August 2023
FM Translator K201IS
Oceanside, CA Channel 201D
Allocation Study

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 maps demonstrate compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

Contours have been calculated using terrain from the 3 second terrain database.

Compliance with US-Mexico FM Agreement: The proposed facility is located less than 125 kilometers from the common border, and has been carefully designed to comply with the requirements of the US-Mexico FM Agreement.

a) The power has been limited to no more than 50 watts ERP in the direction of Mexico.
b) The 60 dBu protected contour has been limited to no more than 8.7 kilometers in the direction of Mexico.
c) The interfering contour has been limited to no more than 32 kilometers in the direction of Mexico.

“In the direction of Mexico”, for this purpose, has been defined as any direction in which the common border is located 125 kilometers or less from the proposed transmitter site. This corresponds to the span of bearings running clockwise from 126 to 204 degrees True, as depicted on the attached map exhibit, including account for the Islas Coronados, which are islands off the western Mexican coast.

The interfering contour which has been studied and which is depicted on the attached map exhibit is the cochannel 40 dBu F(50,10) interfering contour which is relevant to the only short-spaced Mexican allotment, that being Channel 201A at Tecate. Neither §74.1235(d)(1) of the Commission's rules, nor Section 2.1.2 of the US-Mexico FM Agreement specify which "interfering contour" must be restricted to no more than 32 km in the direction of the other country. While a conservative reading of the Agreement might suggest that the 34 dBu F(50,10) contour be used (that being the "worst case" interfering contour specified in the Agreement), prior informal consultation with FCC staff on this particular point has indicated that the interfering contour would be whichever value is relevant to the case at hand. For the instant case, the only relevant interfering contour would be the 40 dBu F(50,10) interfering contour to Channel 201A at Tecate.

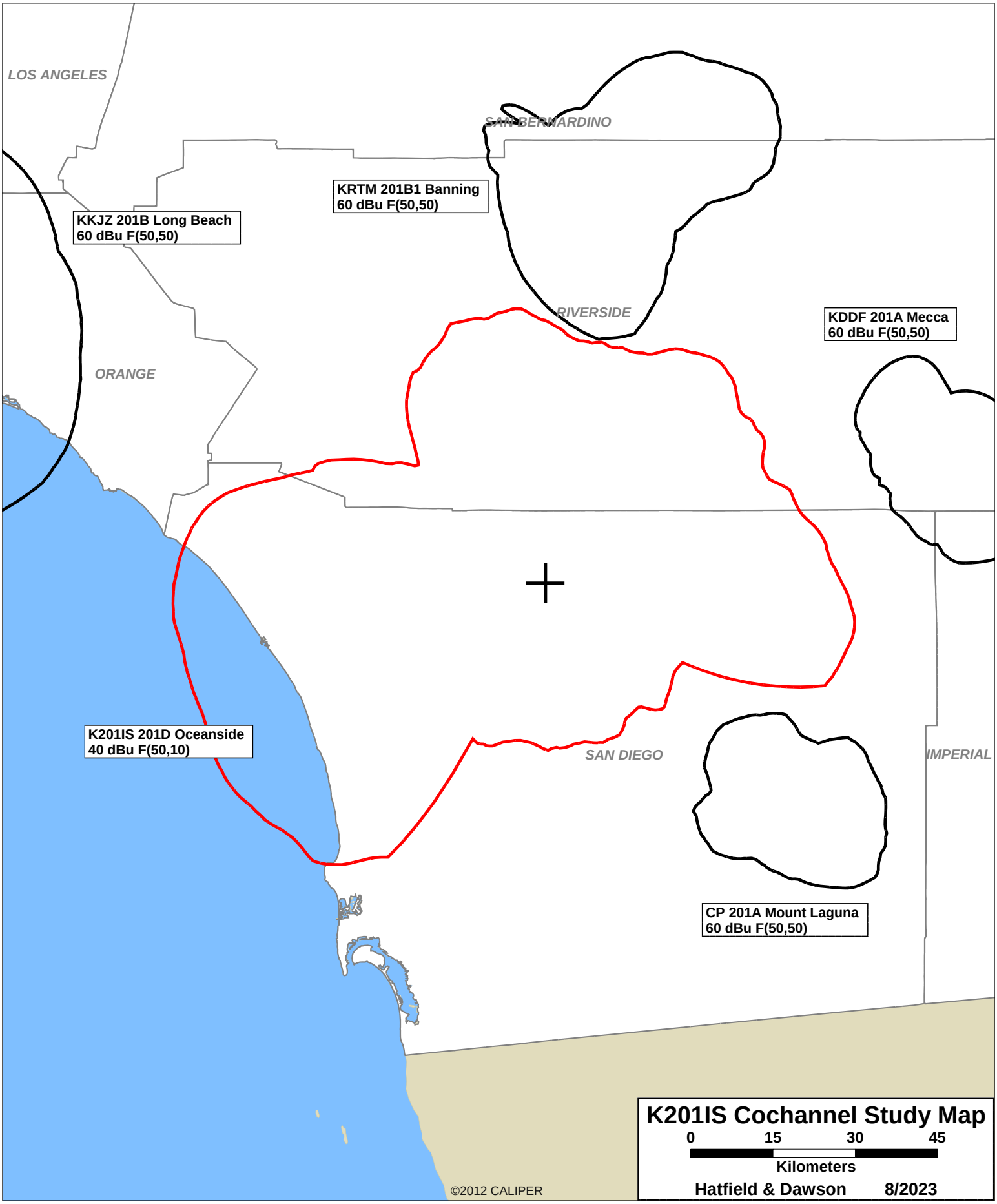
FMSTUDY.EXE Copyright 2021, Hatfield & Dawson, LLC Version 5.10

