

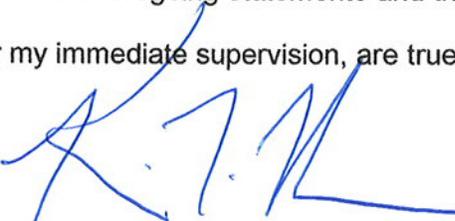
ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of WJW LICENSE, INC., permittee of WJW-DT, Channel 31, Cleveland, Ohio, in support of its application for a new auxiliary facility. Specifically, it is proposed that WJW-DT sidemount an Andrew ATW2G175-HSS-31 antenna on its new tower, below its main antenna.

Exhibit B is a vertical sketch of the proposed antenna and supporting structure, and antenna pattern data is included in Exhibit C. Exhibit D shows that the 41 db $\mu$  contour of the auxiliary facility is entirely within that of the main facility.

We have studied the RF transmissions of this facility with regard to their environmental effect. Employing the methods set forth in *OST Bulletin No. 65* and considering the vertical pattern of the proposed antenna, we calculate maximum power density two meters above ground from the proposed facility to be 0.013 mw/cm<sup>2</sup> at locations 141 meters from the base of the tower. This is but 3.4 percent of the 0.38 mw/cm<sup>2</sup> reference at this frequency for uncontrolled areas. Since the proposed contribution to the ambient power density level will be less than five percent of the reference, and since the applicant will take whatever corrective 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, a grant of this application would clearly be a minor environmental action.

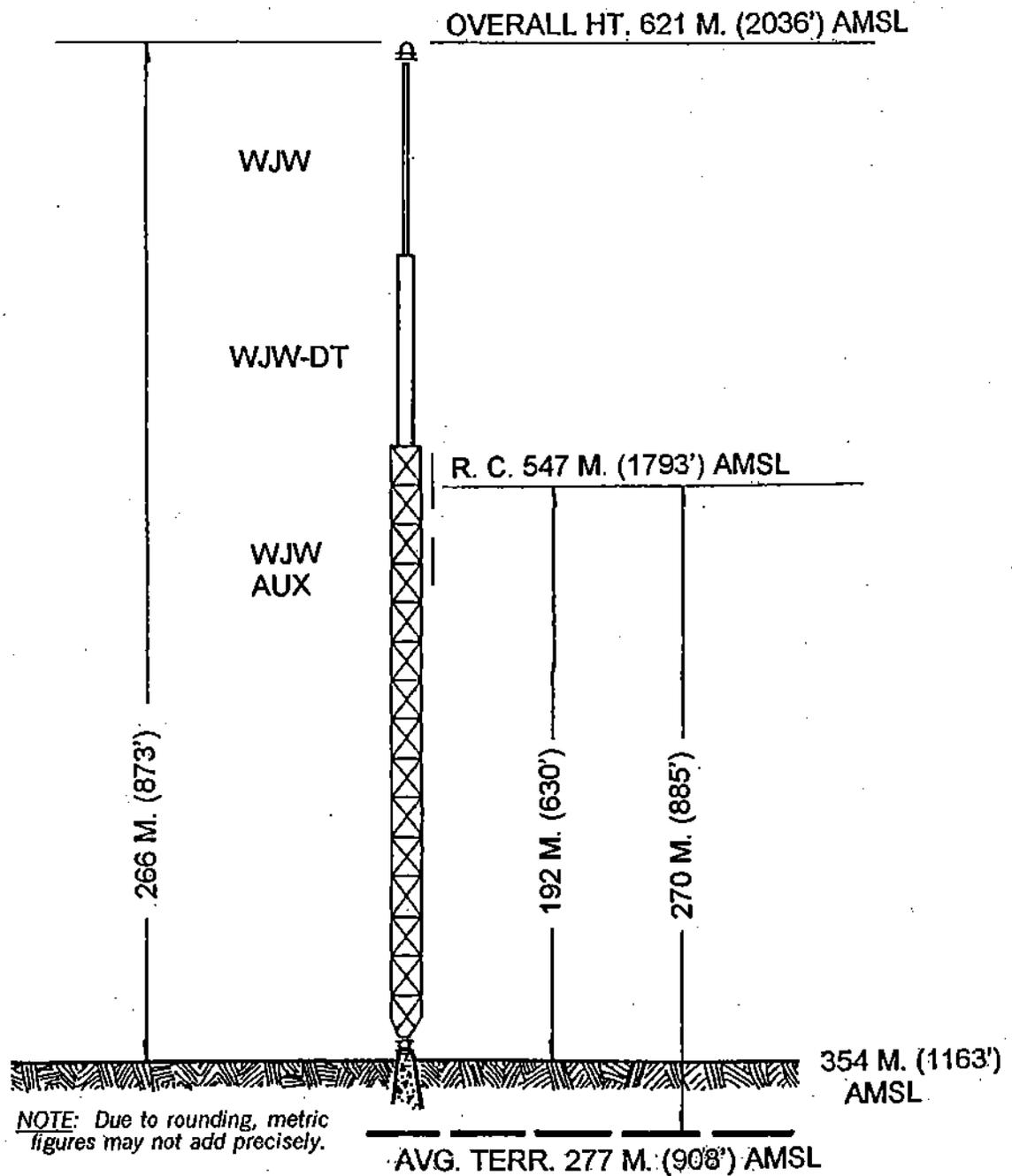
I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.



