ENGINEERING EXHIBIT

Application for Television Translator
Digital Flash-Cut Construction Permit

prepared for

Gray Television Licensee, LLC
K38GH Russell, KS
Facility ID 65529
Ch. 38 (digital) 15 kW

Gray Television Licensee, LLC ("Gray") is the licensee of Television Translator station K38GH, Channel 38, Russell, KS, Facility ID 65529 (BLTT-20030805AJN). A Construction Permit ("CP", BDFCDTT-20060331AQO) authorizes *Gray* to "flash cut" K38GH to digital operation at its licensed site location. The CP will expire on June 23, 2009. In advance of the CP's expiration, *Gray* will request that the CP be cancelled and will concurrently file the instant application which proposes a flash-cut facility identical to the CP.

The proposed facility will operate on its current Channel 38 using a "simple" out of channel emission mask. Continued use of the licensed nondirectional antenna is proposed. **Figure 1** depicts the 51 dBµ coverage contour of the proposed facility as well as the 74 dBµ contour of the licensed analog operation. The use of the same transmitter site and the service area overlap shown demonstrates compliance with §73.3572 for a minor change.

The K38GH Channel 38 antenna is situated on a tower structure having FCC Antenna Structure Registration ("ASR") number 1039953. No change to the overall structure height and no tower work are required to carry out this proposal.

A detailed interference study per OET Bulletin 69[1] shows that the proposal complies with the Commission's interference protection requirements toward all NTSC, DTV, television translator, LPTV, and Class A stations. The results, summarized in **Table 1**, show that any new interference does not exceed the Commission's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations).

The nearest FCC monitoring station is 226 km distant at Grand Island, NE. This exceeds the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). There are no nondirectional AM stations within 0.8 kilometers and no directional AM stations within 3.2 kilometers of the site, based on information contained within the Commission's database. The site location is beyond the border areas requiring international coordination.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposal will involve use of an existing transmitting antenna. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No tower construction or change in structure height is proposed. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and assuming 30 percent antenna relative field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 3.7 $\mu W/cm^2$, which is 0.9 percent of the general population/uncontrolled maximum permitted exposure ("MPE") limit. This is well below the five percent threshold limit described in §1.1307(b)

[1]FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A cell size of 1 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

Joseph M. Davis, P.E.
May 4, 2009

Chesapeake RF Consultants, LLC
11993 Kahns Road
Manassas, VA 20112
703-650-9600

List of Attachments

Figure 1	Coverage Contour Comparison
Table 1	Interference Analysis Results Summary
Form 346	Saved Version of Engineering Sections from FCC Form at Time of Upload

