

**November 2007  
KQCM(FM) Channel 221A  
Thermal, CA  
Allocation and 307(b) Study**

**Contingent Application Group**

The instant application is being filed as a part of a two-application contingent group comprised of minor modification applications for FM stations KQCM (Facility ID #16771) and KXCM (Facility ID #67029). These two stations are commonly-owned by Copper Mountain Broadcasting Company ("Copper Mountain"). By these applications, Copper Mountain proposes:

- 1) KQCM is modified from Channel 221A Joshua Tree to Channel 221A Thermal, at a new transmitter site.
  
- 2) In order to ensure the continued provision of local service at Joshua Tree, KXCM is modified from Channel 242A Twentynine Palms to Channel 242A Joshua Tree, with no change in transmitter site.

**Spacing Study**

A single allotment and transmitter site is proposed in this application. The attached spacing study shows that the proposed operation meets the domestic co-channel and adjacent channel spacing requirements for Class A stations as prescribed in §73.207 of the Commission's Rules.

The proposed allotment and transmitter site is short-spaced to Mexican station XHMMF-FM on Channel 222B at Mexicali. An allocation study has been conducted in order to demonstrate equivalent protection to the Mexican station. Attached is an engineering study, conducted pursuant to the radial interpolation method set forth in the US-Mexico FM Agreement, which demonstrates that full protection is provided to the Mexican allotment.

This proposal is mutually-exclusive with the existing license for KQCM on Channel 221A at Joshua Tree.

Hatfield & Dawson Consulting Engineers

### **First Local Service to Thermal**

The proposed Channel 221A allotment site is located 14 km from Thermal. The standard 70 dBu contour distance for a Class A facility is 16.2 km. Therefore, the proposed allotment will provide 70 dBu service to 100% of Thermal.

The simultaneously-proposed reallocation of KXCM Channel 242A will ensure the continued provision of first local service to Joshua Tree.

### **No “Tuck” Study Required**

Thermal is not located within any Urbanized Area as defined by the 2000 Census, and the proposed allotment of Channel 221A at Thermal will provide 70 dBu service to only 0.5% of the Indio-Cathedral City-Palm Springs Urbanized Area. Therefore, the instant proposal does not require a “Tuck” study.

### **Gain and Loss Areas**

There is no overlap of the Thermal gain area and the Joshua Tree loss area. The gain area associated with the reallocation of KQCM encompasses an area of 2,302 sq km (water area of the Salton Sea excluded) and a population of 106,030 persons. The loss area associated with the reallocation of KQCM encompasses an area of 2,516 sq km and a population of 60,854 persons.

There will be a net increase of service provided by KQCM to 45,176 persons.

## Loss Area Remaining Services Analysis

The proposed reallocation of KQCM will not result in the creation of any white or gray areas, or any populated underserved areas.<sup>1</sup> The following stations each provide service to 100% of the Joshua Tree loss area:

KXCM	242A	Twentynine Palms (to Joshua Tree) <sup>2</sup>
KCDZ	299B1	Twentynine Palms
KDGL	295B	Yucca Valley
KFI	640 kHz	Los Angeles (Class A 0.5 mV/m)

One area will remain underserved, i.e. with fewer than five aural services remaining. Specifically, four aural services will remain in an 88 sq km area which is unpopulated.

The following facilities provide service to part or all of the Joshua Tree loss area. Letters correspond to contour labels on the attached map exhibit.

