

**Engineering Statement
In Support of an
Application for a Construction Permit
WXET, Channel 300A, Arcola, IL**

General

Champaign Partners LLC, the proposed assignee of WXET, channel 300A, hereby seeks to file an application for a construction permit and to use a supplemental method to prove coverage of the community of license (Arcola, Illinois). The instant application seeks to modify the tower site, the ERP, the height above ground, the overall tower height, and the CORAMSL.

Exhibits Explained

The proposed facility will operate with an ERP of 2.95 kW (H&V). The proposed facility is short spaced to one facility: the licensed facility of WNTR, channel 300B, Indianapolis, Indiana. This facility is protected as a maximum class B facility under §73.215 (see Exhibit E, Figures 4 through 6).

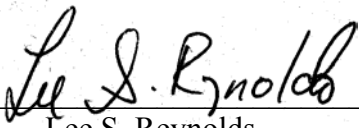
The proposed facility provides 100% coverage of the city of license with a F(50,50) 60 dBu contour, which qualifies it for use of a supplemental method (see Exhibit E, Figure 3). Exhibit E, Figures 7 through 10 show that the Longley-Rice 70 dBu contour covers 100% of the city of license. The proposed application also meets the FCC's required delta-h standard and shows at least a 10% difference between the F(50,50) 70 dBu and the Longley-Rice 70 dBu.

Human Exposure to Radiofrequency Radiation (no exhibits)

RF Worksheet #1 shows that the proposed facility does not exceed either the 20% (uncontrolled) or the 100% (controlled) radiofrequency allowable under FCC guidelines. (It provides 0.912% of the maximum allowable RF at a point 2 meters above ground.)

Conclusion

The proposed amendment meets all FCC rules and regulations. If there are any questions regarding this engineering, please feel free to contact us.



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WXET Channel Spacing Study

REFERENCE		DISPLAY DATES
39 52 43 N	CLASS = A	DATA 10-17-06
88 10 49 W	Current Spacings	SEARCH 10-25-06
----- Channel 300 - 107.9 MHz -----		

Call	Channel	Location	Dist	Azi	FCC	Margin
WXET	LIC 300A	Arcola	IL 35.80	197.3	115.0	-79.20
Of no concern: Licensed coordinates of WXET.						
WNTR	LIC 300B	Indianapolis	IN 169.30	88.7	178.0	-8.70
Of concern: Protected afforded under §73.215.						
AP8277	APP 298B	Terre Haute	IN 70.57	121.0	69.0	1.57
AP6275	APP 298B	Terre Haute	IN 70.57	121.0	69.0	1.57
WYST	LIC-Z 299B1	Fairbury	IL 97.77	328.8	96.0	1.77
DWZZQ	VAC 298B	Terre Haute	IN 75.66	123.2	69.0	6.66
AP8786	APP 298B	Terre Haute	IN 76.28	130.5	69.0	7.28
WCDD	LIC-N 300B1	Canton	IL 173.29	295.9	143.0	30.29
WAMW-F	LIC 300A	Washington	IN 157.34	150.2	115.0	42.34
WDKR	LIC 297A	Maroa	IL 75.62	277.6	31.0	44.62

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WXET Terrain/Contour Study

Reference Coordinates:

North Latitude: 39-52-43

West Longitude: 88-10-49

Azimuth °T.	ERP = 2.95 kW Ave. Elev. 3 to 16 km	FM - 2-6 Tables Effective Antenna Height	ERP (dBk)	F(50-50) Distance to 70 dBu Contour	F(50-50) Distance to 60 dBu Contour
	Meters AMSL	Meters AAT		km	km
0	202.9	144.1	4.698	16.3	28.3
5	204.6	142.4	4.698	16.1	28.1
10	203.7	143.3	4.698	16.2	28.2
15	201.8	145.2	4.698	16.3	28.4
20	201.9	145.1	4.698	16.3	28.3
25	203.6	143.4	4.698	16.2	28.2
30	205.0	142.0	4.698	16.1	28.1
35	204.8	142.2	4.698	16.1	28.1
40	206.0	141.0	4.698	16.0	28.0
45	205.6	141.4	4.698	16.1	28.0
50	202.6	144.4	4.698	16.3	28.3
55	202.2	144.8	4.698	16.3	28.3
60	201.5	145.5	4.698	16.4	28.4
65	201.8	145.2	4.698	16.3	28.4
70	201.1	145.9	4.698	16.4	28.4
75	201.1	145.9	4.698	16.4	28.4
80	202.4	144.6	4.698	16.3	28.3
85	201.8	145.2	4.698	16.3	28.3
90	200.2	146.8	4.698	16.4	28.5
95	198.7	148.3	4.698	16.5	28.6
100	200.8	146.2	4.698	16.4	28.4
105	202.5	144.5	4.698	16.3	28.3
110	204.5	142.5	4.698	16.1	28.1
115	202.6	144.4	4.698	16.3	28.3
120	201.7	145.3	4.698	16.3	28.4
125	199.7	147.3	4.698	16.5	28.5
130	199.3	147.7	4.698	16.5	28.6
135	198.4	148.6	4.698	16.6	28.6
140	196.0	151.0	4.698	16.7	28.9
145	196.3	150.7	4.698	16.7	28.8
150	196.0	151.0	4.698	16.7	28.9
155	196.0	151.0	4.698	16.7	28.9

