

# T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100  
FALLS CHURCH, VIRGINIA 22043  
TELEPHONE (703) 848-2130 / (202) 642-2130

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## MINOR CHANGE TO A LICENSED FACILITY APPLICATION FOR CONSTRUCTION PERMIT

**(AS AMENDED 6/12/2022)**

WWSL (FM)  
FACILITY ID: 25742  
FM CHANNEL 272A (102.3 MHZ)  
DIRECTIONAL ANTENNA  
MAXIMUM DA ERP: 3.9 KW (H&V) HAAT: 125.46 METERS  
PHILADELPHIA, MS

### ENGINEERING NARRATIVE

Executive Summary:

#### EXPEDITED ACTION IS REQUESTED.

Applicant has been informed that its use of the current site will terminate in July 2022. A new site has been located, and approval from the tower owner to use their structure (The County of Neshoba, MS) has been obtained.

Once the construction permit is issued, the applicant will promptly construct the facility and place it into operation. Applicant proposes operation under the provisions of 47 CFR §73.215.

#### Facilities - Present and Proposed

The applicant seeks to modify its existing license to specify a new antenna system and transmitting site location. As noted in the table below:

	N. LATITUDE	W. LONGITUDE	AGL (m)	AMSL (m)	HAAT (m)	ERP (kW)	ANTENNA
Licensed	32-43-35.4	89-05-56.2	69.0	247.0	111.00	4.9	Directional
Proposed	<b>32-43-07.0</b>	<b>89-05-24.0</b>	108.2	260.9	125.48	3.9	Directional

Geographical Coordinates are specified as NAD 83 values in the following format: D-M-SS. Elevations are specified in meters, and radiated power (ERP) is in kilowatts.

#### §73.207 - Spacing Requirements

The proposed facility is full-spaced to all other facilities or allotments with the exception of WALT-FM, Channel 271A, Meridian, MS, a first adjacent channel station.

As Amended 6/12/2022

Continued §73.215 Operation to WALT-FM is proposed

WALT-FM, operates as a §73.215 facility as does this proposal, as such, contour protection to and from this proposal is provided to the licensed WALT-FM facility as required in accordance with the Commission's rules.

Short Spaced To WALT-FM	Site to Site Distance - kilometers	Minimum §73.215 FCC Distance Allowed - kilometers
Present	58.91	49.0
Proposed	57.68	

The facility will employ a simple standard **3-bay directional antenna** system with circular polarization (H & V) and 1.0 spacing between antenna bays/elements. The directional antenna will be side-mounted on the existing tower with no other antennas within its mounting aperture or within 60 feet horizontally.

**FCC Tower Registration (ASR) - FAA Notification NOT required**

The proposed antenna mounting structure is an existing guyed, communications tower with an overall height of 126.9 meters above the ground. The supporting tower structure has been registered with the FCC and issued antenna structure registration (ASR) number: 1041768.

**Site Map (Figure 1):**

A large-scale topographic map upon which the site location has been marked is included in Figure 1.

**Vertical Sketch of Supporting Structure (Figure 2):**

The center of radiation of the proposed antenna is 108.2 meters above ground level. The ground elevation at the site is 152.7 meters (501 feet). The antenna center of radiation height above mean sea level is 260.9 meters, with a computed height above average terrain of 125.46 meters (rounds to 125 meters).

CALCULATION OF HAAT - USING FCC WEBSITE VALUES FCC TERRAIN

RADIAL AZIMUTH DEGREES	RADIAL HAAT
0	131.2
45	128.2
90	120.0
135	127.5
180	109.3
225	114.6
270	129.2
135	143.7
HAAT	125.46

Rounds to 125 meters HAAT

As Amended 6/12/2022

**FM Channel Study Contour to Contour (Figure 3):**

An allocation study using the contour to contour method shows that no prohibitive contour overlap (or Intermediate Frequency distance spacing violation) will occur to or from this proposal. Figure 3 contains tabulations (the channel study) and associated maps to demonstrate compliance with the Commission rules. No prohibitive overlap is predicted to occur.

**Directional Antenna Parameters (Figure 4):**

A directional antenna system is proposed, a tabulation of the relative field pattern and graphical plot of the proposed directional pattern envelope is included. The pattern meets the 2dB per 10-degrees of azimuth span criteria and the maximum suppression requirements of the Commission's rules. The applicant will comply with all sections of the Commission's rules concerning the construction, mounting, certification, and licensing of the directional antenna.

