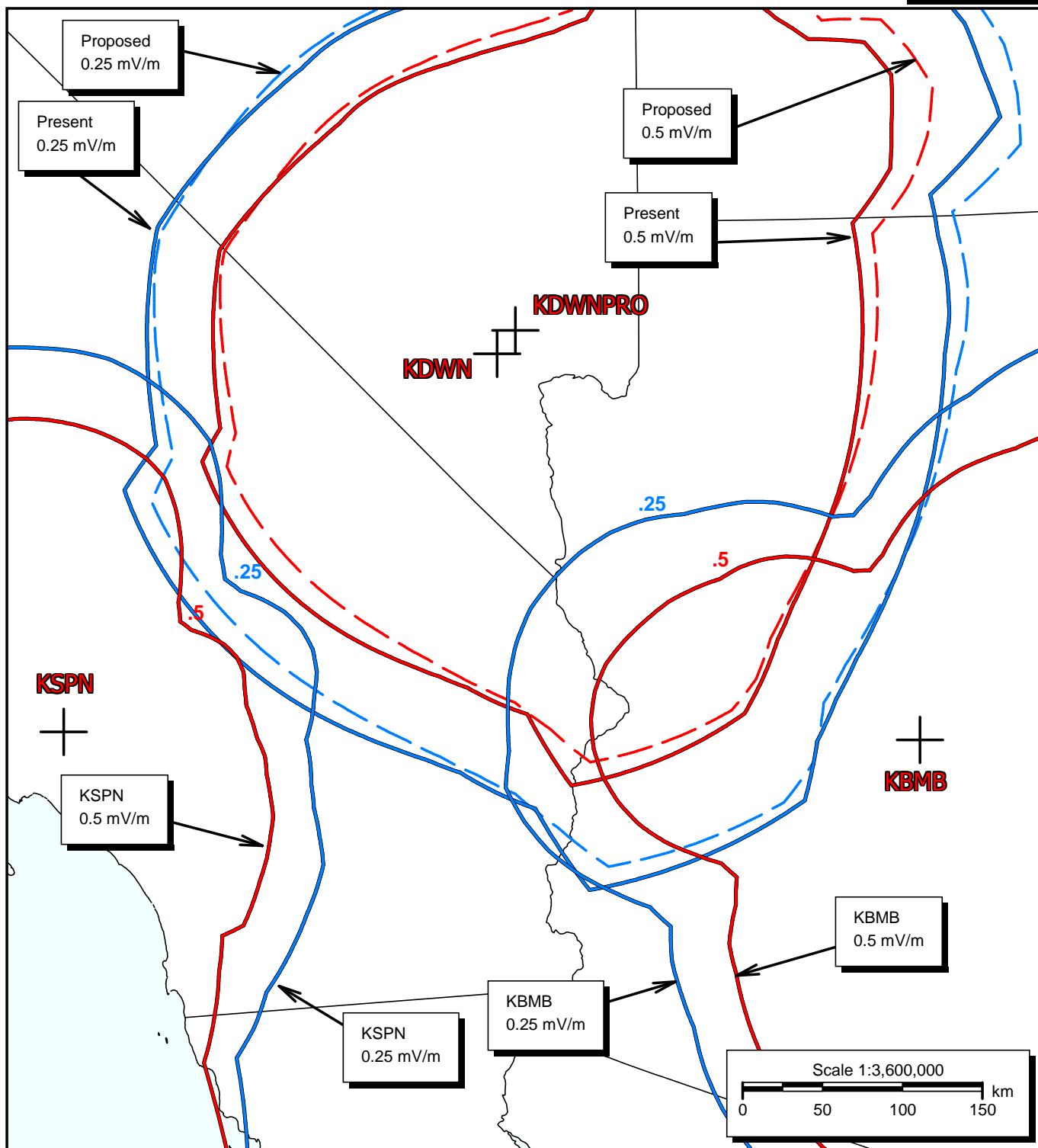
FIGURE 20B



DAYTIME ALLOCATION STUDY  
FIRST-ADJACENT CHANNEL STATIONS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023



FIGURE 20C



DAYTIME ALLOCATION STUDY  
FIRST-ADJACENT CHANNEL STATIONS (EXPANDED)  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

## Night Allocation Protection Report

Call: KDWNPRO  
Freq: 720 kHz  
LAS VEGAS, NV, US  
Hours: N  
Lat: 36-23-53 N [NAD27]  
Lng: 114-54-00 W  
Power: 4.0 kW  
Theo RMS: 618.6 mV/m @ 1km @ 4.0 kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	77.1	0	0	0.0	0.0	0.0	0.0
2	0.790	103.4	77.1	90.0	77.1	0	0	0.0	0.0	0.0	0.0
3	0.240	-16.0	270.1	104.4	77.1	0	0	0.0	0.0	0.0	0.0