KEVIN T. FISHER

April 11, 2008

NOT TO SCALE



SITE COORDINATES:

41° 21' 47"

81° 42' 58"

EXHIBIT B

ELEVATION OF ANTENNA STRUCTURE

PROPOSED AUXILIARY FACILITY

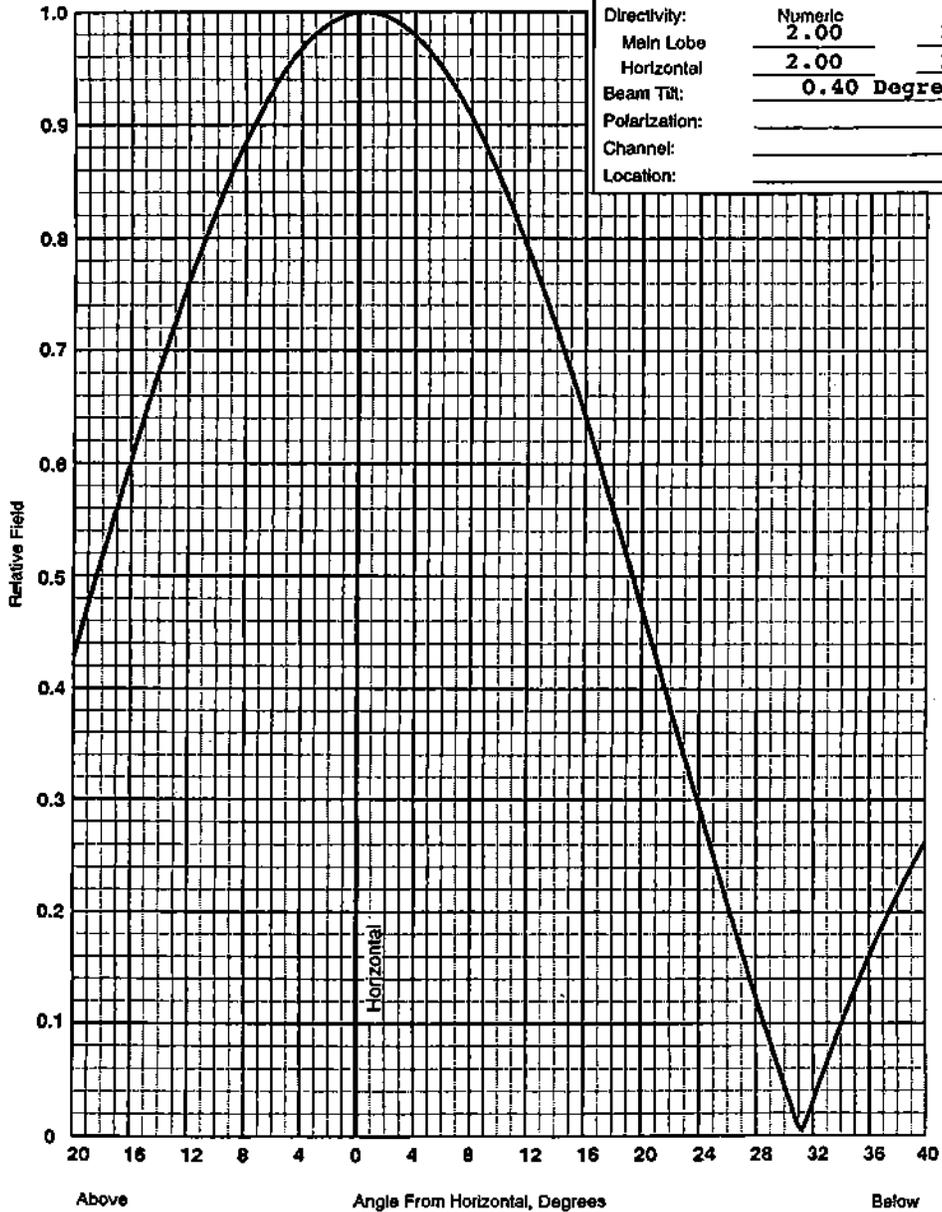
WJW-DT

CHANNEL 31 - CLEVELAND, OHIO

SMITH AND FISHER

**ANDREW**  
**ELEVATION PATTERN**

Type:	ATW2G2	
Directivity:	Numeric	dBd
Main Lobe	2.00	3.01
Horizontal	2.00	3.01
Beam Tilt:	0.40 Degrees	
Polarization:		
Channel:		
Location:		



