

Exhibit EE-2 Engineering Statement in Support of:
FCC Form 349
Application for authority to construct or make changes in an FM
Translator or FM translator Station
(For a New FM Translator)

This exhibit supports a minor modification, to an existing Construction Permit held by Barry J. Magrill (the applicant) for an FM translator serving the community of Jacksonville, FL. The facility ID is 157039 and the call sign is W258CN. This new application seeks operation on a new tower, new height, change in power and a change in antenna pattern. W258CN will serve as a fill in translator for WROS. The ASRN for the Tower is 1020783. The proposed facility will operate at the 265 m AGL and with a power of 235 Watts. A directional pattern is proposed using a Kathrein/Scala Pattern listed as FCC 44476. This station will be rebroadcasting WROS, an AM commercial station located in Jacksonville, operating on a frequency of 1050 kHz in the standard broadcast band. The proposed 1mV contour of W258CN is completely contained in the WROS daytime city grade contour (Figure 5). The 60 dBu contour of the proposed W258CN overlaps part of the W258CN CP service contour (Figure 4), thus this change is considered minor.

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

Figure 1 is a map showing the proposed and affected stations on ch 258 and its adjacencies. There are two stations on second adjacent channels that overlap, WGNE and WQIK. Thus a **“Living Way”** 2nd adjacency waiver is requested. Figure 1 shows the protected 60 dBu contours from both full power stations with respect to the proposed translator. The protected contour level for WGNE is 98.5dBu. Since WQIK is much closer WGNE is studied as the limiting factor because it has the weaker signal at the proposed location. The WGNE 98.5 dBu contour completely encompasses the proposed translator's interfering (100 dBu) contour Figure 2. Second adjacent channels use 40 dB for a D/U analysis. 40 dB was added to the WGNE full power protected contour. This yields $98.5 + 40 = 138.5$ for WGNE. If we assume that the antenna is a point source, i.e. an isotropic radiator, the interfering signal from the translator, 138.5 dBu, would only travel 13 meters. This was determined by the calculator in rfInvestigator and is based on the “freespace” Equation. The interfering contour will not make it below $(265-13 = 252)$ the 252 meter level on the tower.

