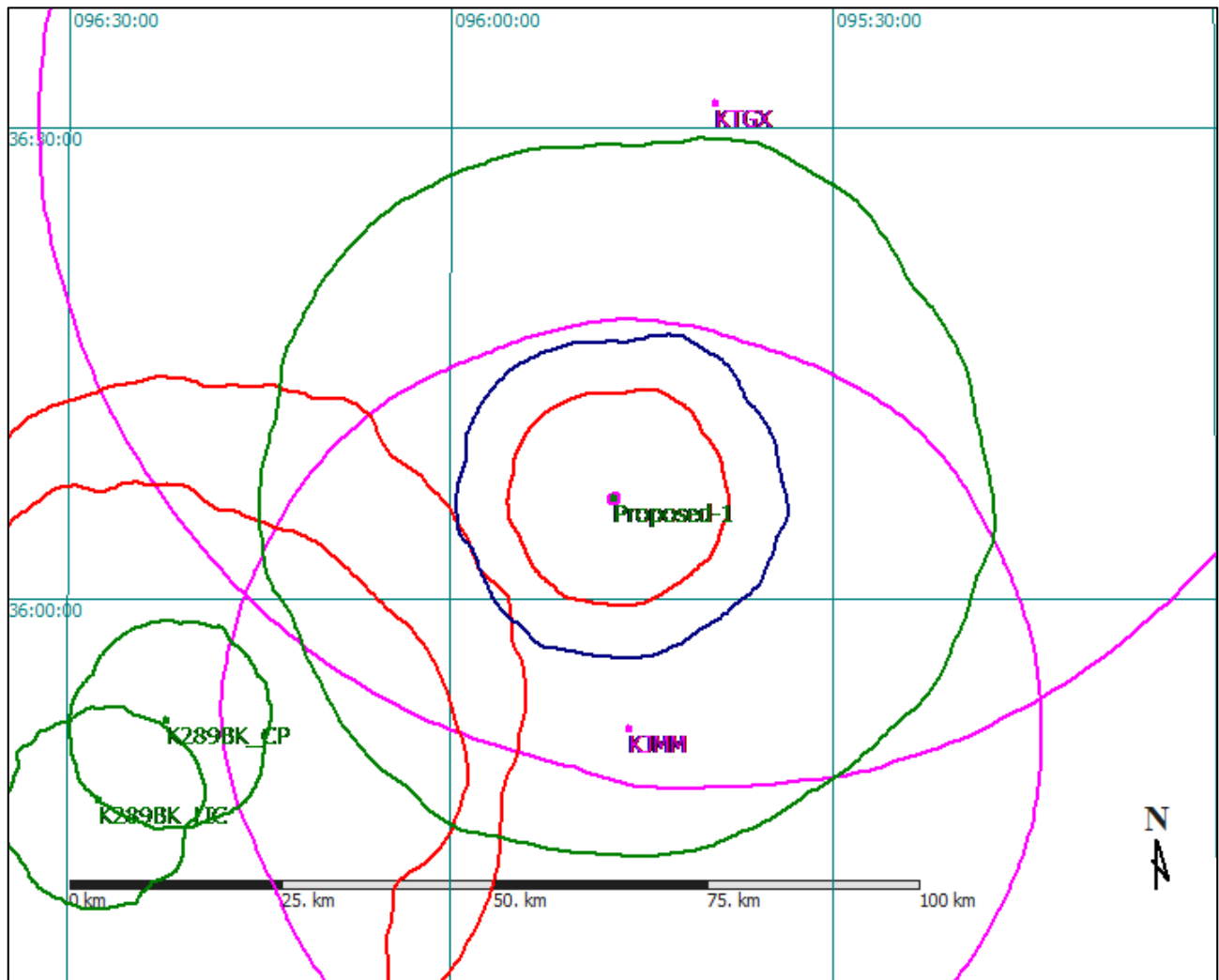# INTERFERENCE AND OVERLAP REQUIREMENTS
K289CC
TULSA, OK

The study below demonstrates that the proposed facility will not create prohibited overlap to any other licensed full-power facility or pending application other to second adjacent stations KJMM (FID #35015) and KTGX (FID # 68294). The green contours represent co-channel interfering (40 dBu) to co-channel protected (60 dBu) contours. Blue contours represent first-adjacent channel interfering (54 dBu) to first-adjacent protected (60 dBu) contours. Magenta contours represent second and third-adjacent channel interfering (100 dBu) to second and third-adjacent protected (60 dBu) contours. Red contours represent co-channel protected (60 dBu) to co-channel interfering (40 dBu) contours.

