

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of COMMUNITY EDUCATIONAL TELEVISION, INC., licensee of digital non-commercial full-power Television Station KETH-TV, Channel 28 in Houston, Texas, in support of this Application for Construction Permit to specify a new transmitting antenna and a reduction in effective antenna height. No change in transmitter site, horizontal effective radiated power or overall tower height is specified herein.

It is proposed to mount an Alive ATC-BCE328WC-V1-24 elliptically-polarized directional antenna at the 547.7-meter level of the existing 601.4-meter supporting structure on which the licensed KETH-TV antenna is located. The antenna radiation center will be 571.1 meters above mean sea level and 551.5 meters above average terrain. The proposed effective radiated power for the facility is 1,000 kW in the horizontal plane (as is the licensed ERP in this polarization) and 300 kW in the vertical plane.

Exhibit B is a map upon which the predicted service contours are plotted. Antenna elevation and azimuth pattern data for the proposed antenna are provided in Exhibit C.

Included as Exhibit D, is a summary report from a TVStudy interference analysis for the proposed facility. Our study employed a cell size of 1.0 kilometer and an increment spacing of 1.0 kilometer. The results indicate that the proposed KETH-TV facility meets the Commission's interference requirements to all full-power and low-power co-channel and adjacent-channel television facilities.

A detailed power density calculation is attached hereto as Exhibit E.

EXHIBIT A

Because the Commission is concerned about the creation of “loss area” caused by certain television station modification applications, we have studied the matter with respect to the proposed KETH-TV facility. Exhibit F is a map in which the licensed and proposed KETH-TV noise-limited, dipole-adjusted 39.76 dBu service contours are plotted. The area covered by the licensed contour that would not be covered by that of the proposed facility contains 7,465 people, according to the 2020 U.S. Census data. However, we have determined that nearly all of these people will continue to receive a 39.76 dBu signal from the proposed KETH-TV facility, based on a Longley-Rice coverage analysis.

Exhibit G is a map on which the Longley-Rice-based 39.76 dBu (or better) coverage of the licensed facility is plotted within its licensed FCC contour. For our study, we used an increment spacing and cell size of 1.0 kilometer. The population receiving at least a 39.76 dBu signal from licensed KETH-TV is 7,296,215, according to the 2020 U.S. Census.

Exhibit H is a map resulting from the same analysis, but based on the operating parameters of the proposed KETH-TV facility and its Longley-Rice predicted coverage within the licensed KETH-TV FCC contour. The population that would receive a 39.76 dBu signal or better within that contour is 7,296,049. As a result, the actual loss area created by the KETH-TV proposal contains only 166 people, based on this Longley-Rice analysis. Therefore, the loss area population can be considered by the Commission to be *de minimis*.

Since no change in the overall height or location of the existing tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1064696 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher", with a stylized, cursive-like script.

KEVIN T. FISHER

May 8, 2023

CONTOUR POPULATION (2020 U.S. CENSUS DATA)
CITY-GRADE (48 DBU) : 7,193,711 (2,771,220 HH)
NOISE-LIMITED : 7,292,848 (2,815,495 HH)

SMITH AND FISHER, LLC

**NOISE-LIMITED
FCC CONTOUR**

**CITY-GRADE
FCC CONTOUR**

KETH-TV Proposed

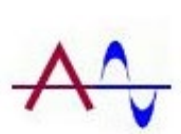
EXHIBIT B
PREDICTED SERVICE CONTOURS
PROPOSED KETH-TV
CHANNEL 24 - HOUSTON, TEXAS

