

Engineering Statement in support of
FCC FORM 349
APPLICATION FOR AUTHORITY TO CONSTRUCT OR MAKE CHANGES IN AN FM
TRANSLATOR OR FM BOOSTER STATION
(For a New FM Translator)

This is a minor change to an existing facility by Circuitwerkes, Inc. (the Applicant) for an FM Translator serving the community of Sarasota, FL. The facility ID 158420 and the call sign is W255CC.

The proposed facility is in compliance with 47 C.F.R. Section 1.1306 with regards to radio-frequency electromagnetic exposure in that the contribution to the rf environment is less than 5% of the maximum public exposure. The tower is located within a secured compound. The public does not have access to the tower compound. The applicant will reduce power or cease operation when workers are present near the transmitting antenna.

This application was prepared using FCC 30-arc-second terrain data.

This facility will be a fill-in translator and its power is limited by the interfering contours and the distance to the service contour of the primary station as shown in Exhibit 10 below. If the facility were to be used as a non-fill-in translator, the maximum ERP would be limited by the height-above-average-terrain bearing 265-degrees. The HAAT in this direction is 61 meters. The maximum ERP for this height is 0.055kW. This application requests . 0.200kW in order to most effectively cover the WSRQ coverage area.

The proposal is sufficiently distant from all facilities mentioned in 73.1030(a), (b) & (c) so that notification under 73.1030 is not required.

The proposal is co-located with the licensed site for WSRQ, an AM station. The original WSRQ towers have been removed from the land and replaced with a single, self-supporting, grounded tower that supports multiple tenants and dozens of antennas. No additions or changes to the tower are planned. This application requests an increase in power using the existing antenna and feedline. WSRQ has no transmitter or viable antenna at this location and is operating at variance using an STA from a different location.. WSRQ is required to use the indirect method to determine operating power and is operating at 0.15kW. WSRQ has a construction permit the same location as their STA and is not expected to ever resume broadcasting at the licensed location. WSRQ has also applied to move to another tower in an adjacent county. Because the licensed array has been dismantled, any attempt to re-license the present tower would require a new form 301 to be filed. Because it is not possible to measure the pattern or determine power by the direct method we request that the typical requirements for measuring the antenna impedance and directional pattern be waived as moot.

Kyle Magrill, President/applicant
PG-7T-6155
19 December 2013

CircuitWerkes, Inc.
2805 NW 6th Street
Gainesville, FL 32609
352-335-6555

Section VII Engineering Data:

Tech Box Data:

1. Channel: **255**
2. Primary Station: **FID: 27663**
WSRQ (AM)
Sarasota, FL
3. Delivery Method: **direct**
4. Antenna Location Coordinates: (NAD27):
27° 19' 27" N
82° 29' 45" W
5. Antenna Structure Registration: **N/A**
6. Antenna Location Site Elevation Above Mean Sea Level: **4 meters**
7. Overall Tower Height Above Ground Level: **57.3 meters**
8. Height of Radiation Center Above Ground Level: **56.5 meters (H) AGL**
56.5 meters (V) AGL
9. ERP:
0.200 kW (H)
0.200 kW (V)
10. Transmitting Antenna: **Nondirectional**
11. Fill-in Translator: **Yes**
12. Interference: **Yes**
 - a) Section 74.1204, **Checked**. See Exhibit 12, Stations and Authorizations requiring investigation.
 - b) Section 74.1205, **Not Checked**.
13. Unattended operation: **Yes**
14. Multiple Translators: **Yes**
15. NEPA: **Yes**. This proposal is excluded from environmental processing: The maximum modeled rf is at 15 meters from the base of the tower and is $2.76\mu\text{W}/\text{cm}^2$ which is less than 5% of the maximum public exposure level. No changes to the tower, fencing, lighting, terrain or hydrology are proposed.