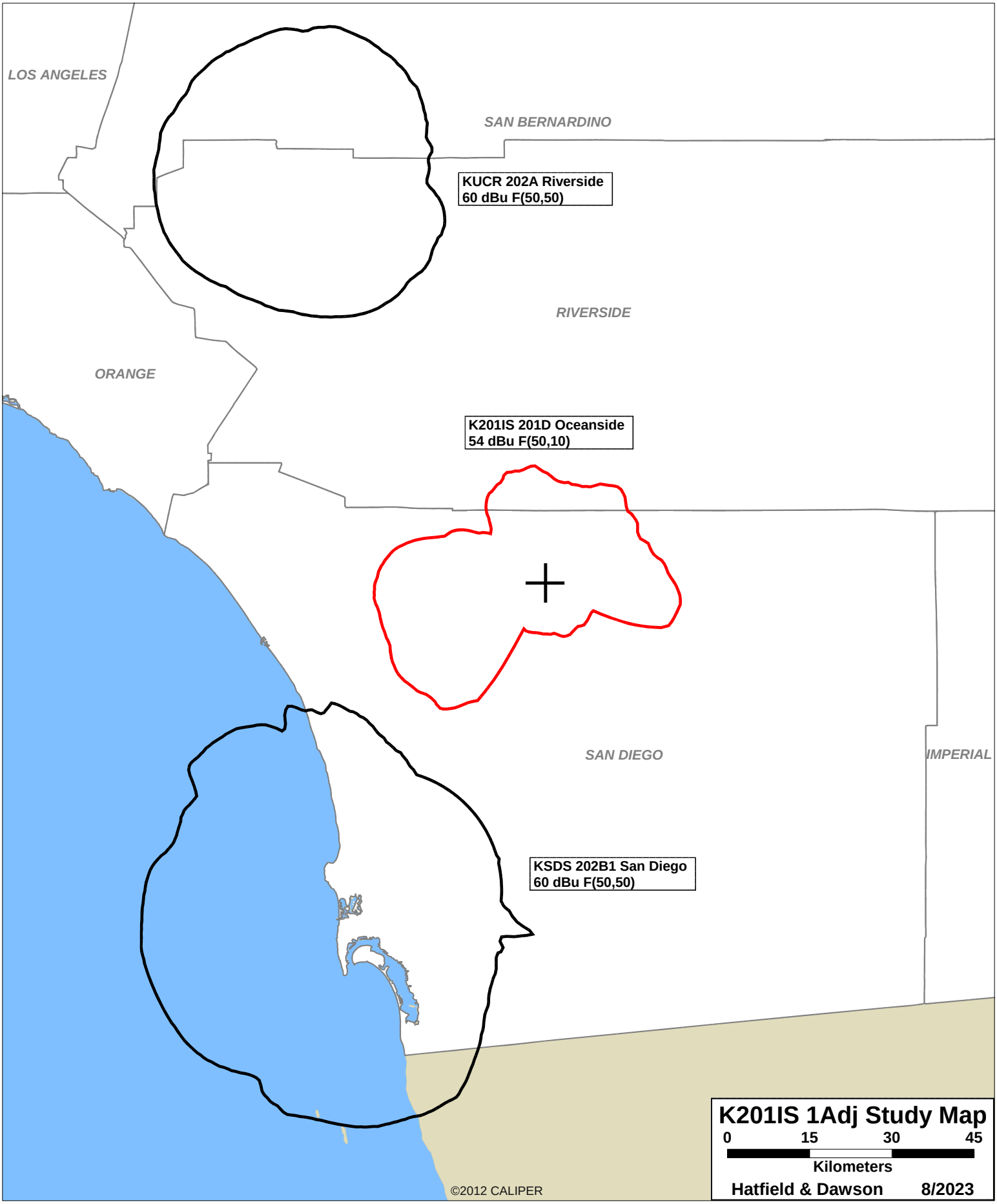
SEARCH PARAMETERS

Channel: 201A 88.1 MHz
Latitude: 33 18 29.3 (NAD83)
Longitude: 116 50 56.5
Safety Zone: 50 km
Job Title: K201IS APP

Call Status	City St FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KKJZ LIC	LONG BEACH CA BMLED-20050207AA	201B 88.1	30.000 137.0	DA 33 47 58.1 118 9 46.2	294.5	133.63 -44.37	178 SHORT
KDDF LIC	MECCA CA BLED-20150508AAO	201A 88.1	0.185 -78.5	33 32 22.9 116 1 34.9	71.1	80.71 -34.29	115 SHORT
K201IS LIC	RINCON CA BLFT-20140618AAC	201D 88.1	0.010 0.0	DA 33 18 30.1 116 50 56.0	27.6	0.03 0.00	0 TRANS
K201IS APP	OCEANSIDE CA 0000220085	201D 88.1	0.010 0.0	DA 33 18 29.3 116 50 56.5	0.0	0.00 0.00	0 TRANS
ALC	TECATE BN	201A 88.1	0.000 0.0	32 30 49.2 116 34 31.1	163.8	91.75 -19.25	111 SHORT
KRTM LIC	BANNING CA BLED-20150527ABD	201B1 88.1	0.150 774.0	DA 34 2 16.0 116 48 51.1	2.3	80.99 -62.01	143 SHORT