ANDREW CORPORATION  
 10500 W. 153rd Street  
 Orland Park, Illinois U.S.A. 60462

Form 52788 (8/90)

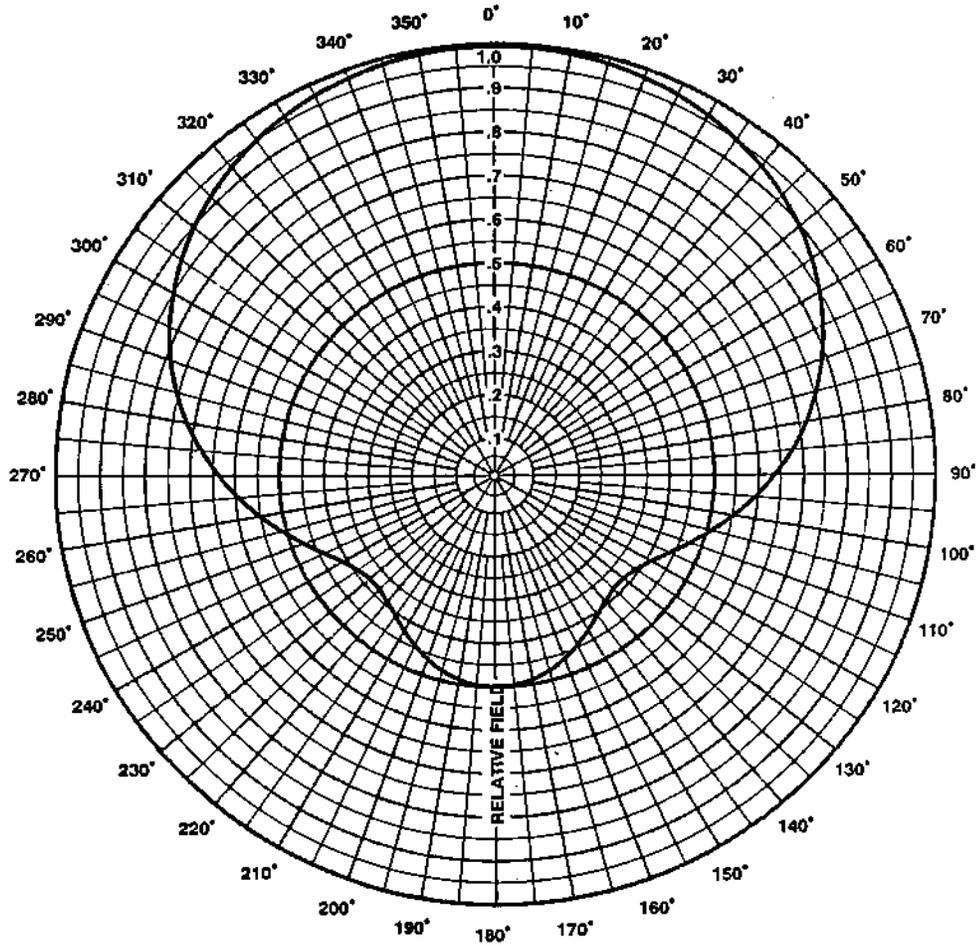
**EXHIBIT C-1**  
**VERTICAL RELATIVE FIELD PATTERN**  
**PROPOSED AUXILIARY FACILITY**  
**WJW-DT**  
**CHANNEL 31 - CLEVELAND, OHIO**  
 SMITH AND FISHER



# ANDREW AZIMUTH PATTERN

Type:	ATW-GS	
	Numeric	dB
Directivity:	2.00	3.01
Peak(s) At:	_____	
Polarization:	_____	
Channel:	_____	
Location:	_____	

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



ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

Form 5279B (8/90)

