



**ENGINEERING STATEMENT**  
**OF**  
**JOHN F.X. BROWNE, P.E.**  
**IN SUPPORT OF**  
**APPLICATION FOR CONSTRUCTION PERMIT**  
**FOR POST-TRANSITION DTV FACILITY**  
**AND**  
**5 MILE "FREEZE" WAIVER REQUEST**  
**WMAR-DT**  
**BALTIMORE, MD**

**Background**

Scripps Howard Broadcasting Company (SHB) is the licensee of WMAR, located at Baltimore, MD, which is presently operating its digital facility on out-of-core Channel 52 with the following parameters:

**Pre-transition Facility (Ch. 52)**

Coordinates: 39° 20' 06" N (NAD27)  
76° 39' 03" W  
ERP: 602 kW (omni)  
HAAT: 311m



WMAR elected Channel 38 (through a Negotiated Channel Agreement with WJAL) in the DTV channel election process and has been allotted the post-transition DTV operation Appendix B facility parameters listed below:

Post-transition Facility (Ch. 38)

Coordinates: 39° 20' 05" N (NAD27)  
 76° 39' 03" W  
 ERP: 775 kW (DA)  
 HAAT: 305m

The Channel 38 Appendix B facility that has been allotted to WMAR does not match the coverage area of its analog Channel 2 facility (has significantly less coverage). Therefore, WMAR is seeking a waiver of the "freeze" under the Commission's newly created 5 mile "freeze waiver" policy. WMAR is requesting an omni-directional ERP of 1 MW (instead of 775 kW, DA) which will increase its coverage (while not expanding the Appendix B facility coverage more than 5 miles) but which will still not match the coverage area of the analog facility. The proposed alternative parameters for WMAR are listed below:

Post-transition Facility (Ch. 38)

(Based on Freeze Waiver Request)

Coordinates: 39° 20' 05" N (NAD27)  
 76° 39' 03" W  
 ERP: 1000 kW (omni)  
 HAAT: 312m

Site

The facility is not located within any border zone; however, the proposed facility is located 24 km from the FCC Monitoring Station at Laurel, MD. While the calculated field value exceeds the recommended threshold value of 10mV/m, WJZ-DT presently operates a 1000 kW omni-directional Channel 38 facility from the proposed location (which SHB is purchasing from WJZ for the WMAR post-transition operation) and the proposed WMAR post-transition facility



will match this facility exactly, so there will be no change in field strength at the monitor point from the proposed WMAR Channel 38 facility.

### **Antenna System and Tower**

WMAR-DT will use a Dielectric omni-directional antenna (TFU-20GTH-R 04) which is top-mounted on the tower (ASR#1035558) at the coordinates specified above. The tower has a height of 401m AMSL (with appurtenances) and the antenna will have a center of radiation of 395m AMSL with an HAAT of 312m.

### **Coverage**

The entire principal community of Baltimore, MD is well within the predicted F(50,90) 48 dBu contour using the proposed omni-directional 1000 kW ERP.

### **Interference and Waiver Request**

SHB requests a waiver of the "freeze" for WMAR under the Commission's new 5 mile "freeze" waiver policy established in the Report and Order for the Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television (R&O). The proposed WMAR facility (1000 kW, omni-directional ERP with an HAAT of 321m) satisfies all three of the Commission's requirements to qualify for the waiver:

1. Scripps will use a new antenna to try avoiding a significant reduction in post-transition service from its analog service area. A map of the WMAR analog service contour compared to its Appendix B facility service contour and the proposed facility service contour is attached, hereto, as Figure 1.
2. The expansion of the proposed WMAR post-transition facility service contour does not exceed its Appendix B service contour by more than 5 miles in any direction. Figure 2, attached hereto, contains a table with a comparison of



the distances to the contour (at increments of 10°) of the proposed WMAR post-transition facility vs. its Appendix B facility.

3. Based on studies run using software that emulates the software used by the FCC, the proposed WMAR facility would not cause more than 0.5% new interference to any other Appendix B facilities. As mentioned above, WMAR elected Channel 38 for post-transition operation through a Negotiated Channel Agreement (NCA) with WJAL (post-transition Channel 39 at Hagerstown, MD). This NCA contains no restriction (other than required FCC limits) on the level of interference WMAR can cause WJAL (although the proposed WMAR facility is not predicted to cause any increase in interference to WJAL), therefore, WMAR should not need to revise its NCA with WJAL for the proposed changes to its post-transition facility. The licensee of WJAL has been advised of this proposed operation.

### **Environmental/RFR**

The proposed construction does not require preparation of an Environmental Assessment as it does not involve any of the factors listed in Section 1.1306.

The additional ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.003733 mW/cm<sup>2</sup> which is less than 5% of the MPE for public exposure (0.41 mW/cm<sup>2</sup>) at the proposed frequency and, therefore, the proposal is excluded from further consideration. As mentioned above, SHB is purchasing the existing WJZ Channel 38 facility located at the same site which will be used for the WMAR post-transition facility; therefore, the current RFR environment will not change.

SHB recognizes that this is a multi-user candelabra tower site and RFR levels at the antenna platform level may exceed the occupational exposure limit. SHB agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers are



encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of RFR hazards are posted.

