

TECHNICAL EXHIBIT
MINOR AMENDMENT TO PENDING APPLICATION
STATION WTVR-DT (FACILITY ID 57832)
RICHMOND, VIRGINIA

AUGUST 15, 2002

CH 25 410 KW 347 M

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Technical Narrative

This Technical Exhibit was prepared on behalf of digital television broadcast station WTVR-DT at Richmond, Virginia. Station WTVR-DT has a minor modification application pending to operate on channel 25 with a non-directional antenna effective radiated power (ERP) of 410 kW and an antenna height above average terrain (HAAT) of 347 meters (BMPCDT-20020814AAP). This amendment proposes only to correct the coverage map (Figure 3) submitted with the above mentioned minor modification application. Proposed changes to the authorized operation still include a new transmitter site, increase antenna HAAT and reduce ERP. There is no proposed change in channel (25) or city of license.

Proposed Facilities

The proposed site is located 12.6 kilometers southwest of the current site with the following coordinates (NAD27): 37-30-45 N, 77-36-05 W. A non-directional antenna ERP of 410 kW and antenna HAAT of 347 meters are proposed. The FCC antenna structure registration number is 1018227.

The proposed site is more than 500 kilometers from the closest point of the U.S./Canada border. The site is more than 1,900 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Laurel, Maryland, approximately 196 kilometers to the north-northeast. The closest point of the National Radio Quiet Zone

(VA/WV) is approximately 79 kilometers to the west. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2,400 kilometers to the west. The closest radio astronomy site operating on TV channel 37 is at Green Bank, West Virginia, approximately 221 kilometers to the northwest. These separations are sufficient to not be a concern for coordination purposes.

Nearby Broadcast Facilities

There are no known authorized full service AM stations within 5 kilometers of the proposed transmitter site. The following is a list of known authorized full service FM and TV stations within 16 kilometers (10 miles) of the proposed site.

<u>Station</u>	<u>Channel</u>	<u>Bearing(°True)</u>	<u>Distance(km)</u>
WMXB, Richmond, VA	279B	101	2.2
WJMO-FM, Richmond, VA	289A	89	8.3
WBTJ, Richmond, VA	293B	263	8.6
WDCE, Richmond, VA	211A	34	9.1
WBBT-FM, Powhatan, VA	297A	264	9.1
WCVE-FM, Richmond, VA	205B	61	12.6
WTVR-FM, Richmond, VA	251B	61	12.6
WCDX, Mechanicsville, VA	221B1	34	13.6
WRXL, Richmond, VA	271B	34	13.6
WRIC-DT(CP), Petersburg, VA	22	--	0.0
WRLH-DT(CP), Richmond, VA	26	--	0.0
WCVE-DT(CP), Richmond, VA	42	--	0.02
WCVW-DT(CP), Richmond, VA	44	--	0.02
WCVE-TV, Richmond, VA	23	--	0.04
WCVW, Richmond, VA	57	--	0.04
WRIC-TV, Petersburg, VA	8	--	0.04
WWBT-DT, Richmond, VA	54	95	8.7
WRLH-TV, Richmond, VA	35	265	8.7
WWBT, Richmond, VA	12	94	8.7
WTVR-TV, Richmond, VA	9	61	12.6
WTVR-DT(CP), Richmond, VA	25	61	12.6

Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

Domestic Allocation Considerations

Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin, using a 2 kilometer grid spacing. The proposed WTVR-DT operation does not cause excessive (greater than 2%, up to 10% total) calculated interference to any analog or DTV assignment. Below is the list of stations considered in the OET-69 analysis.