Continued on the next page

ERP =	2.95 kW	FM - 2-6 Tables		F(50-50)	F(50-50)
Azimuth	Ave. Elev.	Effective	ERP	Distance to	Distance to
°T.	3 to 16 km	Antenna Height	(dBk)	70 dBu Contour	60 dBu Contour
	Meters AMSL	Meters AAT		km	km
160	194.5	152.5	4.698	16.8	29.0
165	193.8	153.2	4.698	16.9	29.1
170	194.5	152.5	4.698	16.8	29.0
175	195.5	151.5	4.698	16.8	28.9
180	195.8	151.2	4.698	16.7	28.9
185	196.2	150.8	4.698	16.7	28.8
190	196.6	150.4	4.698	16.7	28.8
195	196.9	150.1	4.698	16.7	28.8
200	196.8	150.2	4.698	16.7	28.8
205	196.6	150.4	4.698	16.7	28.8
210	199.0	148.0	4.698	16.5	28.6
215	199.6	147.4	4.698	16.5	28.5
220	199.5	147.5	4.698	16.5	28.6
225	200.4	146.6	4.698	16.4	28.5
230	201.1	145.9	4.698	16.4	28.4
235	202.6	144.4	4.698	16.3	28.3
240	203.3	143.7	4.698	16.2	28.2
245	204.4	142.6	4.698	16.2	28.1
250	205.4	141.6	4.698	16.1	28.0
255	205.7	141.3	4.698	16.1	28.0
260	205.9	141.1	4.698	16.1	28.0
265	205.8	141.2	4.698	16.1	28.0
270	206.4	140.6	4.698	16.0	28.0
275	206.6	140.4	4.698	16.0	27.9
280	207.0	140.0	4.698	16.0	27.9
285	207.6	139.4	4.698	15.9	27.8
290	208.0	139.0	4.698	15.9	27.8
295	208.6	138.4	4.698	15.9	27.8
300	208.4	138.6	4.698	15.9	27.8
305	208.4	138.6	4.698	15.9	27.8
310	209.0	138.0	4.698	15.8	27.7
315	209.4	137.6	4.698	15.8	27.7
320	210.1	136.9	4.698	15.8	27.6
325	210.5	136.5	4.698	15.7	27.6
330	209.8	137.2	4.698	15.8	27.7
335	207.8	139.2	4.698	15.9	27.8
340	204.2	142.8	4.698	16.2	28.1
345	201.1	145.9	4.698	16.4	28.4
350	198.4	148.6	4.698	16.6	28.7
355	201.4	145.6	4.698	16.4	28.4

WXET
Latitude: 39-52-43 N
Longitude: 088-10-49 W
ERP: 2.95 kW
Channel: 300
Frequency: 107.9 MHz
AMSL Height: 347.0 m
Elevation: 198.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