A	KFI	640 kHz	Los Angeles	Class A 0.5 mV/m
B	KNWH	1250 kHz	Yucca Valley	NIF = 18.4 mV/m
C	KPSC	203A	Palm Springs	
D	KCRI	207B1	Indio	
E	KLRD	211B	Yucaipa	
F	KBXO	212A	Coachella	

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<sup>1</sup>In determining reception service provided by FM stations, the area of service circumscribed by the station's 1.0 mV/m signal contour was considered, assuming 1) actual facilities for non-commercial stations operating on reserved channels, 2) maximum facilities for the class of station for stations (other than Class C stations) operating on non-reserved channels, and 3) minimum or existing Class C facilities, whichever is greater, for Class C stations. For clear channel Class A AM stations, the service area was defined by the station's 0.5 mV/m groundwave contour, based on its licensed facilities. For all other classes of full-time AM stations, reception service was defined as that service received within a station's nighttime interference-free contour. See Meeker and Craig, Colorado, 15 FCC Rcd 23858 (2000), Stamps and Fouke, Arkansas, 14 FCC Rcd 10533 (1999), Silverton and Bayfield, Colorado, 14 FCC Rcd 4071 (1999), Malvern and Bryant, Arkansas, 13 FCC Rcd 8426 (1998), and others.

<sup>2</sup> It is noted that the KXCM 242A transmitter site is 360 meters from the licensed KQCM 221A transmitter site, and that therefore the areas covered by the two Class A stations are very slightly different. The two transmitter sites are located atop the same hill, and it is therefore submitted that the two service areas are substantially identical.

G	KPSH	215A	Coachella
H	KWTH	217B	Barstow
I	KHCS	219A	Palm Desert
J	KKUU	224A	Indio
K	KBHR	227A	Big Bear City
L	KCLB-FM	229B	Coachella
M	KLOB	234A	Thousand Palms
N	KAJR	240A	Indian Wells
O	KXCM	242A	Twentynine Palms (to Joshua Tree)
P	KUNA-FM	244A	La Quinta
Q	KWXY-FM	253B	Cathedral City
R	KMRJ	258A	Rancho Mirage
S	KHWZ	261B1	Ludlow
T	KPSI-FM	263B1	Palm Springs
U	KJJZ	272A	Indio
V	KEZN	276A	Palm Desert
W	KDES-FM	284B	Palm Springs
X	KPLM	291B	Palm Springs
Y	KDGL	295B	Yucca Valley
Z	KCDZ	299B1	Twentynine Palms

### Gain Area Existing Services Analysis

The reallocation of KQCM will not provide new service to any existing white or gray areas, but will provide additional service to existing underserved areas. The following stations each provide service to all or a portion of the Thermal gain area. Letters correspond to contour labels on the attached map exhibit.

A	KFI	640 kHz	Los Angeles	Class A 0.5 mV/m
B	KNWZ	970 kHz	Coachella	NIF = 9.0 mV/m

E	KESQ	1400 kHz	Indio	NIF = 21.5 mV/m
C	KPSC	203A	Palm Springs	
D	KCRI	207B1	Indio	
F	KBXO	212A	Coachella	
I	KHCS	219A	Palm Desert	
J	KKUU	224A	Indio	
L	KCLB-FM	229B	Coachella	
M	KLOB	234A	Thousand Palms	
N	KAJR	240A	Indian Wells	
P	KUNA-FM	244A	La Quinta	
O	KRCK-FM	249A	Mecca	
Q	KWXY-FM	253B	Cathedral City	
R	KMRJ	258A	Rancho Mirage	
T	KPSI-FM	263B1	Palm Springs	
U	KJJZ	272A	Indio	
V	KEZN	276A	Palm Desert	
W	KDES-FM	284B	Palm Springs	
X	KPLM	291B	Palm Springs	
Y	KDGL	295B	Yucca Valley	
Z	KCDZ	299B1	Twentynine Palms	

Additional aural service will be provided to an existing 79 sq km area containing zero persons which currently receives only 2 aural services; to an existing 228 sq km area containing 629 persons which currently receives only 3 aural services, and to an existing 614 sq km area containing 2437 persons which currently receives only 4 aural services.

