

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of FOX TELEVISION STATIONS, INC., licensee of WJBK-DT, Channel 58 in Detroit, Michigan, in support of its Application for Construction Permit to operate on Channel 7 with its post-transition DTV facility.

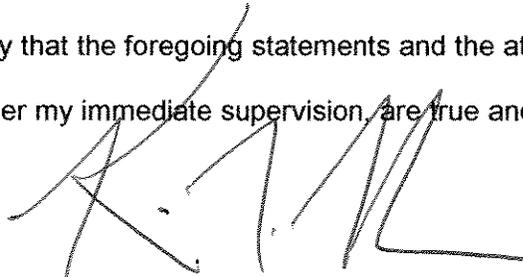
It is proposed to mount a standard ERI circularly polarized directional antenna at the 315-meter level of the existing 323-meter tower on which the present WJBK-DT antenna is mounted. Exhibit B provides antenna azimuth and elevation pattern data, and proposed operating parameters are tabulated in Exhibit C. Exhibit D is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the proposed 43 dBu service contour. It can be seen in Exhibit E that the proposed 36 dBu contour extends slightly beyond that of the allotment facility assigned to Appendix B of the Commission's DTV Table of Allotments. However, at no azimuth does the proposed contour exceed that of the allotment facility by more than five miles. Accordingly, since the station's post-transition DTV Channel (7) is different than its pre-transition DTV Channel (58), the applicant requests a waiver of the current freeze on the filing of such an application. An interference study is included in Exhibit F, and a power density calculation is provided in Exhibit G.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the WJBK-DT site.

However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1000069 to this tower.

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', is written over the text of the declaration.