Stations Potentially Affected by Proposed WTVR-DT							
Chan	Call	City/State	Bear (°T)	Dist (km)	Status	App. Ref. No.	
21	960614KI	VIRGINIA BEACH VA	129	124.8	APP	BPCT-19960614KI	
21	960724LE	VIRGINIA BEACH VA	129	124.8	APP	BPCT-19960724LE	
21	961001XY	VIRGINIA BEACH VA	122	140.0	APP	BPCT-19961001XY	
21	961001XL	VIRGINIA BEACH VA	128	123.4	APP	BPCT-19961001XL	
23	WCVE-TV	RICHMOND VA	322	0.0	LIC	BLET-19940816KE	
24	WDRL-TV	DANVILLE VA	237	200.0	LIC	BLCT-19940818KF	
24	WCVE-DT	RICHMOND VA	322	0.0	PLN	DTVPLN-DTVP0554	
25	WHAG-TV	HAGERSTOWN MD	353	240.8	LIC	BLCT-19890327KJ	
25	WUNK-TV	GREENVILLE NC	180	218.1	LIC	BLET-19920116KF	
25	WUNU-DT	LUMBERTON NC	204	328.4	LIC	BLEDT-20020131ACA	
25	WUNU-DT	LUMBERTON NC	204	328.4	PLN	DTVPLN-DTVP0574	
25	KDKA-DT	PITTSBURGH PA	329	391.7	CP MOD	BMPCDT-20000501ADW	
25	KDKA-DT	PITTSBURGH PA	329	391.7	PLN	DTVPLN-DTVP0579	
25	KDKA-DT	PITTSBURGH PA	329	391.7	LIC	BLCDT-20000410ABH	
25	WTVE-DT	READING PA	25	348.4	CP	BPCDT-19991101AKO	
25	WTVE-DT	READING PA	27	353.2	PLN	DTVPLN-DTVP0580	
26	WETA-TV	WASHINGTON DC	15	167.0	LIC	BLET-438	
26	WETA-TV	WASHINGTON DC	15	167.0	CP	BPET-19890111KE	
26	WRLH-DT	RICHMOND VA		0.0	CP MOD	BMPCDT-20020114AAR	
26	WRLH-DT	RICHMOND VA	265	8.8	PLN	DTVPLN-DTVP0619	
27	WGNT	PORTSMOUTH VA	127	127.4	LIC	BLCT-2010	
29	WVIR-TV	CHARLOTTESVILLE VA	304	93.4	LIC	BLCT-19930210KE	
33	WTVZ-TV	NORFOLK VA	129	124.8	LIC	BLCT-19820219KG	
33	WTVZ-TV	NORFOLK VA	129	124.8	CP MOD	BMPCT-20010730ABG	

From the above list of stations considered, the table below shows the calculated interference caused to each station. Only stations that are predicted to receive interference from the proposed WTVR-DT operation are shown in the interference table.

Study Station	Baseline	Net Population Change/Interference
26 WRLH-DT RICHMOND VA (CP MOD)	1,088,664	87 (0.0%) New Interference

The proposed WTVR-DT operation does not cause calculated interference to any other analog or DTV station. Therefore, it is believed the proposal complies with the FCC's "de minimis" interference policy.

Class A Consideration

The FCC's list of low power television (LPTV) assignments eligible for Class A status and the FCC CDBS system have been reviewed for potential Class A impact. As compared to the allotment for WTVR-DT, the proposed WTVR-DT operation will reduce contour overlap to two co-channel Class A stations, WAZM-CA (Staunton-Waynesboro, VA) and W60BR (Virginia Beach, VA), as shown on the map in Sheet 1 of Figure 4.

Based on OET-69 studies, the proposal will not cause any predicted interference to station WXOB-CA, Channel 17, Richmond, VA (see Sheet 2 of Figure 4). The proposed WTVR-DT operation will not cause any prohibited contour overlap to any other Class A station.

Radiofrequency Electromagnetic Field Exposure

The proposed WTVR-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 303.3 meters above ground level with an ERP of 410 kW. A conservative relative field value of 0.15 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0034 mW/cm². This is less than 1% of the FCC's recommended limit of 0.36 mW/cm² for channel 25 for an "uncontrolled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this will be a multi-user site, an agreement will control access to the site. In the event that workers or other authorized personnel enter restricted areas or climb the

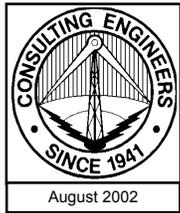
tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed WTVR-DT operation appears to be otherwise categorically excluded from environmental processing.



