

# *APPLICATION FOR CONSTRUCTION PERMIT*

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NEW FM TRANSLATOR STATION  
SEDALIA, MISSOURI  
BNPFT-20030312ATE  
94.7 MHz / 0.250 kW ND

COMMUNITY BROADCASTING, INC.

MARCH, 2013

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JEREMY RUCK & ASSOCIATES, INC.

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**3.26.2013**

## **APPLICATION FOR CONSTRUCTION PERMIT**

The following engineering statement and attached exhibits have been prepared for **Community Broadcasting, Inc.** ("CBI"), applicant for a new FM translator facility to serve Sedalia, Missouri, and are in support of their application for construction permit for that facility. This application is being filed as the long-form submission for the original short-form engineering proposal under FCC File No. BNPFT-20030312ATE.<sup>1</sup>

The proposed facility would operate with an effective radiated power of 250 Watts at a center of radiation of 344.0 meters AMSL utilizing a non-directional antenna. The primary station for the proposed facility is KMCV(FM) at High Point, Missouri.<sup>2</sup> The proposed facility would not, however, function as a fill-in translator for KMCV(FM), as the 60 dBu service contour of the translator lies outside the 60 dBu service contour of that NCE facility. Exhibit E-1 illustrates the 60 dBu service contour of both facilities.

The proposed center of radiation and effective radiated power are consistent with the power and height limitations table in Section 74.1235 of the Commission's Rules. The average terrain was determined through a 12 radial sample of a 30-second linearly interpolated terrain database. That study indicated that the average elevation along the 0 degree true radial was the lowest of any of the sampled radials. The average elevation along this radial was determined to be 237.0 meters AMSL. This value, combined with the afore mentioned center of radiation above mean sea level, yields a center of radiation height of 107.0 meters above average terrain.

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<sup>1</sup> The Facility ID for NEW / BNPFT-20030312ATE at Sedalia, Missouri is 138443.

<sup>2</sup> The Facility ID for KMCV at High Point, Missouri is 84371.

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This application does not propose a change in the site location originally specified in the short-form engineering proposal. A small change in the center of radiation above ground level has been specified, however. This change in the center of radiation is necessary to bring the proposed facility into full compliance with the power/height table in Section 74.1235. Since there is no change in the proposed site location, it is respectfully submitted that the change in the center of radiation is a minor change, since there would clearly be 60 dBu contour overlap between the two facilities. A channel change is proposed to the facility in order to provide additional protection to adjacent channel facilities.<sup>3</sup>

The proposed facility is not located within any of the Appendix A markets, or their associated market grid or market grid buffer. As a result, there would be no impact from the proposed facility to any of the Appendix A markets with regards to future LPFM licensing opportunities.

The proposed facility would comply with the contour overlap and interference provisions of Section 74.1204 of the Commission's Rules. Exhibit E-2 is a tabular based allocation study for the proposed facility. As this study demonstrates, the proposed facility would meet all of the contour overlap requirements to all relevant facilities. This study is illustrated graphically in Exhibit E-3.

The facility specified in this application would not constitute a significant environmental impact, and is exempt from environmental processing. The translator would utilize an existing

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<sup>3</sup> The short-form engineering proposal specified the use of channel 233, while this application specifies 234 as the channel of operation.

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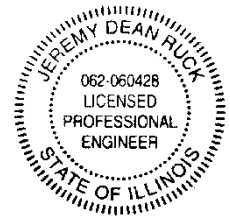
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tower that is registered with the Commission. The addition of the translator antenna to this tower would not increase the existing environmental impact already present from the facility.

In addition, the proposed facility would not constitute a radiofrequency radiation hazard to persons at the site. As indicated on the form pages, the proposed facility would operate with a Shively model 6812B-2 model antenna. The Commission's *FM Model* software package predicts a maximum power density of  $0.412 \mu\text{W}/\text{cm}^2$  at a distance of 48 meters from the base of the tower. This value is considerably less than the maximum value permissible under the applicable safety standards, and categorically excludes CBI.<sup>4</sup> CBI certifies that it will, however, coordinate with all present and future users of the site to ensure that workers having access to the site are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power or cessation of operation.