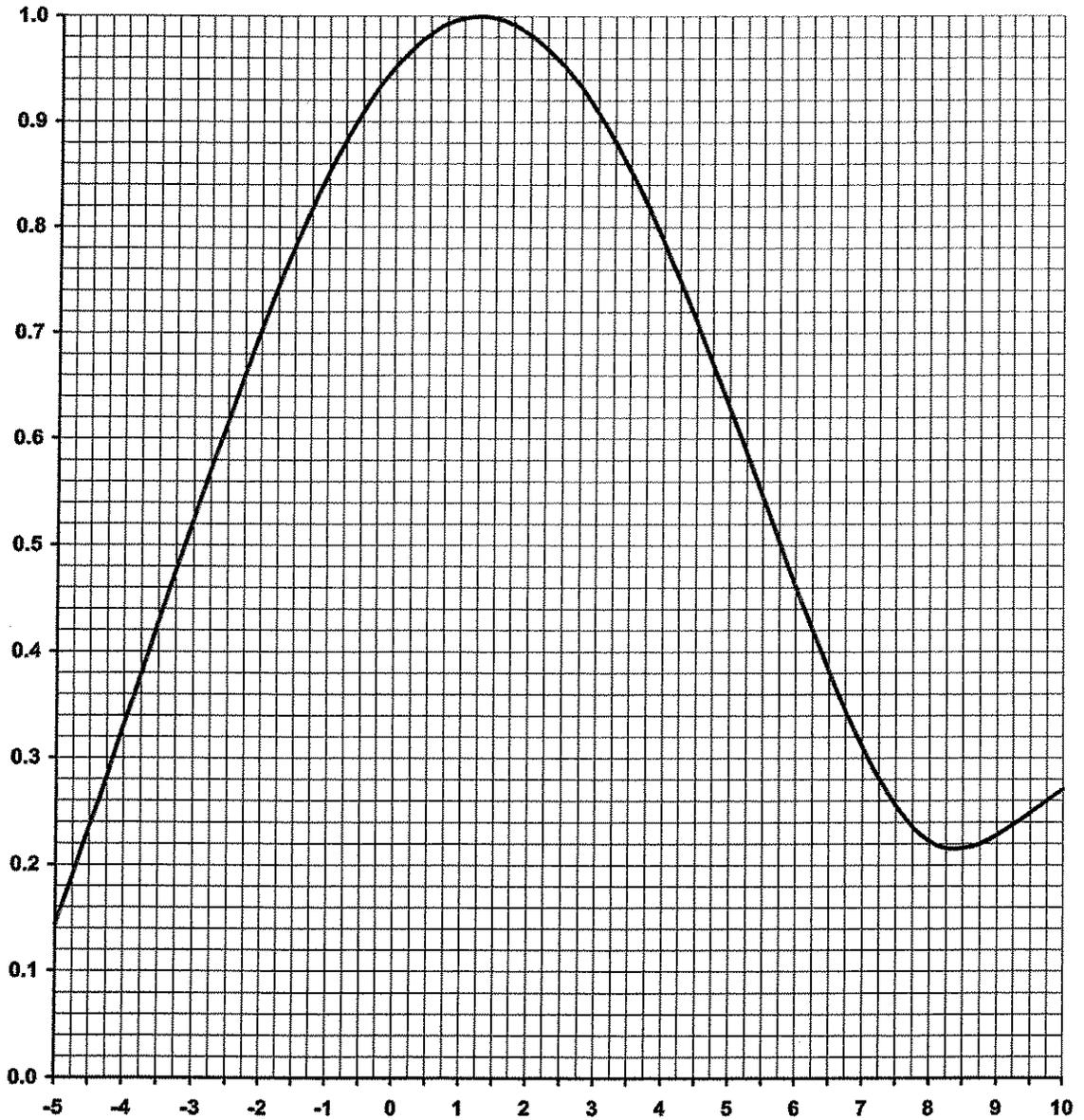
KEVIN T. FISHER

March 6, 2008

ELEVATION PATTERN

TYPE:	ATW8V5H	
Directivity:	Numeric	dBd
Main Lobe:	8.00	9.03
Horizontal:	7.27	8.61

Frequency:	7 (Digital)
Location:	Southfield, MI
Beam Tilt:	1.25
Polarization:	Horizontal



ELECTRONICS RESEARCH, INC. **ERI**

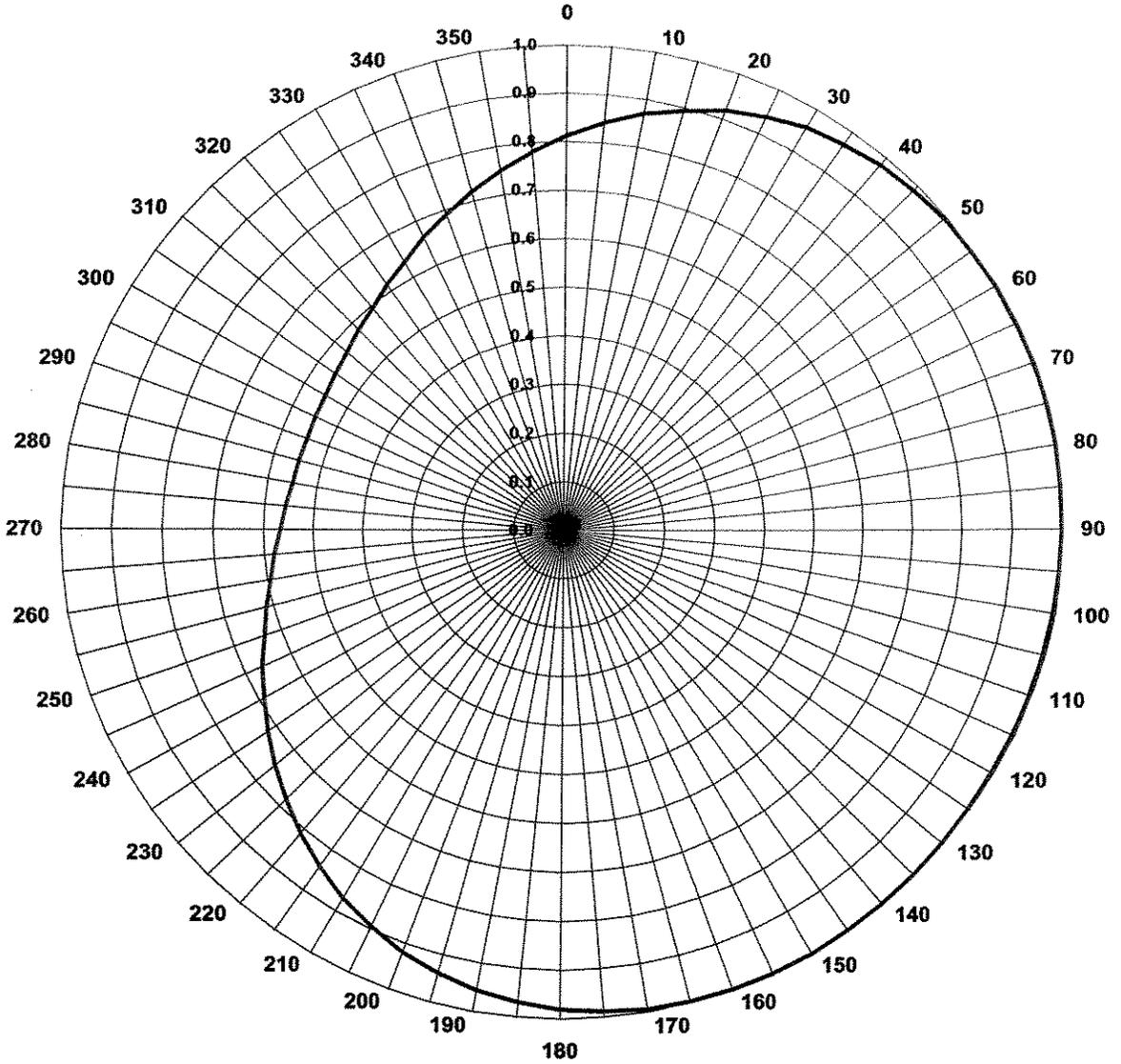
EXHIBIT B-1
ANTENNA ELEVATION PATTERN
PROPOSED WJBK-DT
CHANNEL 7 - DETROIT, MICHIGAN
SMITH AND FISHER

