

**Illinois Association of Seventh-Day Adventists**

**Long Form Application for Translator  
Construction Permit**

**Channel # 282D, 104.3 MHz**

**Canton, IL**

**Engineering Statement**

Prepared by:  
Jerry Mathis

## **Introduction**

The Illinois Association of Seventh-Day Adventists is filing an application for a Construction Permit for a new translator in Canton, IL.

This engineering statement and application supplies complete engineering and technical data in support of The Illinois Association of Seventh-Day Adventist's request. All calculations have been made and determined in accordance with current Rules and Regulations.

## **Interference Study**

A detailed interference study was performed for this application and is shown as Exhibit #1 in this report. This study shows that no prohibited overlap would occur and the proposed facilities would comply with Rule 74.1204.

## **Elevation and Contour Data**

The average elevation of the terrain within 3 to 16 kilometers and the Height Above Average Terrain (HAAT) were calculated using the Vsoft software program. The distance to the contours utilized the translator's proposed ERP of 55 watts. Exhibit #2 shows the proposed 60-dbu contour. Exhibit #3 shows the average elevation and HAAT, as well as the distance to the 60 dbu contour for the 12 radials, in tabulated form.

## **List of Exhibits**

1. Interference Study
2. Map of proposed 60 dBu contour.
3. Tabulation of 12 radials showing average elevation, HAAT, and contour distances.