## EXHIBIT C-2

### HORIZONTAL RELATIVE FIELD PATTERN

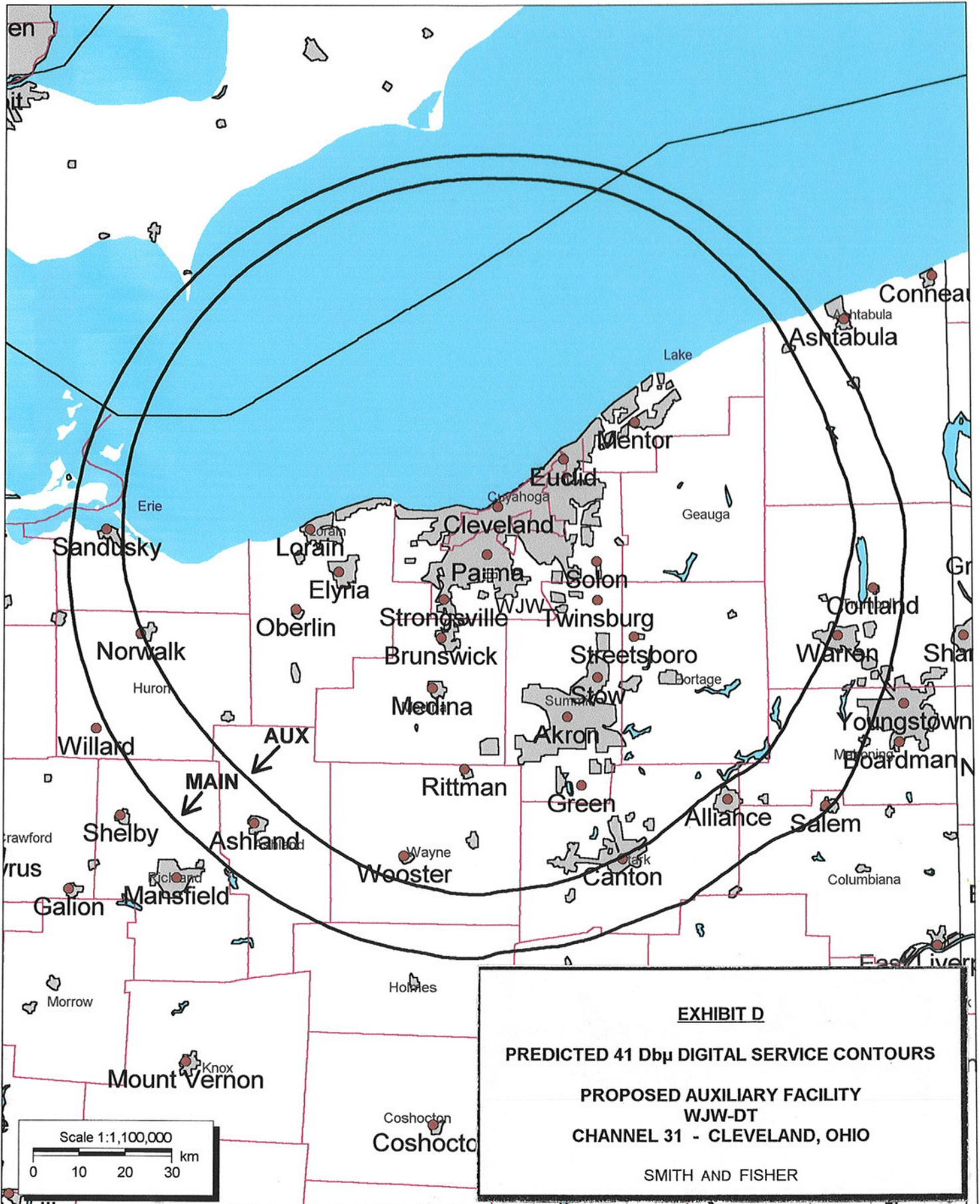
PROPOSED AUXILIARY FACILITY  
WJW-DT  
CHANNEL 31 - CLEVELAND, OHIO

SMITH AND FISHER

## HORIZONTAL RELATIVE FIELD PATTERN

PROPOSED AUXILIARY FACILITY  
WJW-DT  
CHANNEL 31 - CLEVELAND, OHIO

<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	1.000	21.4	180	0.496	15.3
10	0.996	21.4	190	0.485	15.1
20	0.985	21.3	200	0.457	14.6
30	0.967	21.1	210	0.419	13.8
40	0.939	20.9	220	0.386	13.1
50	0.901	20.5	230	0.377	12.9
60	0.851	20.0	240	0.405	13.6
70	0.790	19.4	250	0.467	14.8
80	0.717	18.5	260	0.548	16.2
90	0.634	17.4	270	0.634	17.4
100	0.548	16.2	280	0.717	18.5
110	0.467	14.8	290	0.790	19.4
120	0.405	13.6	300	0.851	20.0
130	0.377	12.9	310	0.901	20.5
140	0.386	13.1	320	0.939	20.9
150	0.419	13.8	330	0.967	21.1
160	0.457	14.6	340	0.985	21.3
170	0.485	15.1	350	0.996	21.4



**EXHIBIT D**

**PREDICTED 41 Dbμ DIGITAL SERVICE CONTOURS**

**PROPOSED AUXILIARY FACILITY  
WJW-DT  
CHANNEL 31 - CLEVELAND, OHIO**

SMITH AND FISHER