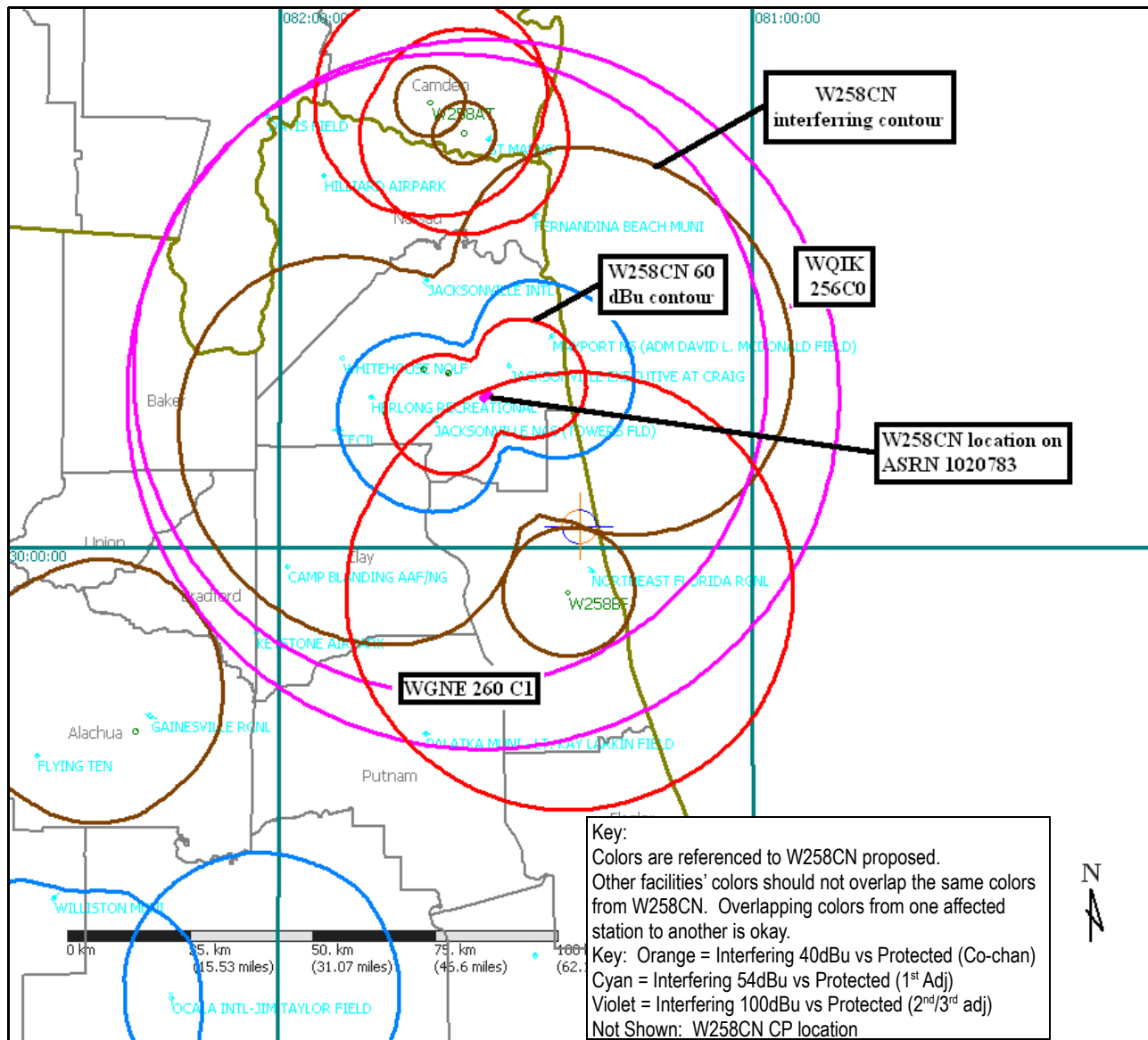


Figure 1 also shows that the W258CN contours do not overlap any other stations. Overlap is depicted when like colored contours cross over one another. The two pink circles show the protected contours for two stations with a second adjacent relationship to the proposed translator. W258CN is willing to accept the interference from W258BF. An enlargement of the W258CN interfering contour in the vicinity of W258BF is shown below as Figure 3. It shows that there is no overlap of the W258CN contour with the W258BF protected contour.