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SEARCH PARAMETERS FM Database Date: 071127

Channel: 221A 92.1 MHz Page 1

Latitude: 33 39 18

Longitude: 115 59 13

Safety Zone: 32 km

Job Title: KQCM 221A THERMAL

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KHCS	PALM DESERT		219A	0.960	33-51-57	299.8	47.42	31
LIC	CA BLED-971112KI		91.7	175.0	116-25-56		16.42	CLEAR
KYRM	YUMA		220B	6.300	33-03-18	121.4	126.83	113
LIC	AZ BLED-000403ABC		91.9	407.0	114-49-37		13.83	CLEAR
K217EL	BORREGO SPRINGS		220D	0.050	33-15-25	218.8	56.69	0
APP	CA BPFT-071113AAK		91.9	14.0	116-22-10		0.00	TRANS
KVCR	SAN BERNARDINO		220B	3.800	33-57-57	286.4	125.01	113
LIC	CA BLED-010511AAG		91.9	494.0	117-17-05	SS	12.01	CLEAR
KSOQ-FM	ESCONDIDO		221A	0.580	33-06-39	241.1	124.21	115
LIC	CA BLH-970814KB		92.1	312.0	117-09-13		9.21	CLOSE
KQCM	JOSHUA TREE		221A	6.000	34-09-16	340.5	58.83	115
LIC	CA BMLH-050719AAJ		92.1	70.0	116-12-04		-56.17	SHORT
XHMMFFM	MEXICALI		222B	10.200	32-38-17	156.9	122.61	125
	BN -		92.3	48.0	115-28-17		-2.39	SHORT
XHMMFFM	MEXICALI		222B	0.000	32-38-17	156.9	122.61	125
	BN -		92.3	0.0	115-28-17		-2.39	SHORT
KKUU	INDIO		224A	4.200	33-52-15	317.3	32.67	31
LIC	CA BLH-021210ABQ		92.7	120.0	116-13-37		1.67	CLOSE
KKUUaux	INDIO		224A	1.150	33-47-45	305.8	26.80	0
LIC	CA BXLH-040622ABK		92.7	100.0	116-13-19		0.00	AUX
NEW-T	INDIO		274D	0.010	33-48-07	306.7	27.39	0
APP	CA BNPFT-030314AFI		102.7	550.0	116-13-28		0.00	TRANS
VAC	MECCA		274A	0.000	33-34-18	221.8	12.42	10
	CA RM-11008		102.7	0.0	116-04-35		2.42	CLOSE

44444 END OF FM SPACING STUDY FOR CHANNEL 221 44444

**KQCM Channel 221A Thermal Proposed Allotment/Transmitting Facility  
Contour Protection to Mexican Station Mexicali 222B**

PROPOSED FACILITY

COMMUNITY : THERMAL, CALIFORNIA  
CHANNEL : 221  
CALL : KQCM  
CLASS : A  
INTERNATIONAL : AA  
COORDINATES : 33-39-18 N 115-59-13 W  
RADIATING CENTER : 584 METERS AMSL (FOR 199M HAAT O/A)  
AZIMUTH TO PROTECTED FACILITY: 156.9 DEGREES  
STANDARD RADIALS : 135.0 HAAT= 276.6 M  
: 180.0 HAAT= 510.5 M  
  
INTERPOLATED RADIAL : 156.9 HAAT= **390.4 M**  
  
RESTRICTED POWER : 0.33 KW AT 390.4M ON 156.9 DEG RADIAL  
INTERFERING CONTOUR : 48 DBU (50,10)  
DISTANCE TO INTERFERING CONTOUR: 57.4 KM