KLHM CP	LUCERNE VALLEY CA 0000206545	201A 88.1	0.750 -216.0	34 24 11.9 116 57 47.0	355.1	121.93 6.93	115 CLOSE
CP	MOUNT LAGUNA CA 0000167402	201A 88.1	0.018 758.0	DA 32 53 31.0 116 25 11.0	139.1	61.13 -53.87	115 SHORT
KSDS LIC	SAN DIEGO CA BLED-20070529AHM	202B1 88.3	22.000 75.0	DA 32 48 17.2 117 10 12.1	208.2	63.36 -32.64	96 SHORT
KUCR LIC	RIVERSIDE CA BMLED-20030818AE	202A 88.3	0.150 494.0	33 57 58.1 117 17 17.1	331.1	83.58 11.58	72 CLEAR
KSBR LIC	MISSION VIEJO CA 0000206319	203B1 88.5	1.800 198.0	DA 33 30 10.6 117 36 11.5	287.4	73.41 25.41	48 CLEAR
KPSC LIC	PALM SPRINGS CA BLED-20131119AOY	203A 88.5	1.600 180.0	33 51 56.1 116 26 7.0	31.6	72.79 41.79	31 CLEAR
K204GG LIC	BANNING CA BLFT-20190415ABD	204D 88.7	0.014 0.0	DA 34 2 13.0 116 58 10.1	352.2	81.60 0.00	0 TRANS
KUBO CP	CALEXICO CA 0000217323	204B 88.7	17.000 217.0	DA 32 57 29.0 115 50 22.0	112.2	101.90 32.90	69 CLEAR