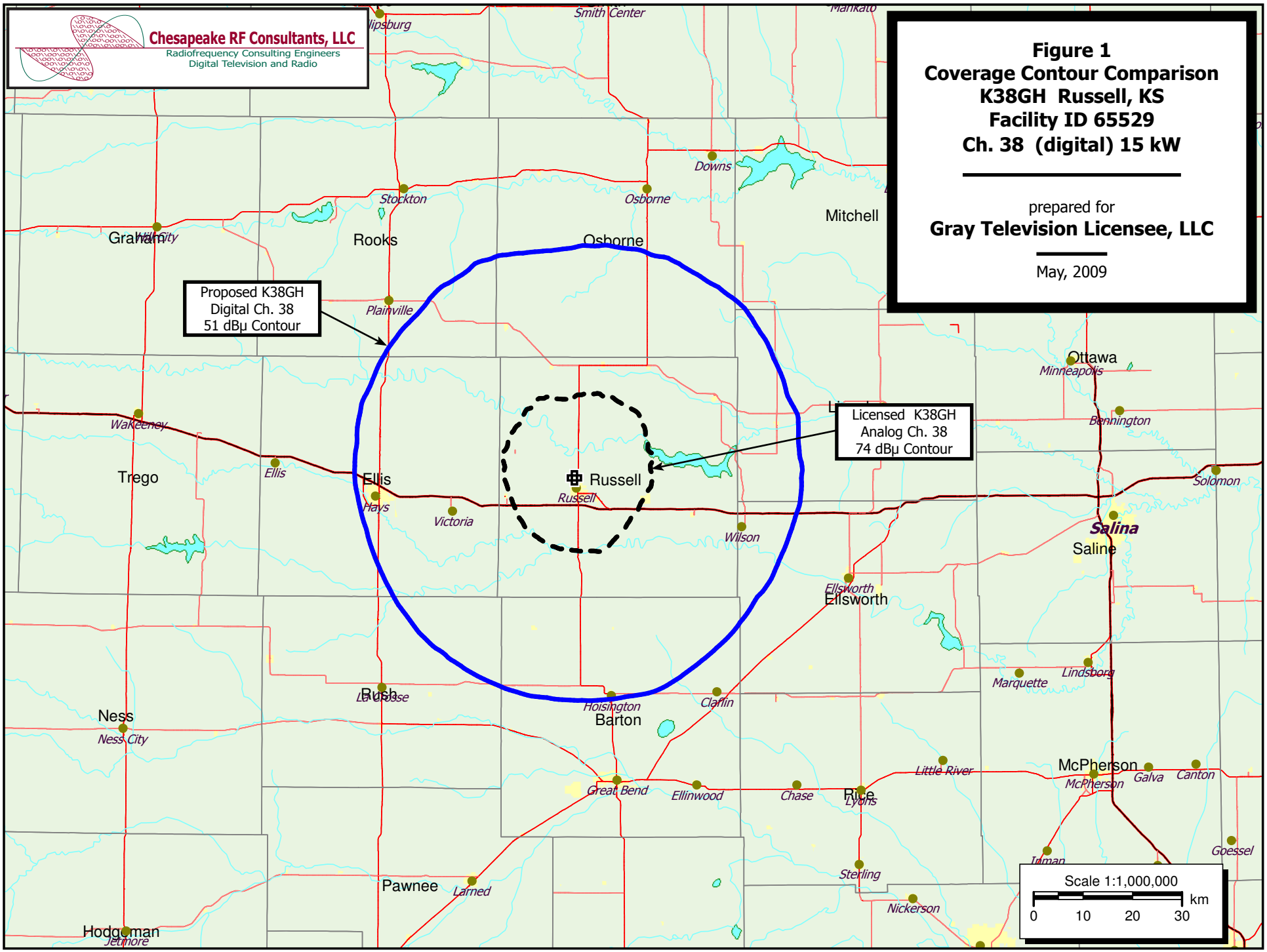
Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 1
Coverage Contour Comparison
K38GH Russell, KS
Facility ID 65529
Ch. 38 (digital) 15 kW
prepared for
Gray Television Licensee, LLC
May, 2009
Proposed K38GH
Digital Ch. 38
51 dBµ Contour
Licensed K38GH
Analog Ch. 38
74 dBµ Contour
Smith Center
Mankato
Downs
Stockton
Osborne
Mitchell
Graham
Rooks
Osborne
Plainville
Ottawa
Minneapolis
Wakeeney
Bennington
Trego
Ellis
Ellis
Russell
Russell
Hays
Victoria
Wilson
Solomon
Salina
Saline
Ellsworth
Ellsworth
Marquette
Lindsborg
Rush
La Crosse
Hoisington
Barton
Claflin
Ness
Ness City
Little River
McPherson
McPherson
Galva
Canton
Great Bend
Ellinwood
Chase
Rice
Lyons
Goessel
Inman
Sterling
Pawnee
Larned
Nickerson
Hodgeman
Jetmore
Scale 1:1,000,000
km
0
10
20
30

