

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRI-STATE CHRISTIAN TV, INC., licensee of Low Power Television Station W66BD, Channel 66 in Fort Wayne, Indiana, in support of this displacement application seeking operation on Channel 43. This application is necessary since the Commission is reclaiming Channel 66 spectrum for future auction.

It is proposed to mount a standard Andrew directional antenna on the side of an existing 228-meter communications tower. Exhibit B is a map upon which the predicted service contours are plotted. Operating parameters for the proposed facility are provided in Exhibit C.

We conducted a computer analysis of the interference situation for the proposed facility, the results of which are shown in Exhibit D. The study is based on contour protection requirements of Sections 74.705, 74.706, and 74.707 of the FCC's Rules with respect to analog full-power, digital full-power, and low power television stations, respectively. It concludes that the facility proposed herein meets these requirements except in two instances: WTVS-DT (as licensed and allotted), and Channel 43 in Detroit, Michigan.

We then conducted a detailed interference study using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to WTVS-DT's authorized and allotted facilities. The software utilizes a 2-square kilometer cell size, calculates signal strength at 1.0 kilometer increments along each radial studied, and employs

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the 2000 U.S. Census to count population within cells. In addition, the program does not attribute interference to the proposed facility in cells within the DTV station's protected contour where interference from another source (other than proposed W66BD) already is predicted to exist (also known as "masking"). The results of these studies are provided in Exhibit E. They conclude that the facility proposed herein causes no interference to either WTVS-DT or its allotment facility.

As a result, a waiver of Section 74.706 of the Commission's Rules with respect to interference to WTVS-DT is requested and believed to be justified based on the aforementioned Longley-Rice study.

Because no change in the overall height or location of the existing tower is proposed, the FAA has not been notified of this application. The FCC issued Antenna Structure Registration Number 1030891 to this tower.

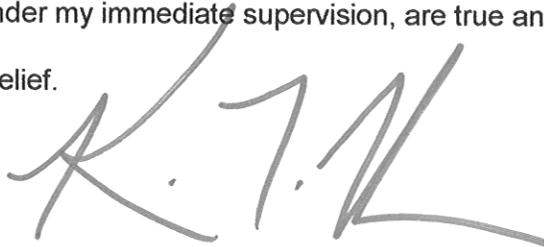
Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Fort Wayne facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 11.1 kw, an effective antenna height of 178 meters above ground, and the vertical pattern of the Andrew antenna, maximum power density two meters above ground of  $0.00038 \text{ mw/cm}^2$  is calculated to occur 71 meters southeast of the base of the tower. Since this is only 0.1 percent of the  $0.43 \text{ mw/cm}^2$  reference for uncontrolled

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environments (areas with public access) for a facility operating on Channel 43 (644-650 MHz), this proposal may be excluded from consideration with respect to public exposure to nonionizing 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 nonionizing radiation.

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.