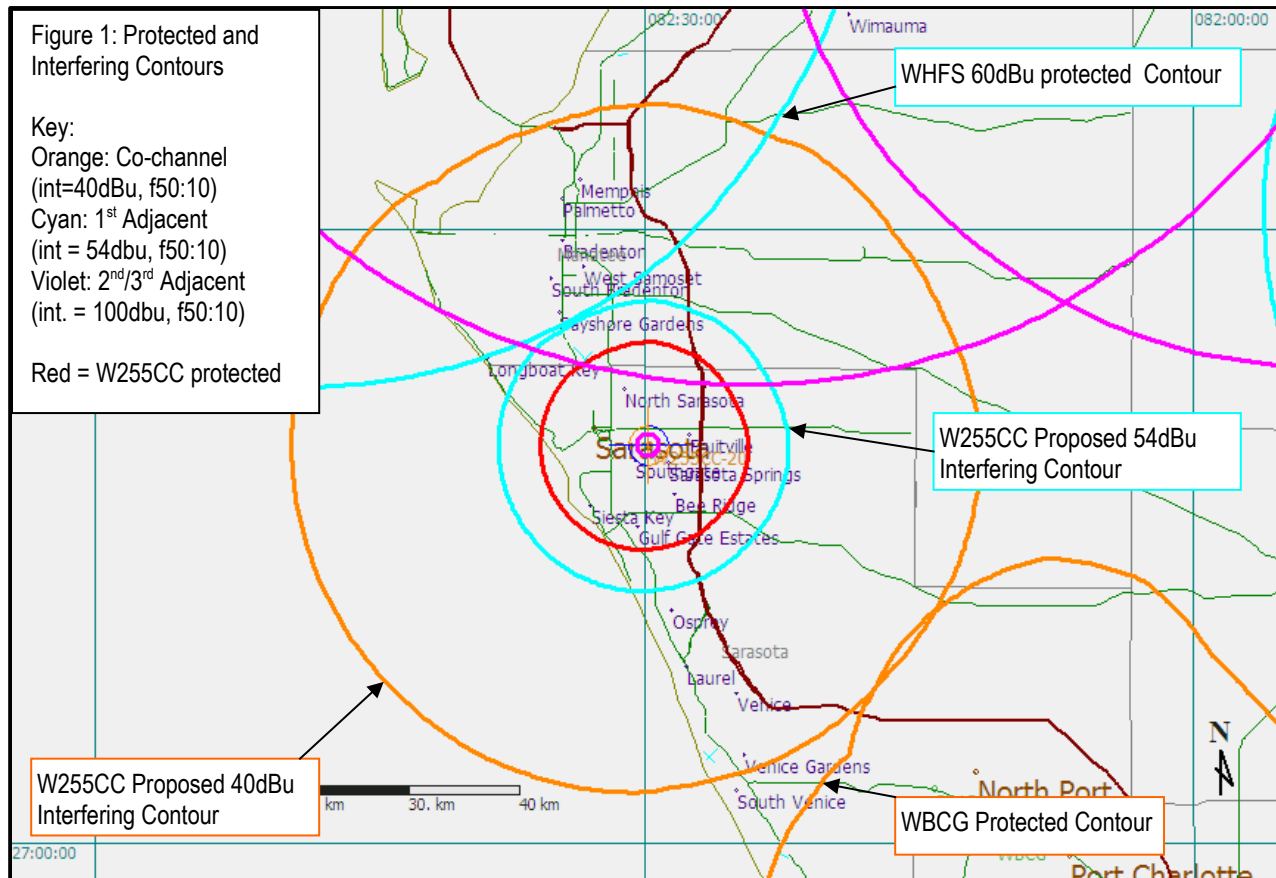
Exhibit 12

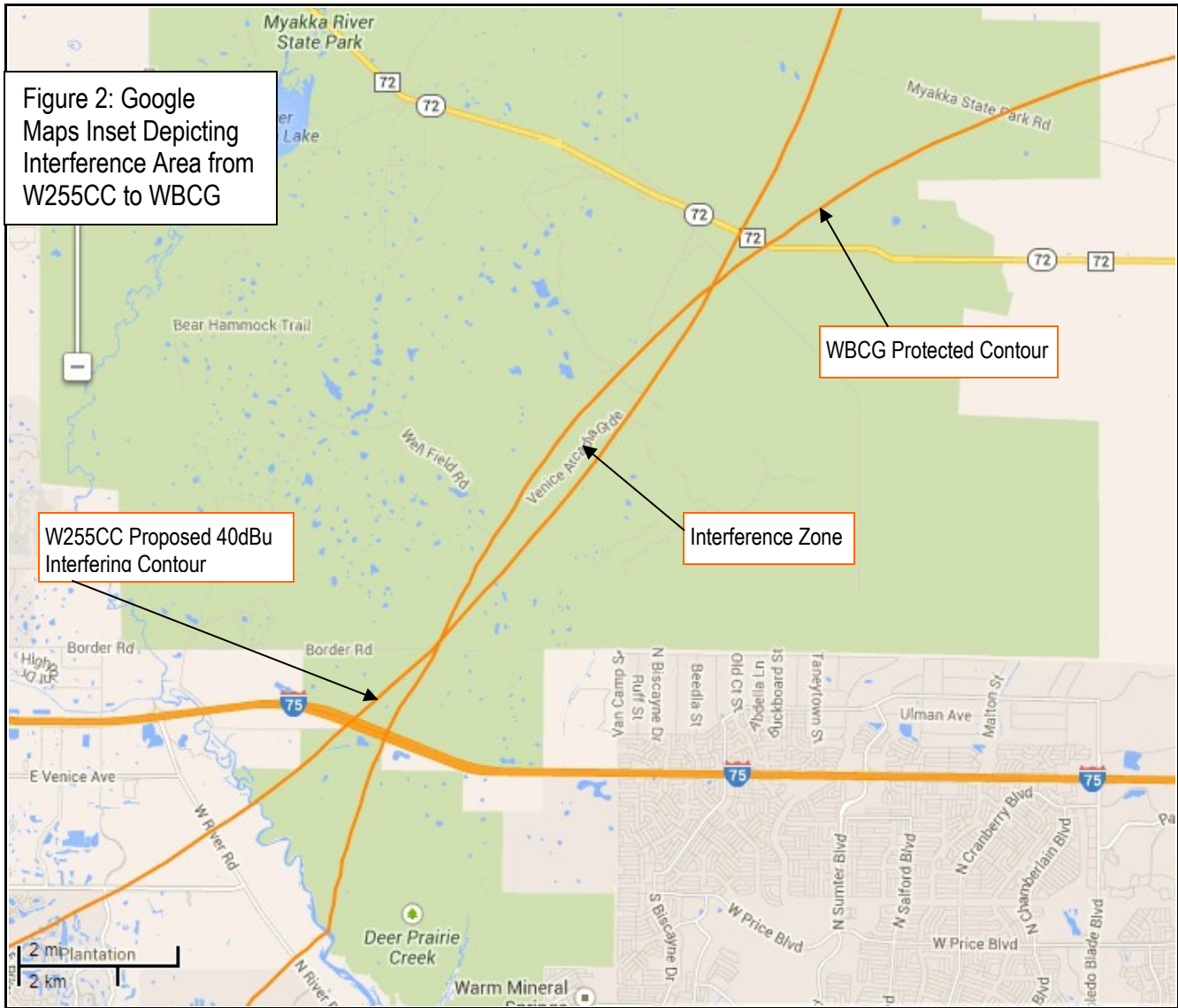
Stations and Authorizations Requiring Investigation

ID	City	St	Chan	CL	Stat	Prefix	ARN	Dist
WLLD	HOLMES BEACH	FL	254	C2	LIC	BLH	19990720KG	65.43
WBCG	MURDOCK	FL	255	A	LIC	BLH	20070803ABP	47.36

Protected and Interfering Contours

Contours are color-coded so that prohibited overlap is indicated by LIKE color contours overlapping.