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature  
License Expires November 30, 2013

Jeremy D. Ruck, PE  
March 26, 2013

<sup>4</sup> Predicted power density value is 0.206 percent of the upper limit of the uncontrolled environment condition.

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**628796.X**  
BNPFT20030312ATE  
Latitude: 38-40-35.10 N  
Longitude: 093-15-15.90 W  
ERP: 0.25 kW  
Channel: 234  
Frequency: 94.7 MHz  
AMSL Height: 344.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

**KMCV**  
BLED20101209AJF  
Latitude: 38-35-48 N  
Longitude: 092-32-17 W  
ERP: 50.00 kW  
Channel: 210  
Frequency: 89.9 MHz  
AMSL Height: 336.5 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

Proposed 60 dBu  
Service Contour

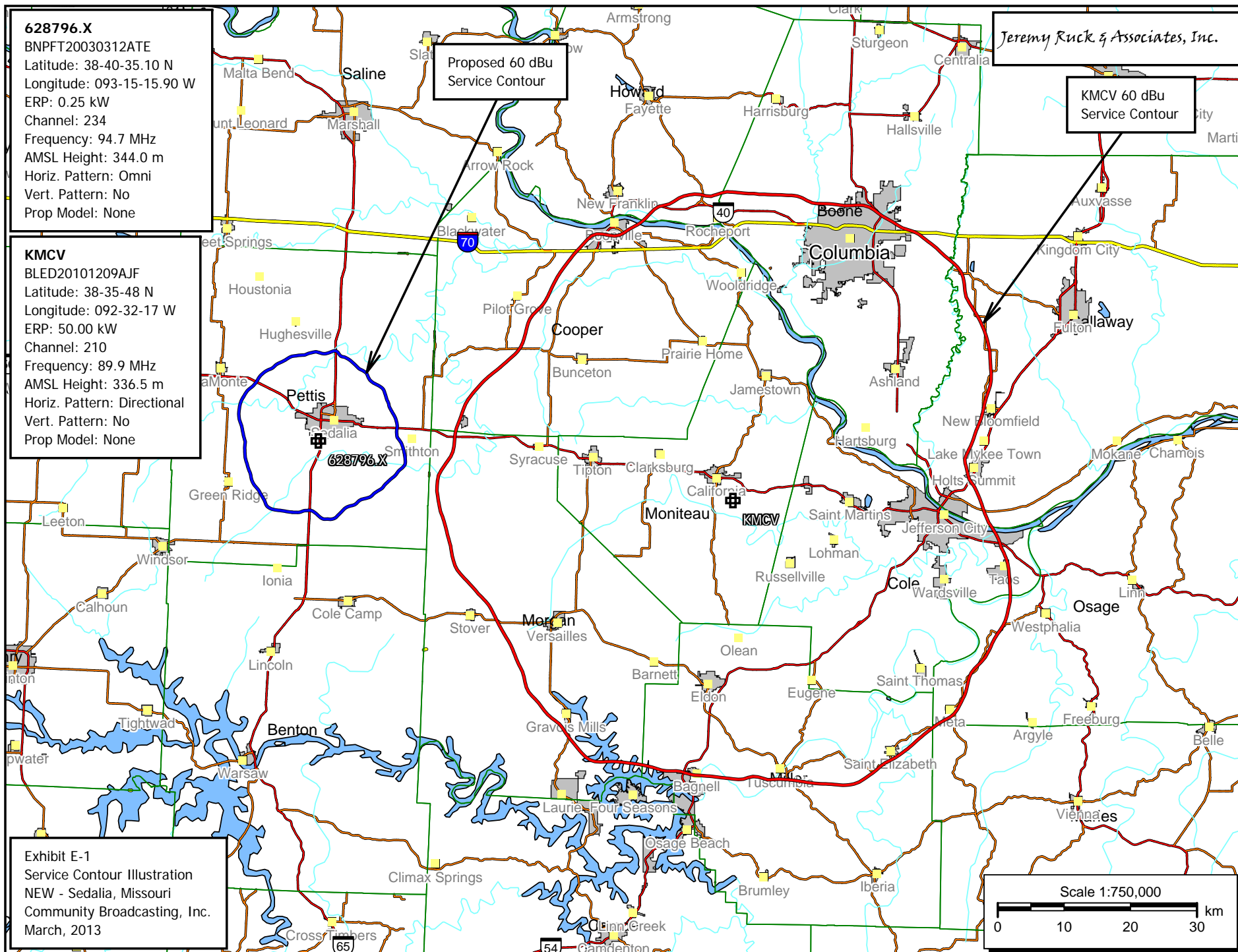
KMCV 60 dBu  
Service Contour

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Exhibit E-1  
Service Contour Illustration  
NEW - Sedalia, Missouri  
Community Broadcasting, Inc.  
March, 2013

Scale 1:750,000

0 10 20 30 km



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Consulting Engineers - Canton, Illinois

Exhibit E-2 - Tabular Allocation Study

NEW - Sedalia, Missouri

REFERENCE CH# 234D - 94.7 MHz, Pwr= 0.25 kW, HAAT= 88.4 M, COR= 344 M  
38 40 35.1 N.  
93 15 15.9 W.  
Average Protected F(50-50)= 12.12 km  
Omni-directional

DISPLAY DATES  
DATA 03-26-13  
SEARCH 03-26-13

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
233D Sedalia	628796	APP _C_ MO	0.0 38.0	0.00 BNPFT20030312ATE	38 40 35.0 93 15 16.0	0.250 90	18.1 346	12.3 Community Broadcasting, In	-31.4*	-32.3*