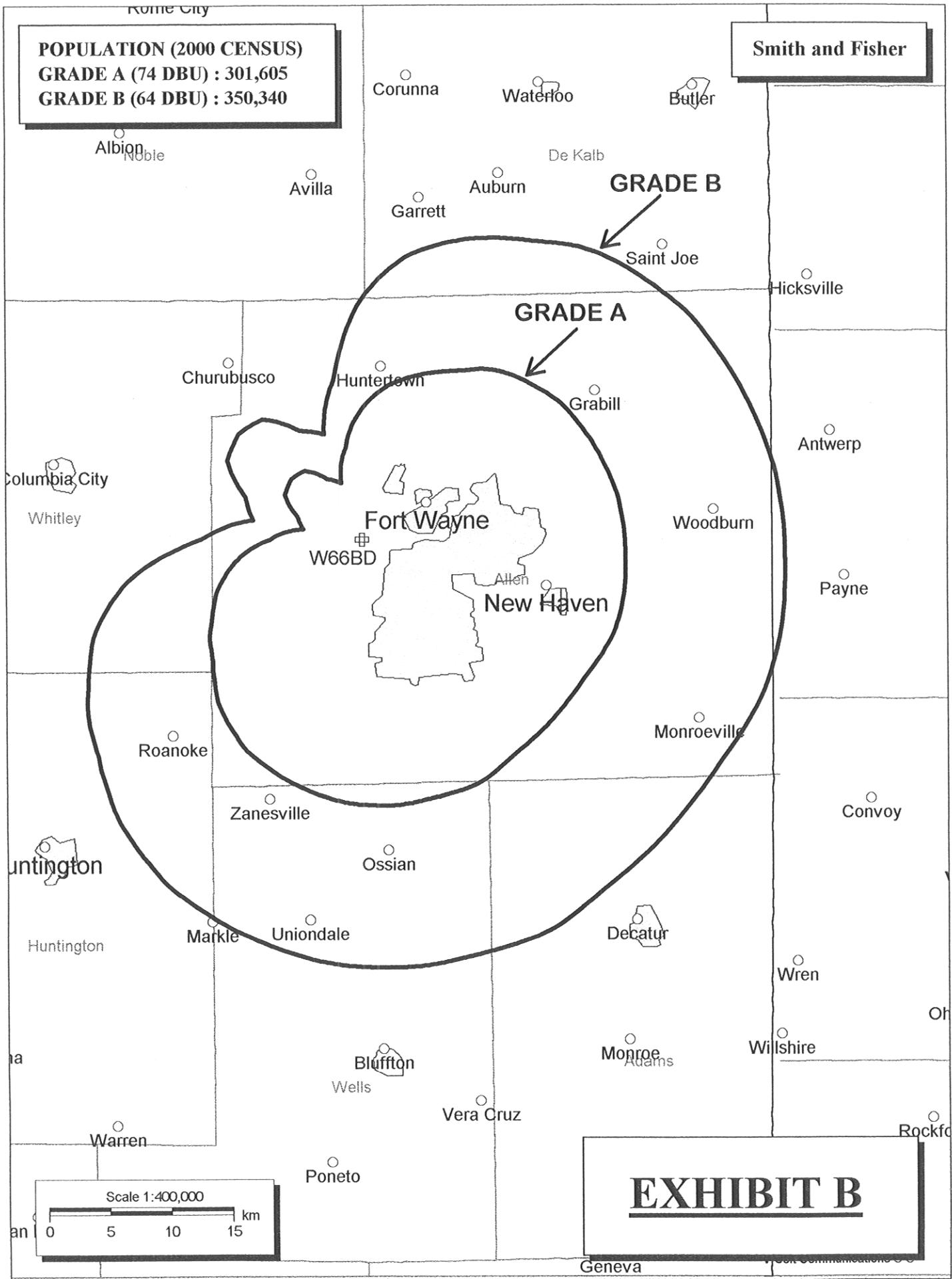
A handwritten signature in black ink, appearing to read 'K. T. Fisher', written over the printed name below.

KEVIN T. FISHER

July 11, 2002

**POPULATION (2000 CENSUS)**  
**GRADE A (74 DBU) : 301,605**  
**GRADE B (64 DBU) : 350,340**

**Smith and Fisher**



**EXHIBIT B**

EXHIBIT C

## PROPOSED OPERATING PARAMETERS

LOW POWER TELEVISION STATION W66BD  
CHANNEL 43 – FORT WAYNE, INDIANA

Transmitter Power Output:	1.0 kw
Transmission Line Efficiency:	45.3%
Antenna Power Gain – Toward Horizon:	9.71
Antenna Power Gain – Main Lobe:	24.40
Effective Radiated Power – Toward Horizon:	4.4 kw
Effective Radiated Power – Main Lobe:	11.1 kw
Transmitter Make and Model:	Type-accepted
Rated Output:	1.0 kw
Transmission Line Make and Model:	Andrew HJ7-50A
Size and Type:	1-5/8" air heliax
Length:	625 feet
Antenna Make and Model:	Andrew ALP12L2-HSER
Orientation:	130 degrees true
Beam Tilt:	1.75 degrees
Effective Height Above Ground:	178 meters
Effective Height Above Mean Sea Level:	426 meters

Smith and Fisher

PROPOSED W66BD  
CH. 43 - FORT WAYNE IN

REFERENCE  
41 06 13 N  
85 11 28 W

LPTV Pwr = 7 kW, HAMS L COR= 426 M

DISPLAY DATES  
DATA 07-06-02  
SEARCH 07-10-02

..... Channel 43Z, 644 MHz .....