==== END OF FM SPACING STUDY FOR CHANNEL 201 ====


LOS ANGELES
SAN BERNARDINO
KRTM 201B1 Banning
60 dBu F(50,50)
KKJZ 201B Long Beach
60 dBu F(50,50)
RIVERSIDE
KDDF 201A Mecca
60 dBu F(50,50)
ORANGE
K201IS 201D Oceanside
40 dBu F(50,10)
SAN DIEGO
IMPERIAL
CP 201A Mount Laguna
60 dBu F(50,50)
©2012 CALIPER
K201IS Cochannel Study Map
0 15 30 45
Kilometers
Hatfield & Dawson 8/2023


LOS ANGELES
SAN BERNARDINO
KUCR 202A Riverside
60 dBu F(50,50)
RIVERSIDE
ORANGE
K201IS 201D Oceanside
54 dBu F(50,10)
SAN DIEGO
IMPERIAL
KSDS 202B1 San Diego
60 dBu F(50,50)
©2012 CALIPER
K201IS 1Adj Study Map
0
15
30
45
Kilometers
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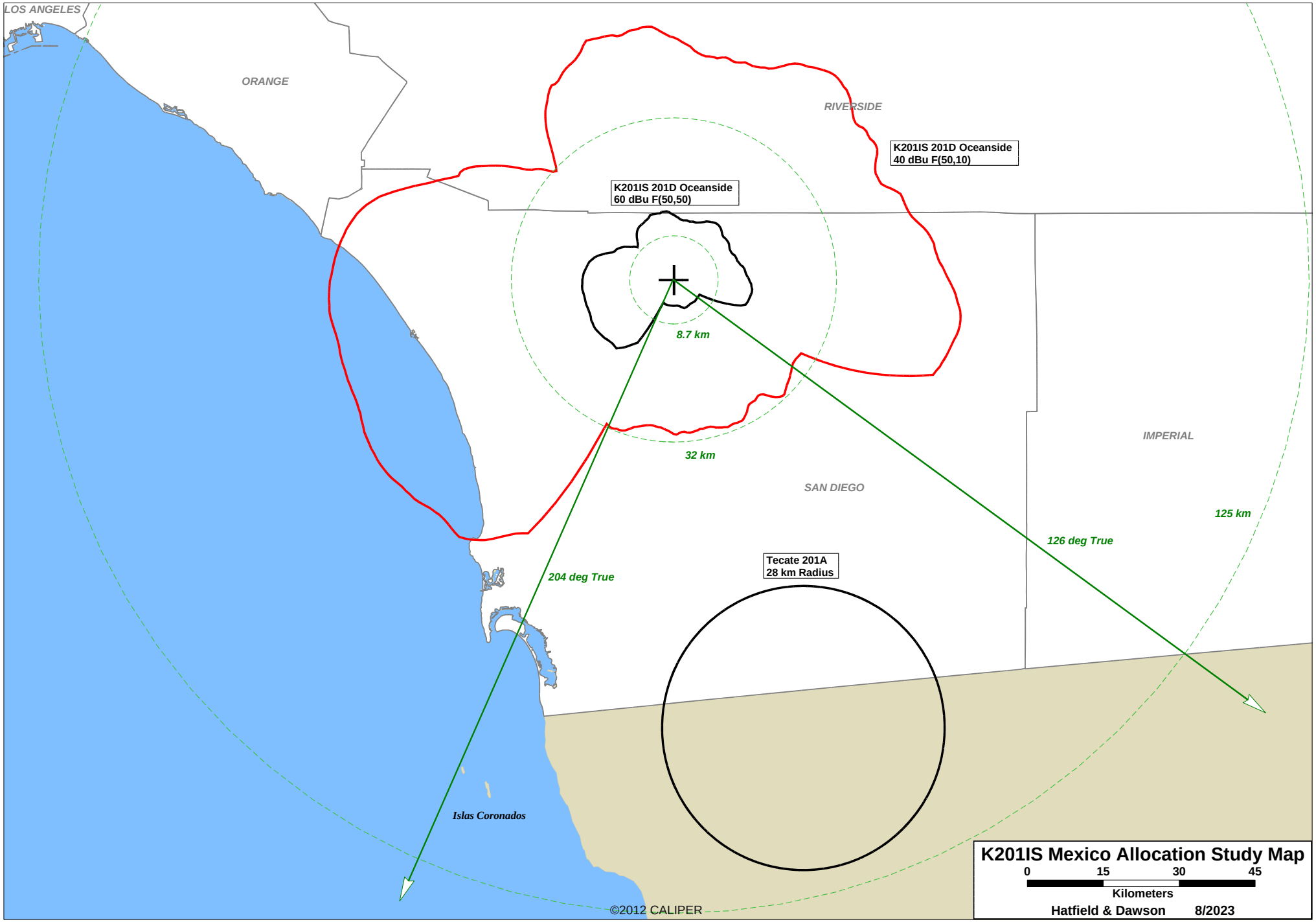
LOS ANGELES
ORANGE
RIVERSIDE
K201IS 201D Oceanside
40 dBu F(50,10)
K201IS 201D Oceanside
60 dBu F(50,50)
8.7 km
32 km
IMPERIAL
SAN DIEGO
125 km
126 deg True
204 deg True
Tecate 201A
28 km Radius
Islas Coronados
©2012 CALIPER
K201IS Mexico Allocation Study Map
0 15 30 45
Kilometers
Hatfield & Dawson 8/2023