234C Springfield	KTTS-FM	LIC _CY MO	173.6 353.7	167.95 BLH19901218KB	37 10 30.0 93 02 35.0	100.000 336	177.0 762	75.4 Journal Broadcast Corporat	-20.9*	51.6
235C0 Shawnee	KCMO-FM	LIC _CX KS	294.0 113.2	114.96 BLH20090622AEB	39 05 26.0 94 28 18.0	100.000 341	108.5 601	74.6 Cmp Houston-kc, Lic	-6.6	21.2
236C3 Versailles	KTKS	LIC _CN MO	124.6 304.9	52.16 BLH20000630ADB	38 24 32.0 92 45 42.0	12.500 141	3.6 410	36.2 Twin Lakes Communications,	36.1	14.9
232C2 California	KATI	LIC _CN MO	102.7 283.3	75.57 BLH19951013KA	38 31 25.0 92 24 25.0	50.000 150	5.9 376	52.0 Zimmer Radio Of Mid-missou	56.2	22.5
237C3 Clinton	KDKD-FM	LIC _CX MO	239.8 59.4	66.95 BLH20040701ADS	38 22 18.0 93 55 06.0	14.500 132	4.0 367	39.3 Clinton License Co, Lic	51.3	26.5
235D Booneville	647670	APP _C_ MO	53.3 233.6	54.33 BNPFT20030317BOG	38 58 03.0 92 45 02.0	0.250 55	11.2 258	7.9 Covenant Network	30.7	26.6
234D Columbia	647237	APP _C_ MO	61.7 242.3	92.42 BNPFT20030317BJU	39 04 00.0 92 18 42.0	0.185 138	50.0 374	15.3 Covenant Network	30.1	36.1
231C0 Kansas City	KFKF-FM	LIC _CN KS	289.6 108.8	114.81 BLH19870507LI	39 00 57.0 94 30 24.0	100.000 303	10.1 577	72.5 Wilks License Company-kans	91.7	41.5

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.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
""affixed to 'IN' or 'OUT' values = site inside protected contour.  
Reference station has protected zone issue:

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AMSL Height: 344.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

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- 60 dBu F(50,50) Service Contour
- 40 dBu F(50,10) Interference Contour
- 54 dBu F(50,10) Interference Contour
- 100 dBu F(50,10) Interference Contour