Scale 1:1,300,000

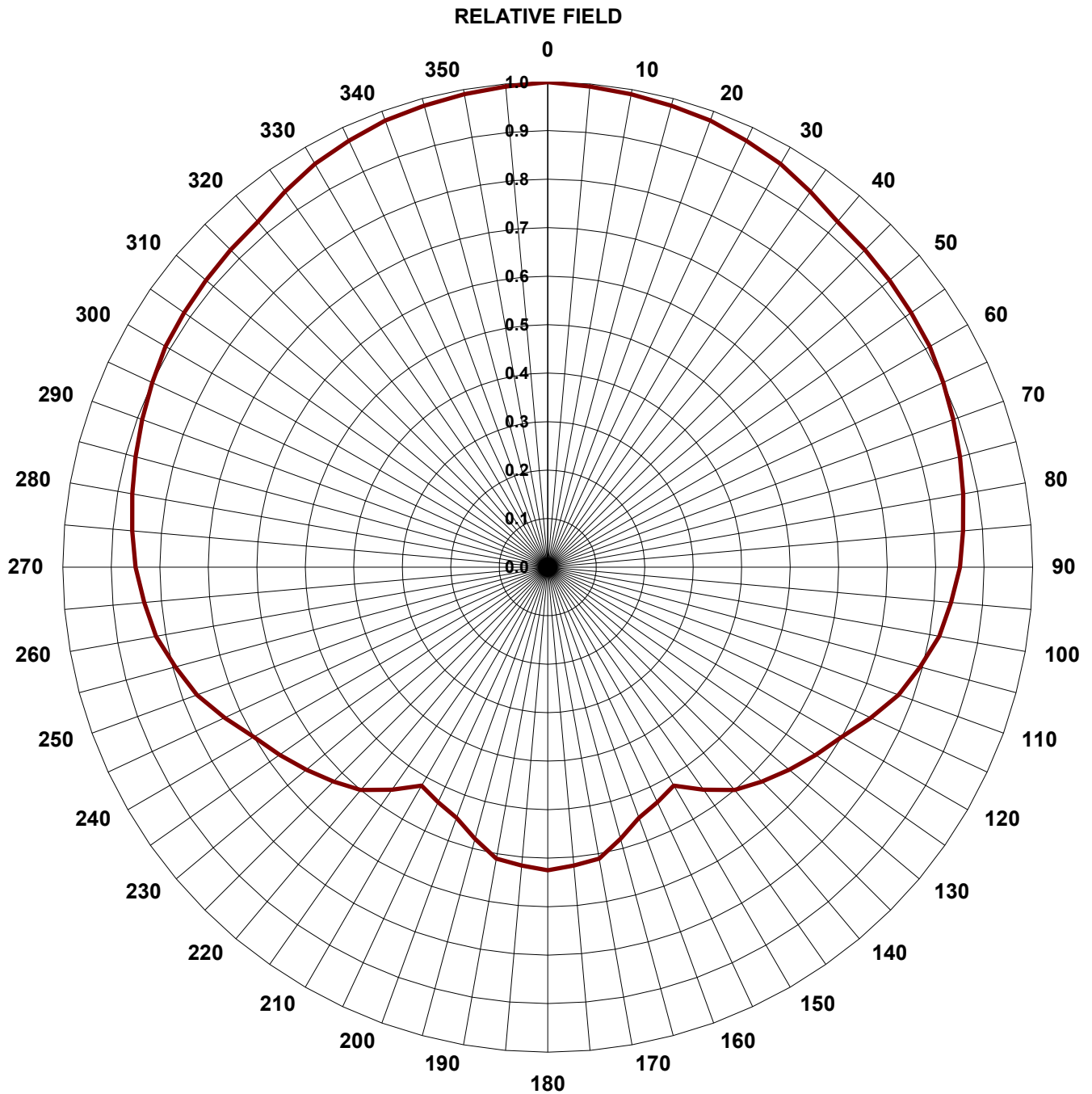
0 10 20 30 mi



AZIMUTH PATTERN



TYPE:	ATC-BC SC AZ	
	Numeric	dB
Directivity:	1.6	2.04
Polarization:	Horizontal	
Channel:	24	
Location:	Houston	



