

T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100
FALLS CHURCH, VIRGINIA 22043
TELEPHONE (703) 848-2130 /(202) 642-2130

VAL VISTA RV PARK, LLC
W31FA, Digital Channel 31
FACILITY ID: 184943
ELMHURST, MI

APRIL 2022

MINOR CHANGE APPLICATION TO CORRECT ANTENNA TYPE AND MODEL
FOR USE OF A COMMON ANTENNA WITH W27DQ, ELMHURST, MI

Engineering Statement

Executive Summary:

EXPEDITED PROCESSING IS REQUESTED - The underlying construction permit expires on April 8, 2022. A tolling request has been filed to extend the construction permit.

W31FA, seeks to make minor changes to the antenna type (manufacturer and model) previously specified in its construction permit to specify the following antenna:

Antenna Pattern Details:

Antenna Manufacturer	Model/Type	RCAMSL
Dielectric (DIE)	DIE TUL-C4SP-4/14M-1	494.9 meters

Figure 3 Antenna Relative Field Details:

A relative field tabulation and graphical plot of the horizontal radiation pattern, is included as Figure 3. Elliptical polarization is proposed.

The vertical polarized signal does not exceed or extend beyond the horizontally polarized signal in any azimuth. Maximum Effective Radiated Values for elliptical operation: 15-kw horizontal, 6.43-kw vertical.

Figure 1 Service Map:

A service map is included herein as Figure 1. No change in site or channel is proposed. This is simply a slight modification of the radiated pattern, due to use of a common antenna system with co-owned W27DQ. Note: The W27DQ's construction permit is being modified in a similar manner to specify the common antenna usage (i.e., change of antenna make/model for W27DQ as well). As shown on the service map (Figure 1) the proposal meets the minor change criteria for low-power television facilities.

Figure 2 FCC TVStudy Summary Report:

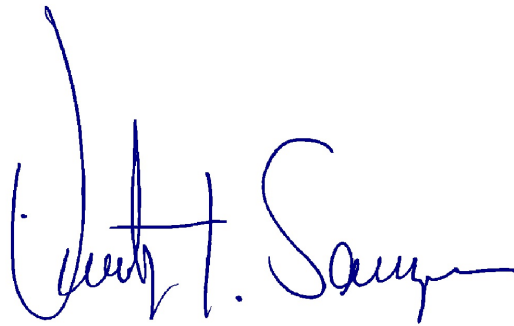
The summary report from the FCC TVStudy analysis, indicates no interference failures to other facilities. Applicant accepts all incoming interference from licensed or pending applications.

With Regards to Canada, the FCC TVStudy summary report indicates that the interference contour from this proposal does cross the US/Canadian Border.

HOWEVER, this minor change in antenna type does not increase interference to any known Canadian facilities, nor does the PROPOSED interference contour extend beyond the CURRENT f(50,10) interference contour into Canada, as shown on the service map in Figure 1. No change in site location or channel is proposed. As this facility has already been notified to Canada, AND no extension of the notified facility's interference contour occurs, no further coordination is thought to be required. There is no impact on facilities located within Canada.

Respectfully submitted on
April 7, 2022

Timothy Z. Sawyer, Technical Consultant
T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, Virginia 22043
Telephone: (703) 848-2130
e Mail to: tzsawyer@tzsawyer.com

A handwritten signature in blue ink, reading "Timothy Z. Sawyer". The signature is fluid and cursive, with the first name "Timothy" and last name "Sawyer" clearly legible, and "Z." as a middle initial.