KJMM is authorized to broadcast with 10 kilowatts at 268 meters HAAT from a site that is 27.3 kilometers from the proposed translator site. The predicted strength of KJMM at the proposed translator site is 71.4 dBu.

KTGX is authorized to broadcast with 100 kilowatts at 403 meters HAAT from a site that is 48.12 kilometers from the proposed translator site. The predicted strength of KTGX at the proposed translator site is 73.8 dBu.

Consequentially, 111.4 dBu (71.4 dBu + 40 dBu) is the lowest value predicted to cause interference to either protected station.

The facility proposed herein will utilize a two-bay Shively Versa2une antenna that employs half-wave spacing. The elevation pattern for the proposed antenna accompanies the application.

The table contained in this document depicts the predicted signal strength from the proposed translator both at ground level, and at receiving antenna locations up to 9 meters. The 9 meter "artificial plane" is significantly higher than any structure within the potential free-space zone of interference.

As can be determined by the columns colored green, at no location from ground level to 15 meters above the ground does the predicted signal of the proposed translator exceed that of either KJMM or KTGX by 40 dBu or more.

Finally, the aerial image that follows illustrates that no nearby structures pierce the 9 meter artificial plane utilized in the table.

The Applicant respectfully submits that since a lack of population exists in the area of actual interference, the processing pursuant to 47 C.F.R § 74.1204(d) is appropriate for the instant application.

Proposed Antenna:	Shively Versa2une 2-Bay HW Spacing
Proposed Power:	0.099 kW
Antenna Height AGL:	118 meters
Interference Contour:	111.4 dBu f(50:10)
Artificial Rcv Antenna Height:	9 meters
Distance (Free Space) Equation:	=(10^((106.92-[desired dBu]+[ERP in dBk])/20))*1000
Field Strength (dBu) Equation	"=106.92-(20*(LOG10[DistMeters]/1000)))+[ERPin dBk]

Depression Angle Below Horizon	Antenna Relative Field	ERP in kW	ERP in dBk	Distance from Ant. to Interf Contour	Distance from Ant. to Artificial Plane	Field Strength in dBu @ Artificial Plane	Distance from Ant. to Ground Level	Field Strength in dBu @ Ground Level
0°	1.000	0.099	-10.04	187.85 m	infinite	---	infinite	---
-5°	0.987	0.096	-10.16	185.41 m	1250.63 m	94.82 dBu	1353.90 m	94.13 dBu
-10°	0.949	0.089	-10.50	178.27 m	627.71 m	100.47 dBu	679.53 m	99.78 dBu
-15°	0.889	0.078	-11.07	167.00 m	421.14 m	103.37 dBu	455.92 m	102.68 dBu
-20°	0.810	0.065	-11.87	152.16 m	318.69 m	104.98 dBu	345.01 m	104.29 dBu
-25°	0.718	0.051	-12.92	134.88 m	257.92 m	105.77 dBu	279.21 m	105.08 dBu
-30°	0.617	0.038	-14.24	115.91 m	218.00 m	105.91 dBu	236.00 m	105.22 dBu
-35°	0.514	0.026	-15.82	96.56 m	190.04 m	105.52 dBu	205.73 m	104.83 dBu
-40°	0.414	0.017	-17.70	77.77 m	169.57 m	104.63 dBu	183.58 m	103.94 dBu
-45°	0.320	0.010	-19.94	60.11 m	154.15 m	103.22 dBu	166.88 m	102.53 dBu
-50°	0.237	0.006	-22.55	44.52 m	142.29 m	101.31 dBu	154.04 m	100.62 dBu
-55°	0.166	0.003	-25.64	31.18 m	133.06 m	98.80 dBu	144.05 m	98.11 dBu
-60°	0.109	0.001	-29.30	20.48 m	125.86 m	95.63 dBu	136.25 m	94.94 dBu
-65°	0.066	0.000	-33.65	12.40 m	120.27 m	91.66 dBu	130.20 m	90.98 dBu
-70°	0.035	0.000	-39.16	6.57 m	116.00 m	86.47 dBu	125.57 m	85.78 dBu
-75°	0.016	0.000	-45.96	3.01 m	112.85 m	79.91 dBu	122.16 m	79.22 dBu
-80°	0.005	0.000	-56.06	0.94 m	110.68 m	69.97 dBu	119.82 m	69.29 dBu
-85°	0.001	0.000	-70.04	0.19 m	109.42 m	56.09 dBu	118.45 m	55.41 dBu
-90°	0.001	0.000	-70.04	0.19 m	109.00 m	56.13 dBu	118.00 m	55.44 dBu