**ELEVATION PATTERN**

TYPE: 28

Directivity: Numeric dBd

Main Lobe: 28.00 14.5

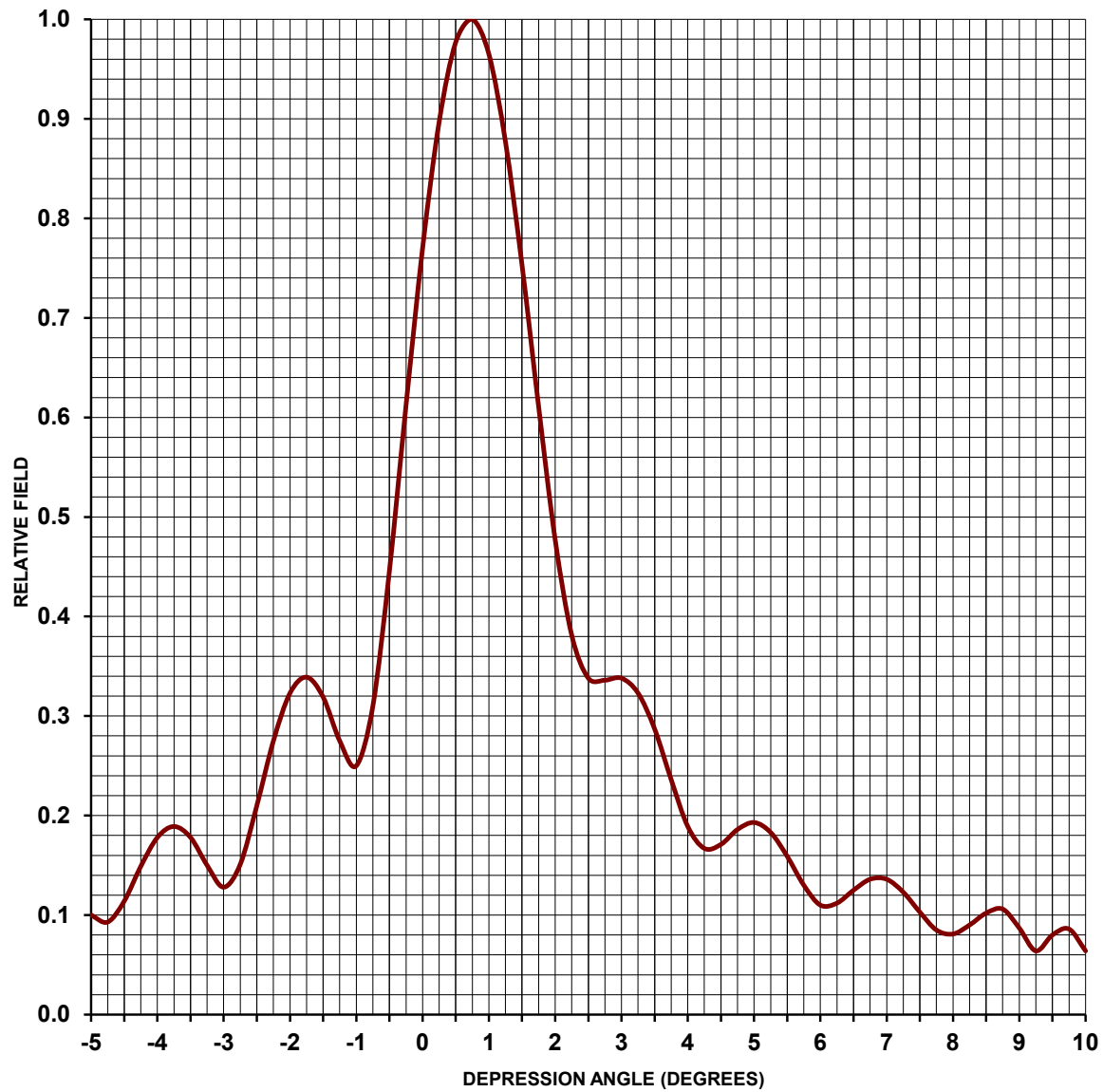
Horizontal: 16.60 12.2

Beam Tilt: -0.75

Polarization: Horizontal

Channel:

Location:



TVSTUDY INTERFERENCE ANALYSIS RESULTS
PROPOSED KETH-TV
CHANNEL 24 – HOUSTON, TEXAS

Study created: 2023.05.08 12:58:32

Study build station data: LMS TV 2023-04-28
Proposal: KETH-TV D24 DT LIC HOUSTON, TX
File number: BLEDT20101019ABX
Facility ID: 12895
Station data: User record
Record ID: 152
Country: U.S.
Zone: III

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KNVA	D23	DT	LIC	AUSTIN, TX	BLANK0000121388	235.9 km
Yes	KLTJ	D23	DT	LIC	GALVESTON, TX	BLEDT20110127ACD	0.0
No	WGMB-TV	D24	DT	LIC	BATON ROUGE, LA	BLANK0000113571	416.3
No	KFAM-CD	D24	DC	LIC	LAKE CHARLES, LA	BLANK0000063954	223.9
No	KNOE-TV	D24	DT	CP	MONROE, LA	BLANK0000185070	439.1
No	KNOE-TV	D24	DT	BL	MONROE, LA	DTVBL48975	439.1
No	KVEO-TV	D24	DT	LIC	BROWNSVILLE, TX	BLCDT20050630AGL	448.5
Yes	KXAS-TV	D24	DT	LIC	FORT WORTH, TX	BLANK0000054717	362.6
Yes	KTRE	D24	DT	CP	LUFKIN, TX	BLANK0000213349	216.4
Yes	KTRE	D24	DT	BL	LUFKIN, TX	DTVBL68541	216.4
Yes	KWEX-DT	D24	DT	LIC	SAN ANTONIO, TX	BLANK0000074958	268.7
Yes	KYAZ	D25	DT	LIC	KATY, TX	BLANK0000125086	1.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D24

Latitude: 29 34 16.00 N (NAD83)

Longitude: 95 30 38.00 W

Height AMSL: 571.1 m

HAAT: 551.5 m

Peak ERP: 1000 kW

Antenna: Alive Omnioid 0.0 deg

Elev Pattn: Generic

Elec Tilt: 0.75

39.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	867 kW	551.4 m	119.2 km
45.0	1000	553.6	120.6
90.0	862	552.9	119.2
135.0	590	551.7	115.6
180.0	479	552.9	113.7
225.0	514	552.6	114.4
270.0	446	550.5	112.9
315.0	539	546.5	114.4

ERP exceeds maximum

ERP: 1000 kW ERP maximum: 397 kW

Distance to Canadian border: 1764.5 km

Distance to Mexican border: 423.2 km

Conditions at FCC monitoring station: Kingsville TX

Bearing: 225.0 degrees Distance: 331.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 325.6 degrees Distance: 1467.5 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%