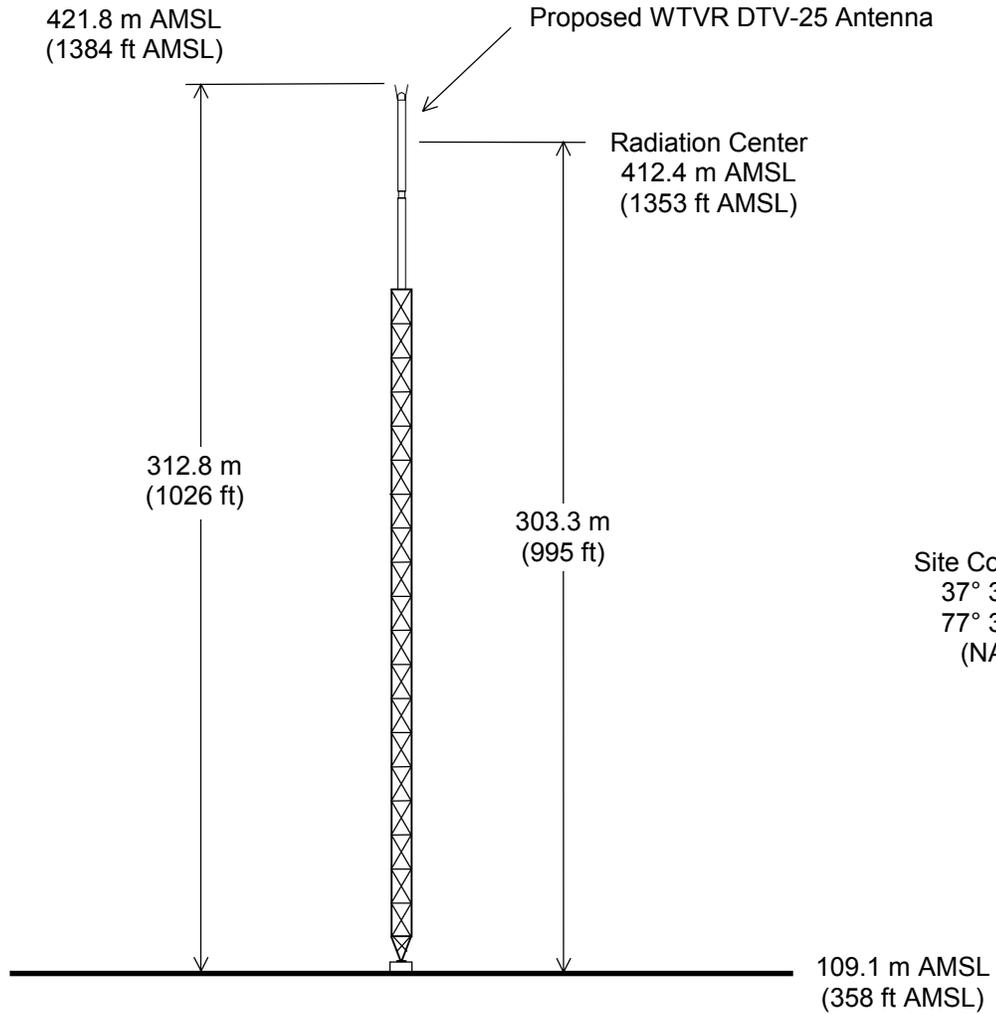
Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941) 329-6000

August 15, 2002



Tower Reg. No. 1018227



Site Coordinates:
37° 30' 45" N
77° 36' 05" W
(NAD 27)