WXET, Channel 300A
Arcola, IL
Proposed FCC Contours

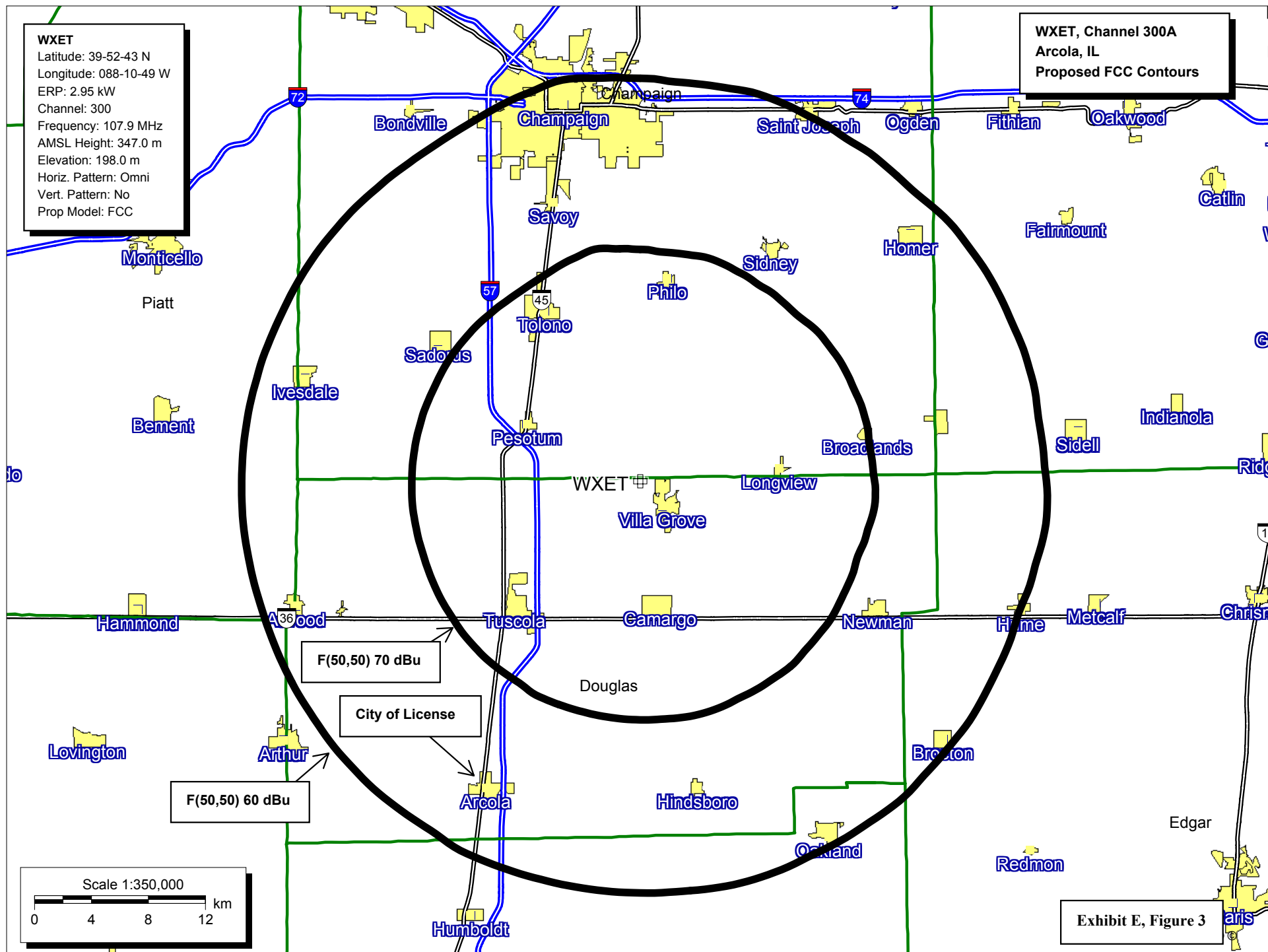
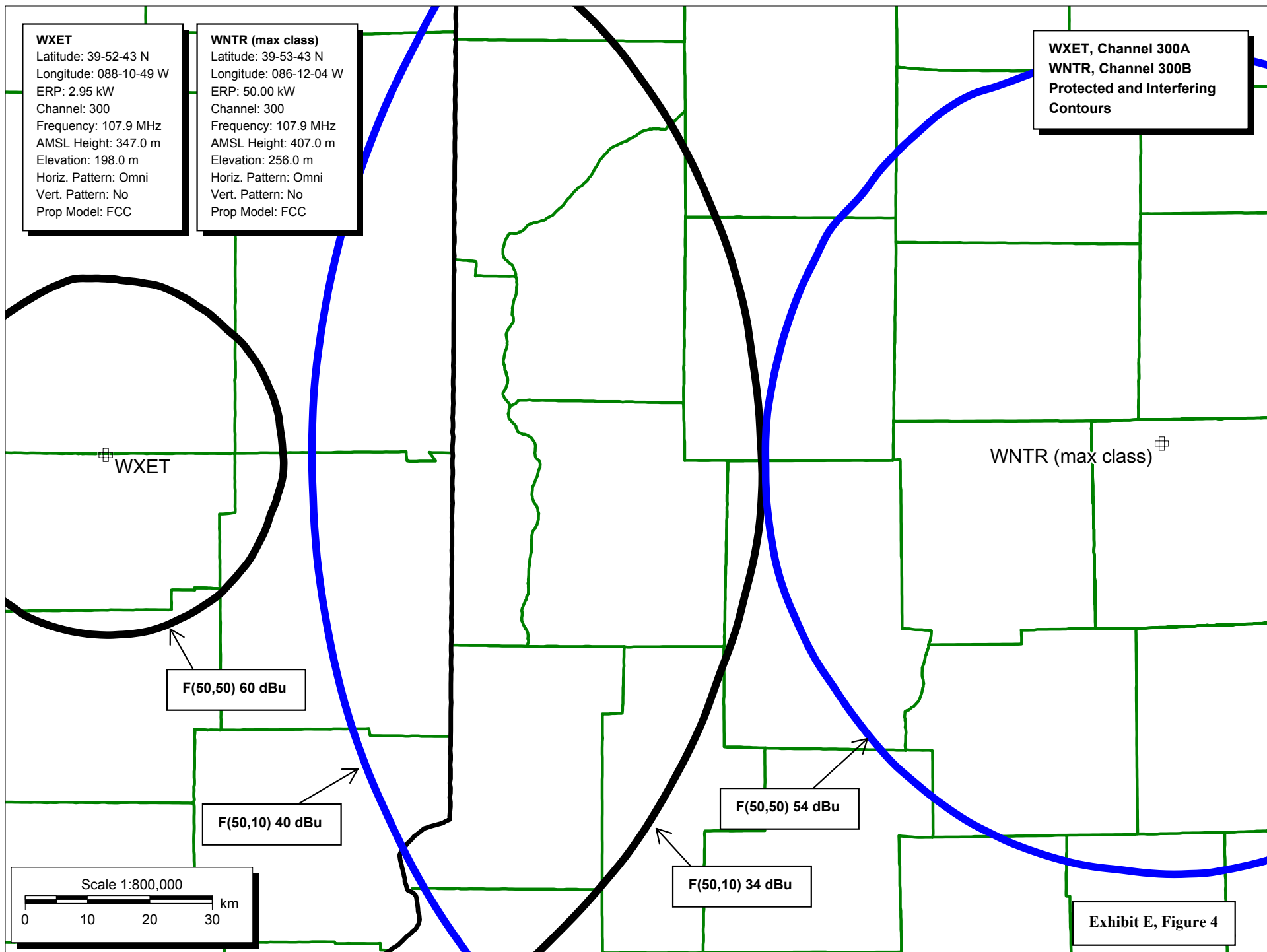