AZIMUTH PATTERN

TYPE: CH7HAZ-CX
Directivity: Numeric 1.37 dB 1.37
Peak(s) at: _____

Polarization: Horizontal
Frequency: 7 (Digital)
Location: Southfield, MI

Note: Pattern shape and directivity may vary with channel and mounting configuration.



ELECTRONICS RESEARCH, INC. **ERI**

EXHIBIT B-2
ANTENNA AZIMUTH PATTERN
PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN
SMITH AND FISHER

ANTENNA AZIMUTH PATTERN DATA

PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN

<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>	<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>
0	0.812	11.2	180	0.980	12.8
10	0.870	11.8	190	0.956	12.6
20	0.919	12.3	200	0.919	12.3
30	0.956	12.6	210	0.870	11.8
40	0.980	12.8	220	0.812	11.2
50	0.994	12.9	230	0.750	10.5
60	0.999	13.0	240	0.689	9.8
70	1.000	13.0	250	0.635	9.1
80	0.998	13.0	260	0.593	8.5
90	0.996	13.0	270	0.565	8.0
100	0.994	12.9	280	0.549	7.8
110	0.994	12.9	290	0.545	7.7
120	0.994	12.9	300	0.549	7.8
130	0.996	13.0	310	0.565	8.0
140	0.998	13.0	320	0.593	8.5
150	1.000	13.0	330	0.635	9.1
160	0.999	13.0	340	0.689	9.8
170	0.994	12.9	350	0.750	10.5