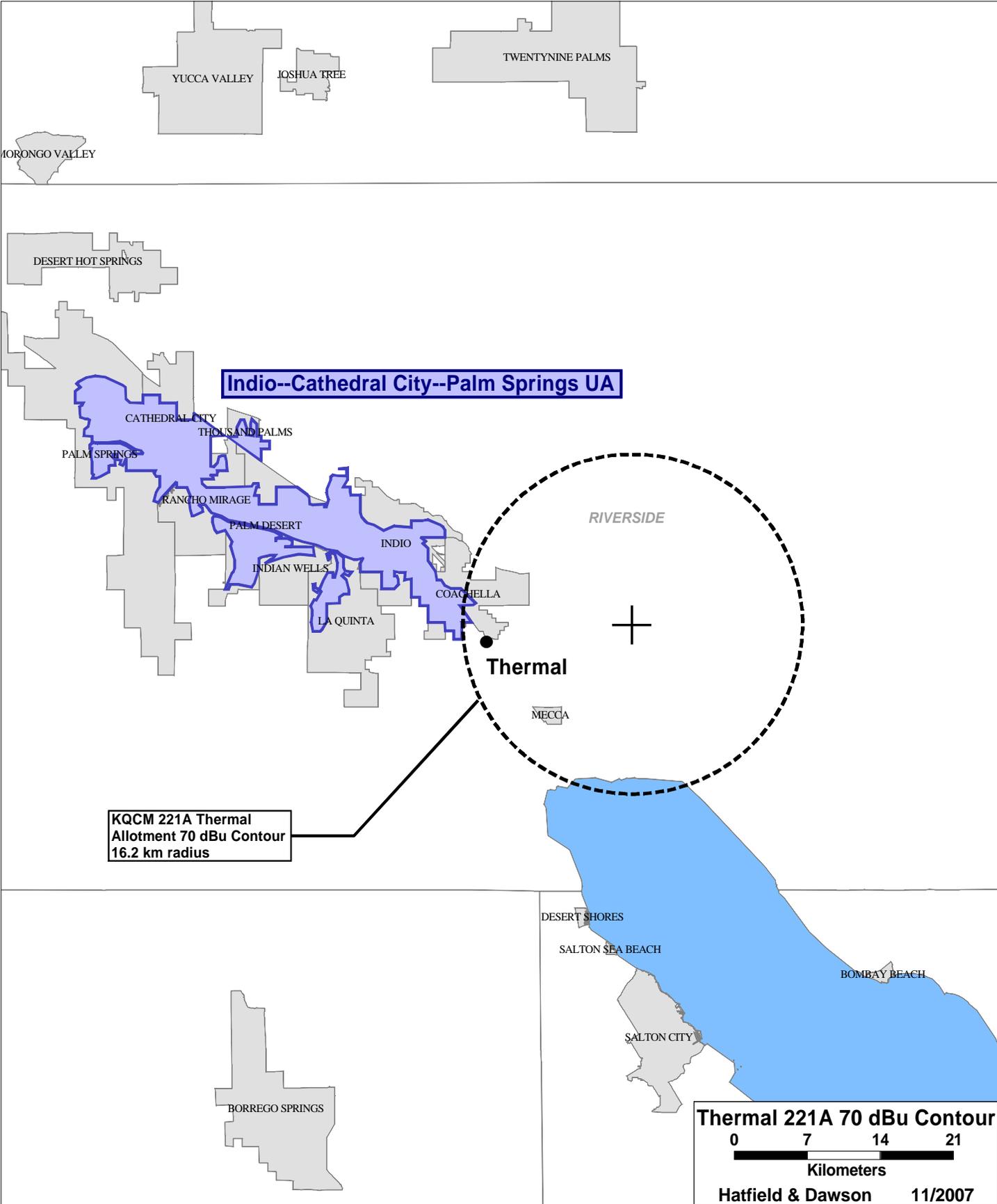
PROTECTED ALLOCATION AT MEXICALI, BN, MEXICO

COMMUNITY : **MEXICALI, BN**  
CHANNEL : 222  
CALL : XHMMF-FM  
CLASS : B  
COORDINATES : 32-38-17 N 115-28-17 W  
MAXIMUM FACILITY : 50 KW AT 150 M  
RELATIONSHIP : FIRST ADJACENT  
PROTECTED CONTOUR : 54 DBU (50,50)  
DISTANCE TO PROTECTED CONTOUR : 65.0 KM  
(MAXIMUM PROTECTION FOR CLASS)