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FM Translator K201IS
Oceanside, CA Channel 201D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 201D (88.1 MHz) with a maximum lobe effective radiated power of 10 watts. The antenna will be mounted on an existing tower structure located on Birch Hill.

The proposed antenna support structure does not exceed 60.96 meters (200 feet) above ground and does not require notification to the Federal Aviation Administration. Therefore, this structure does not require an Antenna Structure Registration Number.

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.

$$S(\mu W / cm^2) = \frac{33.4 \times AdjERP(Watts)}{D^2}$$

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.

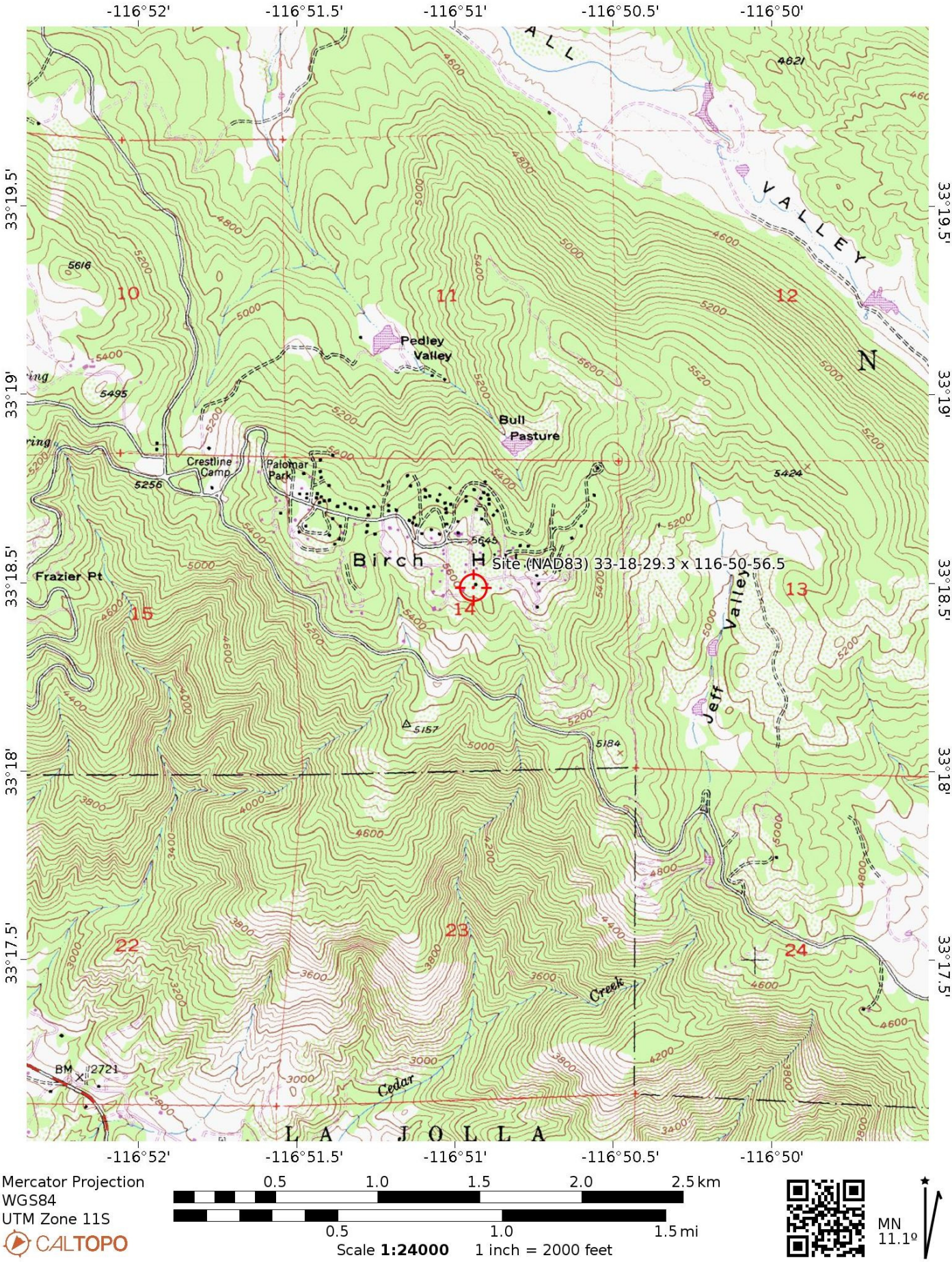
Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the antenna system have been made assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground at the base of the tower (i.e. 15 meters below the antenna). Under this worst-case assumption, the highest

calculated ground level power density from this translator alone occurs at the base of the antenna support structure. At this point the power density is calculated to be 3.0 μW/cm², which is 1.5% of 200 μW/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 of the Commission's Rules exempts applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants 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.



