

Comprehensive Technical Exhibit
Application for Construction Permit - Auxiliary Facility
KALA - Davenport, Iowa
St. Ambrose University
March, 2010

Application for Construction Permit

The following engineering statement and attached exhibits have been prepared for **St. Ambrose University** ("SAU"), licensee of non-commercial educational FM station KALA(FM) at Davenport, Iowa, and are in support of their application for construction permit for an auxiliary facility.¹ This application proposes to utilize the site of the formerly licensed main facility as an auxiliary facility.

Prior to the 2007 NCE filing window SAU submitted an application to upgrade KALA by relocating and increasing its maximum effective radiated power.² The new facility was constructed in 2009, and is licensed by the Commission.³ The former facility for, located on the St. Ambrose University campus, is now intended for use as an auxiliary for KALA.

The proposed auxiliary facility would operate with a center of radiation of 239 meters AMSL or 36 meters above average terrain. This location is 25 meters AGL. A non-directional three-bay Shively 6812 antenna would be utilized by the facility, with a proposed effective radiated power of 245 Watts.

The effective radiated power of 245 Watts results in a 60 dBu service contour from the auxiliary facility that does not extend beyond the 60 dBu service contour of the main facility. Exhibits E-1A and E-1B compare the main facility contour to the proposed contour. The contours illustrated on these two maps were based on a 360 degree sample of a 30 second linearly interpolated terrain database, and were computer generated.

¹ The Facility ID for KALA(FM) at Davenport, Iowa is 62090.

² See FCC File No. BPED-20070907ADL.

³ See FCC File No. BLED-20090921AAX. Application granted October 27, 2009.

The proposed facility is exempt from environmental processing. No excavation would be necessary as the tower utilized for the facility is located on the roof of the Galvin Center. The structure would not utilize high-intensity white obstruction lighting, and would not constitute an RF exposure hazard to persons on the ground, or on the rooftop of the Galvin center.

If the assumption is made that all radiation emanating from the proposed facility is isotropic, then the calculated power density at 2 meters above ground level is given by the following:

$$S = \frac{(33.4)(E_{REL})^2(ERP_H + ERP_V)}{h^2} = \frac{(33.4)(1)(490)}{(23)^2} = 30.9 \frac{\mu W}{cm^2}$$

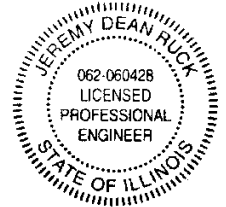
For co-located FM translator station K228CY:⁴

$$S = \frac{(33.4)(E_{REL})^2(ERP_H + ERP_V)}{h^2} = \frac{(33.4)(1)(250)}{(26)^2} = 12.4 \frac{\mu W}{cm^2}$$

The sum total of these two contributors is assumed to occur at all locations in the vicinity and is a maximum worst case power density of 43.3 $\mu W/cm^2$. This is considerably less than the upper limit of 200 $\mu W/cm^2$ permissible under the uncontrolled environment condition of the applicable safety standard. The rooftop of the Galvin center is a controlled access area, for which entry is restricted until the facilities cease operation. The proposed facility, thus, does not constitute an RF exposure hazard. The applicant certifies that it will coordinate with all users of the site to ensure that workers 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 power or cessation of operation.

⁴ See FCC File No. BPFT-20100122AAN.