REFERENCE

40 32 39 N

90 02 09 W

CH# 282D

- 104.3 MHz, Pwr= 0.055 kw, HAAT=68.0 M, COR= 224 M

Average Protected F(50-50)= 7.26 km

DISPLAY DATES

DATA 05-07-03

SEARCH 08-26-03

Canton, IL

EXHIBIT #1

Ave. F(50-10) 40 dBu= 24.3

54 dBu= 10.4

80 dBu= 2.3

100 dBu= .5

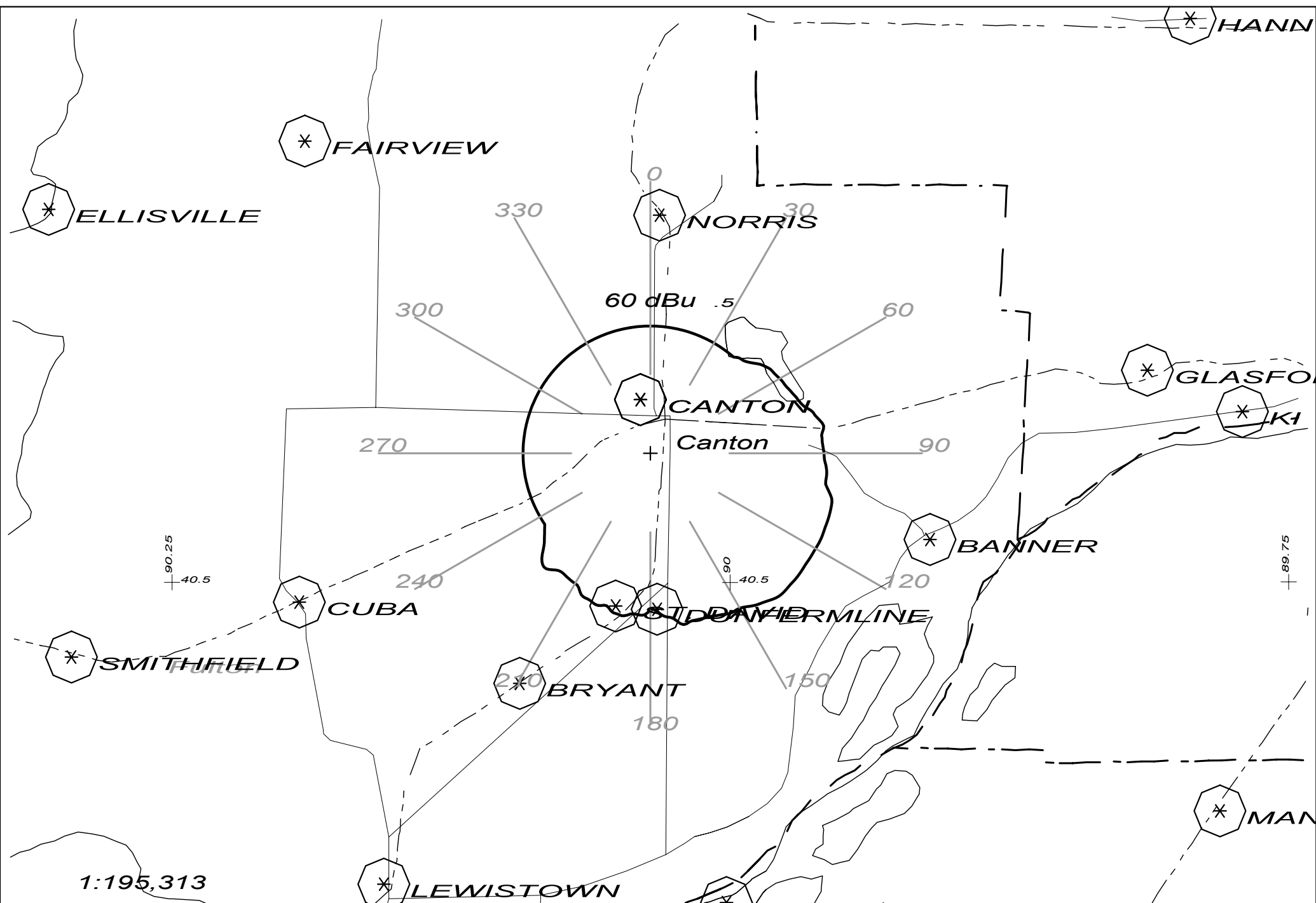
CH CITY	CALL	TYPE STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	COR(M) INT(km)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
282D Canton	AP282	APP IL	C	0.0 180.0	0.00 BNPFT20030314CHZ	40 32 39 90 02 09	0.055 46	46 15.5	6.0 Illinois Association Of Se	-24.76* -21.47*
282D Galesburg	AP282	APP IL	C	334.4 154.4	54.74 BNPFT20030317DJC	40 59 17 90 19 04	0.010 151	151 15.5	7.1 Edgewater Broadcasting Inc	25.94 32.14
282D Lacon	AP282	APP IL	C	44.3 224.3	76.36 BNPFT20030314AUW	41 02 00 89 24 00	0.055 8	8 16.0	4.8 Covenant Network Inc.	55.91 55.51
284A Bushnell	WLMD	LIC IL	CN	270.4 90.4	38.26 BLH19920819KD	40 32 45 90 29 15	3.300 132	132 0.5	27.9 Wpw Broadcasting, Inc.	30.87 9.81
284A Bushnell	ALLO	USE IL		271.6 91.6	40.04 RM	40 33 12 90 30 30	6.000 -179	-179 0.5	15.8	33.64 23.77
282D Kewanee	AP282	APP IL	C	3.8 183.8	81.31 BNPFT20030317DJK	41 16 29 89 58 18	0.010 144	144 15.5	7.0 Edgewater Broadcasting Inc	53.09 58.87
285A Pekin	WXCL	LIC IL	CN	75.1 255.1	43.29 BLH19860509KB	40 38 34 89 32 28	3.000 124	124 0.5	26.7 Aaa Entertainment Licensin	34.54 16.11
285A Pekin	ALLO	USE IL		75.1 255.1	43.29	40 38 34 89 32 28	6.000 -166	-166 0.5	15.8	35.41 27.02
279C Davenport	ALLO	USE IA		341.8 161.8	117.36 RM9363	41 32 49 90 28 35	100.000 -196	-196 0.5	31.0	109.38 85.87
279C Davenport	WLLRFM	LIC IA	CY	341.8 161.8	117.36 BLH19821112AR	41 32 49 90 28 35	100.000 368	368 0.5	77.4 Citicasters Licenses, L.p.	101.36 39.46
280D Pekin	AP280	APP IL	C	85.8 265.8	32.76 BNPFT20030314AVC	40 33 55 89 39 00	0.080 21	21 0.5	5.3 Covenant Network Inc.	25.60 26.91
280D Pekin	AP280	APP IL	C	85.8 265.8	32.76 BNPFT20030317AOE	40 33 55 89 39 00	0.080 21	21 0.5	5.3 Covenant Network	25.60 26.91
282L1 Alta	AP282	APP IL		40.2 220.2	52.88 BNPL20000831AAV	40 54 23 89 37 46	0.100 32	32 15.5	5.8 Chillicothe Educational Fo	28.77 31.57
283B Springfield	WFMBFM	LIC IL	CN	159.3 339.3	93.03 BLH19830815AC	39 45 36 89 39 05	43.000 139	139 13.3	62.1 Capstar Tx Limited Partner	12.05 17.67
283B Springfield	ALLO	USE IL		159.3 339.3	93.03	39 45 36 89 39 05	50.000 -169	-169 13.3	36.1	41.09 43.63
281A Colchester	ALLO	USE IL		268.4 88.4	69.21 RM9123	40 31 26 90 51 08	6.000 -213	-213 6.9	15.8	40.90 46.60
281A Colchester	WMQZ	LIC IL	CN	269.3 89.3	70.05 BLH19990309KA	40 32 01 90 51 45	6.000 94	94 6.9	27.4 Colchester Radio, Inc.	22.80 35.74
279B Springfield	WDBR	LIC IL	CN	156.2 336.2	91.09 BLH19821122AI	39 47 36 89 36 18	50.000 102	102 1.0	57.4 Saga Communications Of Ill	79.44 32.60
279B	ALLO	USE		156.2	91.09	39 47 36	50.000	-166	36.1	81.71 53.93