Call Letters	Ct	St	City	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	Margin (mV/m)
NEW KELOWNA/ 50% = 5.721, 25% = 5.721; NEW MEDICINE HAT/	CA	BC	KELOWNA	24.42	2.865	586.60	583.51	3.09
=3.91 WGN=3.04 KDWN=2.86								
KFIA 50% = 5.813, 25% = 6.064; KIRO=5.81 KDWN=1.73	US	CA	CARMICHAEL	89.76	1.727	961.99	957.23	4.76
WGN (0)	US	IL	CHICAGO	5.37	0.500	465.20S	204.97	260.24
WGN (5)	US	IL	CHICAGO	5.19	0.531	511.69s	189.93	321.75
WGN (10)	US	IL	CHICAGO	5.03	0.560	556.85s	175.66	381.19
WGN (15)	US	IL	CHICAGO	4.88	0.582	596.08s	162.94	433.14
WGN (20)	US	IL	CHICAGO	4.75	0.599	630.81s	151.35	479.46
WGN (25)	US	IL	CHICAGO	4.67	0.626	670.54s	137.99	532.55
WGN (30)	US	IL	CHICAGO	4.52	0.624	690.86s	128.92	561.95
WGN (35)	US	IL	CHICAGO	4.52	0.661	731.53s	114.55	616.99
WGN (40)	US	IL	CHICAGO	4.48	0.680	758.82s	102.65	656.17
WGN (45)	US	IL	CHICAGO	4.36	0.671	768.60s	93.89	674.71
WGN (50)	US	IL	CHICAGO	4.31	0.674	783.25s	83.48	699.77
WGN (55)	US	IL	CHICAGO	4.38	0.713	814.31s	70.61	743.71
WGN (60)	US	IL	CHICAGO	4.45	0.744	836.64s	59.16	777.48
WGN (65)	US	IL	CHICAGO	4.51	0.767	850.93s	48.92	802.01
WGN (70)	US	IL	CHICAGO	4.61	0.800	867.58s	39.40	828.17
WGN (75)	US	IL	CHICAGO	3.62	0.500	690.56S	37.01	653.55
WGN (80)	US	IL	CHICAGO	3.65	0.500	684.01S	27.47	656.54
WGN (85)	US	IL	CHICAGO	3.70	0.500	675.10S	22.42	652.68
WGN (90)	US	IL	CHICAGO	3.77	0.500	663.03S	24.41	638.62
WGN (95)	US	IL	CHICAGO	3.85	0.500	648.58S	31.75	616.83
WGN (100)	US	IL	CHICAGO	3.96	0.500	632.04S	41.30	590.73
WGN (105)	US	IL	CHICAGO	4.07	0.500	613.69S	51.47	562.22
WGN (110)	US	IL	CHICAGO	4.21	0.500	593.84S	61.60	532.24
WGN (115)	US	IL	CHICAGO	4.36	0.500	572.76S	71.37	501.40