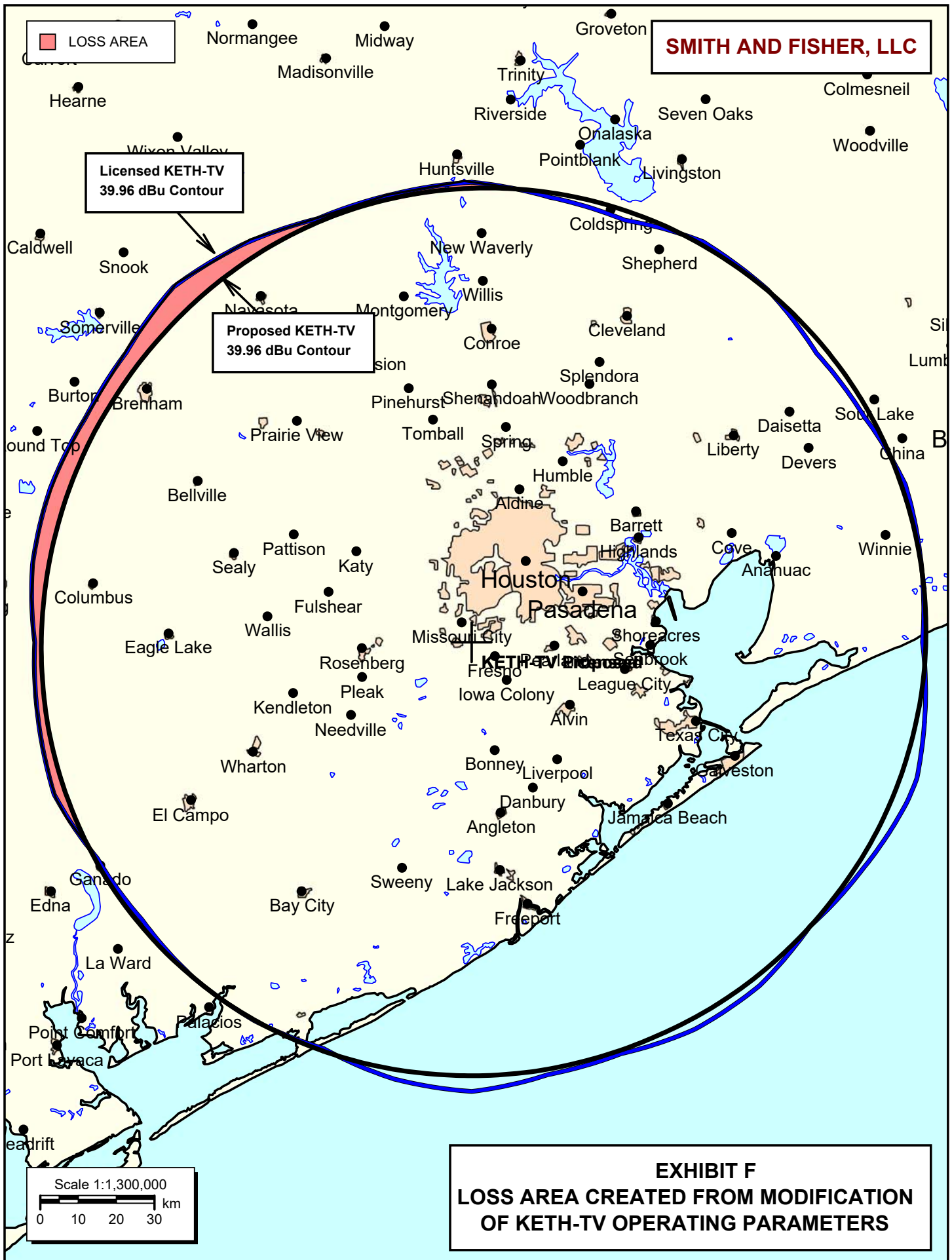
No IX check failures found.

POWER DENSITY CALCULATION

PROPOSED KETH-TV
CHANNEL 24 – HOUSTON, TEXAS

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Houston facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 1,000 kW (H) and 300 kW (V), an antenna radiation center 547.7 meters above ground, and the specific elevation pattern of the proposed Alive ATC-BCE328WC-V1-24 antenna, maximum power density two meters above ground of $0.0.00036 \text{ mW/cm}^2$ is calculated to occur 126 meters northeast of the base of the tower. Since this values is but 0.1 percent of the 0.35 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 24 (530-536 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.