Exhibit E, Figure 3



WXET

Latitude: 39-52-43 N
Longitude: 088-10-49 W
ERP: 2.95 kW
Channel: 300
Frequency: 107.9 MHz
AMSL Height: 347.0 m
Elevation: 198.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

WNTR (max class)

Latitude: 39-53-43 N
Longitude: 086-12-04 W
ERP: 50.00 kW
Channel: 300
Frequency: 107.9 MHz
AMSL Height: 407.0 m
Elevation: 256.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

**WXET, Channel 300A
WNTR, Channel 300B
Protected and Interfering
Contours (zoomed view)**

F(50,10) 34 dBu

F(50,50) 54 dBu

Scale 1:150,000

0 2 4 6 km

Exhibit E, Figure 5

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WNTR Protected/WXET Interfering FM Overlap Study

WNTR				WXET					
Channel = 300B				Channel = 300A					
Max ERP = 50 kW				Max ERP = 2.95 kW					
RCAMSL = 407 M				RCAMSL = 347 M					
N. Lat = 395343				N. Lat = 395243					
W. Lng = 861204				W. Lng = 881049					
Protected 54 dBu				Interfering 34 dBu					
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
250.0	50.000	149.0	64.9		100.6	2.950	145.6	110.3	32.8
251.0	50.000	148.7	64.9		100.1	2.950	146.0	109.9	32.9
252.0	50.000	148.3	64.8		99.6	2.950	146.4	109.4	33.1
253.0	50.000	147.8	64.8		99.0	2.950	146.7	108.9	33.2
254.0	50.000	147.1	64.7		98.5	2.950	147.1	108.5	33.3
255.0	50.000	146.5	64.6		97.9	2.950	147.3	108.1	33.4
256.0	50.000	145.7	64.5		97.3	2.950	147.6	107.8	33.4
257.0	50.000	145.0	64.4		96.7	2.950	147.8	107.5	33.5
258.0	50.000	144.4	64.3		96.2	2.950	148.0	107.2	33.6
259.0	50.000	143.8	64.2		95.6	2.950	148.1	106.9	33.6
260.0	50.000	143.2	64.1		95.0	2.950	148.1	106.7	33.7
261.0	50.000	142.8	64.1		94.4	2.950	148.0	106.4	33.8
262.0	50.000	142.4	64.0		93.8	2.950	147.9	106.2	33.8
263.0	50.000	141.8	63.9		93.2	2.950	147.8	106.1	33.8
264.0	50.000	141.2	63.8		92.6	2.950	147.7	106.0	33.8
265.0	50.000	140.6	63.7		92.0	2.950	147.7	105.9	33.9
266.0	50.000	140.1	63.7		91.4	2.950	147.5	105.9	33.9
267.0	50.000	139.5	63.6		90.8	2.950	147.1	105.8	33.9
268.0	50.000	139.2	63.5		90.2	2.950	146.8	105.8	33.9
269.0	50.000	139.1	63.5		89.6	2.950	146.4	105.8	33.8
270.0	50.000	138.9	63.5		89.0	2.950	146.0	105.8	33.8
271.0	50.000	138.7	63.5		88.4	2.950	145.6	105.9	33.8
272.0	50.000	138.5	63.4		87.8	2.950	145.3	106.0	33.8
273.0	50.000	138.4	63.4		87.2	2.950	145.3	106.0	33.7
274.0	50.000	138.3	63.4		86.6	2.950	145.2	106.2	33.7
275.0	50.000	138.0	63.4		86.0	2.950	145.2	106.4	33.7
276.0	50.000	137.6	63.3		85.4	2.950	145.1	106.6	33.6
277.0	50.000	137.2	63.2		84.9	2.950	144.9	106.9	33.6
278.0	50.000	136.7	63.2		84.3	2.950	144.8	107.2	33.5
279.0	50.000	136.4	63.1		83.7	2.950	144.7	107.5	33.4
280.0	50.000	136.1	63.1		83.2	2.950	144.5	107.8	33.3
281.0	50.000	135.9	63.1		82.6	2.950	144.4	108.2	33.2
282.0	50.000	135.6	63.0		82.1	2.950	144.3	108.6	33.2
283.0	50.000	135.4	63.0		81.5	2.950	144.2	109.0	33.1
284.0	50.000	135.2	62.9		81.0	2.950	144.2	109.4	33.0
285.0	50.000	135.1	62.9		80.5	2.950	144.3	109.8	32.9
286.0	50.000	135.1	62.9		80.0	2.950	144.4	110.3	32.8
287.0	50.000	135.1	62.9		79.5	2.950	144.6	110.8	32.7
288.0	50.000	134.9	62.9		79.0	2.950	144.8	111.3	32.6
289.0	50.000	134.8	62.9		78.5	2.950	145.1	111.9	32.5
290.0	50.000	134.8	62.9		78.0	2.950	145.4	112.4	32.4

WXET

Latitude: 39-52-43 N
Longitude: 088-10-49 W
ERP: 2.95 kW
Channel: 300
Frequency: 107.9 MHz
AMSL Height: 347.0 m
Elevation: 198.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 301.0
Receiver Ht AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