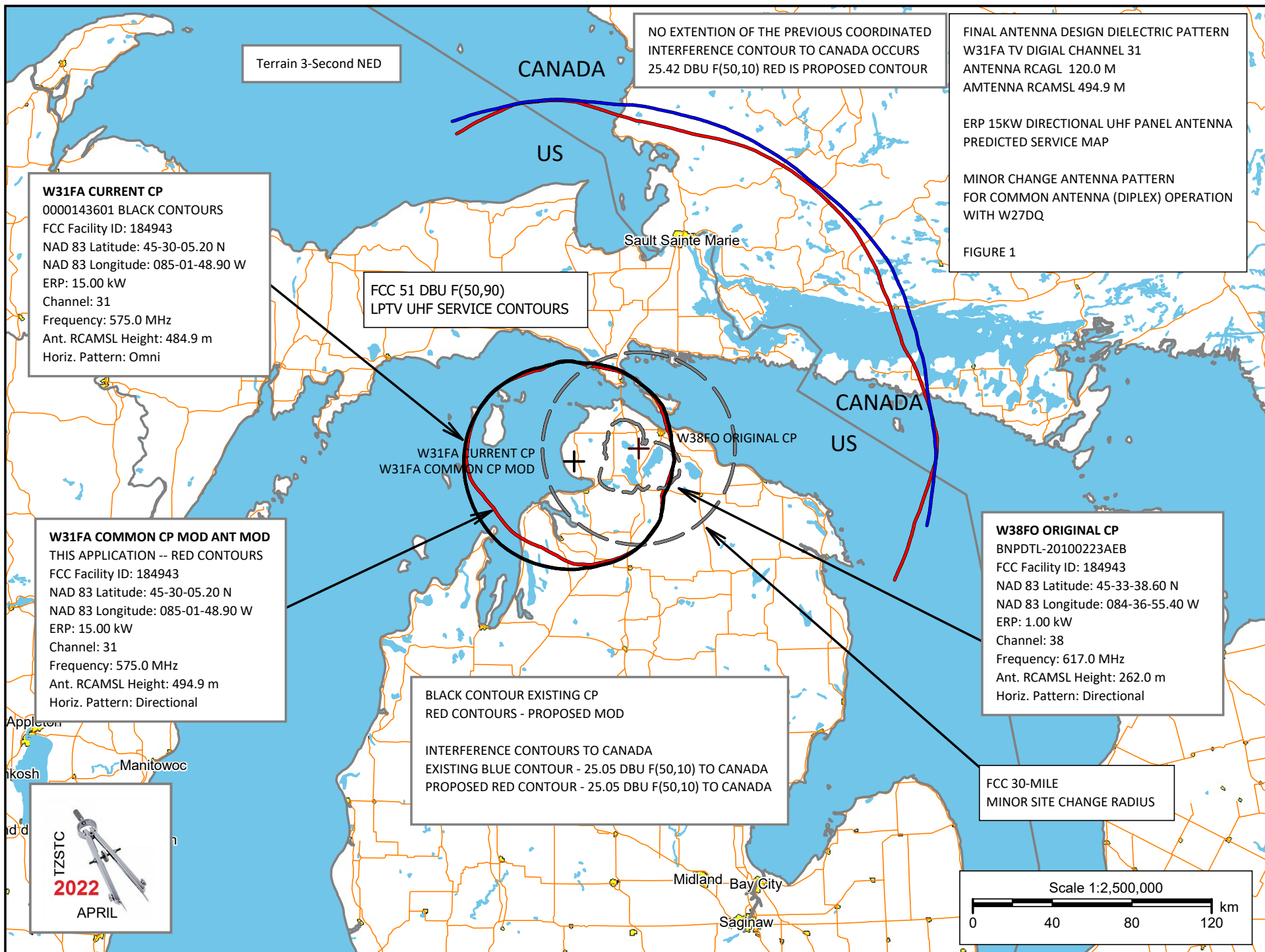


FIGURE 2 - FCC TVSTUDY SUMMARY REPORT - W31FA COMMON ANTENNA

Proposal: W31FA-D D31 LD APP ELMHURST, MI
File number: ELMHURST W31FA DIE ANT FINAL
Facility ID: 184943
Station data: User record
Record ID: 606
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WNEM-TV	D30	DT	LIC	BAY CITY, MI	BLANK0000185174	244.6 km
No	WXII-LD	D30+	LD	LIC	CEDAR, MI	BLANK0000159298	97.2
No	W30DQ-D	D30	LD	CP	CHARLES, MI	BLANK0000143602	95.2
No	W30ET-D	D30-	LD	LIC	FLINT, MI	BLANK0000121598	94.5
No	W30ET-D	D30-	LD	CP	FLINT, MI	BLANK0000159266	114.8
No	WFLD	D31	DT	LIC	CHICAGO, IL	BLANK0000055195	453.8
No	WNIT	D31	DT	LIC	SOUTH BEND, IN	BLANK0000087078	442.1
No	WMYD	D31	DT	LIC	DETROIT, MI	BLANK0000125639	370.5
Yes	W31FF-D	D31	LD	LIC	MAPLE VALLEY, MI	BLANK0000158766	138.6
No	WMKG-CD	D31	DC	LIC	MUSKEGON, MI	BLANK0000107817	275.0
No	WITI	D31	DT	LIC	MILWAUKEE, WI	BLANK0000086971	351.8
No	W31EV-D	D31	LD	LIC	WAUSAU, WI	BLANK0000187442	374.2
No	WFQX-TV	D32	DT	LIC	CADILLAC, MI	BLCDT20091217ACU	153.7
No	WFQX-TV	D32	DT	CP	CADILLAC, MI	BLANK0000035809	153.7
No	WJMN-TV	D32	DT	LIC	ESCANABA, MI	BLANK0000063727	164.4
No	CICI-TV-1	D30	DT	LIC	ELLIOT LAKE, ON	BLANKCANADA171	209.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D31
Mask: Full Service
Latitude: 45 30 5.20 N (NAD83)
Longitude: 85 1 48.90 W
Height AMSL: 494.4 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: DIE TUL-C4SP-4/14M-1 0.0 deg
Elev Pattn: Generic
Elec Tilt: 0.75

50.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	13.9 kW	212.0 m	50.8 km
45.0	12.9	240.9	52.0
90.0	14.2	212.6	50.9
135.0	14.2	265.3	53.9
180.0	8.13	284.3	52.0
225.0	2.81	308.7	47.6
270.0	10.7	306.8	54.7

315.0 13.7 265.3 53.7

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 262 m

****Proposal 25.42 dBu contour crosses Canadian border, coordination required**

Distance to Canadian border: 103.7 km

Distance to Mexican border: 2256.5 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 193.3 degrees Distance: 330.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 257.3 degrees Distance: 1744.6 km