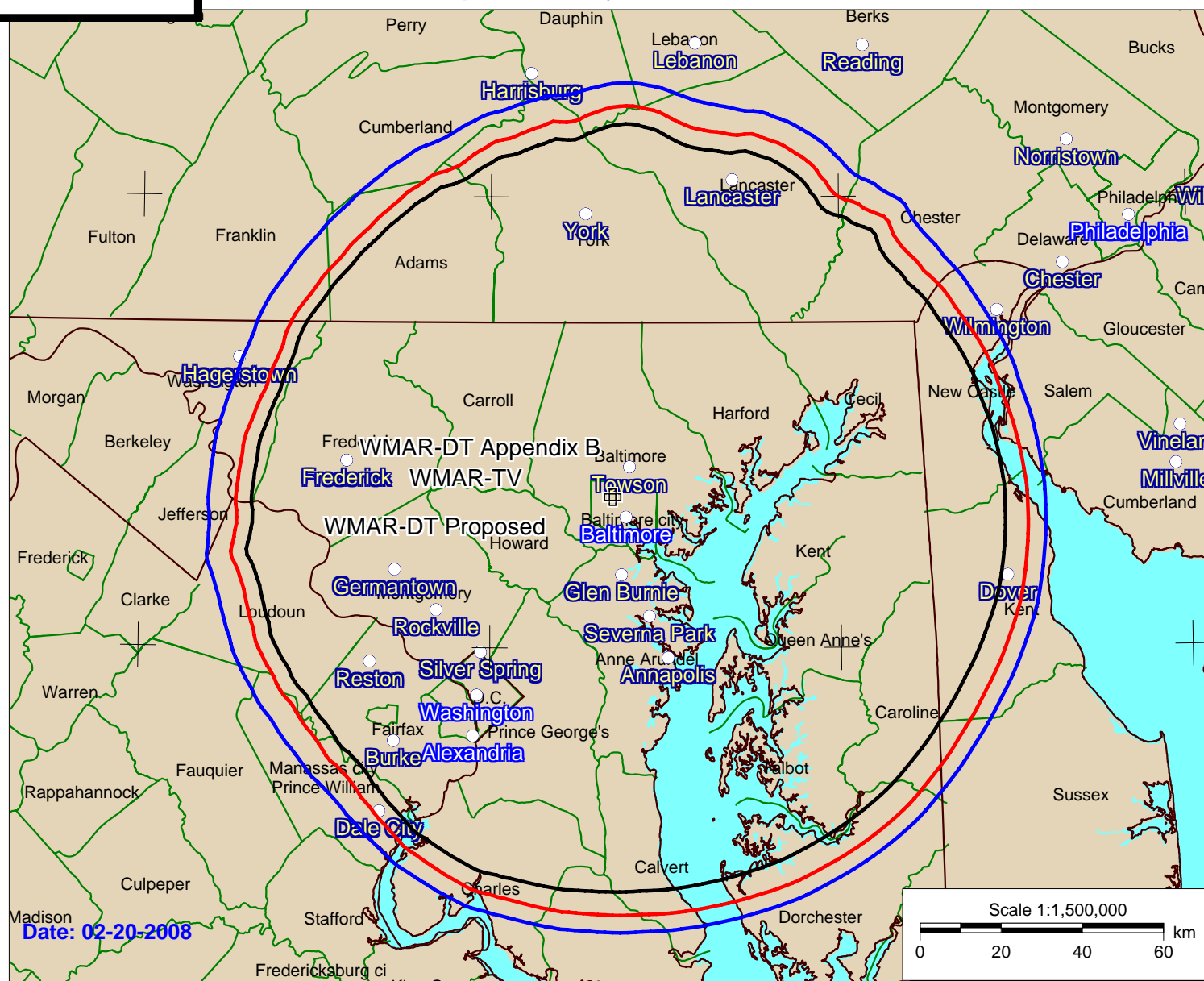
### **Certification**

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

A handwritten signature in black ink, reading "John F.X. Browne", written over a horizontal line.

John F.X. Browne, P.E.  
February 20, 2008

WMAR-TV Grade B Service Contour vs. WMAR-DT Appendix B and  
and Proposed Facility Noise Limited Contour



Black = WMAR-DT Appendix B Facility 41dBu F(50,90) Contour  
Red = WMAR-DT Proposed 41dBu F(50,90) Contour  
Blue = WMAR-TV Analog 47 dBu F(50,50) Contour

Fig. 1

# WMAR-DT

## Appendix B Facility vs. Proposed Facility Contour Distance Table

<u>Degrees</u>	<u>Appendix B Facility Distance (miles)</u>	<u>Proposed Facility Distance (miles)</u>	<u>Difference (miles)</u>
0	56.9	59.7	2.8
10	55.4	58.2	2.9
20	56.2	59.1	2.9
30	56.6	59.4	2.8
40	55.7	58.5	2.9
50	55.6	58.6	3.0
60	56.8	59.9	3.1
70	58.2	61.4	3.2
80	59.1	62.5	3.4
90	60.0	63.5	3.5
100	60.6	64.1	3.5
110	60.6	64.4	3.7
120	60.6	64.4	3.8
130	61.0	64.9	3.9
140	61.3	65.4	4.0
150	61.3	65.2	3.9
160	61.0	64.8	3.9
170	60.6	64.3	3.7
180	60.4	64.0	3.6
190	60.5	63.8	3.3
200	60.7	63.8	3.0
210	59.5	62.4	2.9
220	57.1	59.9	2.8
230	56.1	58.7	2.6
240	56.2	58.8	2.5
250	56.0	58.5	2.5
260	56.2	58.7	2.5
270	55.2	57.7	2.4
280	54.6	56.9	2.3
290	53.5	55.7	2.2
300	53.9	56.1	2.1
310	53.5	55.5	2.0
320	53.7	55.7	2.1
330	54.1	56.4	2.2
340	54.4	56.9	2.5
350	55.2	57.9	2.7

Fig. 2