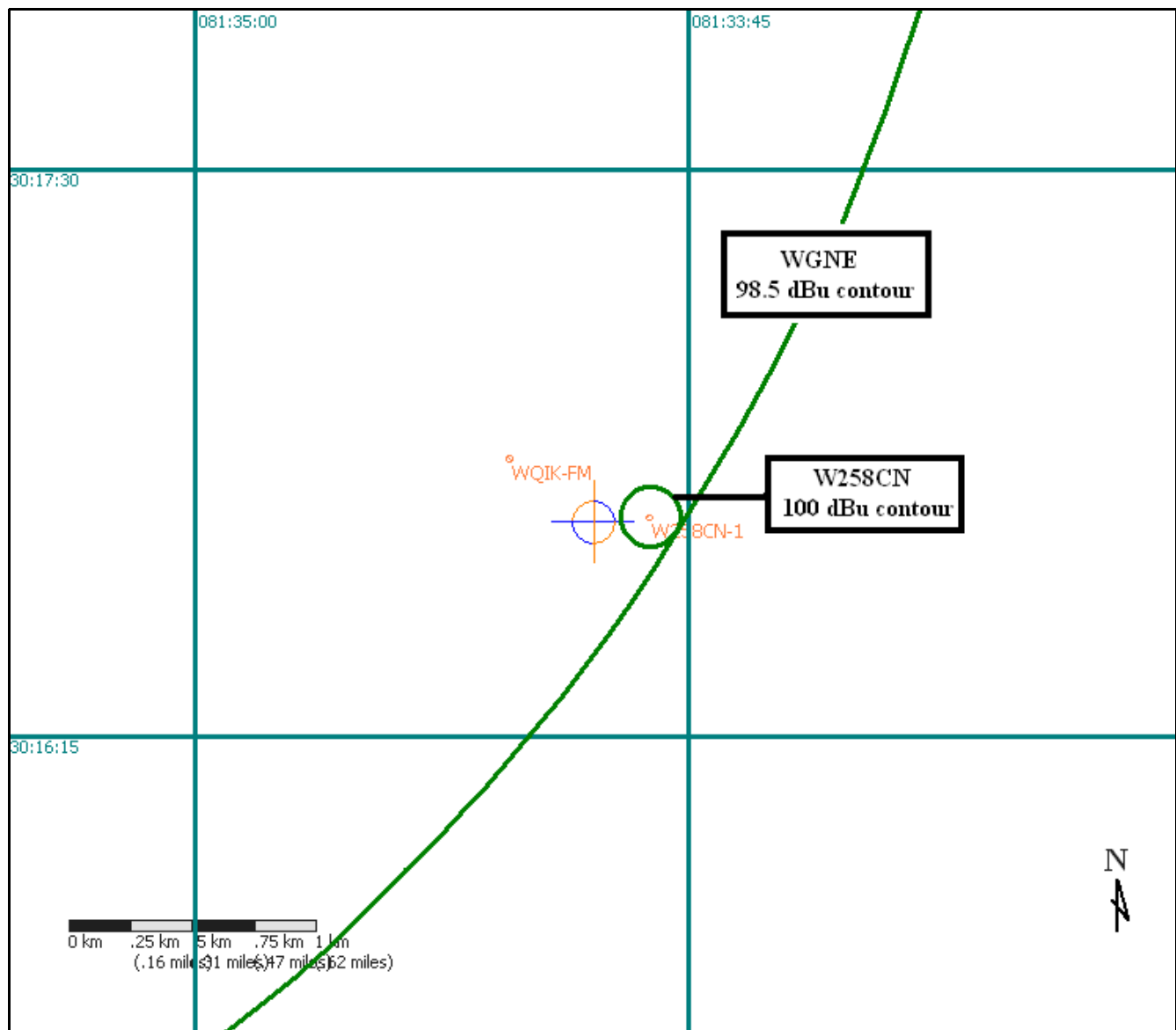


Figure 2 Shows the WGNE 98.5 dBu contour completely encompassing the W258CN 100 dBu (interfering) contour.