**WXET, Channel 300A
Arcola, IL
FCC/Longley-Rice
Contour Comparison Map**

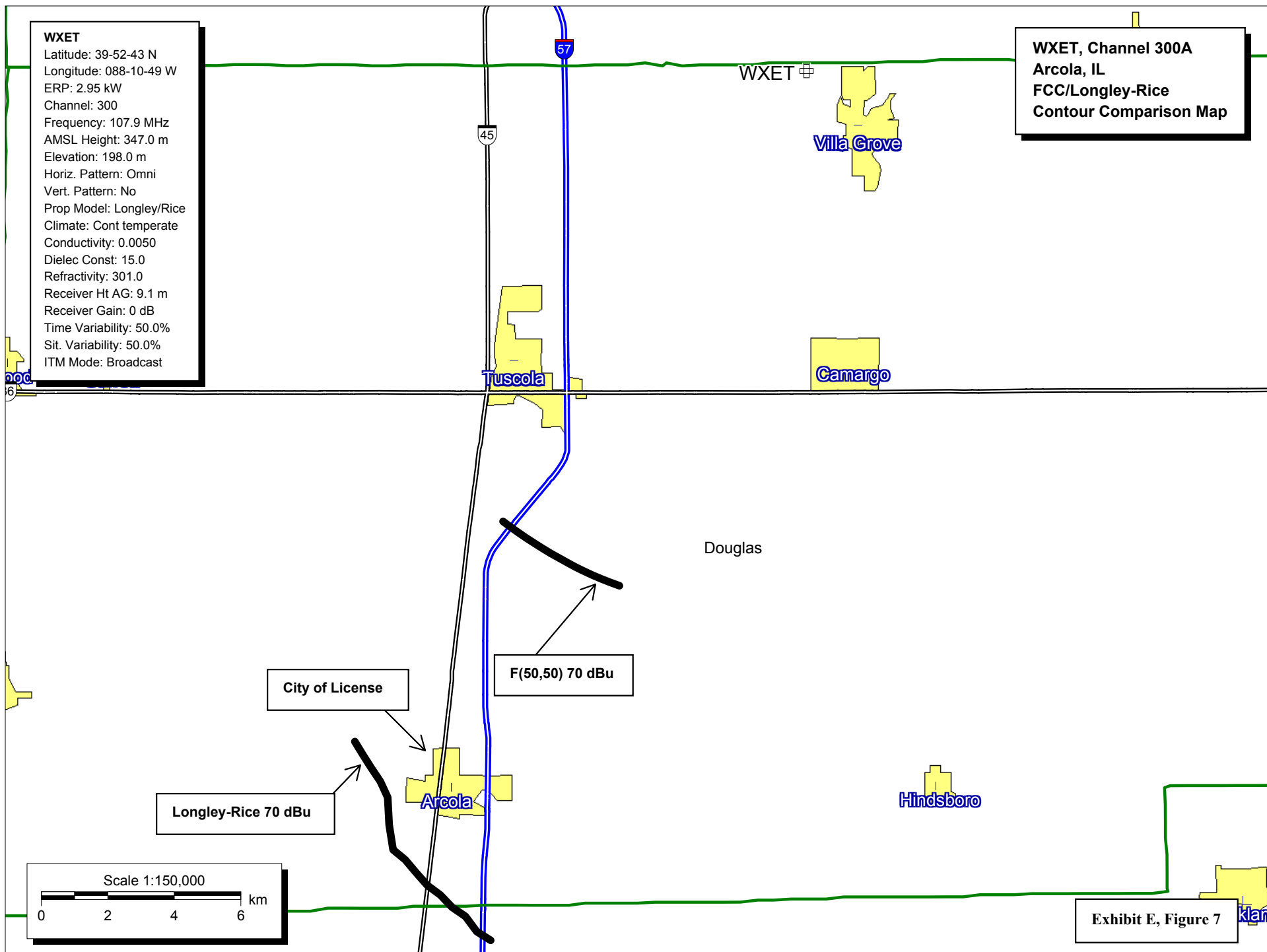


Exhibit E, Figure 7

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**WXET FCC/Longley-Rice 70 dBu Contour Comparison Study
(Over the community of license)**

Reference Coordinates:

North Latitude: 39-52-43

West Longitude: 88-10-49

	Longley-Rice	FCC F(50,50)	Percentage
<u>Azimuth</u>	<u>70 dBu</u>	<u>70 dBu</u>	<u>Change</u>
202.0	27.4	16.5	66.1%
203.0	27.3	16.5	65.5%
204.0	27.1	16.5	64.2%
205.0	27.0	16.4	64.6%
206.0	26.8	16.4	63.4%
207.0	26.6	16.4	62.2%
208.0	26.5	16.4	61.6%
209.0	25.9	16.4	57.9%
210.0	25.2	16.4	53.7%

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WXET Delta-H Study (207° Radial out to 26.6 km)