Not to Scale

ANTENNA AND SUPPORTING STRUCTURE

STATION WTVR-DT

RICHMOND, VIRGINIA

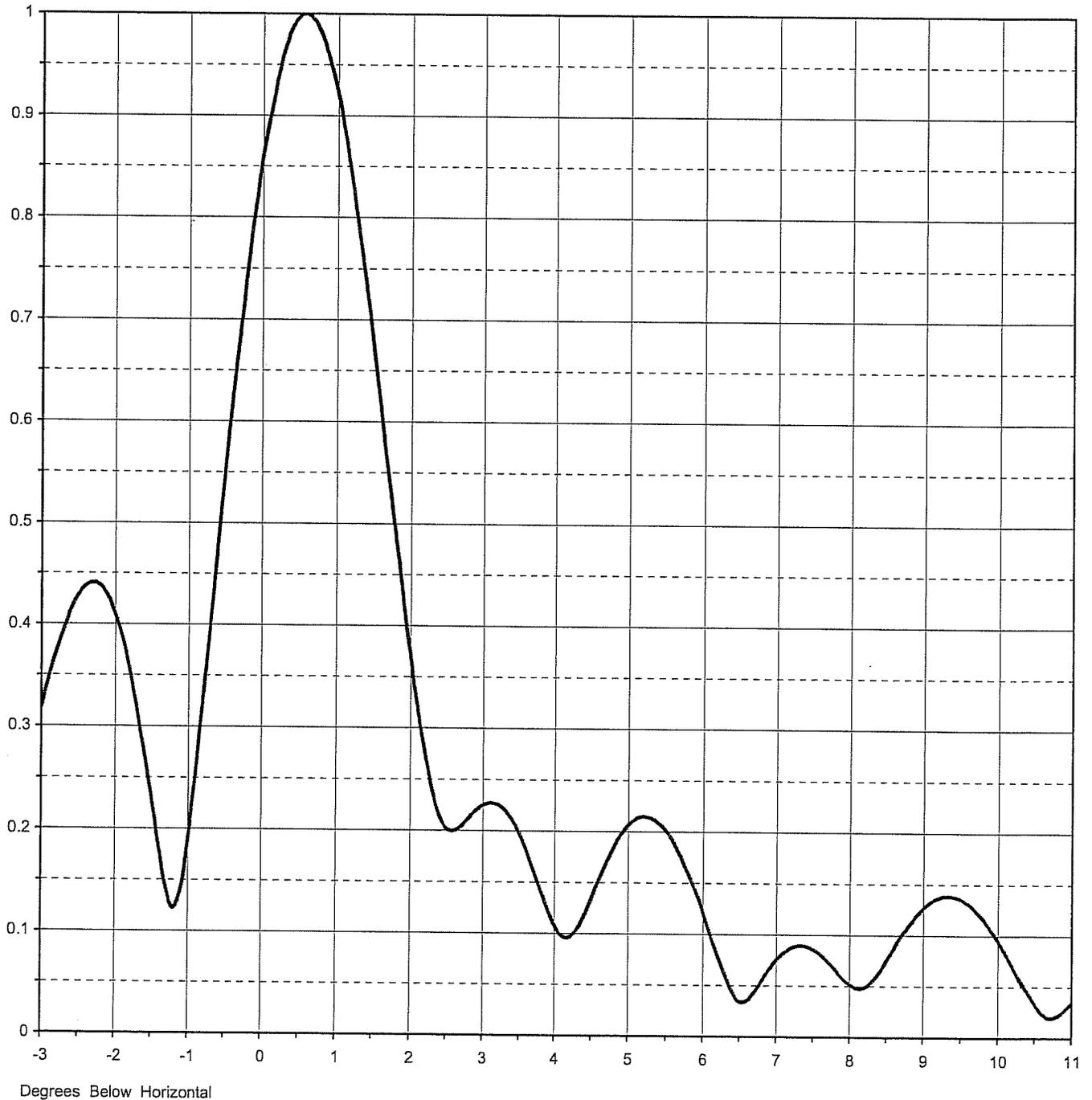
CH 25 410 KW 347 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Proposal Number	DCA-9504	Channel	25
Date	12-Mar-01		
Call Letters			
Location	Richmond, VA		
Customer	Spectrasite		
Antenna Type	TUC-O5-14/70H-1-T		

