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**Modification of FM Translator K273DG
Channel 273D at Twin Falls, ID
To Rebroadcast KEZJ(AM) 1450 kHz Twin Falls, ID
March 2019**

Allocation Study

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study map demonstrates compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

The ERP of the proposed translator facility has been limited to 99 watts. Therefore there are no spacing requirements to stations which are 53 or 54 channels removed from the proposed operation.

KYUN 271C3 Twin Falls

The proposed translator transmitter site is located within the 60 dBu protected contour of second-adjacent channel station KYUN 271C3 Twin Falls. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Distance to Translator Interfering Contour
KYUN 271C3	0.36 km 150 deg True	5.2 kW 223 meters	123.0 dBu Free Space	163.0 dBu	0.5 meters Free Space

The 163 dBu contour extends just 0.5 meters from the translator antenna and does not reach ground level. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KYUN.

KEDJ 276C1 Jerome

The proposed translator transmitter site is located within the 60 dBu protected contour of third-adjacent channel station KEDJ 276C1 Jerome. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Distance to Translator Interfering Contour
KEDJ 276C1	0.36 km 150 deg True	71 kW 244 meters	134.3 dBu Free Space	174.3 dBu	0.1 meters Free Space

The 174.3 dBu contour extends only 0.1 meters from the translator antenna and does not reach ground level. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KEDJ.

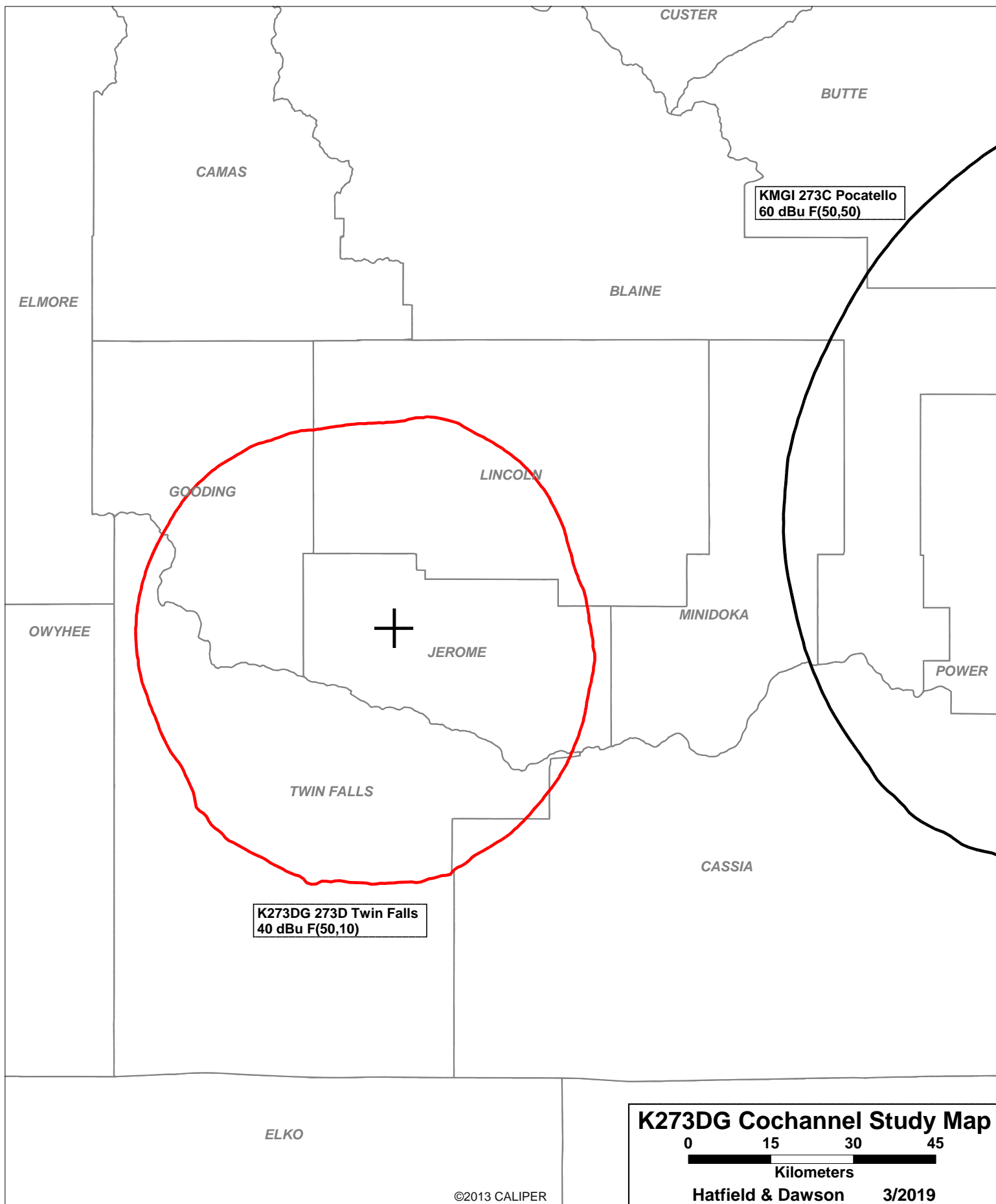
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SEARCH PARAMETERS                      FM Database Date: 190301
Channel: 273A    102.5 MHz                Page 1
Latitude: 42 43 44
Longitude: 114 24 56
Safety Zone: 50 km
Job Title: K273DG FLAT TOP BUTTE