**Present and Proposed Service Area (Figure 5):**

The predicted f(50,50) FCC 70 dBu principle service contour completely encompassed the community of Philadelphia, MS (the community of license), as shown in Figure 6. The principal service contour f(50,50) 60 dBu contour is also shown.

The predicted coverage contour was calculated in accordance with the provisions of 47 C.F.R. §73.313. In accordance with current FCC practice, no consideration was given to terrain roughness correction factors. The average terrain elevations from 3 to 16 kilometers from the proposed site were obtained from the NED 3-second terrain database. The standard eight radials evenly spaced at 45-degree intervals were used for determining the average terrain elevations and the distance to the service contours.

The antenna radiation center heights above average terrain in the individual radial directions and the effective radiated power in the appropriate directions were used in conjunction with the F(50,50) curves of 47 C.F.R. §73.333 to determine the contour distances.

**Environmental Evaluation Statement:**

The environmental evaluation statement concerning this proposal has been included in this application within LMS and can be found as a separate file upload. A grant of this proposal would NOT be an action that would have a significant environmental effect, as demonstrated in the environmental evaluation statement.

As Amended 6/12/2022

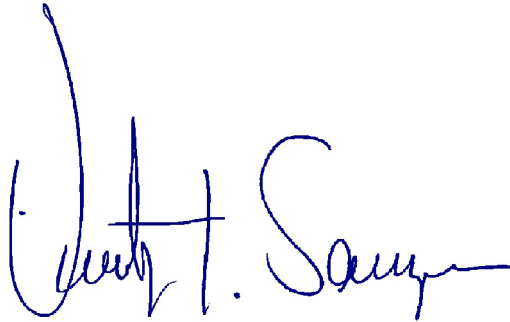
**Certification:**

The undersigned hereby certifies that this technical/engineering narrative statement and associated exhibits, tabulations, and figures were prepared by him or under his direction and are true and correct to the best of his knowledge and belief.

Respectfully submitted,

April 7, 2021 (Original)

June 12, 2022 (As amended)

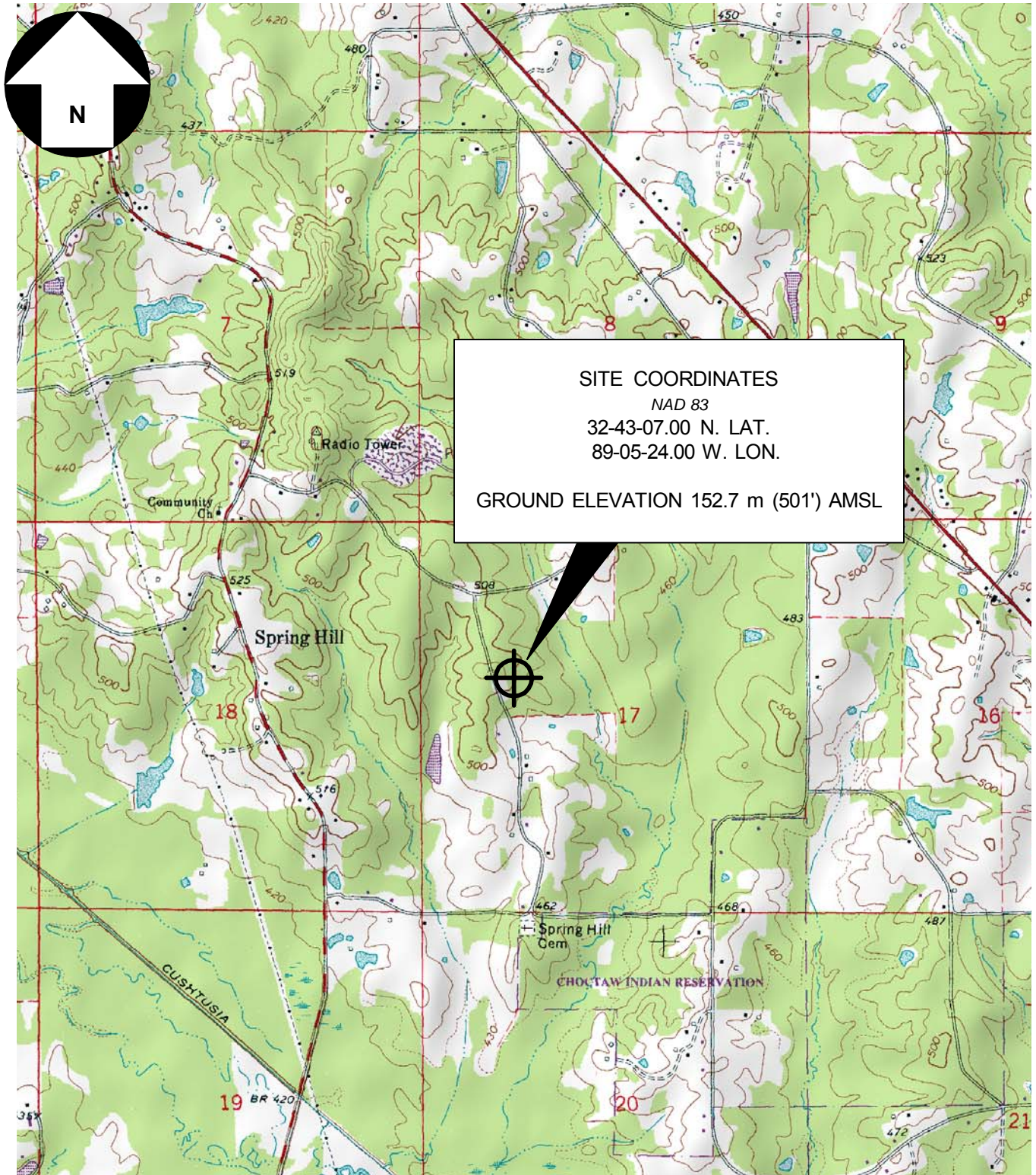
A handwritten signature in blue ink, reading "Timothy Z. Sawyer". The signature is written in a cursive style with a large initial "T" and "S".