ELEVATION PATTERN

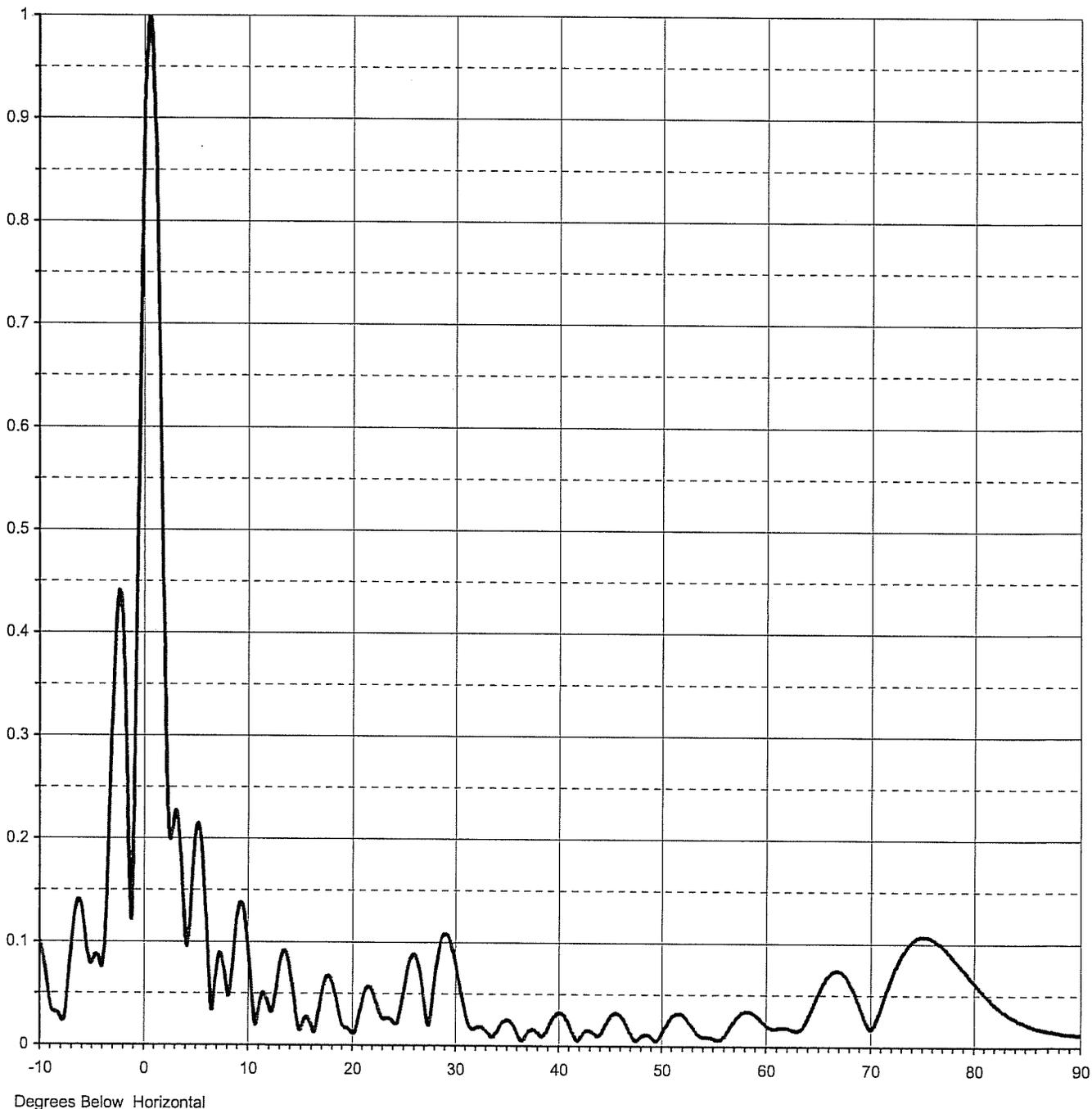
RMS Gain at Main Lobe	26.30 (14.20 dB)	Beam Tilt	0.60 deg
RMS Gain at Horizontal	19.50 (12.90 dB)	Frequency	539.00 MHz
Calculated / Measured	Calculated	Drawing #	14U263060



Proposal Number **DCA-9504**
Date **12-Mar-01**
Call Letters Channel **25**
Location **Richmond, VA**
Customer **Spectrasite**
Antenna Type **TUC-O5-14/70H-1-T**