Call	Channel	Location	Dist	Azi	FCC	Margin
WTVS-D*LI	43	Detroit	MI 224.59	47.6	> 262.42	-37.82
WTVS* ALD	43	DETROIT	MI 218.82	44.8	> 250.08	-31.06
WKOI* LI	43+	Richmond	IN 182.90	164.9	> 180.63	3.44
WNDU-D*AP	42	South Bend	IN 102.07	303.5	> 096.22	5.85
WUAB* CPM	43Z	Lorain	OH 292.59	82.8	> 285.51	8.43
WSJV* LI	28+	Elkhart	IN 101.39	304.6	> 093.51	8.43
WUAB* LI	43Z	Lorain	OH 292.59	82.8	> 285.61	8.44
WNDUTV*ALD	42	SOUTH BEND	IN 102.05	303.5	> 091.24	10.88
WTLW* LI	44+	Lima	OH 92.94	113.8	> 076.95	15.99
WNDU-D LI	42	South Bend	IN 102.03	303.5	> 081.54	20.49
WTTK CP	29-	Kokomo	IN 106.62	217.3	> 084.59	22.03
WTTK LI	29-	Kokomo	IN 106.62	217.3	> 080.90	25.72
WZPX* LI	43-	Battle Creek	MI 175.30	3.3	> 148.86	26.44
W52CO* AP	28Z	Defiance	OH 58.66	68.9	> 038.61	34.50
WCPX-D*CP	43	Chicago	IL 221.55	293.8	> 182.19	41.32
WPBO-D CP	43	Portsmouth	OH 317.42	144.4	> 270.92	46.50
WPBOTV ALD	43	PORTSMOUTH	OH 317.42	144.4	> 270.92	46.50
WCFCTV*ALD	43	CHICAGO	IL 221.44	294.4	> 175.15	51.39
W43CD* CP	43Z	Wolcott	IN 160.71	256.8	> 114.13	62.27
W57CQ AP	43+	Lafayette	IN 162.05	241.2	> 095.63	66.42
WYZZTV LI	43Z	Bloomington	IL 340.00	262.7	> 269.12	70.88

\* Actual radials antenna height and directional patterns used (if any)

WTVS-DT (LIC.) (43) Detroit, MI  
 TV Incoming Interference Study  
 Signal Resolution: 2 km  
 Consider NTSC Taboo: No  
 KWX error points are considered to  
     be interference free coverage.  
 # of radials computed for contours: 72  
 Contours calculated using 8 radial HAAT.  
 LR Profile Spacing Increment: 1.0 km  
 Interference considered within the  
 reference station's noise limited contour.  
 Using NTSC lptv/translators D/U rules.  
 Threshold for reception: 41.441

Study Date: 7/10/2002  
 TV Database Date: 07-06-02

Population Database: 2000 US Census (PL)

Percentages calculated using a baseline population of 5,240,582.

Stations considered which do not cause interference:

Proposed W66BD (43Z)

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 Totals for WTVS-DT (LIC.) (43)

Calculation Area Population:	5,241,070	(	22347.1 sq. km )
Not Affected by Terrain Loss:	5,240,582	(	22329.3 sq. km )
Total NTSC Interference:	0	(	0.0 sq. km )
DTV Only Interference:	0	(	0.0 sq. km )
Total DTV Interference:	0	(	0.0 sq. km )
Interfered Population:	0	(	0.0 sq. km )
Interference Free:	5,240,582	(	22329.3 sq. km )

Percent Interference From Proposed W66BD: 0.00

Smith and Fisher Population Report

WTVS-DT (Allotment) (43) DETROIT, MI  
 TV Incoming Interference Study  
 Signal Resolution: 2 km  
 Consider NTSC Taboo: No  
 KWX error points are considered to  
 be interference free coverage.  
 # of radials computed for contours: 72  
 Contours calculated using 8 radial HAAT.  
 LR Profile Spacing Increment: 1.0 km  
 Interference considered within the  
 reference station's 74 dBu FCC countour.  
 Using NTSC lptv/translators D/U rules.  
 Threshold for reception: 41.441

Study Date: 7/10/2002  
 TV Database Date: 07-06-02

Population Database: 2000 US Census (PL)

Percentages calculated using a baseline population of 3,480,943.

Stations considered which do not cause interference:

Proposed W66BD (43Z)

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 Totals for WTVS-DT (Allotment) (43)

Calculation Area Population:	3,480,943	(	3298.8 sq. km )
Not Affected by Terrain Loss:	3,480,943	(	3298.8 sq. km )
Total NTSC Interference:	0	(	0.0 sq. km )
DTV Only Interference:	0	(	0.0 sq. km )
Total DTV Interference:	0	(	0.0 sq. km )
Interfered Population:	0	(	0.0 sq. km )
Interference Free:	3,480,943	(	3298.8 sq. km )

Percent Interference from Proposed W66BD: 0.00