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Timothy Z. Sawyer, Consulting Engineer

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**TOPOGRAPHIC SITE MAP**

WWSL FM  
PHILADELPHIA, MS

**FIGURE  
1**

FALL CHURCH, VIRGINIA 22043-2555

SIZE  
A

CAGE NO  
N/A

DWG NO  
20220407WWSL.F2

REV  
6/12/22

(C) 2022, ALL RIGHTS RESERVED

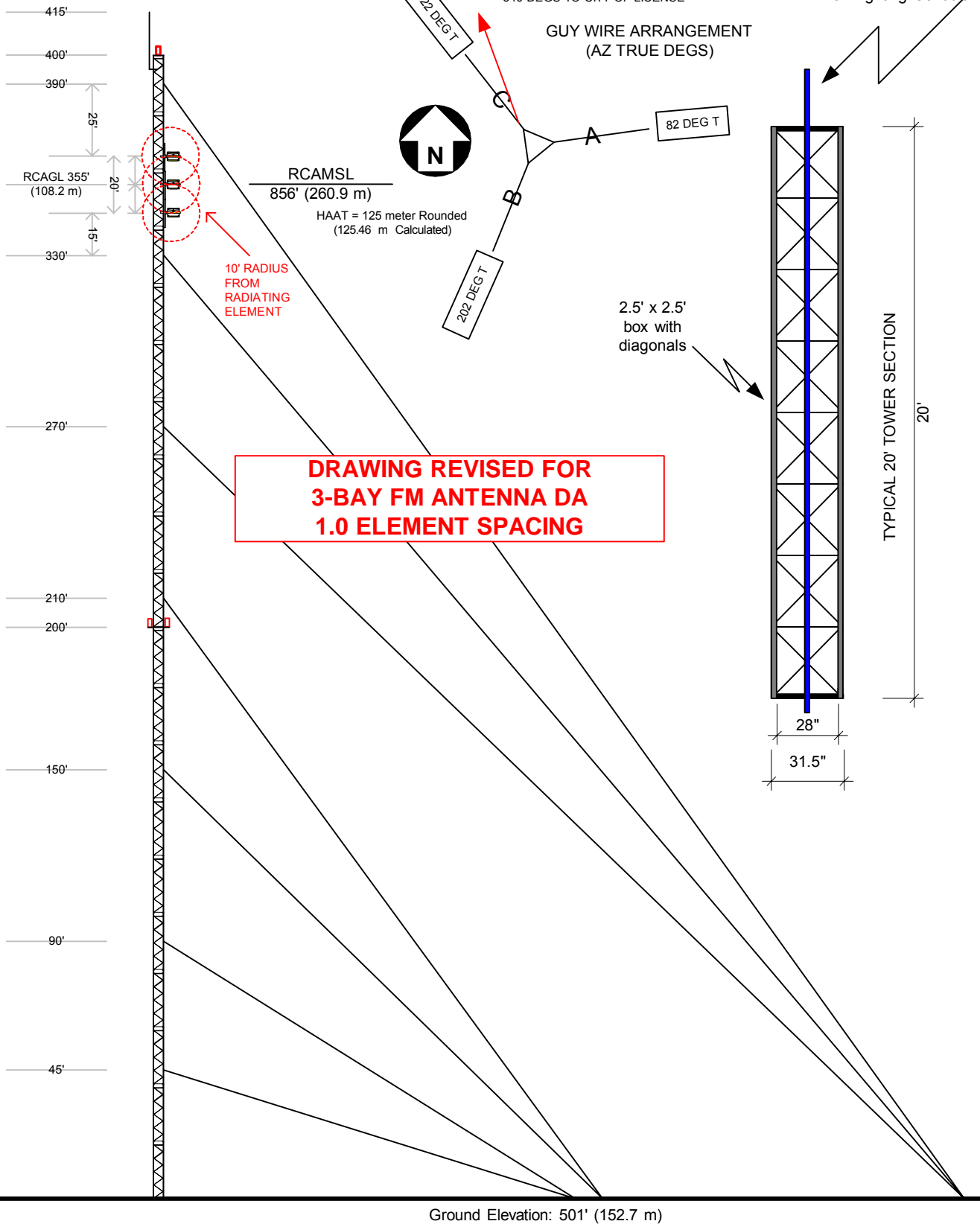
SCALE 1:24,000

APRIL 2022

SHEET

Strobe

Strobe



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**WWSL (FM)**  
**VERTICAL SKETCH OF SUPPORTING STRUCTURE**

PHILADELPHIA, MS

**FIGURE 2**

FALL CHURCH, VIRGINIA 22043-2555

SIZE  
A

CAGE NO  
N/A

DWG NO  
20220502.WWSL.F2

REV  
1.1

(c) 2022, ALL RIGHTS RESERVED

SCALE  
1" = 50'  
VERTICAL ONLY

REVISED MAY 2022

SHEET

FIGURE 3 - SPACING STUDY CHANNEL 272A 73.207 SPACING

73.207 SPACING STUDY  
H & G C, Inc.

REFERENCE

32 43 07.00 N.

CLASS = A

89 05 24.00 W.

Current Spacings to 3rd Adj.