FIGURE 21  
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WGN (120)	US IL CHICAGO	4.54	0.500	550.74S	80.61	470.13
WGN (125)	US IL CHICAGO	4.74	0.500	527.78S	89.18	438.60
WGN (130)	US IL CHICAGO	4.95	0.500	504.63S	97.12	407.52
WGN (135)	US IL CHICAGO	5.20	0.500	481.22S	104.33	376.89
WGN (140)	US IL CHICAGO	5.46	0.500	457.57S	110.75	346.82
WGN (145)	US IL CHICAGO	5.76	0.500	434.04S	116.43	317.61
WGN (150)	US IL CHICAGO	6.09	0.500	410.78S	121.39	289.38
WGN (155)	US IL CHICAGO	6.45	0.500	387.88S	125.66	262.22
WGN (160)	US IL CHICAGO	6.84	0.500	365.46S	129.27	236.19
WGN (165)	US IL CHICAGO	7.28	0.500	343.60S	132.26	211.34
WGN (170)	US IL CHICAGO	7.76	0.500	322.33S	134.64	187.69
WGN (175)	US IL CHICAGO	8.28	0.500	301.83S	136.56	165.28
WGN (180)	US IL CHICAGO	8.86	0.500	282.10S	137.96	144.14
WGN (185)	US IL CHICAGO	9.50	0.500	263.23S	138.93	124.30
WGN (190)	US IL CHICAGO	10.19	0.500	245.30S	139.52	105.78
WGN (195)	US IL CHICAGO	10.95	0.500	228.35S	139.71	88.64
WGN (200)	US IL CHICAGO	11.77	0.500	212.44S	139.48	72.96
WGN (205)	US IL CHICAGO	12.65	0.500	197.70S	138.72	58.98
WGN (210)	US IL CHICAGO	13.58	0.500	184.08S	137.41	46.68
WGN (215)	US IL CHICAGO	14.56	0.500	171.76S	135.22	36.54
WGN (220)	US IL CHICAGO	15.55	0.500	160.74S	131.91	28.83
WGN (225)	US IL CHICAGO	16.55	0.500	151.08S	127.12	23.96
WGN (230)	US IL CHICAGO	17.50	0.500	142.82S	120.40	22.43
WGN (235)	US IL CHICAGO	18.36	0.500	136.14S	111.21	24.93
WGN (240)	US IL CHICAGO	19.11	0.500	130.85S	99.27	31.58
WGN (245)	US IL CHICAGO	19.65	0.500	127.23S	84.09	43.14
WGN (250)	US IL CHICAGO	19.99	0.500	125.05S	65.87	59.18
WGN (255)	US IL CHICAGO	20.06	0.500	124.62S	45.37	79.25
WGN (260)	US IL CHICAGO	19.87	0.500	125.81S	26.36	99.45
WGN (265)	US IL CHICAGO	19.43	0.500	128.63S	27.66	100.98
WGN (270)	US IL CHICAGO	18.78	0.500	133.10S	49.97	83.14
WGN (275)	US IL CHICAGO	17.96	0.500	139.22S	76.03	63.19
WGN (280)	US IL CHICAGO	17.01	0.500	146.98S	101.90	45.08
WGN (285)	US IL CHICAGO	15.97	0.500	156.51S	126.06	30.45
WGN (290)	US IL CHICAGO	14.92	0.500	167.53S	148.06	19.47
WGN (295)	US IL CHICAGO	13.88	0.500	180.17S	167.26	12.91
WGN (300)	US IL CHICAGO	12.86	0.500	194.41S	183.63	10.78
WGN (305)	US IL CHICAGO	11.89	0.500	210.23S	197.04	13.19
WGN (310)	US IL CHICAGO	10.99	0.500	227.58S	207.69	19.88
WGN (315)	US IL CHICAGO	10.15	0.500	246.41S	215.69	30.72
WGN (320)	US IL CHICAGO	9.38	0.500	266.65S	221.32	45.33
WGN (325)	US IL CHICAGO	8.67	0.500	288.21S	225.04	63.16
WGN (330)	US IL CHICAGO	8.04	0.500	311.01S	226.48	84.52
WGN (335)	US IL CHICAGO	7.46	0.500	334.93S	226.42	108.51
WGN (340)	US IL CHICAGO	6.95	0.500	359.82S	224.74	135.09
WGN (345)	US IL CHICAGO	6.49	0.500	385.50S	221.59	163.91
WGN (350)	US IL CHICAGO	6.09	0.506	415.80s	215.39	200.41
WGN (355)	US IL CHICAGO	5.70	0.500	438.53S	211.72	226.81
WGN (0)	US IL CHICAGO	5.38	0.500	465.04S	204.76	260.28
WGN (5)	US IL CHICAGO	5.19	0.530	510.88s	189.90	320.97
WGN (10)	US IL CHICAGO	5.03	0.559	555.97s	175.64	380.33