PROPOSED OPERATING PARAMETERS

PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN

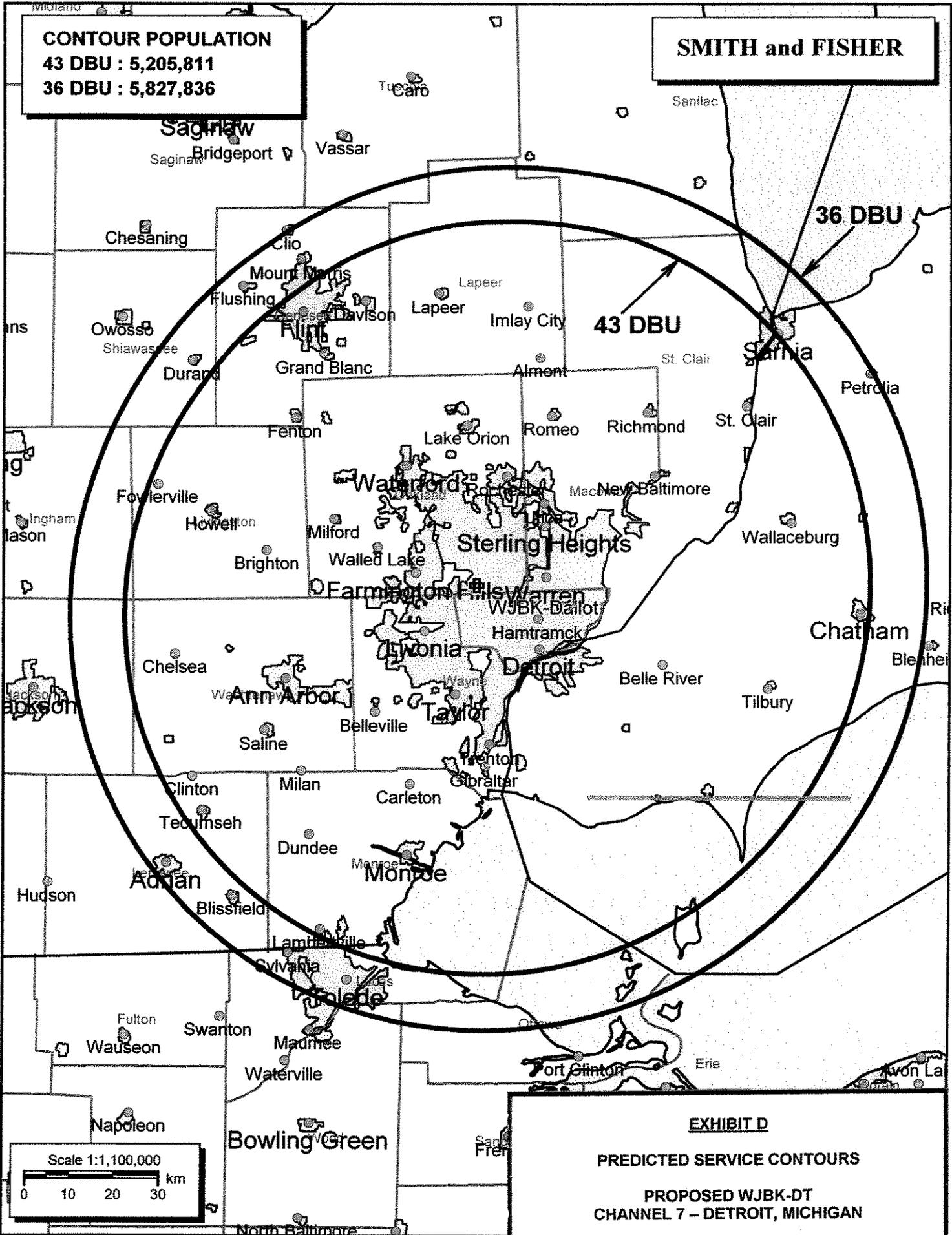
Transmitter Power Output:	6.6 kw
Transmission Line Efficiency:	84.8%
Antenna Power Gain – Main Lobe:	3.57 (H, V)
Effective Radiated Power – Main Lobe:	20.0 kw (H, V)
Transmitter Make and Model:	Type-accepted
Transmission Line Make and Model:	Andrew MACX675B
Size and Type:	6-1/8" rigid
Length:	1196 feet
Antenna:	
Make and Model:	ERI ATW8V5-ETCX-7
Orientation	110 degrees true
Beam Tilt	1.5 degrees
Radiation Center Above Ground:	315 meters
Radiation Center Above Mean Sea Level:	520 meters

CONTOUR POPULATION

43 DBU : 5,205,811

36 DBU : 5,827,836

SMITH and FISHER



36 DBU

43 DBU

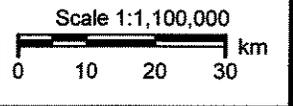


EXHIBIT D

PREDICTED SERVICE CONTOURS

PROPOSED WJBK-DT

CHANNEL 7 - DETROIT, MICHIGAN

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- WJBK-DT 36 DBU ALLOTMENT CONTOUR (POP=5,723,049)
- PROPOSED WJBK-DT 36 DBU CONTOUR (POP=5,827,836)