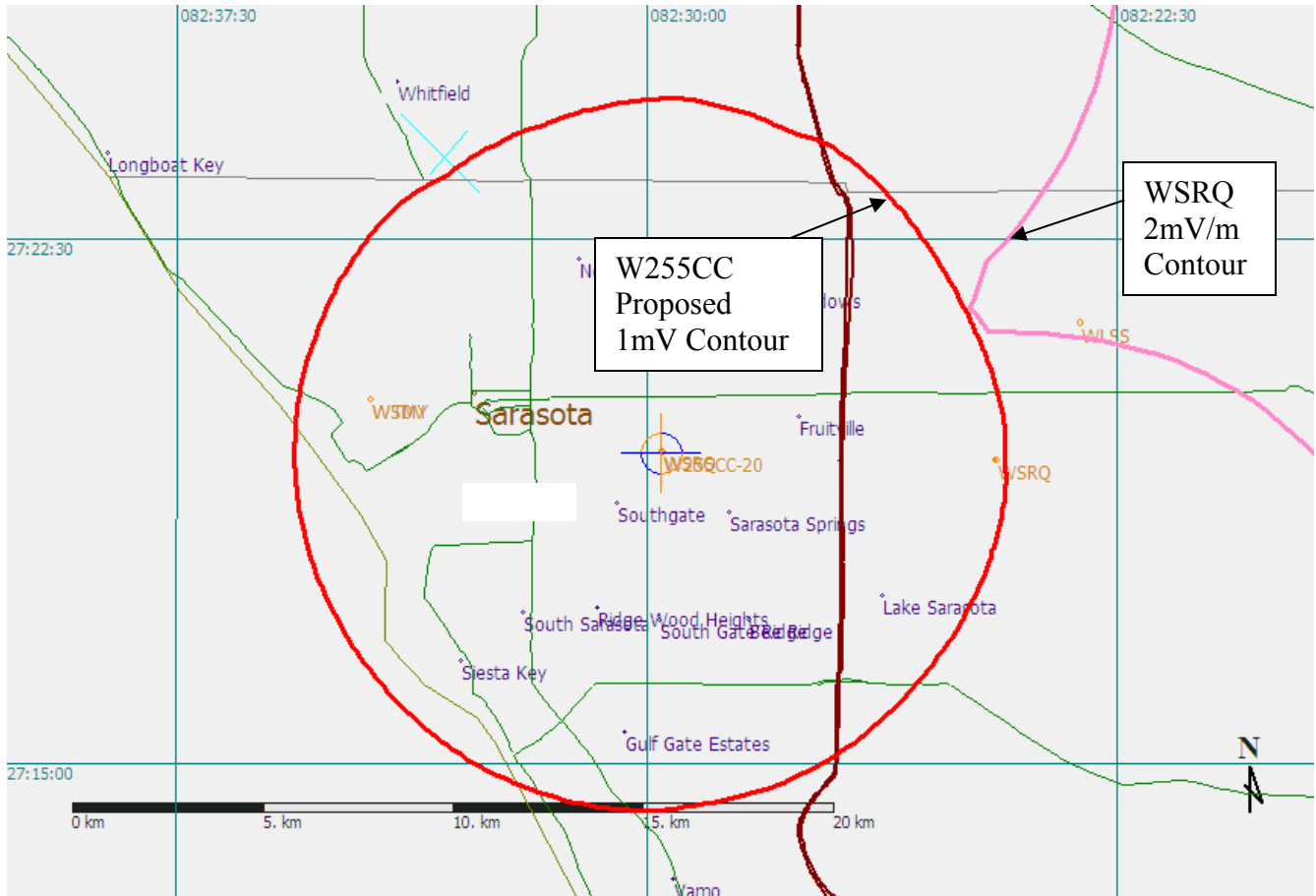




The zone of interference is entirely contained within a strip of swampy land that is part of the Myakka River State Park. There are no known buildings of any kind within the interference zone and no major roads cross the area. The population within the interference zone is zero, thus the application is acceptable under 47CFR 74.1204(d).

Exhibit 10

Fill-In Translator for WSRQ (AM)
W255CC 1mV/m contour is contained within WSRQ licensed 2mV/m contour.



The proposed W255CC 60dBu contour fits within the WSRQ licensed 2mV contour. It also fits entirely within the proposed 2mV service contour of WSRQ's construction permit and most recent application. The 60dbu contour is centered on the licensed WSRQ site and does not extend more than 40km.