FIGURE 21  
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WGN (15)	US IL CHICAGO	4.88	0.581	595.13s	162.92	432.21
WGN (20)	US IL CHICAGO	4.75	0.598	629.80s	151.33	478.47
WGN (25)	US IL CHICAGO	4.67	0.625	669.58s	137.96	531.63
WGN (30)	US IL CHICAGO	4.52	0.623	689.65s	128.92	560.73
WGN (35)	US IL CHICAGO	4.51	0.658	729.12s	114.69	614.43
WGN (40)	US IL CHICAGO	4.48	0.679	757.61s	102.63	654.98
WGN (45)	US IL CHICAGO	4.36	0.669	767.37s	93.88	673.50
WGN (50)	US IL CHICAGO	4.31	0.673	782.05s	83.46	698.58
WGN (55)	US IL CHICAGO	4.38	0.710	810.80s	70.60	740.20
WGN (60)	US IL CHICAGO	4.45	0.743	835.36s	59.15	776.21
WGN (65)	US IL CHICAGO	4.51	0.766	849.63s	48.91	800.71
WGN (70)	US IL CHICAGO	4.61	0.798	866.25s	39.40	826.85
WGN (75)	US IL CHICAGO	3.62	0.500	690.10S	37.00	653.10
WGN (80)	US IL CHICAGO	3.66	0.500	683.56S	27.47	656.09
WGN (85)	US IL CHICAGO	3.71	0.500	674.17S	22.42	651.75
WGN (90)	US IL CHICAGO	3.77	0.500	662.61S	24.40	638.21
WGN (95)	US IL CHICAGO	3.86	0.500	648.19S	31.73	616.46
WGN (100)	US IL CHICAGO	3.96	0.500	631.67S	41.27	590.40
WGN (105)	US IL CHICAGO	4.08	0.500	613.35S	51.43	561.92
WGN (110)	US IL CHICAGO	4.21	0.500	593.52S	61.54	531.98
WGN (115)	US IL CHICAGO	4.37	0.500	572.48S	71.31	501.17
WGN (120)	US IL CHICAGO	4.54	0.500	550.48S	80.55	469.94
WGN (125)	US IL CHICAGO	4.74	0.500	527.55S	89.11	438.44
WGN (130)	US IL CHICAGO	4.96	0.500	504.43S	97.04	407.39
WGN (135)	US IL CHICAGO	5.20	0.500	480.86S	104.20	376.66
WGN (140)	US IL CHICAGO	5.47	0.500	457.42S	110.67	346.74
WGN (145)	US IL CHICAGO	5.76	0.500	433.92S	116.35	317.56
WGN (150)	US IL CHICAGO	6.09	0.500	410.67S	121.32	289.36
WGN (155)	US IL CHICAGO	6.45	0.500	387.80S	125.58	262.22
WGN (160)	US IL CHICAGO	6.84	0.500	365.40S	129.19	236.21
WGN (165)	US IL CHICAGO	7.28	0.500	343.56S	132.19	211.37
WGN (170)	US IL CHICAGO	7.76	0.500	322.31S	134.57	187.74
WGN (175)	US IL CHICAGO	8.28	0.500	301.83S	136.49	165.35
WGN (180)	US IL CHICAGO	8.86	0.500	282.12S	137.89	144.23
WGN (185)	US IL CHICAGO	9.50	0.500	263.27S	138.87	124.40
WGN (190)	US IL CHICAGO	10.19	0.500	245.35S	139.45	105.90
WGN (195)	US IL CHICAGO	10.95	0.500	228.41S	139.64	88.77
WGN (200)	US IL CHICAGO	11.76	0.500	212.53S	139.41	73.11
WGN (205)	US IL CHICAGO	12.64	0.500	197.80S	138.65	59.15
WGN (210)	US IL CHICAGO	13.57	0.500	184.19S	137.32	46.87
WGN (215)	US IL CHICAGO	14.54	0.500	171.88S	135.13	36.76
WGN (220)	US IL CHICAGO	15.54	0.500	160.88S	131.81	29.07
WGN (225)	US IL CHICAGO	16.53	0.500	151.22S	127.00	24.22
WGN (230)	US IL CHICAGO	17.49	0.500	142.98S	120.27	22.71
WGN (235)	US IL CHICAGO	18.34	0.500	136.30S	111.07	25.23
WGN (240)	US IL CHICAGO	19.08	0.500	131.02S	99.14	31.88
WGN (245)	US IL CHICAGO	19.62	0.500	127.40S	83.96	43.44
WGN (250)	US IL CHICAGO	19.94	0.500	125.36S	65.74	59.62
WGN (255)	US IL CHICAGO	20.03	0.500	124.80S	45.30	79.50
WGN (260)	US IL CHICAGO	19.84	0.500	125.99S	26.34	99.65
WGN (265)	US IL CHICAGO	19.41	0.500	128.81S	27.65	101.16
WGN (270)	US IL CHICAGO	18.76	0.500	133.28S	49.91	83.37

