



Comprehensive Technical Statement

in support of

Mad Dog Wireless, Inc.

Application for New FM Auxiliary Site for

KZUL-FM, Facility ID # 39562

Channel 283, 104.5 MHz

Lake Havasu City, AZ

Background

The transmitter of the primary station is located at a remote mountainous site on Crossman Peak.

Recent experience with wildfires in the vicinity has made it clear that it would be highly desirable to back up the main site with a more accessible auxiliary transmitter location. Such a site has been identified. It is an existing tower that currently houses KNLB (FM), Facility ID 48504.

KZUL-FM and commonly-owned KRRK (FM) and KRCY-FM use different antennas at the Crossman site. All are Class C3.

Data Sources

Standard FCC contours were drawn using terrain data obtained from the FCC's online Height Above Average Terrain calculator, which uses the NGDC 30-second terrain database.

Proposed Facility

34 29 10 N (NAD-27)
114 13 06 W

34 29 10.1 N (NAD-83)
114 13 08.8 W

601 m AMSL Site Elevation

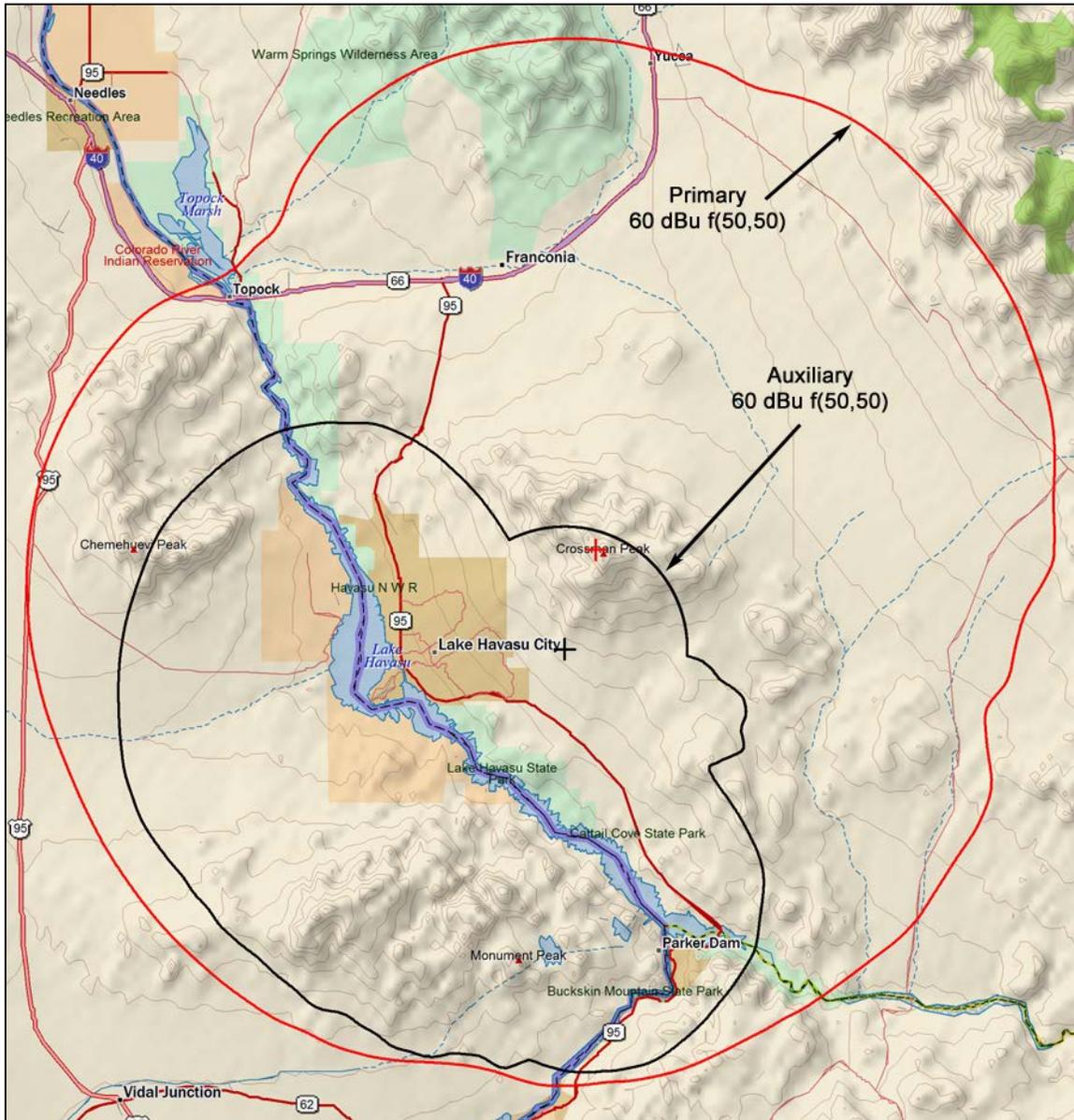
650 W ERP circular polarization
38 m AGL
639 m AMSL
119 m HAAT