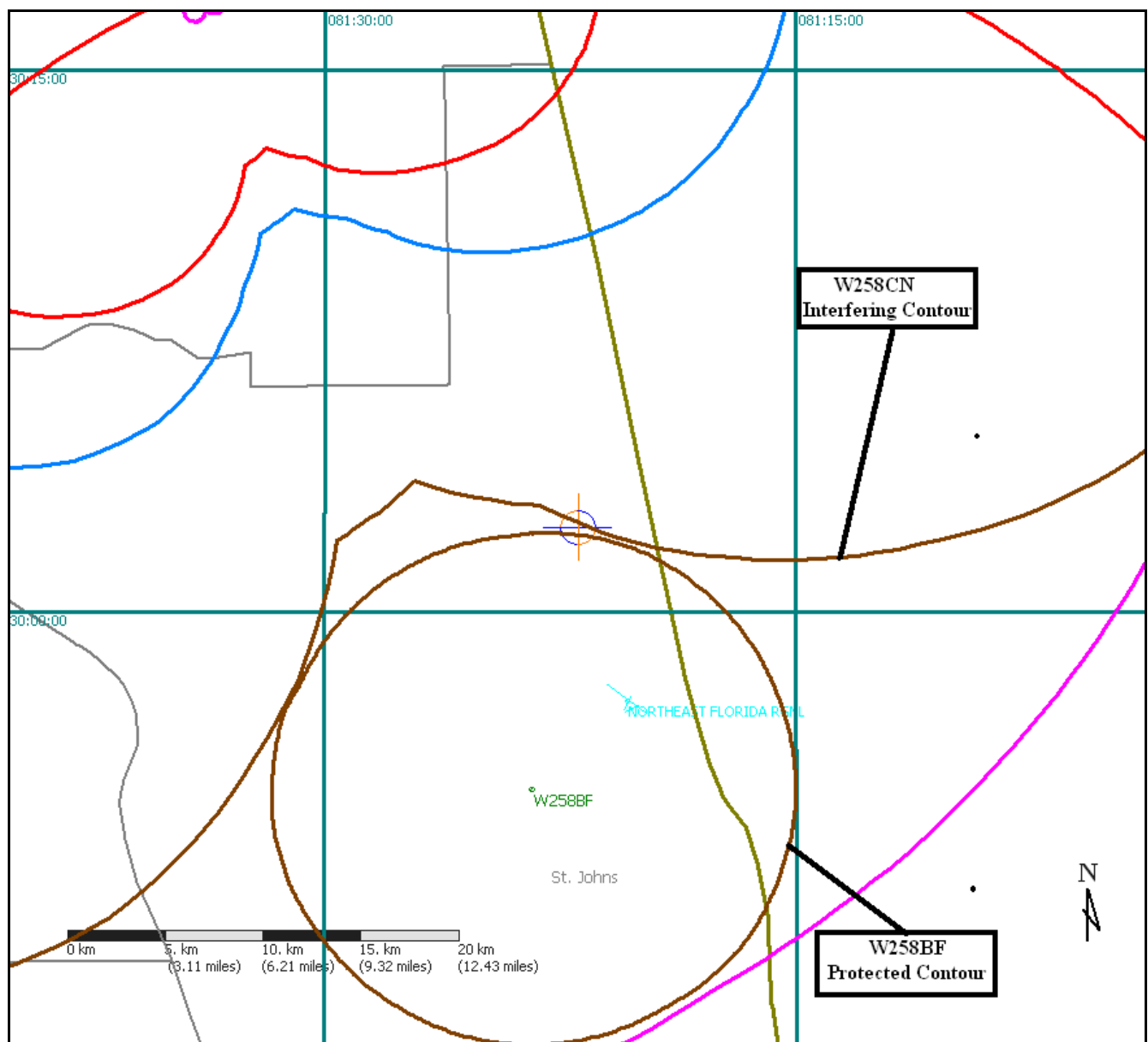


Figure 3 Showing no overlap of the W258CN interfering contour with the W258BF protected contour.

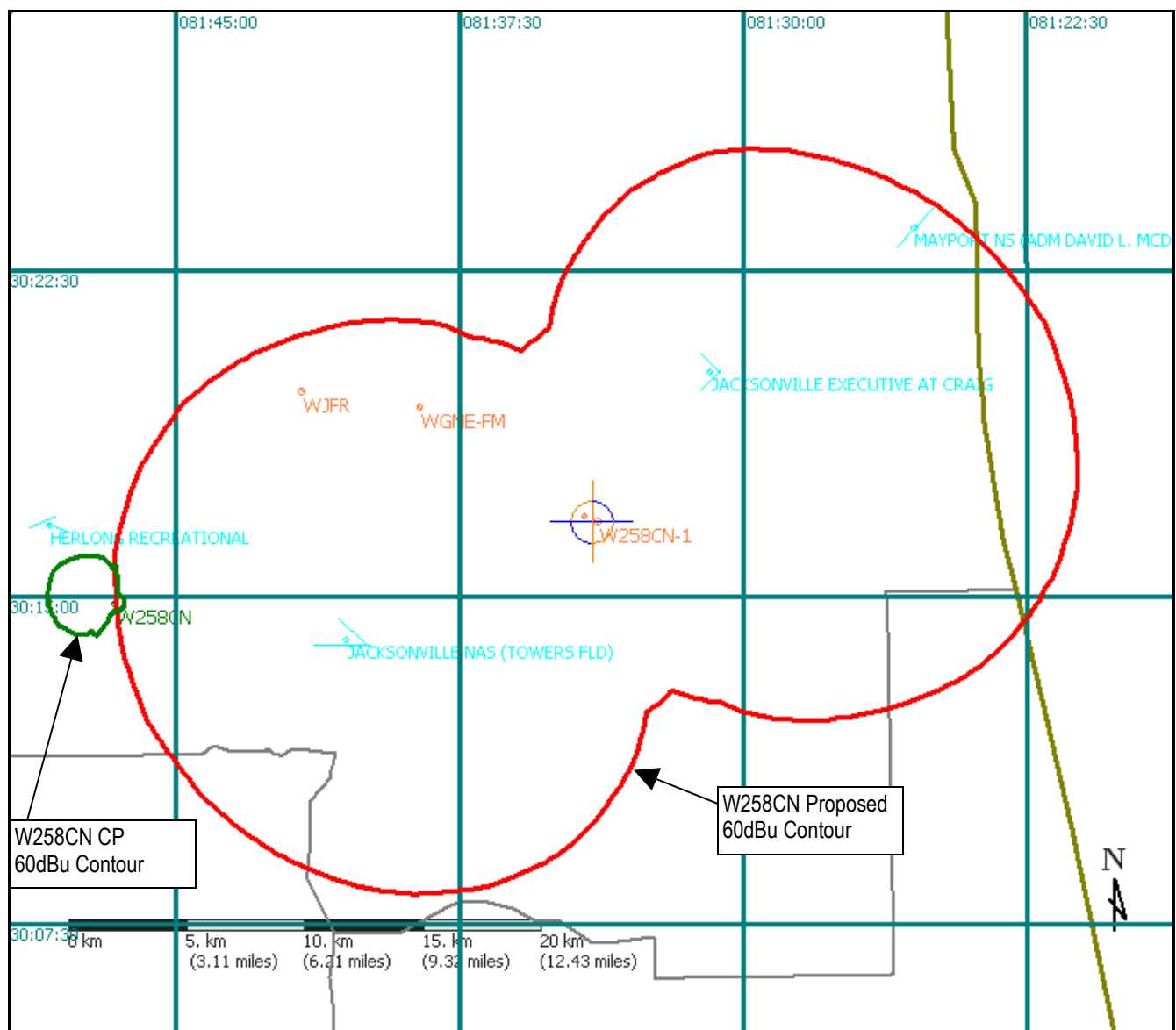
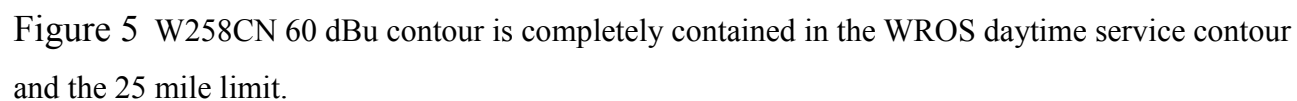