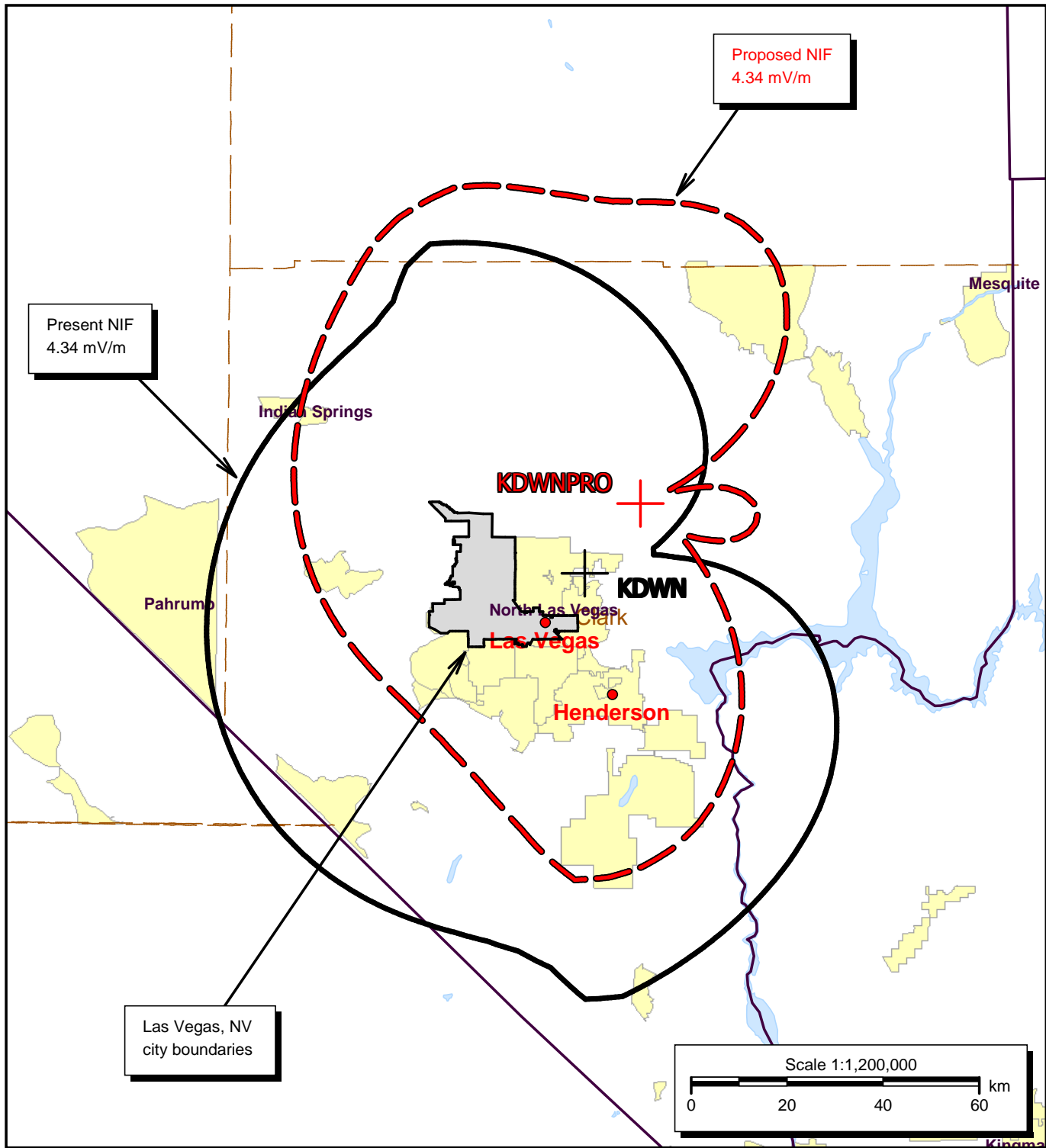
FIGURE 21  
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WGN (275)	US IL CHICAGO	17.94	0.500	139.39S	75.92	63.47
WGN (280)	US IL CHICAGO	16.97	0.500	147.28S	101.59	45.69
WGN (285)	US IL CHICAGO	15.96	0.500	156.67S	125.86	30.81
WGN (290)	US IL CHICAGO	14.91	0.500	167.68S	147.83	19.86
WGN (295)	US IL CHICAGO	13.86	0.500	180.32S	167.01	13.31
WGN (300)	US IL CHICAGO	12.85	0.500	194.55S	183.36	11.19
WGN (305)	US IL CHICAGO	11.89	0.500	210.35S	196.75	13.60
WGN (310)	US IL CHICAGO	10.98	0.500	227.68S	207.41	20.28
WGN (315)	US IL CHICAGO	10.14	0.500	246.50S	215.41	31.09
WGN (320)	US IL CHICAGO	9.37	0.500	266.72S	221.04	45.69
WGN (325)	US IL CHICAGO	8.67	0.500	288.26S	224.77	63.49
WGN (330)	US IL CHICAGO	8.04	0.500	311.03S	226.22	84.82
WGN (335)	US IL CHICAGO	7.46	0.500	334.93S	226.16	108.77
WGN (340)	US IL CHICAGO	6.95	0.500	359.79S	224.49	135.31
WGN (345)	US IL CHICAGO	6.49	0.500	385.32S	221.08	164.23
WGN (350)	US IL CHICAGO	6.09	0.505	414.94s	215.44	199.50
WGN (355)	US IL CHICAGO	5.71	0.500	438.20S	211.26	226.94
NEW MEDICINE HATCA AB MEDICINE HAT		24.40	3.217	659.17	550.44	108.73
50% = 6.433, 25% = 6.733; WGN=6.43 KDWN=1.99						
KIRO (0)	US WA SEATTLE	18.62	2.025	5438.49g	661.43	4777.06
KIRO (5)	US WA SEATTLE	18.77	1.153	3073.27g	655.94	2417.34
KIRO (10)	US WA SEATTLE	18.92	0.820	2166.87g	650.49	1516.39
KIRO (15)	US WA SEATTLE	19.08	0.689	1805.78g	644.88	1160.89
KIRO (20)	US WA SEATTLE	19.23	0.633	1646.30g	638.98	1007.32