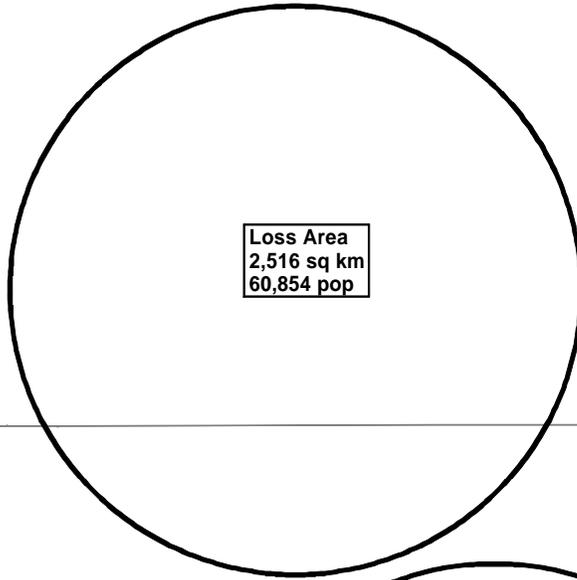
SUMMARY

DISTANCE TO PROTECTED CONTOUR (MEXICALI) : 65.0 KM  
DISTANCE TO RESTRICTED CONTOUR (KQCM) : 57.4 KM  
TOTAL DISTANCE RESTRICTED PLUS PROTECTED : 122.4 KM  
ACTUAL SPACING : 122.6 KM