----- Channel 272 - 102.3 MHz -----

Call	Channel	Location		Azi	Dist	FCC	Margin
* WALT-FM	LIC-N 271A	Meridian	MS	139.1	57.68	71.5	-13.8
R22997	RUL 273C3	Lexington	MS	296.8	95.03	88.5	6.5
R16758	ADD 273C3	Lexington	MS	296.8	95.03	88.5	6.5
DWGIN	ALO 272A	Calhoun City	MS	350.8	127.75	114.5	13.3
AU9330049VAC	272A	Calhoun City	MS	350.8	127.75	114.5	13.3
R22996	RUL 273C3	Lexington	MS	296.7	108.42	88.5	19.9
R16758	DEL 273C3	Lexington	MS	296.7	108.42	88.5	19.9
WAGR-FM	RSV-A 273C3	Lexington	MS	296.7	108.42	88.5	19.9
WSQH	LIC-D 219C2	Decatur	MS	179.1	35.38	14.5	20.9
WJKX	LIC-N 273C2	Ellisville	MS	181.9	132.14	105.5	26.6
WAGR-FM	LIC 273A	Lexington	MS	296.7	108.42	71.5	36.9
WMSI-FM	LIC-N 275C	Jackson	MS	245.5	133.75	94.5	39.3
WYOY	LIC-Z 269C2	Gluckstadt	MS	250.2	107.28	54.5	52.8
WRQO	LIC 271C2	Monticello	MS	220.6	162.42	105.5	56.9
WQRR	LIC-N 269C2	Reform	AL	63.5	129.30	54.5	74.8

-----  
RSV-R = reserved - needs protection, RSV-A = allocation.

