

## **Broadcast Engineering Services of Bonny Doon, Inc.**

---

Donald E. Mussell Jr. NCE-CBT  
Consulting Engineer  
740 Front Street Suite 305  
Santa Cruz, Ca 95060

Hawaii Office:  
P.O. Box 983  
Kilauea, Hi 96754

(808) 828-0209 Office  
(831) 588-9463 Cell  
dmsml@well.com  
[www.well.com/user/dmsml](http://www.well.com/user/dmsml)

### **Engineering Statement Minor Change to K241BM Duncan, Oklahoma BLFT-20120913ACD**

The Chickasaw Nation (TCN) is requesting a modification to the license for K241BM, in accordance with the Revitalization of the AM Service, First Report and Order, Further Notice of Proposed Rule Making, and Notice of Inquiry, FCC 15-142, ¶ 13 (rel. October 23, 2015) (“AMR Order”) and DA-1491 (released on Dec. 23, 2015).

TCN requests a change to the location, effective radiated power and operating frequency of this translator to 102.3 MHz (Ch 272). This would become a fill-in translator for co-owned KADA-AM Ada, Oklahoma (BL-19940804AD - Facility ID 33259). The proposed 60 dbu contour of this translator proposal is fully encompassed by the KADA (AM) 2mV/M contour. A power increase to 250 watts, utilizing a non-directional antenna is requested. New site coordinates and RCAMSL are also requested. The new site is 73.6 miles from the current licensed site of this translator, well within the 250 mile limitation. The new city of license will be Ada, Oklahoma. The proposed 60 dbu contour does not exceed the 40 KM limit from primary station KADA-AM, and the proposed 60 dbu translator contour is fully encompassed by the KADA-AM primary contour.

An allocation study, attached to this engineering statement, reveals no conflicts with existing or proposed stations

The proposed antenna system is a Shively 6812-2, a circularly polarized non-directional design. This antenna, mounted at 54 meters above ground, will produce a calculated worst-case RFR energy field of .809 microwatts per squared centimeter at a distance of 34 meters from the base of the tower support structure. This is well under 1% of the public limit, and is therefore compliant with the FCC rules concerning RFR both on and adjacent to the proposed tower location. This site is fenced and isolated on private property, and not accessible by the general public.

Respectfully submitted,



Donald E. Mussell Jr. NCE-CBT  
Consulting Engineer  
October 18, 2016

Broadcast Engineering Services of Bonny Doon, Inc.  
Don Mussell NCE-CBT

K241BM Minor Change  
The Chickasaw Nation  
Average Protected F(50-50)= 10.6 km  
Omni-directional

REFERENCE  
34 47 06.0 N.  
96 40 45.0 W.