**CLEARANCE 0.2 KM**  
**NO OVERLAP OF PROTECTED AND INTERFERING CONTOURS**

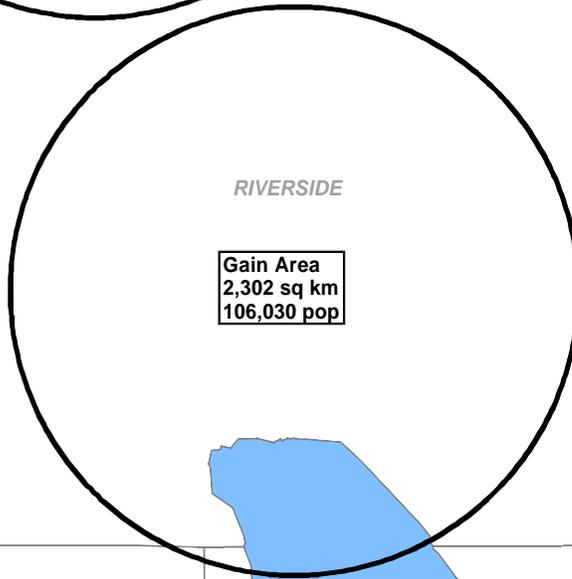


Joshua Tree 221A  
60 dBu - 28.3 km radius



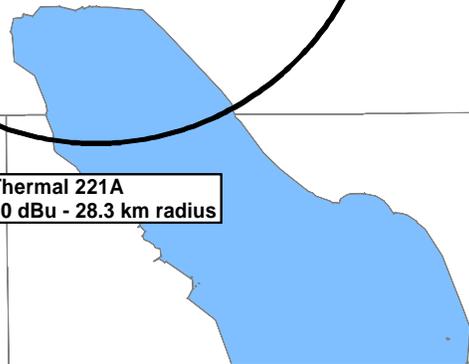
Loss Area  
2,516 sq km  
60,854 pop

RIVERSIDE



Gain Area  
2,302 sq km  
106,030 pop

Thermal 221A  
60 dBu - 28.3 km radius



**KQCM Gain and Loss Area Study Map**

0 10 20 30

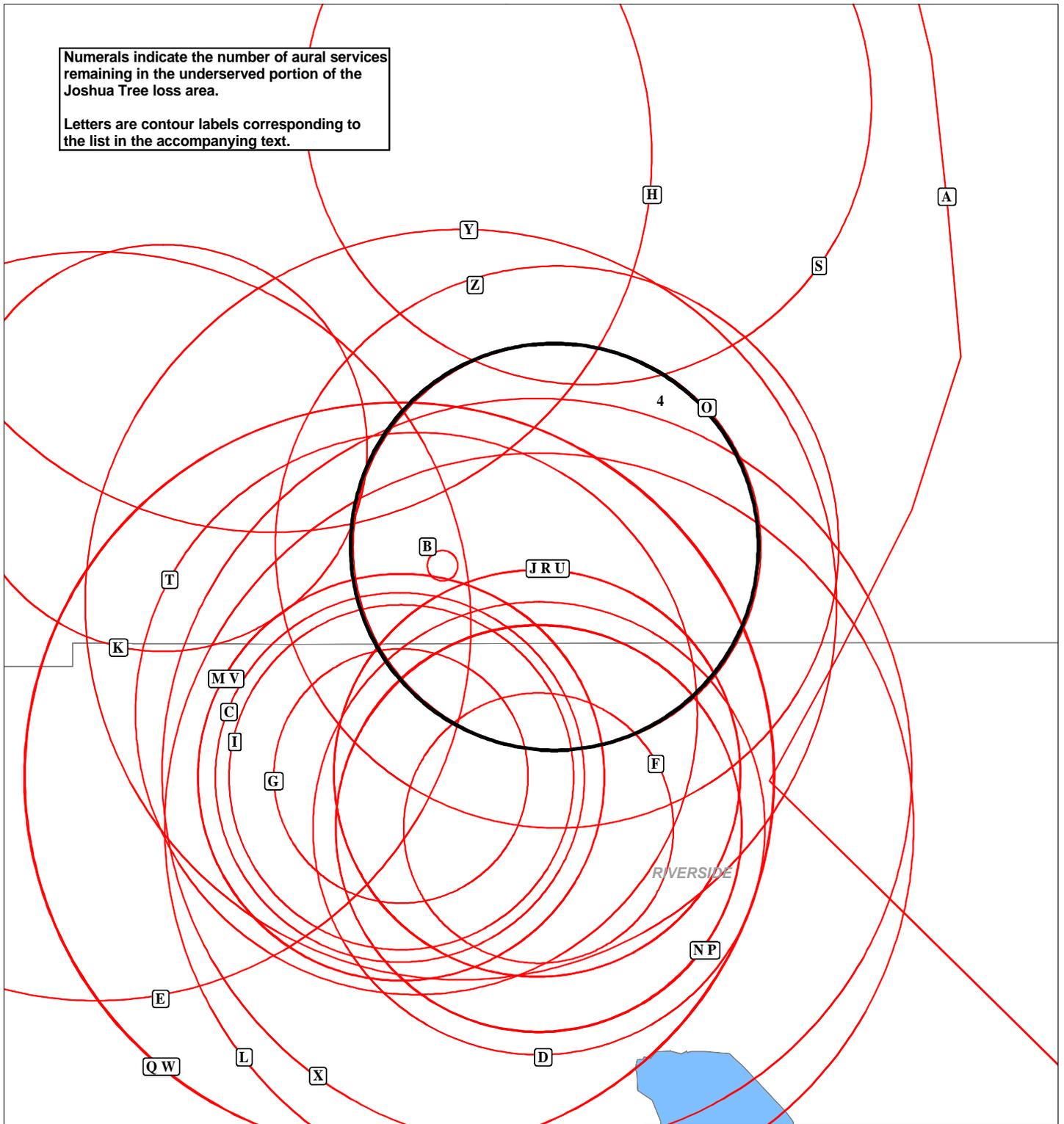


Kilometers

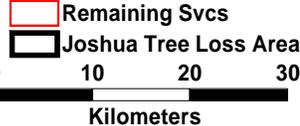
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Numerals indicate the number of aural services remaining in the underserved portion of the Joshua Tree loss area.

Letters are contour labels corresponding to the list in the accompanying text.