All separation margins include rounding

- \* PROPOSAL IS FULLY SPACED TO ALL FACILITIES WITH THE EXCEPTION OF WALT-FM  
73.215 OPERATION IS PROPOSED - SEE CONTOUR TO CONTOUR STUDY AND MAP FIGURE 3  
FOR FURTHER DETAILS.

FIGURE 3

CONTOUR TO CONTOUR STUDY - 73.215 OPERATION IS PROPOSED TO WALT-FM

H & G C, Inc.

REFERENCE CH# 272A - 102.3 MHz, Pwr= 3.9 kW DA, HAAT= 125 M, COR= 260.9 M  
 32 43 07.00 N. Average Protected F(50-50)= 28.2 km  
 89 05 24.00 W. 73.215 Directional

CH	CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr(kW)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG.	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	

* 271A	WALT-FM	LIC NCN		139.1	57.68	32 19 30.50	0.920	35.9	24.0	2.9	6.0
	Meridian	MS		319.3	BLH19991208AAS	88 41 17.20	155	279	Burke Broadcasting, LLC		

Terrain database is NED 03 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 In & Out distances between contours are shown at closest points. Reference Zone= - Zone 2, Co to 3rd adj.  
 All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)

Station meets FCC minimum distance spacing for its class.  
 Facility is okay with respect to AM station towers.  
 Facility is okay with respect to FCC monitoring stations.  
 Facility is okay toward West Virginia Quiet Zone  
 Facility is okay toward Table Mountain

73.215 OPERATION IS PROPOSED - NO PROHIBITIVE CONTOUR OVERLAP OCCURS  
 WALT-FM IS CURRENTLY OPERATING UNDER 73.215 PROVISION. LICENSED FACILITY PARAMETERS USED.

NO PROHIBITIVE OVERLAP OCCURS - SEE CONTOURS AS DISPLAYED IN THE MAP IN FIGURE 3



**WWSL - APP**

FCC Facility ID: 0  
NAD 83 Latitude: 32-43-07 N  
NAD 83 Longitude: 089-05-24 W  
ERP: 3.90 kW  
Channel: 272  
Frequency: 102.3 MHz  
Ant. RCAMSL Height: 260.9 m  
Horiz. Pattern: Directional

**73.215 SHOWING TO/FROM WALT-FM  
TO THIS PROPOSAL**

**NO PROHIBITIVE OVERLAP OCCURS BETWEEN  
STATION PAIRS**

**FIGURE 3**

RED INTERFERENCE CONTOURS  
FCC 54 DBU F(50,10)

BLACK PROTECTED SERVICE CONTOURS  
FCC 60 DBU F(50,50)

**WALT-FM**

BLH19991208AAS  
FCC Facility ID: 18229  
NAD 83 Latitude: 32-19-30.50 N  
NAD 83 Longitude: 088-41-17.20 W  
ERP: 0.92 kW  
Channel: 271  
Frequency: 102.1 MHz  
Ant. RCAMSL Height: 279.0 m  
Horiz. Pattern: Omni

