

**ENGINEERING STATEMENT**

The engineering data contained herein have been prepared on behalf of TRINITY BROADCASTING OF TEXAS, INC., licensee of Class A digital television station WDVb-CD, Channel 23 in Edison, New Jersey, in support of its request for Special Temporary Authority to operate on its post-repack channel, Channel 22, until such time as it can finish construction of its repack authorization, LMS-0000034859. No change in site location or antenna height is proposed herein.

It is proposed to utilize the present licensed WDVb-CD wide-band panel antenna, which is mounted at the 298-meter level of the existing 443-meter Empire State Building. It is also proposed to operate with the present WDVb-CD effective radiated power of 7.0 kW in the horizontal plane. Exhibit B is a map upon which the predicted 51 dBu service contour of this interim facility is plotted. In Exhibit C, we have plotted the same contour in relation to that of the WDVb-CD repack facility on Channel 22, authorized in LMS-0000034859. As shown, the contour of the proposed STA facility is entirely located within that of the authorized repack facility of WDVb-CD. Accordingly, no interference study is included herein.

Azimuth pattern data for the proposed (and presently licensed) Dielectric TUAC2F directional antenna is included in Exhibit D. A detailed power density calculation is provided in Exhibit E.

Since no change in the overall height or location of the Empire State Building is proposed herein, the Federal Aviation Administration has not been notified of this application.

EXHIBIT A

In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1007048 to this structure.

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 flourish at the end.