Figure 4 Showing the overlap of the operation of W258CN from the CP location to the proposed W258CN location at ASRN 1020783 located at 8541 Newton Road Jacksonville, FL.

The general parameters are as follows: W258CN will operate at 265 Meters AGL with an ERP of 235 Watts. FCC pattern 44476 by Scala will be employed and rotated 25 degrees. The rotated result is shown in the “Tech Box” under the directional antenna section.

Figure 5 Shows the the proposed translator's 60 dBu is completely contained within the daytime city grade contour of WROS, the station it will be rebroadcasting.



NEPA

This proposal is for a facility on an existing tower. The proposed tower has another occupant on it. The proposed translator is in compliance with 47CFR Section 1.1306 with regards to radio-frequency exposure, in that the rf levels anticipated from the Translator are less than 1% of the maximum public exposure limits. The translator contributes less than 5% of the total exposure limit for uncontrolled environments and so is categorically excluded. Should work be necessary on this tower the applicant will reduce power or shut down and will coordinate with the other owners of rf emitters on the tower. The calculations are shown below. First I assume that the low power of 235 Watts and the relatively high antenna height will result in a categorical exclusion. Therefore, I will treat the rf separately from other rf sources on the tower. The height of the C/R of the antenna is 265 meters. The height overhead is $263\text{m} - 2\text{m}$ or 261 meters. The power level from the antenna is 0.235kW. Doubling that to account for reflections from the ground that may occur in phase with the direct ray we have 0.470kW. This is multiplied by 33.41 (a constant found in the worksheet that compensates for the change of units) which yields 15.7309kW. The distance is then squared which gives $68,121\text{ m}^2$. Dividing the power by the square of the distance yields 0.0002274 kW/m^2 . Which equals 0.00002274 W/cm^2 . By multiplying by 100, one changes a decimal fraction to a percent. In this case 0.0002274% when you multiply this number by 5 you obtain the exposure in terms of the public environment. This is 0.001137%. It is less than 5% and excluded so no further calculations are needed. A second check was to use "FM Model for widows" which predicts a 0.0013 uW/cm^2 field for a single element Shively 6810.

Barry J Magrill, President/Applicant
PE FL Reg 45305
19 February 2014

Engineering Exhibit EE-1 Engineering Statement in Support of:
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Tech Box

- 1) channel 258
- 2) Primary Station WROS AM 1150 DA-2 FID 66333
- 3) Delivery Method Direct
- 4) Antenna Location Coordinates (NAD 27)
30-16-34 N Lat
81-33-51 W Long
- 5) ASRN 1020783
- 6) Tower site location elevation AMSL 9.1 meters
- 7) Overall tower height above ground 323.4 meters
- 8) Height of Radiation Center above ground 265 m H AGL
- 9) ERP 0.235kW
- 10) Transmitting Antenna Scala using FCC pattern 44476 rotated 25 degrees
- 11) Fill in Translator Yes
- 12) Interference Yes
 - a) Section 74.1204 Checked See EE-2
 - b) Section 74.1205 unchecked
- 13) Unattended operation Yes
- 14) Multiple Translators Yes
- 15) NEPA Yes
Please see EE-2