KIRO (25)	US WA SEATTLE	19.38	0.566	1458.81g	632.74	826.07
KIRO (30)	US WA SEATTLE	19.59	0.500	1275.89G	626.60	649.29
KIRO (35)	US WA SEATTLE	20.04	0.500	1247.51G	623.75	623.76
KIRO (40)	US WA SEATTLE	20.53	0.500	1217.86G	621.71	596.15
KIRO (45)	US WA SEATTLE	21.05	0.500	1187.92G	620.40	567.52
KIRO (50)	US WA SEATTLE	21.59	0.500	1157.99G	619.95	538.04
KIRO (55)	US WA SEATTLE	22.15	0.500	1128.59G	620.50	508.08
KIRO (60)	US WA SEATTLE	22.72	0.500	1100.27G	622.34	477.93
KIRO (65)	US WA SEATTLE	23.28	0.500	1073.96G	625.73	448.23
KIRO (70)	US WA SEATTLE	23.79	0.500	1050.93G	630.65	420.28
KIRO (75)	US WA SEATTLE	24.22	0.500	1032.09G	636.58	395.51
KIRO (80)	US WA SEATTLE	24.56	0.500	1017.74G	643.34	374.40
KIRO (85)	US WA SEATTLE	24.78	0.500	1008.71G	651.17	357.54
KIRO (90)	US WA SEATTLE	24.87	0.500	1005.34G	659.75	345.59
KIRO (95)	US WA SEATTLE	24.94	0.500	1002.44G	665.69	336.75
KIRO (100)	US WA SEATTLE	25.29	0.500	988.59G	665.10	323.49
KIRO (105)	US WA SEATTLE	25.79	0.500	969.25G	663.34	305.91
KIRO (110)	US WA SEATTLE	26.31	0.500	950.29G	662.84	287.45
KIRO (115)	US WA SEATTLE	26.79	0.500	933.23G	663.87	269.36
KIRO (120)	US WA SEATTLE	27.21	0.500	918.62G	666.20	252.42
KIRO (125)	US WA SEATTLE	27.57	0.500	906.88G	669.61	237.27
KIRO (130)	US WA SEATTLE	27.82	0.500	898.61G	674.03	224.58
KIRO (135)	US WA SEATTLE	27.97	0.500	893.81G	679.01	214.80
KIRO (140)	US WA SEATTLE	28.00	0.500	892.78G	684.30	208.48
KIRO (145)	US WA SEATTLE	27.91	0.500	895.88G	689.59	206.29
KIRO (150)	US WA SEATTLE	27.67	0.500	903.44G	694.54	208.91