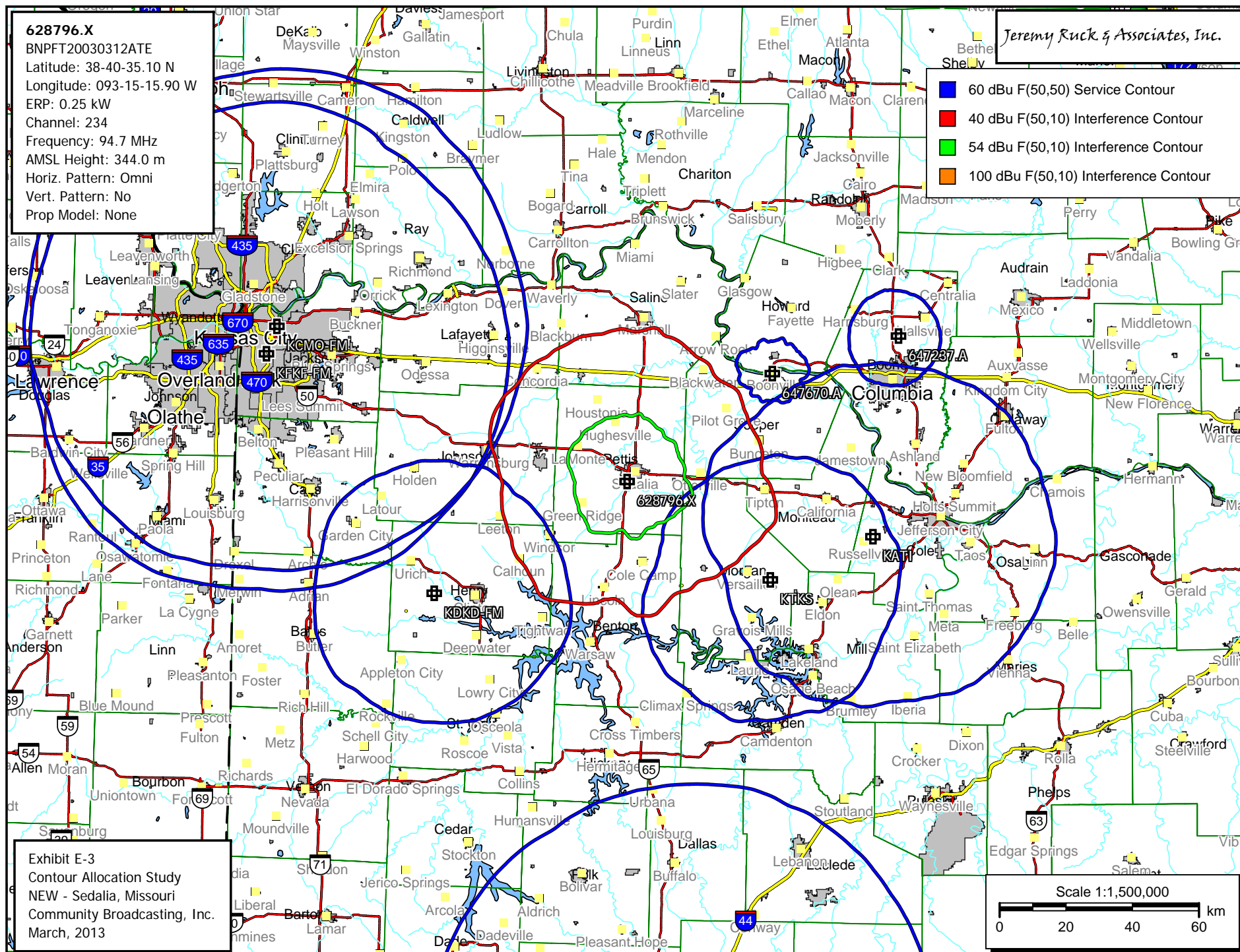


Exhibit E-3  
Contour Allocation Study  
NEW - Sedalia, Missouri  
Community Broadcasting, Inc.  
March, 2013

Scale 1:1,500,000  
0 20 40 60 km