<u>Distance to</u> <u>XMTR (km)</u>	<u>Elevation</u> <u>AMSL (m)</u>	<u>Distance to</u> <u>XMTR (km)</u>	<u>Elevation</u> <u>AMSL (m)</u>	<u>Distance to</u> <u>XMTR (km)</u>	<u>Elevation</u> <u>AMSL (m)</u>	<u>Distance to</u> <u>XMTR (km)</u>	<u>Elevation</u> <u>AMSL (m)</u>
10.0	208.1	14.2	208.9	18.4	207.1	22.6	208.6
10.1	207.7	14.3	209.0	18.5	207.1	22.7	208.0
10.2	207.0	14.4	209.0	18.6	208.3	22.8	208.0
10.3	206.4	14.5	209.6	18.7	209.0	22.9	208.0
10.4	206.5	14.6	209.0	18.8	210.0	23.0	208.0
10.5	207.2	14.7	209.0	18.9	*210.0	23.1	208.0
10.6	208.2	14.8	209.0	19.0	210.1	23.2	208.0
10.7	206.7	14.9	209.0	19.1	210.1	23.3	208.0
10.8	205.7	15.0	209.0	19.2	210.0	23.4	208.0
10.9	207.2	15.1	208.8	19.3	210.0	23.5	208.0
11.0	207.1	15.2	208.3	19.4	210.0	23.6	208.0
11.1	207.8	15.3	207.0	19.5	210.0	23.7	208.0
11.2	209.2	15.4	207.0	19.6	210.0	23.8	207.7
11.3	210.0	15.5	207.7	19.7	209.9	23.9	206.3
11.4	209.5	15.6	207.0	19.8	210.0	24.0	205.0
11.5	209.0	15.7	207.0	19.9	209.4	24.1	205.0
11.6	209.1	15.8	207.0	20.0	209.0	24.2	205.0
11.7	210.0	15.9	207.0	20.1	208.6	24.3	205.0
11.8	210.0	16.0	207.0	20.2	208.0	24.4	205.0
11.9	210.5	16.1	206.8	20.3	207.0	24.5	205.0
12.0	211.0	16.2	206.2	20.4	207.0	24.6	205.0
12.1	211.0	16.3	205.4	20.5	207.0	24.7	205.0
12.2	211.0	16.4	205.5	20.6	206.0	24.8	203.0
12.3	211.9	16.5	206.0	20.7	206.0	24.9	203.7
12.4	212.0	16.6	205.0	20.8	207.0	25.0	203.0
12.5	211.5	16.7	203.8	20.9	207.5	25.1	203.0
12.6	211.6	16.8	203.7	21.0	207.9	25.2	203.9
12.7	211.0	16.9	202.0	21.1	208.0	25.3	204.4
12.8	210.1	17.0	202.0	21.2	208.0	25.4	205.0
12.9	209.9	17.1	204.4	21.3	208.0	25.5	**205.0
13.0	209.2	17.2	204.4	21.4	208.0	25.6	205.0
13.1	209.0	17.3	204.0	21.5	208.0	25.7	205.0
13.2	208.8	17.4	204.6	21.6	207.6	25.8	205.0
13.3	208.0	17.5	205.0	21.7	207.0	25.9	205.1
13.4	208.0	17.6	205.9	21.8	207.0	26.0	206.0
13.5	208.0	17.7	206.1	21.9	207.6	26.1	206.0
13.6	208.0	17.8	207.0	22.0	209.0	26.2	206.0
13.7	208.0	17.9	207.1	22.1	209.4	26.3	206.0
13.8	208.0	18.0	207.9	22.2	209.2	26.4	206.7
13.9	208.1	18.1	208.0	22.3	208.0	26.5	207.0
14.0	208.8	18.2	208.0	22.4	208.0	26.6	207.0
14.1	209.0	18.3	207.9	22.5	208.0		

* - h_{max} ** - h_{min} Delta h = h_{max} - h_{min} = 210.0 - 205.0 = **5.0 meters**

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WXET Longley-Rice Study Parameters (to 40.0 km) Using 0.1-km 3-Second Data