NOTE : 2020 POPULATION RECEIVING 39.76 DBU SIGNAL OR BETTER : 7,296,215

SMITH AND FISHER, LLC

> 39.76 dBuV/m

Licensed KETH-TV
39.96 dBu Contour

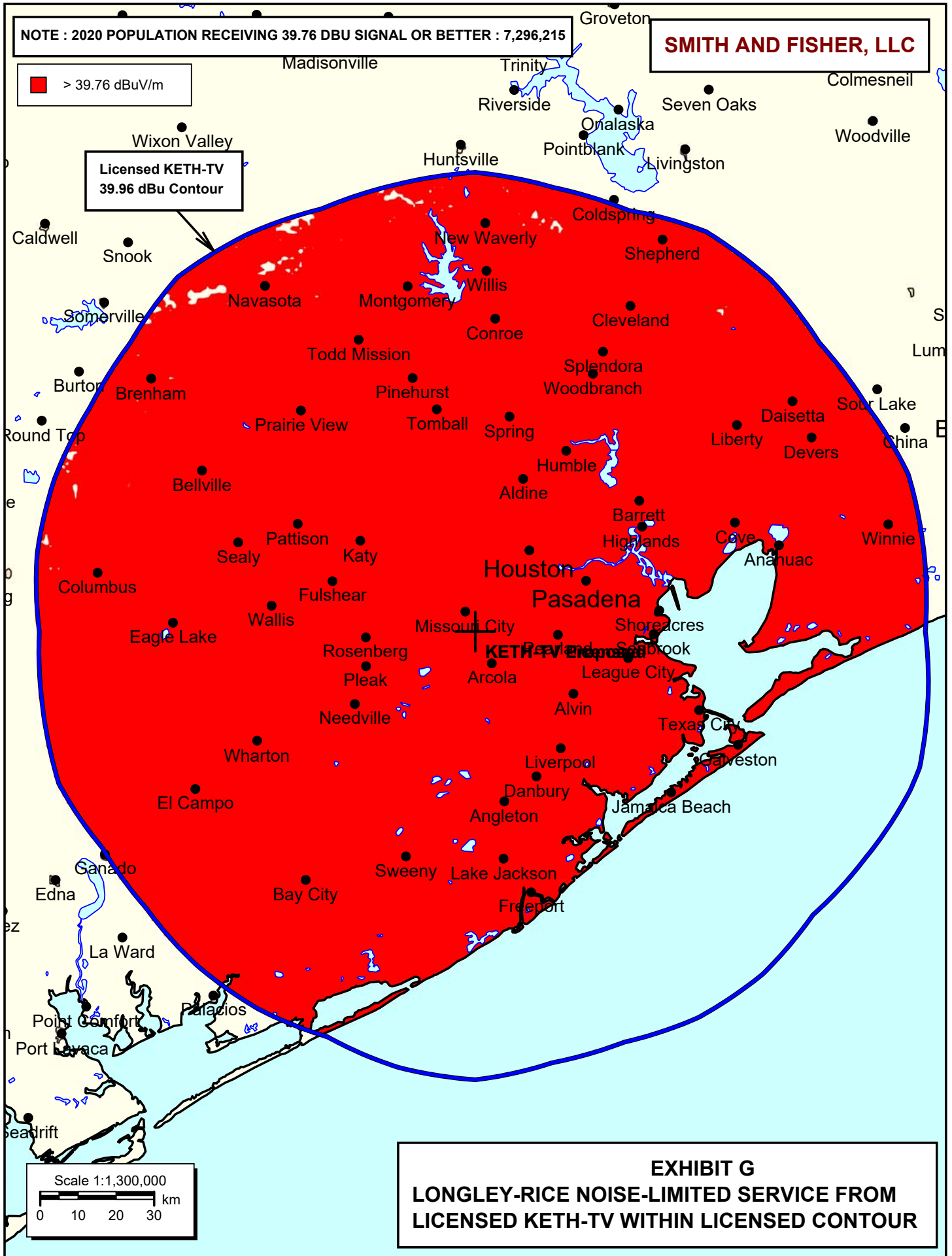


EXHIBIT G
LONGLEY-RICE NOISE-LIMITED SERVICE FROM
LICENSED KETH-TV WITHIN LICENSED CONTOUR