KIRO (155)	US WA SEATTLE	27.30	0.500	915.76G	698.93	216.83
KIRO (160)	US WA SEATTLE	26.82	0.500	932.23G	702.27	229.96
KIRO (165)	US WA SEATTLE	26.44	0.500	945.44G	704.95	240.48
KIRO (170)	US WA SEATTLE	26.76	0.500	934.24G	709.73	224.51
KIRO (175)	US WA SEATTLE	27.39	0.500	912.62G	717.38	195.24
KIRO (180)	US WA SEATTLE	27.87	0.500	897.03G	725.99	171.04
KIRO (185)	US WA SEATTLE	28.12	0.500	889.06G	734.80	154.25
KIRO (190)	US WA SEATTLE	27.71	0.500	902.09G	738.56	163.53
KIRO (195)	US WA SEATTLE	27.32	0.500	915.20G	742.00	173.20
KIRO (200)	US WA SEATTLE	26.97	0.500	926.87G	745.71	181.16
KIRO (205)	US WA SEATTLE	26.71	0.500	935.91G	751.10	184.81
KIRO (210)	US WA SEATTLE	26.76	0.500	934.36G	764.23	170.13
KIRO (215)	US WA SEATTLE	26.53	0.500	942.43G	774.83	167.61
KIRO (220)	US WA SEATTLE	26.09	0.500	958.07G	782.56	175.51
KIRO (225)	US WA SEATTLE	25.44	0.533	1046.82g	781.95	264.88
KIRO (230)	US WA SEATTLE	24.78	0.685	1382.32g	776.33	605.98
KIRO (235)	US WA SEATTLE	24.23	0.920	1898.34g	771.45	1126.89
KIRO (240)	US WA SEATTLE	23.74	0.747	1573.16g	767.70	805.47
KIRO (245)	US WA SEATTLE	23.30	0.839	1799.64g	764.70	1034.94
KIRO (250)	US WA SEATTLE	22.89	0.801	1749.20g	761.91	987.29
KIRO (255)	US WA SEATTLE	22.51	0.676	1501.65g	759.27	742.38
KIRO (260)	US WA SEATTLE	22.14	0.647	1462.06g	756.60	705.45
KIRO (265)	US WA SEATTLE	21.78	0.655	1504.54g	754.12	750.42
KIRO (270)	US WA SEATTLE	21.40	0.537	1254.60g	752.37	502.23
KIRO (275)	US WA SEATTLE	21.16	0.500	1181.41G	747.21	434.20
KIRO (280)	US WA SEATTLE	20.95	0.500	1193.43G	742.36	451.06
KIRO (285)	US WA SEATTLE	20.74	0.500	1205.18G	737.74	467.44
KIRO (290)	US WA SEATTLE	20.57	0.500	1215.63G	733.10	482.53
KIRO (295)	US WA SEATTLE	20.42	0.500	1224.31G	728.46	495.85
KIRO (300)	US WA SEATTLE	20.29	0.500	1232.32G	723.84	508.48
KIRO (305)	US WA SEATTLE	20.14	0.500	1241.50G	719.51	521.99
KIRO (310)	US WA SEATTLE	19.95	0.500	1252.90G	715.38	537.52
KIRO (315)	US WA SEATTLE	19.66	0.603	1534.55g	711.65	822.91
KIRO (320)	US WA SEATTLE	19.90	0.864	2170.53g	705.84	1464.69
KIRO (325)	US WA SEATTLE	19.94	1.262	3164.47g	701.23	2463.24
KIRO (330)	US WA SEATTLE	19.93	1.445	3625.82g	696.89	2928.94
KIRO (335)	US WA SEATTLE	19.75	2.902	7348.24g	692.49	6655.75
KIRO (340)	US WA SEATTLE	18.83	2.159	5730.69g	686.06	5044.63
KIRO (345)	US WA SEATTLE	18.15	5.873	16177.33g	678.16	15499.17
KIRO (350)	US WA SEATTLE	18.31	4.934	13471.18g	672.39	12798.79
KIRO (355)	US WA SEATTLE	18.47	2.971	8044.41g	666.86	7377.55
XENVA2/O	MX SO SAN LUIS RIO CO	135.07	23.113	855.59	658.03	197.56
50% = 23.113, 25% = 23.113; KDWN=23.11						
XENVA2/O	MX CH CD.JUAREZ	71.10	6.623	465.75	63.49	402.26
50% = 10.004, 25% = 10.004; KDWN=6.62 WGN=5.98 KSAH=4.52						
XEVU/O	MX SI MAZATLAN	18.21	2.870	788.31	269.83	518.49
50% = 5.741, 25% = 7.174; KSAH=5.74 WGN=2.66 KDWN=2.51 XEKN/A=2.26						