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KBSW LIC	TWIN FALLS ID	BLED-980820KB	219C3 91.7	4.500 150.0	42-43-48 114-25-06	298.6	0.26 -11.74	12 SHORT
KBWE LIC	BURLEY ID	BLED-21030ABJ	220A 91.9	4.900 12.0	42-33-32 113-44-50	108.8	57.97 47.97	10 CLEAR
KYUN RSV	KIMBERLY ID	-	271C2 102.1	0.000 0.0	42-47-19 114-12-13	68.9	18.58 -36.42	55 SHORT
KYUN LIC	TWIN FALLS ID	BLH-70514ABY	271C3 102.1	5.200 220.0	42-43-54 114-25-04	329.6	0.36 -41.64	42 SHORT
K272DV LIC	MOUNTAIN HOME ID	BLFT-50720ABL	272D 102.3	0.010 1028.0	43-14-57 115-26-00	305.3	101.15 0.00	0 TRANS
KVUW CP	WENDOVER NV	BPH-80410AAG	272C 102.3	100.000 614.0	41-07-19 114-34-02	184.1	178.93 13.93	165 CLEAR
KVUW RSV	WENDOVER NV	-	272C 102.3	0.000 0.0	41-07-19 114-34-02	184.1	178.93 13.93	165 CLEAR
KMGI LIC	POCATELLO ID	BLH-871216KF	273C 102.5	100.000 312.0	42-51-57 112-30-46	83.8	156.41 -69.59	226 SHORT
K273DG CP	TWIN FALLS ID	BNPFT-71220ABQ	273D 102.5	0.250 207.0	42-32-37 114-28-13	192.3	21.07 0.00	0 TRANS
KZMG LIC	MELBA ID	BMLH-60923ABT	274C 102.7	50.000 803.0	43-45-18 116-05-51	310.5	177.93 12.93	165 CLEAR
RSV	JEROME ID	RM-11340	276C1 103.1	0.000 0.0	42-43-54 114-25-04	329.6	0.36 -74.64	75 SHORT
KEDJ LIC	JEROME ID	BMLH-40306AKO	276C1 103.1	71.000 232.0	42-43-54 114-25-04	329.6	0.36 -74.64	75 SHORT

===== END OF FM SPACING STUDY FOR CHANNEL 273 =====



Facilities Proposed

The proposed operation will be on Channel 273D (102.5 MHz) with an effective radiated power of 0.099 kilowatts. Operation is proposed with a 3-element circularly-polarized omni-directional antenna. The antenna will be mounted on an existing tower on Flat Top Butte, with FCC Antenna Structure Registration Number 1041029.