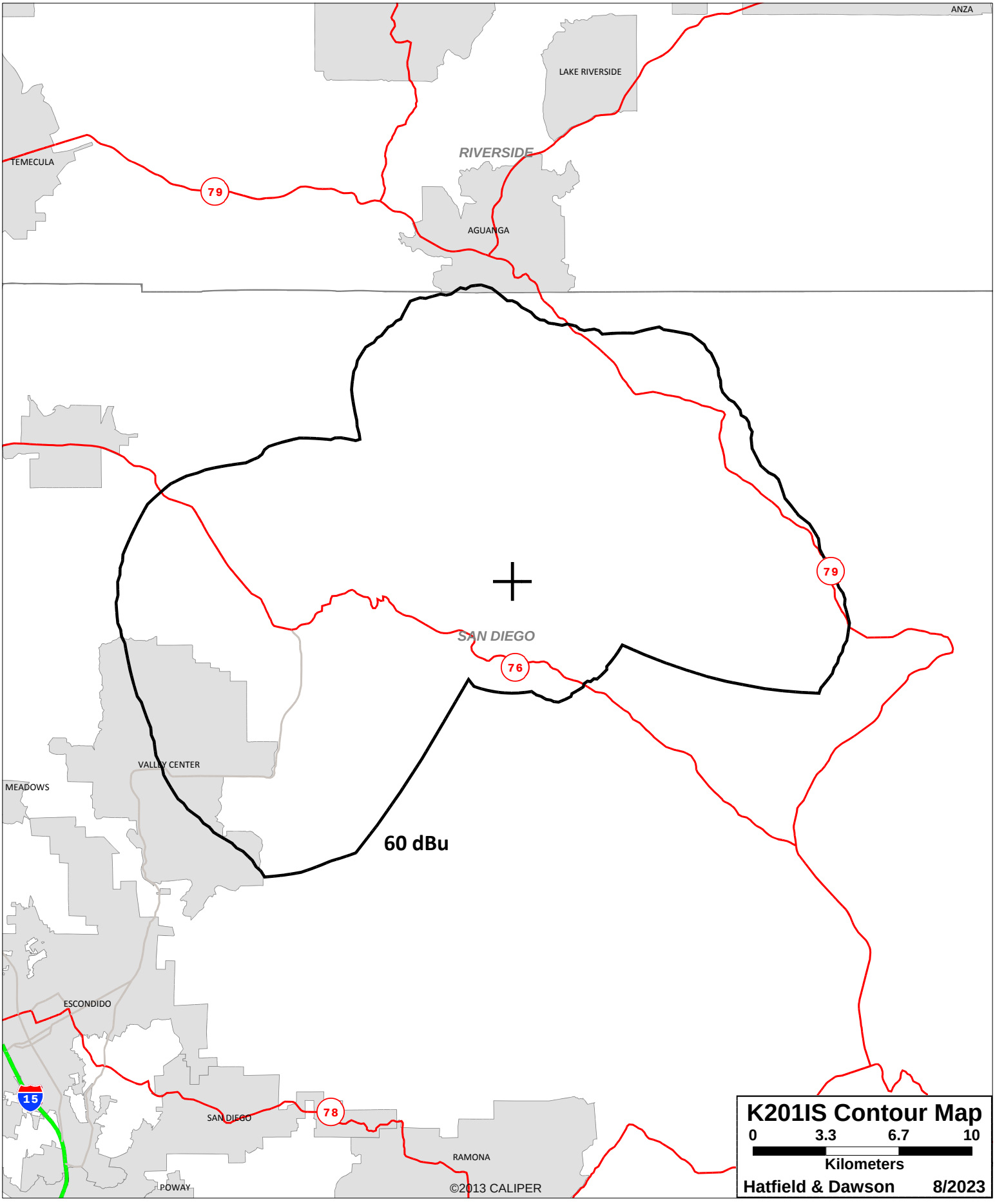
Mercator Projection
WGS84
UTM Zone 11S
CALTOPO

0.5 1.0 1.5 2.0 2.5 km
0.5 1.0 1.5 mi

Scale **1:24000** 1 inch = 2000 feet

MN 11.1º

Hatfield & Dawson Consulting Engineers


ANZA
LAKE RIVERSIDE
RIVERSIDE
TEMECULA
79
AGUANGA
79
SAN DIEGO
76
VALLEY CENTER
MEADOWS
60 dBu
ESCONDIDO
15
SAN DIEGO
78
RAMONA
POWAY
©2013 CALIPER
K201IS Contour Map
0 3.3 6.7 10
Kilometers
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