Latitude: 39-52-43 N
Longitude: 88-10-49 W

Frequency: 107.9 MHz

Base Elevation: 198.0 meters
Antenna AGL: 149.0 meters

ERP: 2.95 kW

Conductivity: 0.005 S/m

Receiver height: 9.1 meters

Dielectric constant: 15.00

Receiver gain: 0.0 dB

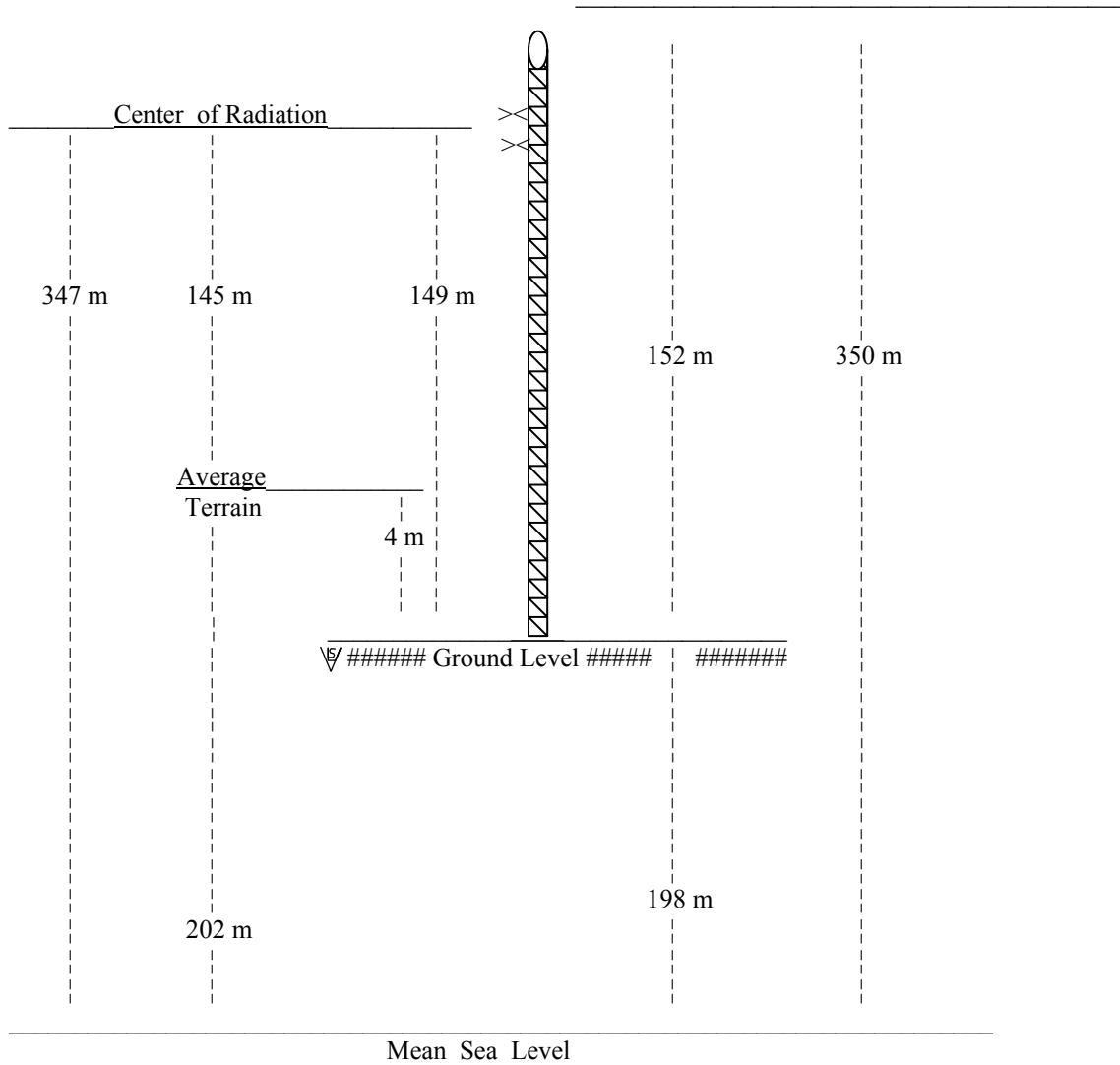
Time variability: 50%
Situation variability: 50%

Refractivity: 301.0

Polarization: Horizontal

Longley-Rice mode: Broadcast

Proposed Vertical Sketch



Proposed Location - 39° 52' 43" N. Lat.

88° 10' 49" W. Long. [NAD 27]

NOT DRAWN TO SCALE