Combined operation is proposed for K262DD, K269HA and K273DG via a common antenna system.

RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

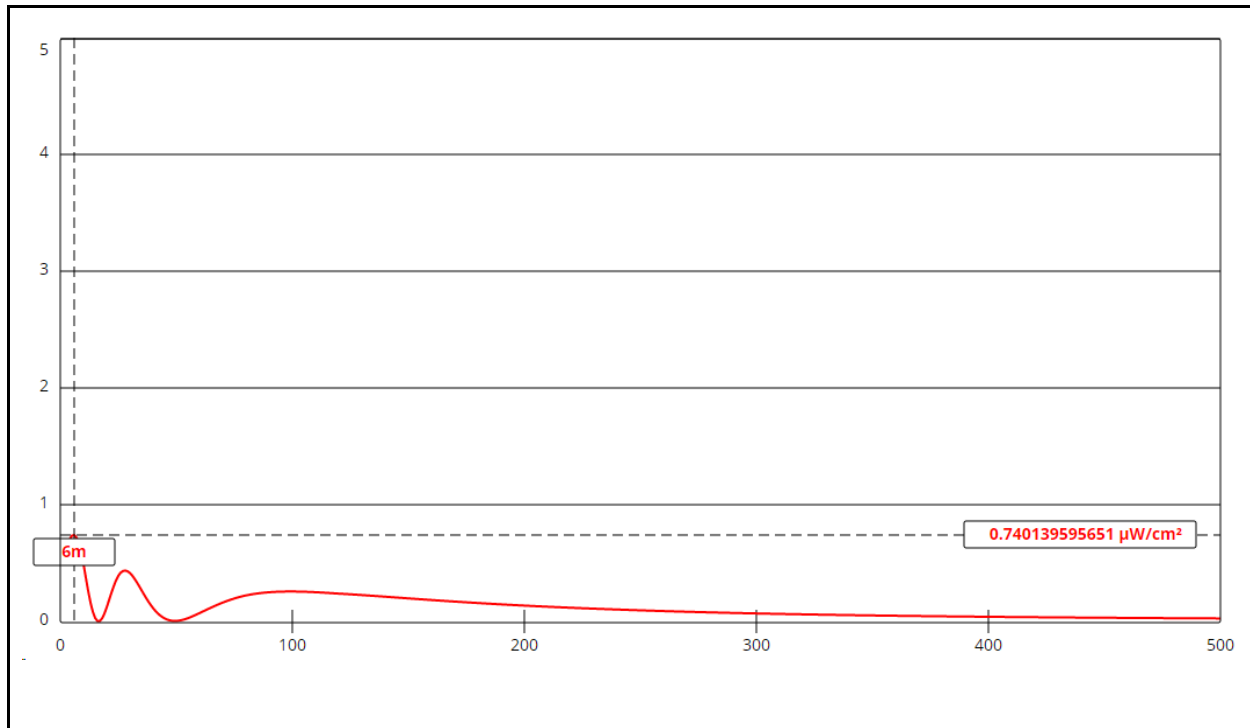
D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 2 element pattern, which is the element pattern designated in the Commission's FMModel software for the Bext TFC2K-3 antenna proposed for use. The highest calculated ground level power density occurs at a distance of 6 meters from the base of the antenna support structure. At this point the power density is calculated to be 0.7 $\mu W/cm^2$, which is 0.35% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.