Springfield		IL		336.2	RM		89 36 18	-166	1.0				
283D AP283 Galesburg	APP IL	C		327.3 147.3	53.78 BNPFT20030314CKL		40 57 02 90 22 56	0.170 34	34 6.9	6.8 Covenant	39.25 Network	40.15 Inc.	
283D AP283 Galesburg	APP IL	C		327.3 147.3	53.78 BNPFT20030317IYU		40 57 02 90 22 56	0.170 34	34 6.9	6.8 Covenant	39.25 Network	40.15	
280D AP280 Dunlap	APP IL	C		47.3 227.3	47.52 BNPFT20030314CIJ		40 49 58 89 37 15	0.019 71	71 0.5	5.8 Illinois	42.14 Association of Se	41.25	
282D AP282 Colona	APP IL	C		349.4 169.4	105.73 BNPFT20030317DIB		41 28 47 90 16 08	0.019 78	78 15.5	6.0 Edgewater	81.02 Broadcasting Inc	84.24	
282D AP282 Princeton	APP IL	C		26.4 206.4	106.71 BNPFT20030317DKX		41 24 10 89 28 00	0.013 112	112 15.5	6.6 Edgewater	79.90 Broadcasting Inc	84.62	
279B WDBR.C Springfield	CP IL	ZCN		148.4 328.4	98.31 BPH19940429IZ		39 47 22 89 25 57	15.878 234	234 1.0	62.5 Saga	86.15 Communications Of Ill	34.77	

CH CITY	CALL	TYPE STATE		AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	COR(M) INT(km)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
281B1 Le Roy	WBWN	LIC IL	CN	97.4 277.4	99.38 BLH19900828KC	40 25 25 88 52 28	25.000 99	99 11.5	44.6 Citadel Broadcasting Compa	32.65	43.35
282D Peru	AP282	APP IL	C	37.6 217.6	115.70 BNPFT20030317DKN	41 21 56 89 11 26	0.027 67	67 15.5	6.1 Edgewater Broadcasting Inc	90.69	94.14
281D Galva	AP281	APP IL	C	359.6 179.6	64.75 BNPFT20030317DIX	41 07 38 90 02 27	0.013 116	116 6.9	6.7 Edgewater Broadcasting Inc	50.51	51.19
282D Morrison	AP282	APP IL	C	357.1 177.1	131.06 BNPFT20030317DJW	41 43 22 90 06 58	0.013 118	118 15.5	6.8 Edgewater Broadcasting Inc	103.70	108.82
282D Amboy	AP282	APP IL	C	25.2 205.2	138.78 BNPFT20030317DHO	41 40 19 89 19 27	0.013 68	68 15.5	5.1 Edgewater Broadcasting Inc	117.35	118.15
285A Geneseo	KBOBFM	CP IL	CN	348.6 168.6	99.99 BPH19970128IA	41 25 35 90 16 25	3.000 74	74 0.5	21.0 Cumulus Licensing Corp.	93.12	78.49

"\*"Affixed to 'IN' or 'Out' values = site inside protected contour.  
 ERP and HAAT are on direct line to and from reference station.

Exhibit #2



# TERRAIN AND CONTOUR DATA

Canton, IL

## EXHIBIT #3

ERP = .055 kW  
FM – 2-6 Tables 30 Sec

Azimuth Deg T.	Ave. Elev. 3 to 16 km Meters AMSL	Effective Antenna Height Meters AAT	ERP (dBk)	F(50-50) Distance to 60 dBu Contour km
0	221.8	2.5	-12.6	4.8
30	203.5	20.8	-12.6	4.8
60	182.6	41.7	-12.6	5.7
90	168.3	56.0	-12.6	6.6
120	156.2	68.1	-12.6	7.3
150	164.9	59.4	-12.6	6.8
180	178.1	46.2	-12.6	6.0
210	182.1	42.2	-12.6	5.7
240	195.1	29.2	-12.6	4.8
270	199.8	24.5	-12.6	4.8
300	206.1	18.2	-12.6	4.8
330	214.0	10.3	-12.6	4.8

Ave. = 189.4 M

34.9 M

Antenna Radiation Center AMSL = 224.3 M

Geographic Coordinates:

North Latitude: 40 32 39

West Longitude: 90 02 09