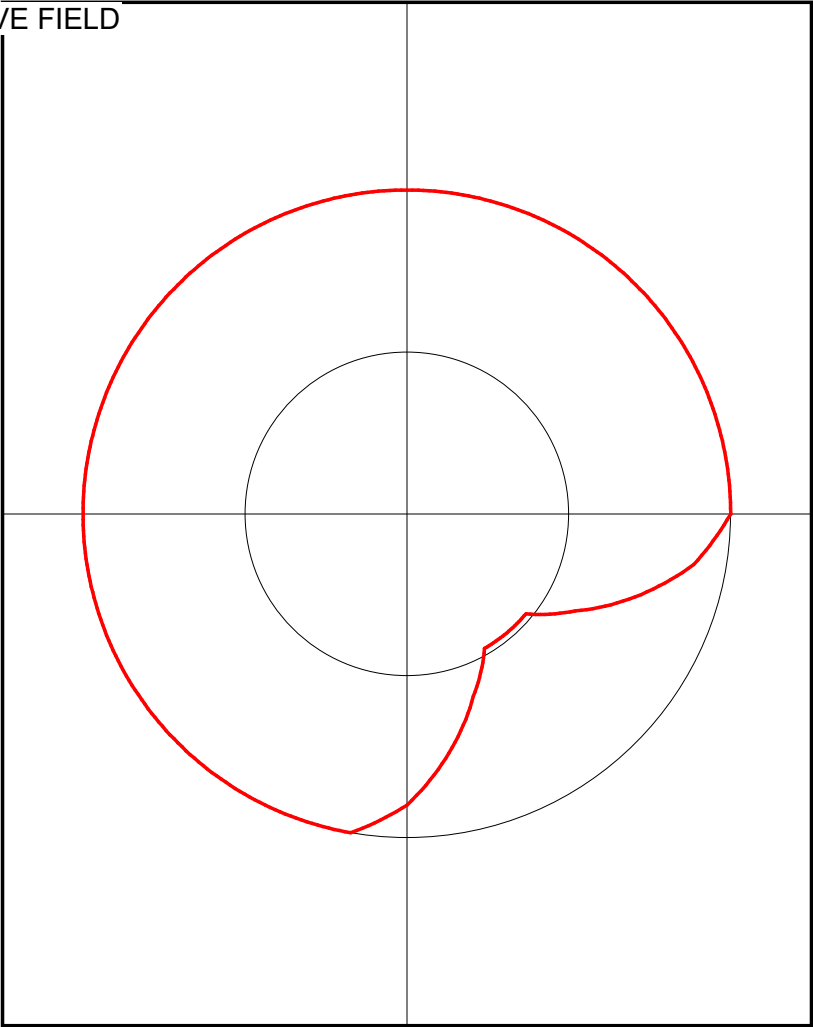
Map created on: 4/9/2022  
NED 3 Second US Terrain

Scale 1:750,000  
0 10 20 30 km

TZSTC  
2022  
APRIL

FIGURE 4 - PROPOSED DIRECTIONAL PATTERN RELATIVE FIELD

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	1.0
30.0	1.0
40.0	1.0
50.0	1.0
60.0	1.0
70.0	1.0
80.0	1.0
90.0	1.0
100.0	0.9
110.0	0.75
120.0	0.6
130.0	0.48
140.0	0.48
150.0	0.48
160.0	0.6
170.0	0.75
180.0	0.9
190.0	1.0
200.0	1.0
210.0	1.0
220.0	1.0
230.0	1.0
240.0	1.0
250.0	1.0
260.0	1.0
270.0	1.0
280.0	1.0
290.0	1.0
300.0	1.0
310.0	1.0
320.0	1.0
330.0	1.0
340.0	1.0
350.0	1.0



### WWSL - APP

FCC Facility ID: 25742  
NAD 83 Latitude: 32-43-07.00 N  
NAD 83 Longitude: 089-05-24.00 W  
ERP: 3.90 kW  
Channel: 272  
Frequency: 102.3 MHz  
Ant. RCAMSL Height: 260.9 m  
Horiz. Pattern: Directional

### WWSL

BLH19970425KF  
FCC Facility ID: 25742  
NAD 83 Latitude: 32-43-35.40 N  
NAD 83 Longitude: 089-05-56.20 W  
ERP: 4.90 kW  
Channel: 272  
Frequency: 102.3 MHz  
Ant. RCAMSL Height: 247.0 m  
Horiz. Pattern: Directional