Study cell size: 1.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

Proposal causes no interference to BLANK0000158766 LIC

Proposal causes no interference to ELMHURST W31FA DIE ANT APP

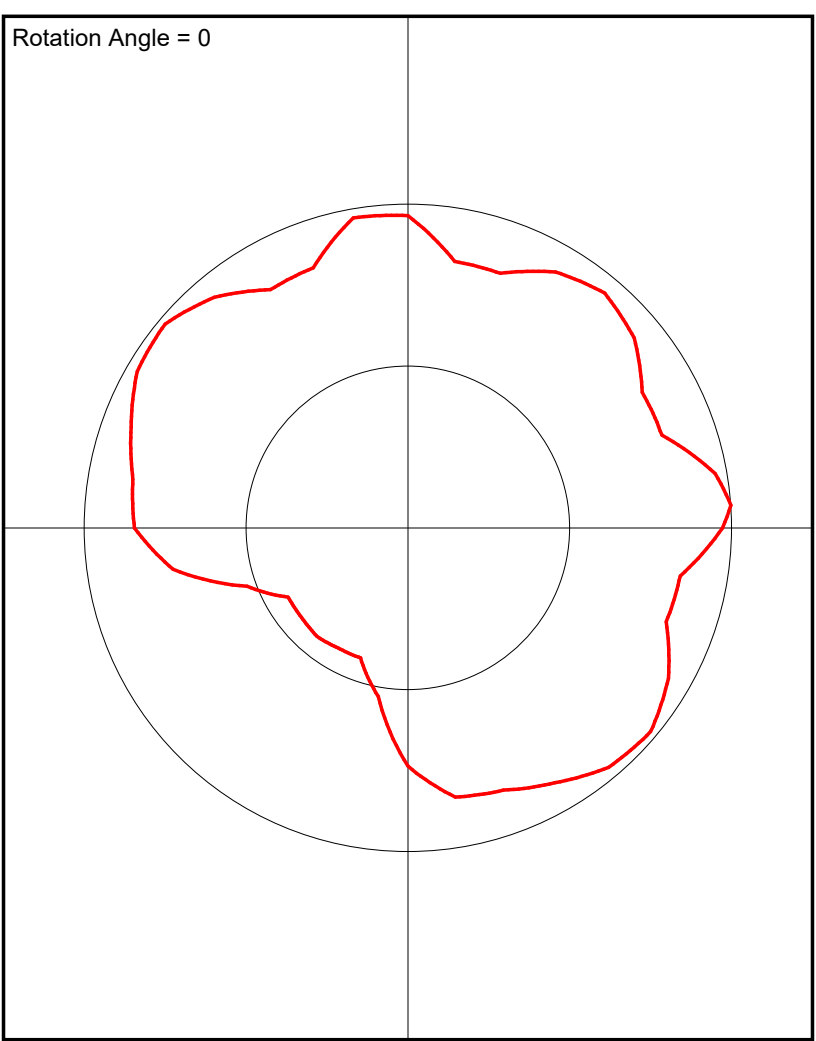
No IX check failures found.

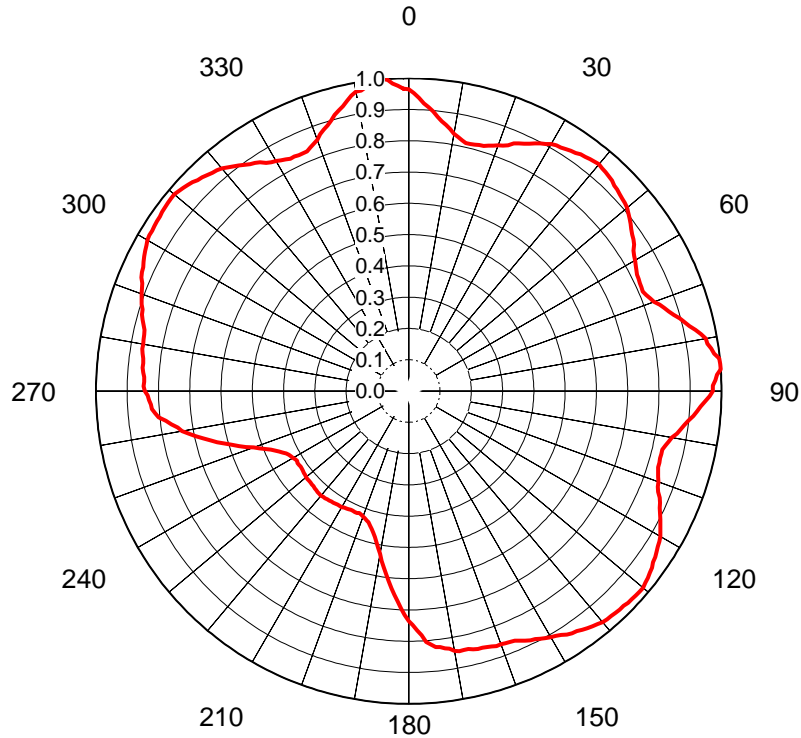
DIE TUL-C4SP-4/14M-1 W31FA

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.964
10.0	0.835
20.0	0.836
30.0	0.912
40.0	0.946
50.0	0.912
60.0	0.836
70.0	0.835
80.0	0.964
86.0	1.0
90.0	0.972
100.0	0.854
110.0	0.849
120.0	0.929
130.0	0.979
140.0	0.965
150.0	0.909
160.0	0.862
170.0	0.844
180.0	0.736
190.0	0.528
200.0	0.427
210.0	0.429
220.0	0.437
230.0	0.429
240.0	0.427
250.0	0.528
260.0	0.736
270.0	0.844
280.0	0.862
290.0	0.909
300.0	0.965
310.0	0.979
320.0	0.929
330.0	0.849
340.0	0.854
350.0	0.972