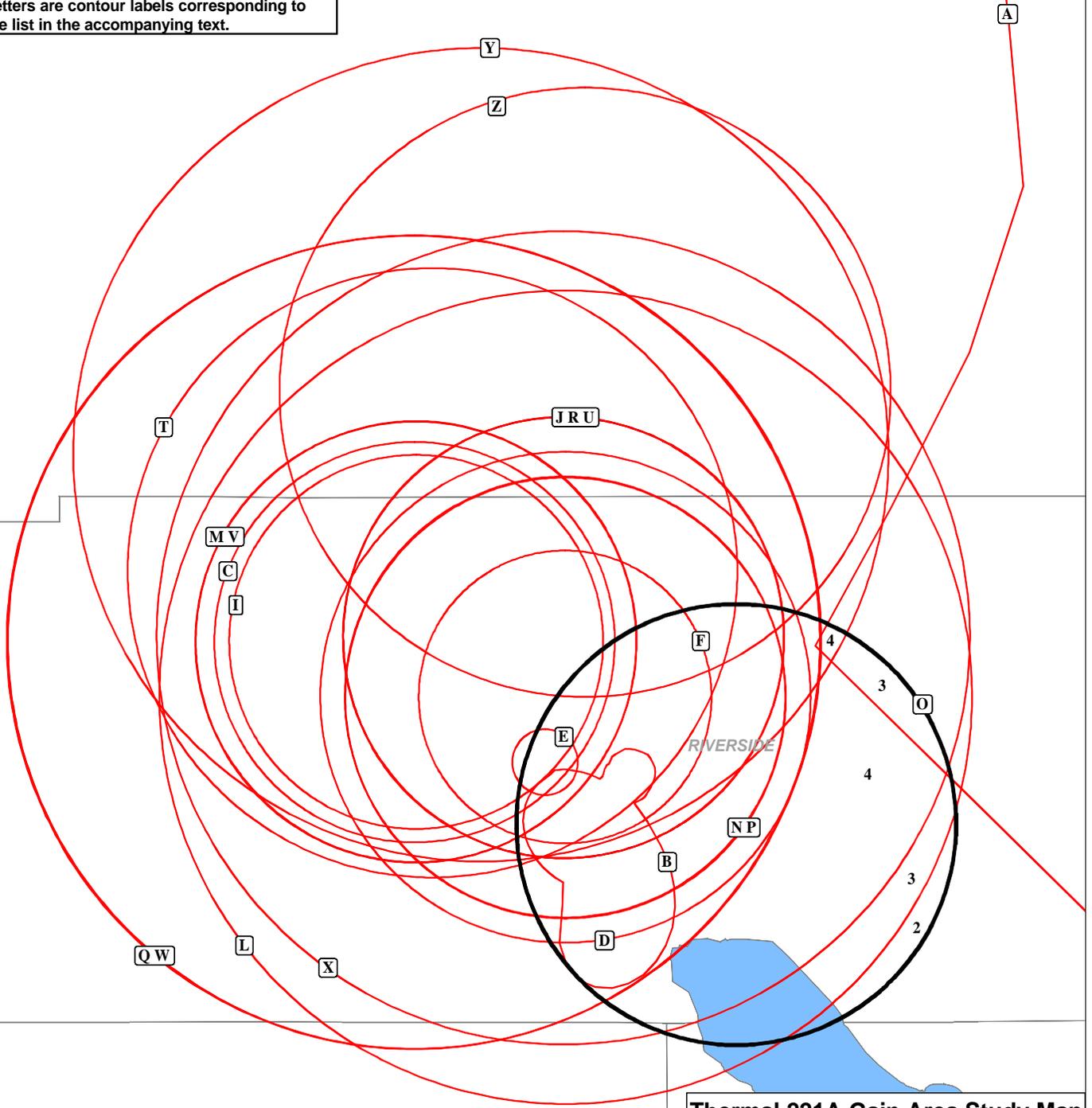


**Joshua Tree 221A Loss Area Study Map**



Numerals indicate the number of aural services existing in the underserved portion of the Thermal gain area.

Letters are contour labels corresponding to the list in the accompanying text.



**Thermal 221A Gain Area Study Map**

Existing Services

Thermal Gain Area

0 10 20 30

Kilometers

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