CH# 272D - 102.3 MHz, Pwr= 0.25 kW, HAAT= 65.8 M, COR= 355.7 M

DISPLAY DATES  
DATA 10-18-16  
SEARCH 10-18-16

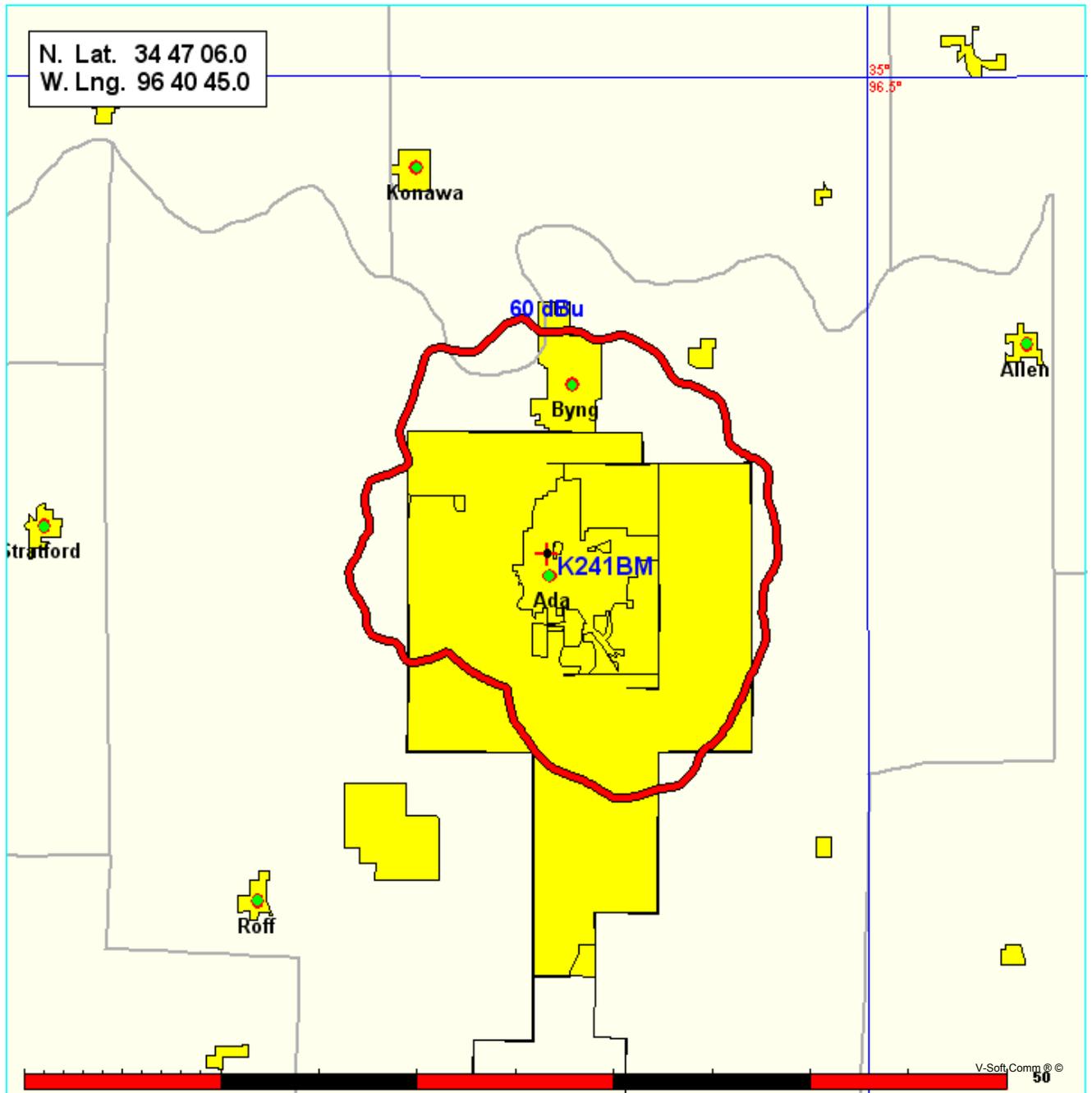
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
272C2 Sand Springs	KRMG-FM	LIC _C_ OK		18.1 198.4	166.66 BLH19990129KA	36 12 39.0 96 06 03.0	50.000 150	138.3 387	52.8 Cox Radio, Inc.	16.7	74.2
271A Atoka	KHKC-FM	LIC NC_ OK		132.1 312.4	60.52 BLH20081029ACP	34 25 08.0 96 11 24.0	0.750 137	28.7 323	19.5 Keystone Broadcasting Corp	19.1	22.3
272A Antlers	KDOE	LIC NCX OK		122.5 303.1	115.06 BLH20151014ACL	34 13 28.0 95 37 30.0	3.300 85	75.8 252	23.8 Will Payne	26.9	49.7
272C1 Wichita Falls	KWFS-FM	LIC NC_ TX		240.5 59.5	197.68 BLH20010406AAB	33 53 51.0 98 32 32.0	100.000 137	156.1 436	59.4 Townsquare Media Wichita F	31.8	107.4
273C3 Eufaula	KTNT	LIC _CN OK		69.7 250.3	103.42 BLH19981224KA	35 06 09.0 95 36 53.0	10.500 154	57.2 355	38.3 K95.5, Inc.	34.2	47.5
272D Del City	K272FD	LIC _C_ OK		312.2 131.7	100.25 BLFT20140930ABI	35 23 14.0 97 29 56.0	0.215	52.6 535	16.3 Community Broadcasting, In	36.5	50.2
273C2 Whitesboro	KMAD-FM	LIC NC_ TX		169.8 350.0	123.17 BLH20030117ABC	33 41 31.0 96 26 36.0	18.000 205	72.9 393	49.3 Alpha Media Licensee Llc	37.4	55.5
270C0 Oklahoma City	KTST	LIC _CY OK		321.1 140.6	116.51 BLH20000105ABI	35 35 52.0 97 29 22.0	100.000 372	11.1 718	77.3 Clear Channel Broadcasting	93.8	38.1
274C0 Oklahoma City	KJYO	LIC _CY OK		321.1 140.6	116.51 BLH20000105AAS	35 35 52.0 97 29 22.0	100.000 372	11.1 718	77.3 Clear Channel Broadcasting	93.8	38.1