KBMB	US AZ BLACK CANYON CI	178.82	2.515	703.32	183.88	519.44
50% = 9.195, 25% = 10.061; KNUS=7.08 KSPN=5.86 KALL=3.01 KGNC=2.76						
KSAH	US TX UNIVERSAL CITY	18.73	2.789	744.26	118.83	625.44
50% = 10.374, 25% = 11.155; WGN=10.37 XEX/A=3.00 KEEL=2.79						
KSPN	US CA LOS ANGELES	168.46	4.527	1343.72	702.75	640.96
50% = 4.527, 25% = 5.217; KDWN=4.53 KFIA=1.83 KIRO=1.31 XEPS/A=1.29						
KNUS	US CO DENVER	46.08	1.255	1361.28	70.20	1291.08
50% = 4.508, 25% = 5.018; KCMO=3.70 KGNC=2.57 KIRO=2.21						

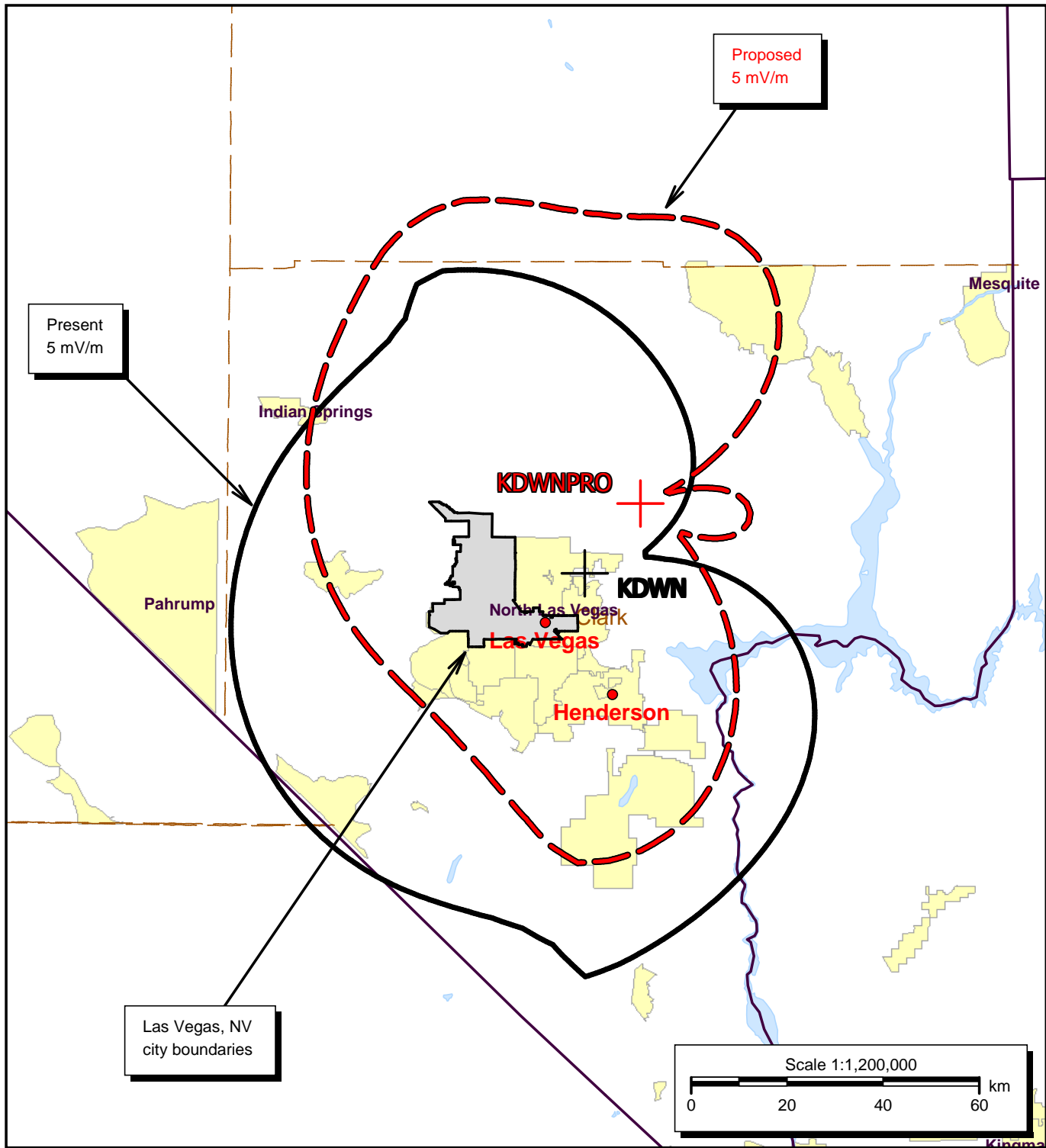
FIGURE 22



COMPARISON OF PRESENT AND PROPOSED NIGHTTIME  
INTERFERENCE-FREE COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023



FIGURE 23



COMPARISON OF PRESENT AND PROPOSED 5.0 MV/M  
NIGHTTIME COVERAGE CONTOURS  
KDWN - LAS VEGAS, NEVADA  
720 KHZ - 25.0 KW DAY/4.0 KW NIGHT - DA-N  
SEPTEMBER, 2023