Rotation Angle = 0





AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-71754**
Date **29-Jul-21**
Call Letters **W31FA**
Channel **31**
Frequency **575 MHz**
Antenna Type **TUL-C4SP-4/14M-1**
Gain **1.47 (1.66dB)**
Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.964	36	0.935	72	0.859	108	0.839	144	0.943	180	0.736	216	0.433	252	0.570	288	0.897
1	0.952	37	0.938	73	0.869	109	0.843	145	0.937	181	0.717	217	0.434	253	0.590	289	0.903
2	0.937	38	0.941	74	0.882	110	0.849	146	0.934	182	0.696	218	0.435	254	0.611	290	0.909
3	0.921	39	0.943	75	0.897	111	0.853	147	0.929	183	0.674	219	0.435	255	0.634	291	0.913
4	0.909	40	0.946	76	0.909	112	0.860	148	0.919	184	0.653	220	0.437	256	0.653	292	0.919
5	0.897	41	0.943	77	0.921	113	0.872	149	0.913	185	0.634	221	0.435	257	0.674	293	0.929
6	0.882	42	0.941	78	0.937	114	0.879	150	0.909	186	0.611	222	0.435	258	0.696	294	0.934
7	0.869	43	0.938	79	0.952	115	0.885	151	0.903	187	0.590	223	0.434	259	0.717	295	0.937
8	0.859	44	0.935	80	0.964	116	0.894	152	0.897	188	0.570	224	0.433	260	0.736	296	0.943
9	0.849	45	0.929	81	0.966	117	0.903	153	0.890	189	0.550	225	0.431	261	0.748	297	0.949
10	0.835	46	0.927	82	0.976	118	0.912	154	0.887	190	0.528	226	0.431	262	0.766	298	0.955
11	0.827	47	0.923	83	0.984	119	0.920	155	0.880	191	0.511	227	0.429	263	0.782	299	0.959
12	0.820	48	0.918	84	0.999	120	0.929	156	0.874	192	0.495	228	0.428	264	0.805	300	0.965
13	0.813	49	0.916	85	0.999	121	0.935	157	0.867	193	0.479	229	0.429	265	0.814	301	0.967
14	0.814	50	0.912	86	1.000	122	0.939	158	0.865	194	0.467	230	0.429	266	0.823	302	0.968
15	0.815	51	0.903	87	0.987	123	0.944	159	0.864	195	0.457	231	0.426	267	0.825	303	0.969
16	0.818	52	0.896	88	0.981	124	0.950	160	0.862	196	0.449	232	0.425	268	0.831	304	0.971
17	0.819	53	0.889	89	0.973	125	0.954	161	0.862	197	0.439	233	0.424	269	0.834	305	0.971
18	0.825	54	0.880	90	0.972	126	0.961	162	0.859	198	0.435	234	0.422	270	0.844	306	0.975
19	0.830	55	0.872	91	0.962	127	0.965	163	0.856	199	0.430	235	0.422	271	0.847	307	0.976
20	0.836	56	0.867	92	0.949	128	0.970	164	0.853	200	0.427	236	0.423	272	0.847	308	0.977
21	0.841	57	0.860	93	0.934	129	0.974	165	0.854	201	0.423	237	0.424	273	0.847	309	0.978
22	0.847	58	0.847	94	0.924	130	0.979	166	0.851	202	0.421	238	0.421	274	0.851	310	0.979
23	0.860	59	0.841	95	0.914	131	0.978	167	0.847	203	0.424	239	0.423	275	0.854	311	0.974
24	0.867	60	0.836	96	0.899	132	0.977	168	0.847	204	0.423	240	0.427	276	0.853	312	0.970
25	0.872	61	0.830	97	0.887	133	0.976	169	0.847	205	0.422	241	0.430	277	0.856	313	0.965
26	0.880	62	0.825	98	0.878	134	0.975	170	0.844	206	0.422	242	0.435	278	0.859	314	0.961
27	0.889	63	0.819	99	0.868	135	0.971	171	0.834	207	0.424	243	0.439	279	0.862	315	0.954
28	0.896	64	0.818	100	0.854	136	0.971	172	0.831	208	0.425	244	0.449	280	0.862	316	0.950
29	0.903	65	0.815	101	0.847	137	0.969	173	0.825	209	0.426	245	0.457	281	0.864	317	0.944
30	0.912	66	0.814	102	0.839	138	0.968	174	0.823	210	0.429	246	0.467	282	0.865	318	0.939
31	0.916	67	0.813	103	0.832	139	0.967	175	0.814	211	0.429	247	0.479	283	0.867	319	0.935
32	0.918	68	0.820	104	0.832	140	0.965	176	0.805	212	0.428	248	0.495	284	0.874	320	0.929
33	0.923	69	0.827	105	0.832	141	0.959	177	0.782	213	0.429	249	0.511	285	0.880	321	0.920
34	0.927	70	0.835	106	0.834	142	0.955	178	0.766	214	0.431	250	0.528	286	0.887	322	0.912
35	0.929	71	0.849	107	0.834	143	0.949	179	0.748	215	0.431	251	0.550	287	0.890	323	0.903