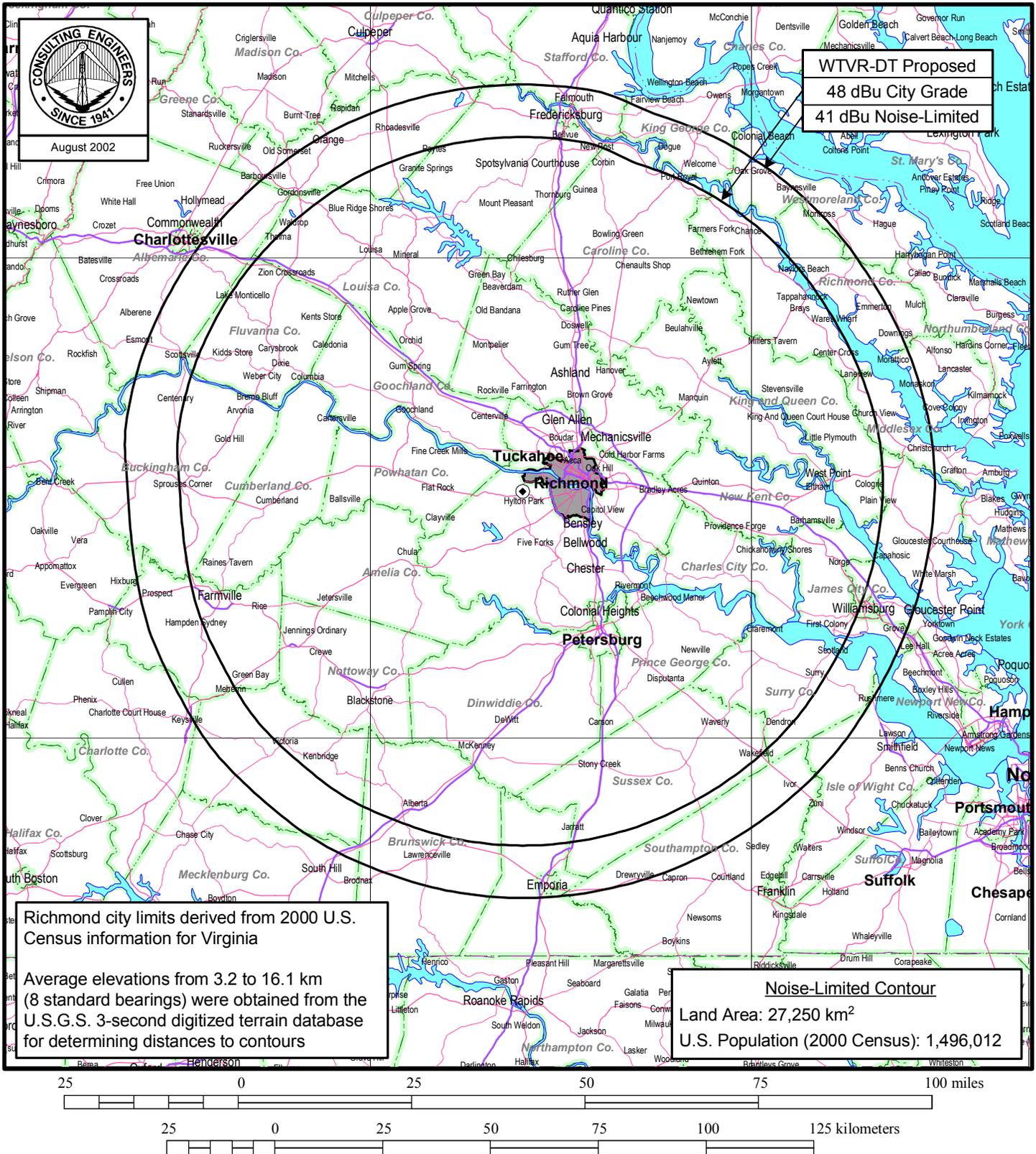
ELEVATION PATTERN

RMS Gain at Main Lobe	26.30 (14.20 dB)	Beam Tilt	0.60 deg
RMS Gain at Horizontal	19.50 (12.90 dB)	Frequency	539.00 MHz
Calculated / Measured	Calculated	Drawing #	14U263060-90