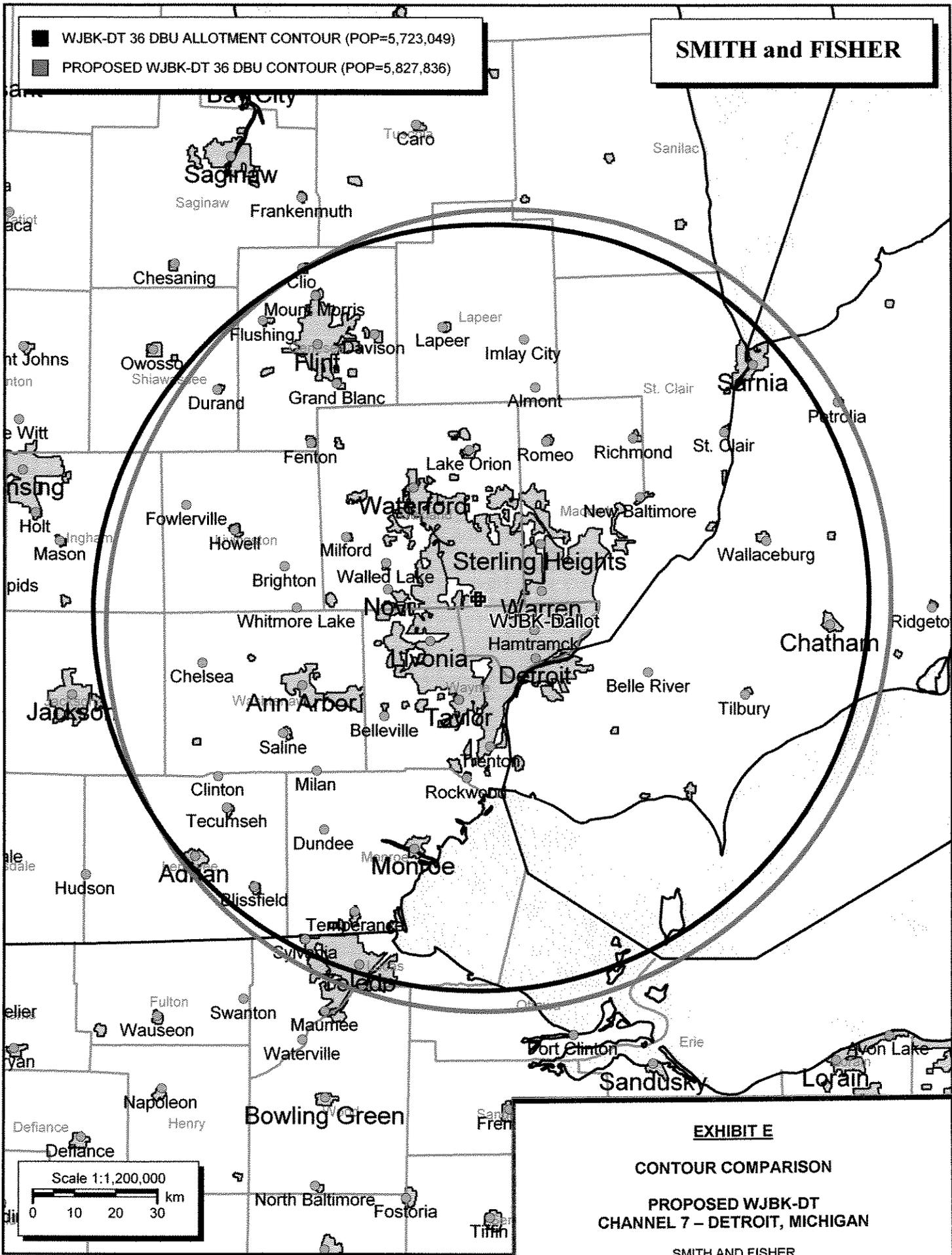


EXHIBIT E

CONTOUR COMPARISON
PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN
SMITH AND FISHER

INTERFERENCE STUDY
PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN

The instant application specifies an ERP of 20 kw (directional) at 314 meters above average terrain, which we have determined to be allowable under the FCC's recently approved interference standards with respect to various digital television facilities as they will exist on or before February 17, 2009, the date by which all stations must operate with the parameters recently adopted in the Commission's DTV Table of Allotments.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft Communications "Probe III" computer program, which has been found generally to mimic the FCC's program. In conducting our studies, we employed a cell size of 2.0 kilometers and an increment spacing of 1.0 kilometer along each radial. In addition, we utilized the 2000 U.S. Census. Changes in interference caused by proposed WJBK-DT to other pertinent stations are tabulated in Exhibit F-2.

As shown, the proposed WJBK-DT facility would not contribute more than 0.5% interference (beyond that which is caused by the allotted WJBK-DT facility) to the service population of any potentially affected post-transition DTV station.

A Longley-Rice interference study also reveals that the proposed WJBK-DT facility does not cause significant (0.5%) interference within the protected service contour of any potentially affected Class A low power television station.

Therefore, this proposal meets the FCC's *de minimis* interference standards for DTV operations.

EXHIBIT F-2

INTERFERENCE STUDY SUMMARY

PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN

<u>Call Sign</u>	<u>City, State</u>	<u>CH.</u>	<u>Coverage Population</u>	<u>Interference Population From WJBK-DT*</u>	<u>%</u>
WOOD-DT Allotment	Grand Rapids, MI	7	2,408,521	350	<0.1
WTRF-DT Allotment	Whelling, WV	7	2,292,335	1,802	<0.1

*Above that caused by the WJBK-DT allotment facility.

POWER DENSITY CALCULATION
PROPOSED WJBK-DT
CHANNEL 7 – DETROIT, MICHIGAN

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Detroit facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 20 kw (H, V), an antenna radiation center 315 meters above ground, and the elevation pattern of the ERI antenna, maximum power density two meters above ground of 0.00015 mw/cm^2 is calculated to occur 177 meters east-southeast of the base of the tower. Since this is less than 0.1 percent of the 0.2 mw/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 7 (174-180 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level 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.