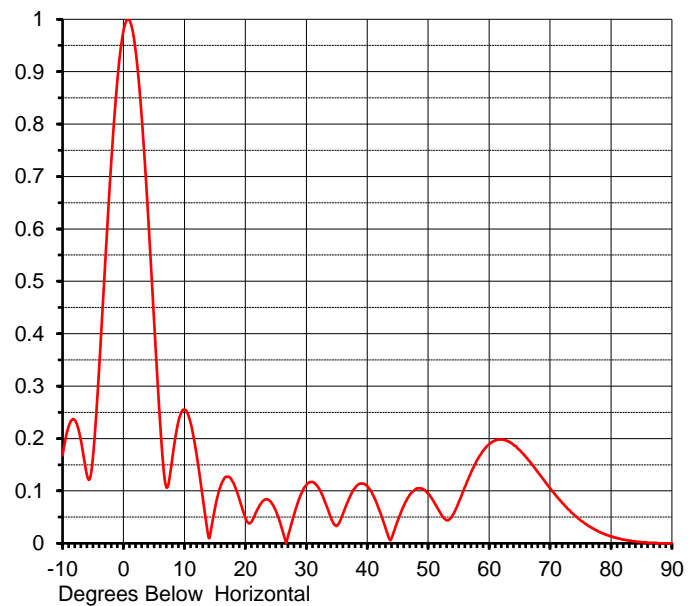
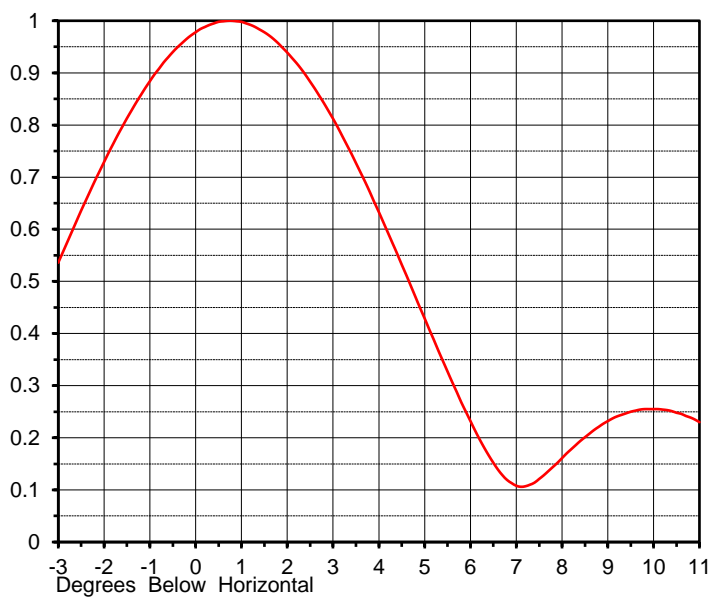
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ELEVATION PATTERN