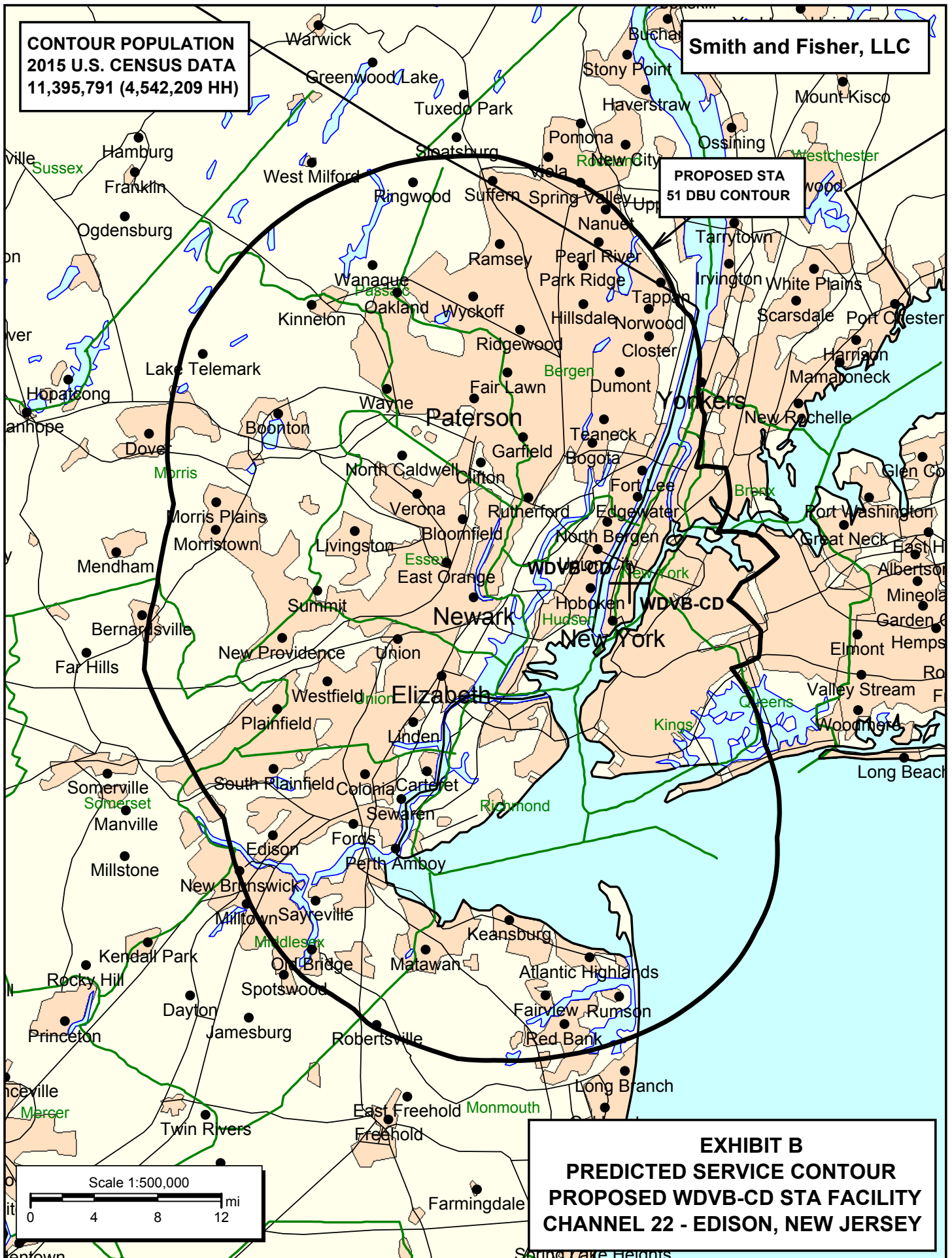
KEVIN T. FISHER

July 22, 2019

**CONTOUR POPULATION**  
**2015 U.S. CENSUS DATA**  
**11,395,791 (4,542,209 HH)**

**Smith and Fisher, LLC**

**PROPOSED STA**  
**51 DBU CONTOUR**



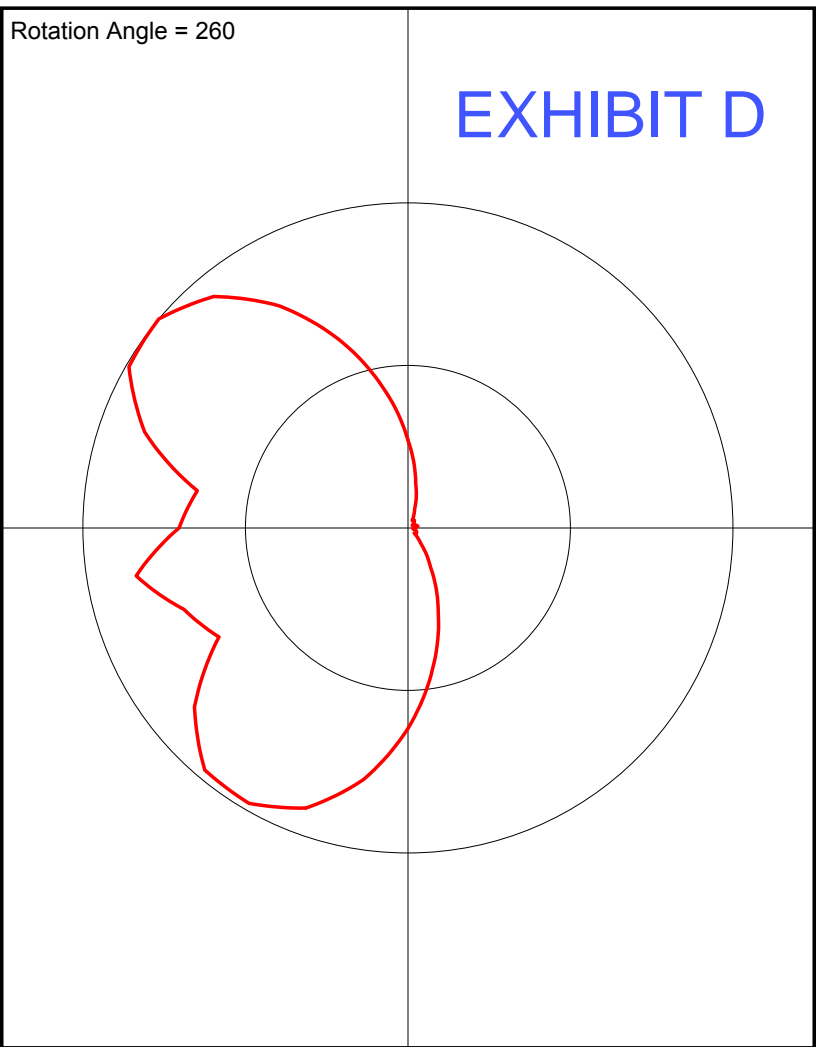
**EXHIBIT B**  
**PREDICTED SERVICE CONTOUR**  
**PROPOSED WDVb-CD STA FACILITY**  
**CHANNEL 22 - EDISON, NEW JERSEY**



Antenna Pattern  
Pre-Rotation Antenna Pattern....

Rotation Angle = 260

EXHIBIT D



Azimuth (deg)	Relative Field
0.0	0.849
10.0	0.704
20.0	0.658
30.0	0.862
40.0	0.991
50.0	1.0
60.0	0.929
70.0	0.788
80.0	0.615
90.0	0.437
100.0	0.27
110.0	0.138
120.0	0.06
130.0	0.026
140.0	0.031
150.0	0.024
160.0	0.015
170.0	0.026
180.0	0.031
190.0	0.018
200.0	0.015
210.0	0.028
220.0	0.031
230.0	0.025
240.0	0.06
250.0	0.138
260.0	0.272
270.0	0.439
280.0	0.617
290.0	0.786
300.0	0.917
310.0	0.978
320.0	0.972
330.0	0.857
340.0	0.671
350.0	0.733

POWER DENSITY CALCULATION

PROPOSED WDVb-CD STA FACILITY  
CHANNEL 22 – EDISON, NEW JERSEY

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Edison facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 7.0 kW, an antenna radiation center 298 meters above ground, and assuming a vertical relative field value of 40 percent at the steeper elevation angles for the proposed antenna, maximum power density two meters above ground of  $0.00043 \text{ mW/cm}^2$  is calculated to occur near the base of the building tower. Since this is only 0.1 percent of the  $0.35 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 22 (518-524 MHz), a grant of this proposal may be considered a minor environmental action with respect to public 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.