Table 1

Interference Analysis Results Summary

prepared for

Gray Television Licensee, LLC

K38GH Russell, KS

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (1990 Census)---- Baseline	New Interference
30	K30GD	GREAT BEND KS	57.8	LIC	BLTT-20030805AIJ	---	none
38	K38AD	YUMA CO	365.1	CP MOD	BMPTT-20011106AAP	---	none
38	K38AD	YUMA CO	365.1	LIC	BLTT-20011114AAK	---	none
38	K38KO	DODGE CITY KS	163.4	CP	BNPTTL-20000830AQM	---	none
38	KMCI	LAWRENCE KS	374.4	LIC	BLCT-20030626AAF	---	none
38	KSPJ-LP	PITTSBURG KS	395.6	CP MOD	BMPTTL-20050727AMC	---	none
38	K28JB	WICHITA KS	190.8	CP	BDISDTT-20060328AJT	---	none
38	KPCI-LP	MCCOOK NE	211.4	APP	BDFCDTL-20060331AGW	---	none
38	KXVO	OMAHA NE	328.6	CP	BPCDT-20090202AGZ	---	none
38	K38AK	PONCA CITY OK	289.6	CP	BDFCDTA-20060630AHO	---	none
38	K38AK	PONCA CITY OK	289.6	LIC	BLTT-19820405IM	---	none
38	K38AM	STRONG CITY OK	353.9	LIC	BLTT-19950127JG	---	none
38	K38HM	WEATHERFORD OK	380.7	LIC	BLTT-20040813AAL	---	none
38	K38KH-D	WOODWARD, ETC. OK	263.6	CP	BDCCDTT-20061024ADK	---	none
38	K38BU	GRUVER TX	369.7	LIC	BLTT-19880226II	---	none
39	K39FW	GARDEN CITY KS	202.9	LIC	BLTT-20030423AAE	---	none
41	KSKV-LP	SALINA KS	105.4	LIC	BLTTL-20050729DTL	---	none
41	KSKV-LP	SALINA KS	105.3	CP	BPTTL-20060331BLM	---	none
41	KSKV-LP	SALINA KS	108.7	APP	BMPTTL-20050721ACY	---	none
42	960528KP	WICHITA KS	134.3	APP	BPET-19960528KP	---	none

SECTION III - ENGINEERING DATA (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel Number:
38

2. Translator Input Channel No. :

3. Primary station proposed to be rebroadcast:

Facility Identifier	Call Sign	City	State	Channel
65534	K30GD	GREAT BEND	KS	30

4. Antenna Location Coordinates: (NAD 27)
Latitude:
Degrees 38 Minutes 54 Seconds 51 (•) North ( ) South

Longitude:
Degrees 98 Minutes 51 Seconds 51 (•) West ( ) East

5. Antenna Structure Registration Number: 1039953
[ ] Not Applicable [Exhibit 10] [ ] Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 562.4 meters

7. Overall Tower Height Above Ground Level: 123.6 meters

8. Height of Radiation Center Above Ground Level: 112.2 meters

9. Maximum Effective Radiated Power (ERP): 15 kW

10. Transmitter Output Power: 2.45 kW

11. a.Transmitting Antenna:
Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://fjallfoss.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.
(•) Nondirectional ( ) Directional "Off-the-shelf" ( ) Directional composite

Manufacturer SCA Model SL-8

b. Electrical Beam Tilt: 1.75 degrees [ ] Not Applicable

c. Directional Antenna Relative Field Values: [x] N/A (Nondirectional or Directional "Off-the-shelf")
Rotation (Degrees): [ ] No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

Relative Field Polar Plot

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

12. **Out-of-channel Emission Mask:** (•) Simple ( ) Stringent

CERTIFICATION

13. **Interference** : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. (•) Yes ( ) No

See Explanation in [Exhibit 11]

14. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an **Exhibit is required.** (•) Yes ( ) No

See Explanation in [Exhibit 12]

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:

☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application , all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.

☐ Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER
Signature		Date 5/4/2009
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 11993 KAHNS ROAD		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20112 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	