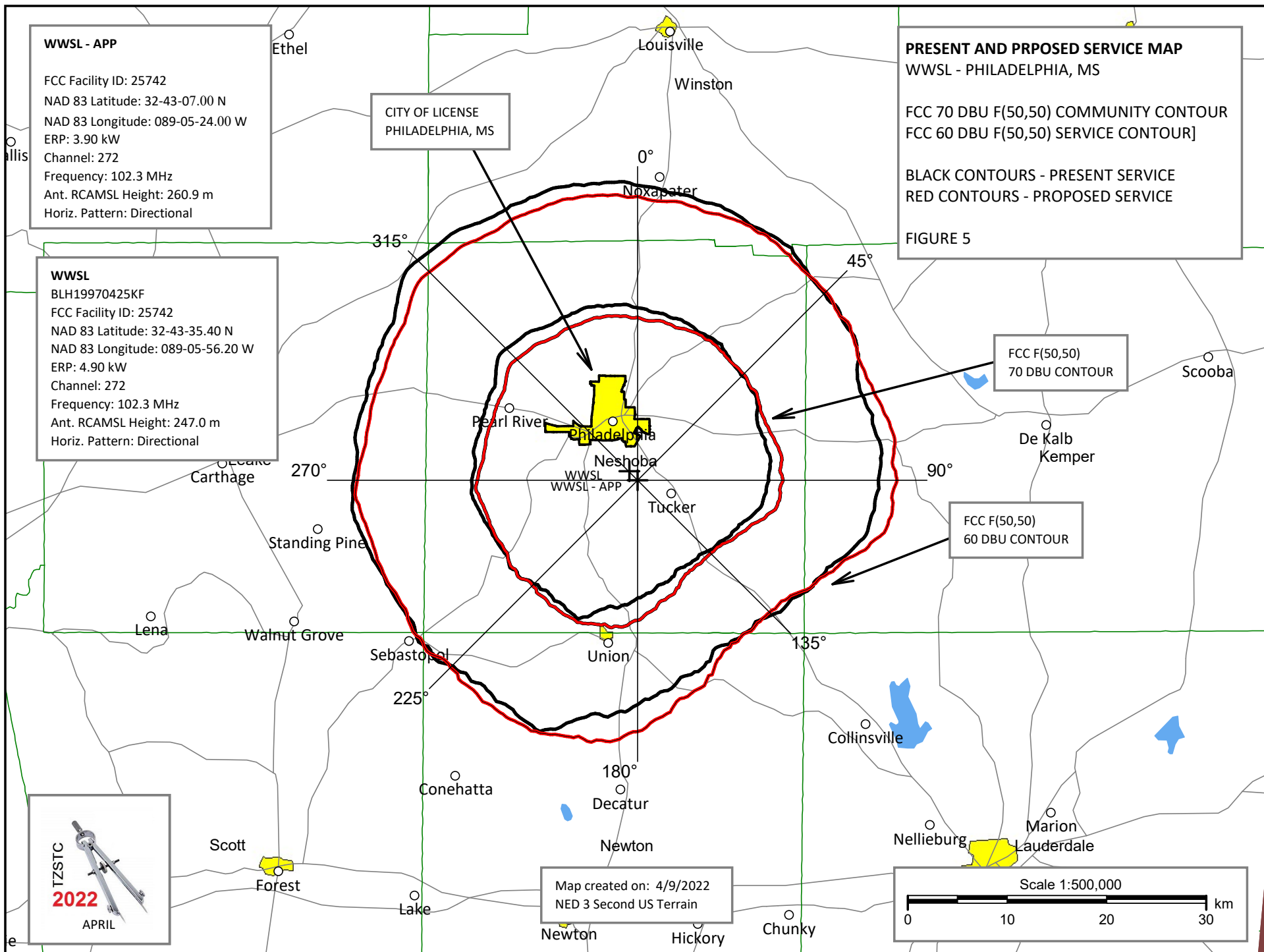
### PRESENT AND PROPOSED SERVICE MAP

WWSL - PHILADELPHIA, MS

FCC 70 DBU F(50,50) COMMUNITY CONTOUR  
FCC 60 DBU F(50,50) SERVICE CONTOUR]

BLACK CONTOURS - PRESENT SERVICE  
RED CONTOURS - PROPOSED SERVICE

FIGURE 5



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WWSL (FM) , CHANNEL 272A

FACILITY ID: 25742

PHILADELPHIA, MS

## REVISED JUNE 2022 - ANTENNA CHANGE TO 3-BAY 1.0 SPACING

### Environmental Considerations as proposed in the application

Any changes in equipment or additions will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA). This is an existing developed communications site.

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

### JAMPRO JMPC-3DA

#### FCC FM MODEL RESULTS - 3-BAY 1.0 SPACING

#### CALCULATED POWER DENSITY - USING EPA TYPE 2 ANTENNA

RCAGL: 108.2 m ERP (H): 3.9 KW ERP (V): 3.9 KW	MPE $\mu\text{W}/\text{cm}^2$	CALCULATED VALUE $\mu\text{W}/\text{cm}^2$	% OF MPE	PASS/FAIL
CONTROLLED AREA	1000	3.591	0.36%	PASS
PUBLIC AREA	200		1.80%	PASS

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

June 9, 2022

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