Ground-Level RF Exposure

OET FMModel

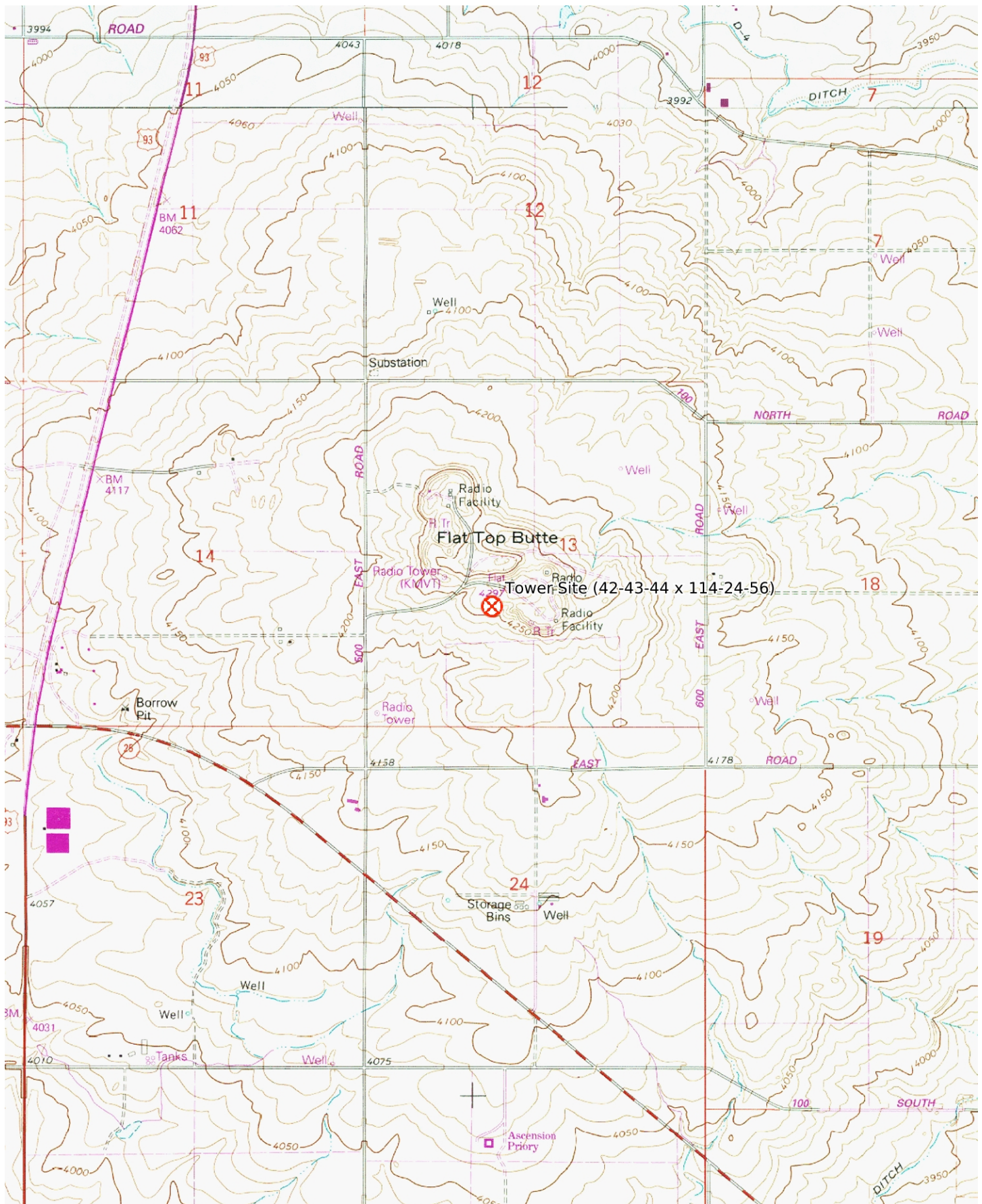
K273DG Twin Falls

Antenna Type: Bext TFC2K-3 (Type 2)
No. of Elements: 3
Element Spacing: 0.85 wavelength

Distance: 500 meters
Horizontal ERP: 99 watts
Vertical ERP: 99 watts

Antenna Height: 23 meters AGL

Maximum Calculated Power Density is $0.7 \mu\text{W}/\text{cm}^2$ at 6 meters from the antenna structure.



Mercator Projection
NAD27 Conus
USNG Zone 11TQH
CalTopo