Proposal No. **C-71754**
 Date **29-Jul-21**
 Call Letters **W31FA**
 Channel **31**
 Frequency **575 MHz**
 Antenna Type **TUL-C4SP-4/14M-1**

RMS Directivity at Main Lobe **9.0 (9.54 dB)**
 RMS Directivity at Horizontal **8.6 (9.34 dB)**
Calculated

Beam Tilt **0.75 deg**
 Pattern Number **04U090075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.168	10.0	0.255	30.0	0.111	50.0	0.095	70.0	0.105
-9.0	0.223	11.0	0.230	31.0	0.117	51.0	0.078	71.0	0.091
-8.0	0.235	12.0	0.169	32.0	0.106	52.0	0.058	72.0	0.077
-7.0	0.197	13.0	0.088	33.0	0.081	53.0	0.044	73.0	0.065
-6.0	0.130	14.0	0.010	34.0	0.050	54.0	0.053	74.0	0.054
-5.0	0.166	15.0	0.066	35.0	0.034	55.0	0.078	75.0	0.044
-4.0	0.334	16.0	0.111	36.0	0.056	56.0	0.107	76.0	0.036
-3.0	0.536	17.0	0.127	37.0	0.085	57.0	0.134	77.0	0.029
-2.0	0.729	18.0	0.116	38.0	0.106	58.0	0.158	78.0	0.022
-1.0	0.884	19.0	0.085	39.0	0.114	59.0	0.176	79.0	0.017
0.0	0.978	20.0	0.049	40.0	0.109	60.0	0.189	80.0	0.013
1.0	0.998	21.0	0.041	41.0	0.091	61.0	0.196	81.0	0.010
2.0	0.939	22.0	0.065	42.0	0.063	62.0	0.198	82.0	0.007
3.0	0.812	23.0	0.082	43.0	0.029	63.0	0.195	83.0	0.005
4.0	0.633	24.0	0.081	44.0	0.010	64.0	0.188	84.0	0.004
5.0	0.429	25.0	0.062	45.0	0.043	65.0	0.178	85.0	0.002
6.0	0.232	26.0	0.028	46.0	0.072	66.0	0.165	86.0	0.001
7.0	0.108	27.0	0.013	47.0	0.093	67.0	0.151	87.0	0.001
8.0	0.161	28.0	0.055	48.0	0.104	68.0	0.136	88.0	0.000
9.0	0.232	29.0	0.090	49.0	0.104	69.0	0.121	89.0	0.000
								90.0	0.000

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T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100
FALLS CHURCH, VIRGINIA 22043
TELEPHONE (703) 848-2130 / (202) 642-2130

VAL VISTA RV PARK, LLC
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FACILITY ID: 184943
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APRIL 2022

REVISED TO ADD VERTICAL POLARIZATION VALUE

Environmental Considerations as proposed in the application

Any changes in equipment or additions will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA). This is an existing developed communications site.

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

CALCULATED POWER DENSITY AT 2 METERS AGL (0.5 ANTENNA RELATIVE FIELD VALUE)

RCAGL: 120.0 m ERP (H): 15.0 KW ERP (V): 6.43 KW	MPE $\mu\text{W}/\text{cm}^2$	CALCULATED VALUE $\mu\text{W}/\text{cm}^2$	% OF MPE	PASS/FAIL
CONTROLLED AREA	1916.7	12.863	0.67%	PASS
PUBLIC AREA	383.3		3.36%	PASS

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 are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities 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.

April 7, 2022

Timothy Z. Sawyer, Technical Consultant
T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, Virginia 22043
Telephone: (703) 848-2130
e Mail to: tzsawyer@tzsawyer.com