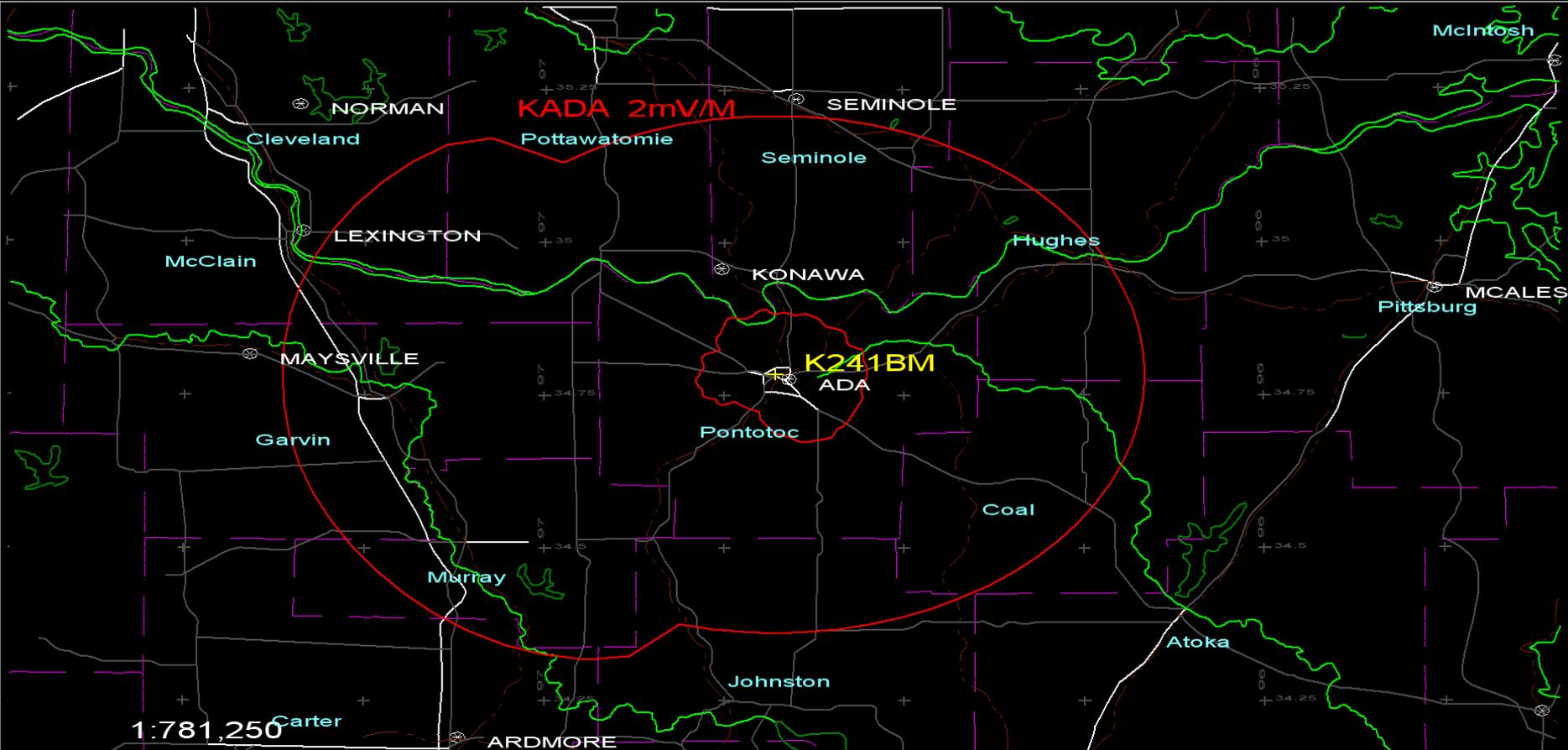
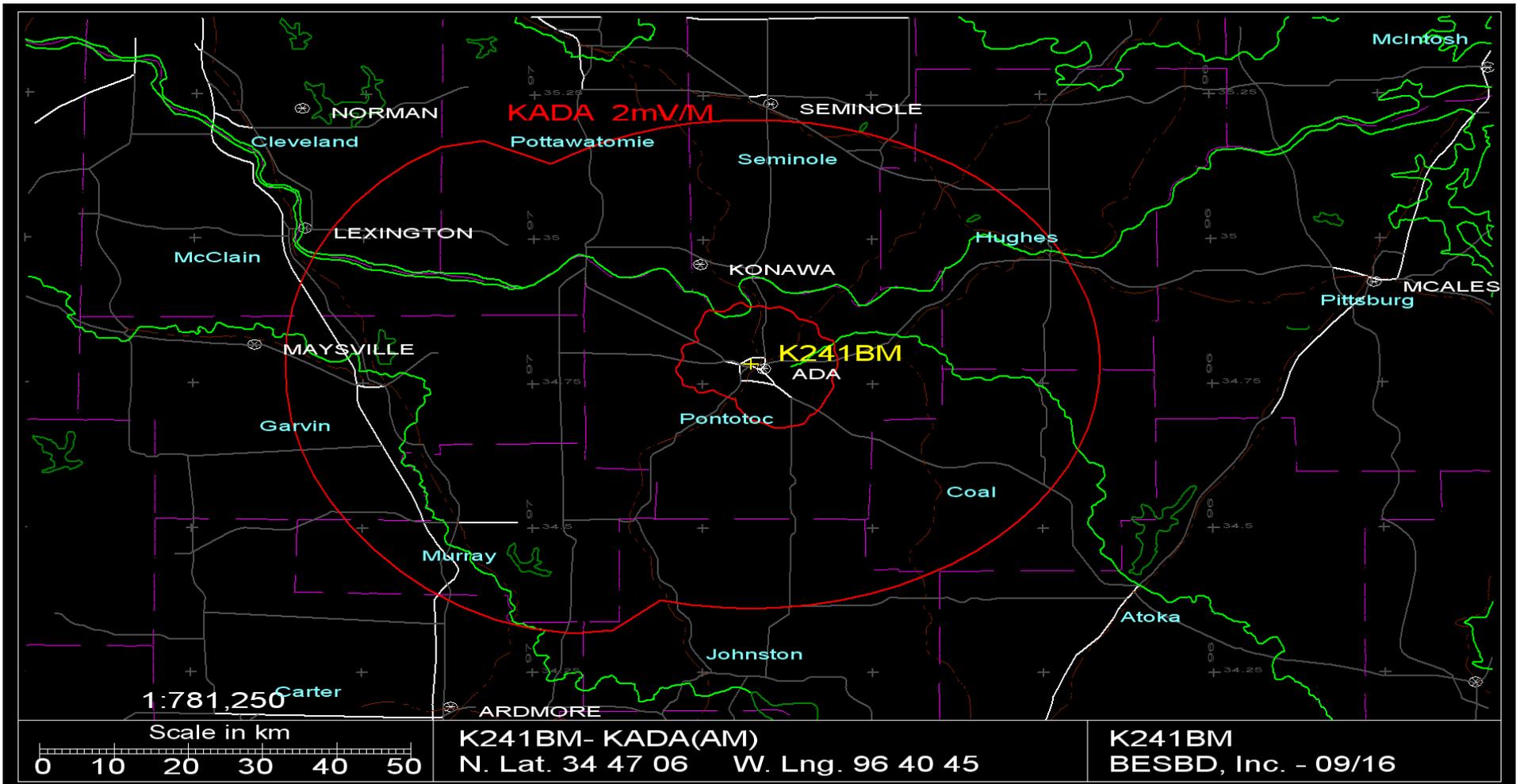
Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
Reference station has protected zone issue: AM tower

K241BM Minor Change  
The Chickasaw Nation

Coverage Study - FCC NGDC 30 Sec  
10-18-2016

K241BM CH272 D , 0.25 kW, 65.8m HAAT, 355.7m COR AMSL  
Service Contour = 60 dBu. Population = 26,455





1:781,250  
Scale in km  
0 10 20 30 40 50

**K241BM- KADA(AM)**  
N. Lat. 34 47 06 W. Lng. 96 40 45

**K241BM**  
BESBD, Inc. - 09/16

K241BM Minor Change  
The Chickasaw Nation

FMCommander Single Allocation Study - 10-18-2016 - FCC NGDC 30 Sec  
K241BM's Overlaps (In= 19.14 km, Out= 22.33 km)

K241BM CH 272 D  
Lat= 34 47 06.0, Lng= 96 40 45.0  
0.25 kW 65.8 m HAAT, 355.7 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

KHHC-FM CH 271 A 73.215 N BLH20081029ACP  
Lat= 34 25 08.0, Lng= 96 11 24.0  
0.75 kW 137 m HAAT, 323 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