Degrees Below Horizontal

Figure 3



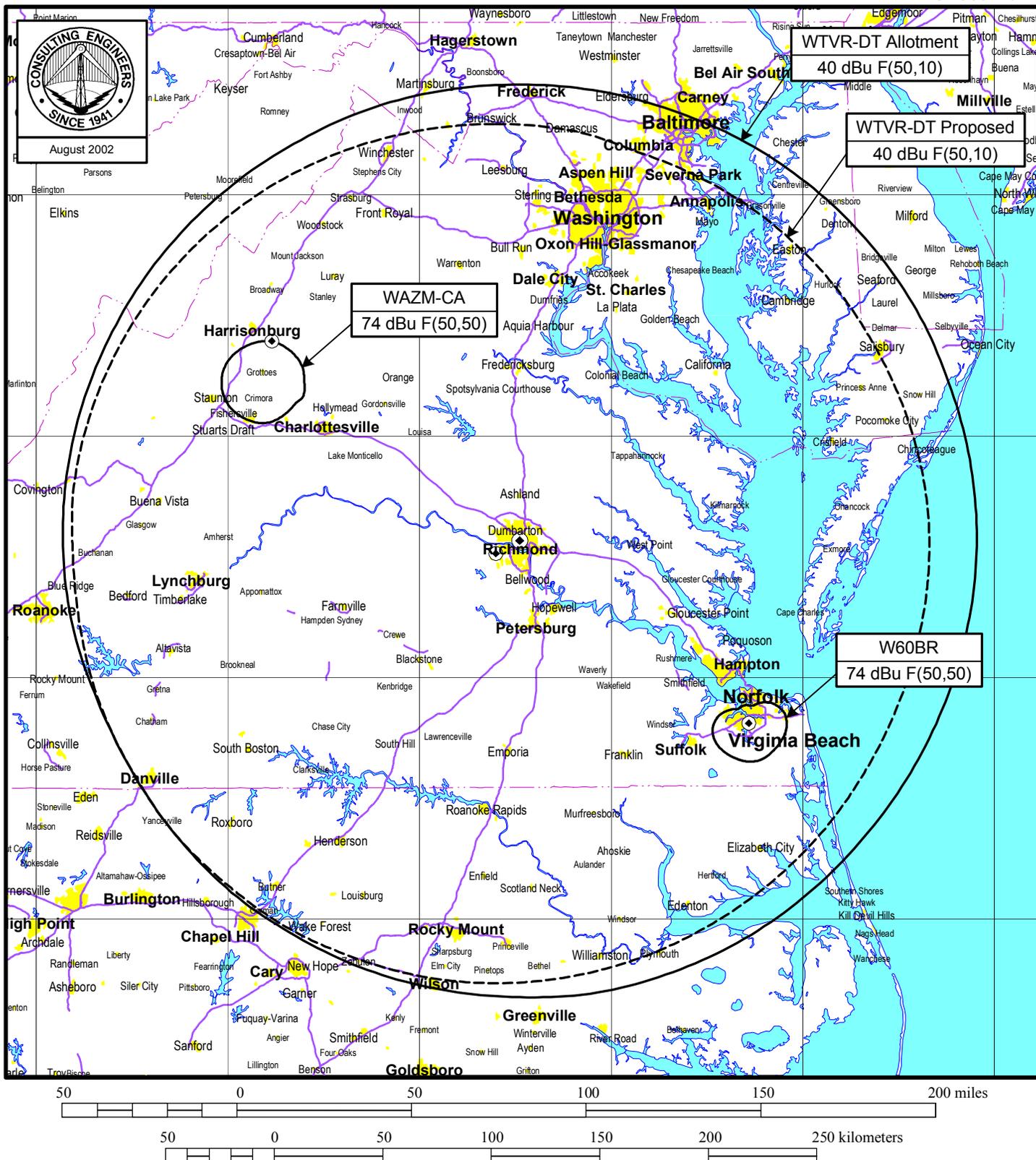
PREDICTED F(50,90) COVERAGE CONTOURS

STATION WTVR-DT

RICHMOND, VIRGINIA

CH 25 410 KW 347 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida



CLASS A INTERFERENCE STUDY

STATION WTVR-DT

RICHMOND, VIRGINIA

CH 25 410 KW 347 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida

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INTERFERENCE CAUSED FROM WTVR-DT TO WXOB-CA

CELL SIZE : 2.00

Using offset in determining thresholds

Per 6th Report & Order and FCC OET-69 Bulletin

WXOB-CA 37-36-52 77-30-56 17(Z) 22.8 kW-DA 280 m AMSL 50.0 % 72.0 dBu

RICHMOND VA

CP BPTTL19981118JA

1.00 0.96 0.97 0.99 0.80 0.69 0.40 0.15 0.03 0.03 0.03 0.03

0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03

0.03 0.03 0.03 0.03 0.03 0.15 0.40 0.69 0.80 0.99 0.97 0.96

Ref Az: 145.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	931.1086	479809
not affected by terrain losses	927.0778	477580

WTVR-DT 37-30-45 77-36-05 25(N) 410.0 kW 412.4 m AMSL 10.0 % 39.8 dBu

RICHMOND VA 31166 1473 DTVSERVICE: 1473000 NTSCSERVICE: 1361000

Using DEFAULT vertical antenna pattern

D/U Baseline: -43.00

	Area	Pop
Interference	0	0