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, 2011

Jeremy D. Ruck, PE
March 11, 2010

KALA

BLED20090921AAX

Latitude: 41-35-43.80 N

Longitude: 090-40-43.70 W

ERP: 10.00 kW

Channel: 203

Frequency: 88.5 MHz

AMSL Height: 317.0 m

Elevation: 225.6 m

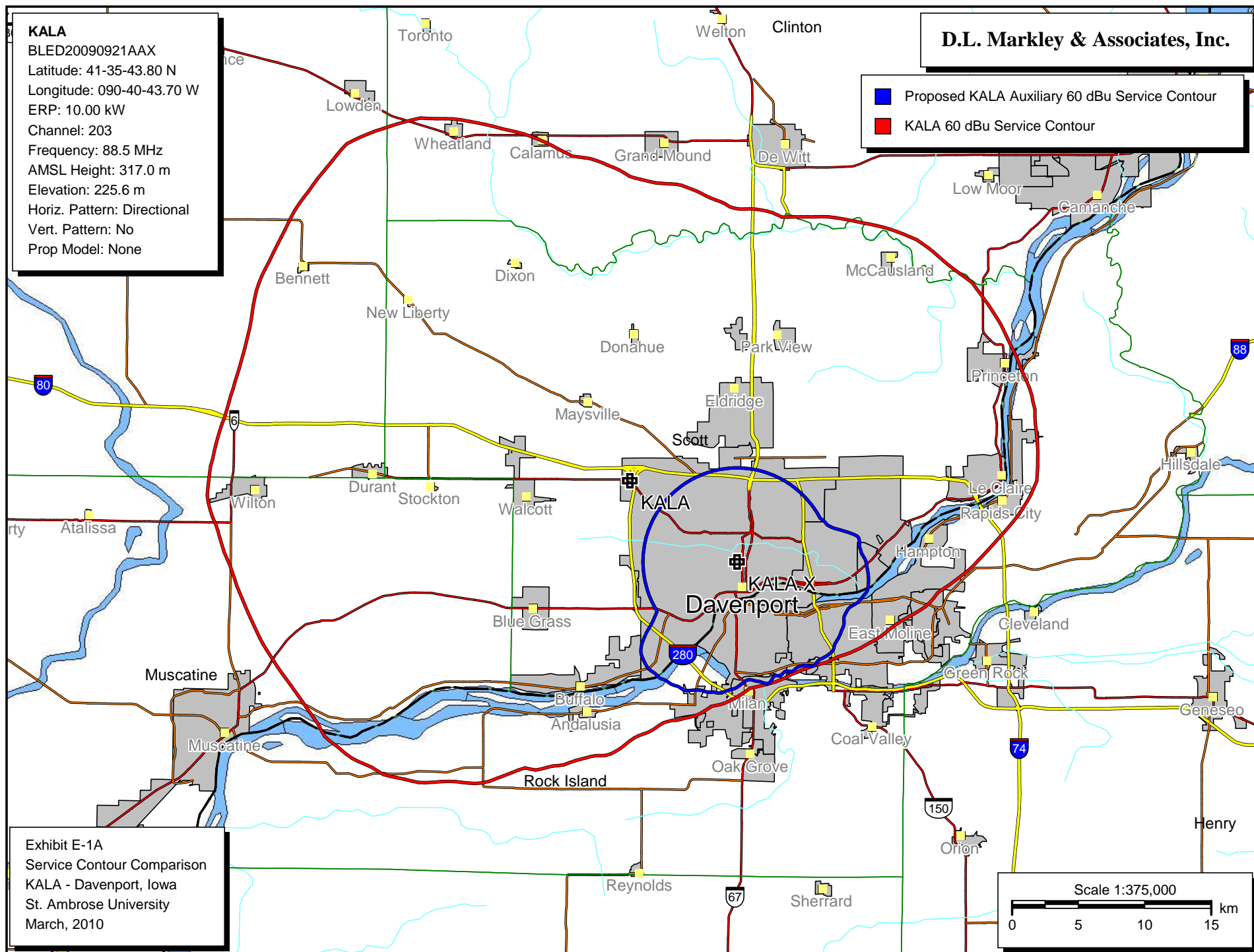
Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

D.L. Markley & Associates, Inc.

- Proposed KALA Auxiliary 60 dBu Service Contour
- KALA 60 dBu Service Contour





KALA

BLED20090921AAX
Latitude: 41-35-43.80 N
Longitude: 090-40-43.70 W
ERP: 10.00 kW
Channel: 203
Frequency: 88.5 MHz
AMSL Height: 317.0 m
Elevation: 225.6 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

KALA.X

Latitude: 41-32-26 N
Longitude: 090-34-56 W
ERP: 0.245 kW
Channel: 203
Frequency: 88.5 MHz
AMSL Height: 239.0 m
Elevation: 207.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

D.L. Markley & Associates, Inc.

-  Proposed KALA Auxiliary 60 dBu Service Contour
-  KALA 60 dBu Service Contour

Proposed Aux
60 dBu Contour

KALA 60 dBu
Service Contour

Exhibit E-1B
Service Contour Comparison
KALA - Davenport, Iowa
St. Ambrose University
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Scale 1:50,000

0 0.7 1.4 2.1 km