NOTE : 2020 POPULATION RECEIVING 39.76 DBU SIGNAL OR BETTER : 7,296,049

SMITH AND FISHER, LLC

> 39.76 dBuV/m

Licensed KETH-TV
39.96 dBu Contour

Proposed KETH-TV
39.96 dBu Contour

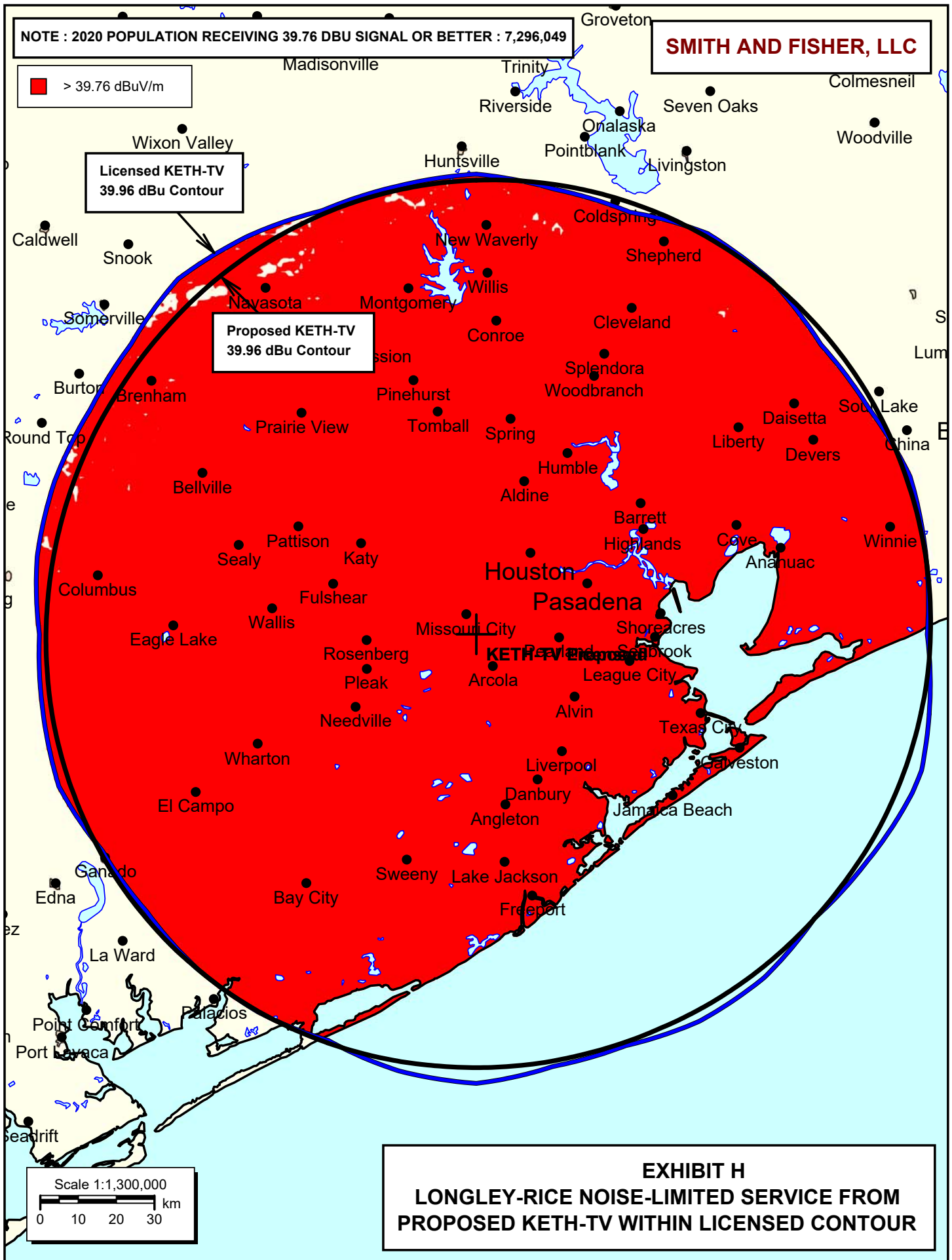


EXHIBIT H
LONGLEY-RICE NOISE-LIMITED SERVICE FROM
PROPOSED KETH-TV WITHIN LICENSED CONTOUR