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Washington: 202-370-6357
Providence: 401-354-2400
<http://www.skywaves.com>

Boston / Worcester: 508-425-7176
New York City / NJ: 201-847-0933
Email dave@skywaves.com

60 dBu Contour Comparison



The proposed 60 dBu f(50,50) contour, shown in black, is completely contained within the KZUL 60 dBu f(50,50) contour, shown in red.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Washington: 202-370-6357
Providence: 401-354-2400
<http://www.skywaves.com>

Boston / Worcester: 508-425-7176
New York City / NJ: 201-847-0933
Email: dave@skywaves.com

Environment and Tower

The antenna will be centered at 38 m above ground on the existing KNLB tower. The tower is less than 200' AGL and more than five miles from the nearest airport. Therefore, no ASR is required. The NADCON conversion and TOWAIR determination are attached.

The proposed Shively 6812 antenna will consist of two bays, spaced at 0.85λ and mounted below the KNLB antenna. The antenna will be centered at 38 m AGL. For the combination of three 650 W-H + 650 W-V signals provided by the proposed KZUL, KRRK, and KRCY backup transmitters, FMMODEL returns a total maximum exposure of less than $7 \mu\text{W}/\text{cm}^2$. This is only 3.5% of the permitted level for casual / uncontrolled exposure. The combination of the three proposed backup signals, and therefore each proposed backup signal individually, represents an insignificant exposure.

The tower is fenced and appropriate signage is provided. The applicant agrees to suspend operations in cooperation with other users in order to protect workers on the tower.

International

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the border.

The distance to the nearest point along the US/Canada border is 1,613 km. Coordination with Canada is not required.

The distance to the nearest point along the US/Mexico border is 201.8 km from the proposed site. Evaluation with respect to Mexican facilities and proposals is required. The proposal is for a backup facility whose protected contour falls completely within the protected contour of the primary station. It is therefore submitted that prior coordination with Mexico is not required.

Quiet Zone Calculations

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100km extension of the Table Mountain Radio Receiving Zone in Colorado.

Protected Monitoring Stations

The nearest Protected Monitoring Station is 539 km distant, in Douglas, AZ.

-0-

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Washington: 202-370-6357
Providence: 401-354-2400
<http://www.skywaves.com>

Boston / Worcester: 508-425-7176
New York City / NJ: 201-847-0933
Email dave@skywaves.com

Output from NADCON for station KNLB Tower

North American Datum Conversion

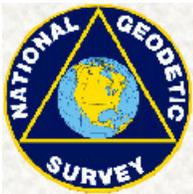
NAD 27 to NAD 83

NADCON Program Version 2.11

=====

Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	34 19 10.00000	114 13 6.00000
NAD 83 datum values:	34 19 10.05129	114 13 8.82002
NAD 83 - NAD 27 shift values:	0.05129	2.82002 (secs.)
	1.580	72.097 (meters)
Magnitude of total shift:		72.114 (meters)



[NGS HOME PAGE](#)

TOWAIR Determination Results

*** 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

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	34-19-10.1 north
Longitude	114-13-08.8 west

Measurements (Meters)

Overall Structure Height (AGL)	61
Support Structure Height (AGL)	61
Site Elevation (AMSL)	601

Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

[Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW