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ROUND ROCK FIRE DEPARTMENT

FIRE MARSHAL'S OFFICE

EMERGENCY RADIO RESPONDER SYSTEM
SUBMITTAL GUIDELINES

This document is designed to provide guidance for plan submittal and the installation of an emergency responder radio communication system (ERRCS) within Round Rock Fire Dept.'s jurisdiction. An ERRCS system will consist of Distributed Antenna Systems (DAS) and/or Bi-Directional Amplifiers (BDAs or repeaters). This information is not all-inclusive but is intended to inform contractors of local requirements and assist in developing a successful plan submittal If any applicable item on this list is not included with submittal, the **design plan may be rejected and require re-submittal**.

PLAN SUBMITTAL PROCESS REQUIREMENTS:

- ☐ All files are to be submitted in digital form via the City of Round Rock Permit Portal.
- ☐ A minimum permit fee is required to be paid.
- ☐ After review by a fire inspector, the design plan will be stamped, and a permit issued.

SUBMITTAL ITEM REQUIREMENTS:

- ☐ **Design Plan**: electronic copy (PDF) of plan uploaded to the City of Round Rock Permit Portal.
- ☐ **License:** provide designer's & installer's FCC-issued radio operator's license (GROL) and certificate of nationally recognized organization issued by equipment manufacturer
- ☐ **Equipment Specs**: digital equipment specifications (cut sheets or manual) for equipment used.
- ☐ **Pre-Enhancement Radio Survey**: provide documentation of pre-enhancement radio survey.
- ☐ **Design Prediction Signals**: provide documentation of prediction signals design.

SYSTEM PLAN DESIGN REQUIREMENTS:

- ☐ **Frequencies**: ensure design includes proper radio signal frequencies, registration, and closest tower alignment with **Williamson County Wireless Communications**.
- ☐ **Interference Test**: schedule interference test with Motorola to ensure no BDA causes interference with Motorola's tower or sends excessive Uplink Signal. If questions, contact:

Wireless Communications Division
wirelesscommunications@wilco.org
Main Line: 512-943-3886
****Frequency list shown on the last page of this document****

- **Codes**: Plans shows the following codes: 2015 IFC, NFPA 72 2013 ed. NFPA 1221 2019 ed.
- **Signal Strength**: provide digital design prediction signal documentation that meets IFC, NFPA 72 & 1221 standards of -95dbm over 95% in noncritical areas & 99% in critical areas.

- **Dedicated Panel**: show ERRC annunciator panel location, preferred location by fire alarm annunciator panel or with main fire panel if fire annunciator not present
- **Cable Protection**: 2-hr fire rated protection is required for all vertical risers & connections achieved via 2-hr fire rated riser rooms or 2-hr rated coaxial cabling. Horizontal wiring shall be plenum rated at a minimum.
- **System Amplifier Classification**: Class B amplifiers are permissible, except in high-density areas, Class A amplifiers will be required.
- **Fire Panel Monitoring**: DAS/BDA shall include automatic supervisory & trouble signals specifically addressing each of the 5 malfunction signals listed below per NFPA 72, 24.5.2.6.1

    1. Antenna Malfunction
    2. Signal Booster Fail
    3. Low Battery Capacity (70% capacity is used)
    4. Loss of Normal AC Power
    5. Battery Charger Failure

- **Active Component Protection**: all active components i.e., BDA/repeater and battery backup, etc. shall be housed in 2-hr fire rated rooms or rooms that meet at minimum the building's fire rating, provided there is an automatic sprinkler system.
- **Primary Power Source**: a 120VAC 15/20A lockable dedicated power circuit shall be provided for all active components.
- **Standby Power**: standby power shall be provided and capable of 24-hour minimum operation.
- **Lightning/Surge Protection**: required for entire system, i.e., panels, batteries, donor antennas.
- **NEMA 4 Enclosures**: all active components & battery systems shall be in NEMA 4 enclosures.
- **Donor Antennas**: donor antennas shall be monitored by FACP and show isolation from indoor coverage antennas to prevent system oscillation or signal noise back to the tower.
- **System Isolation**: the emergency responder radio system shall NOT be combined with other systems including cellular enhancement, Wi-Fi, pager, or medical telemetry systems.

ACCEPTANCE TEST:

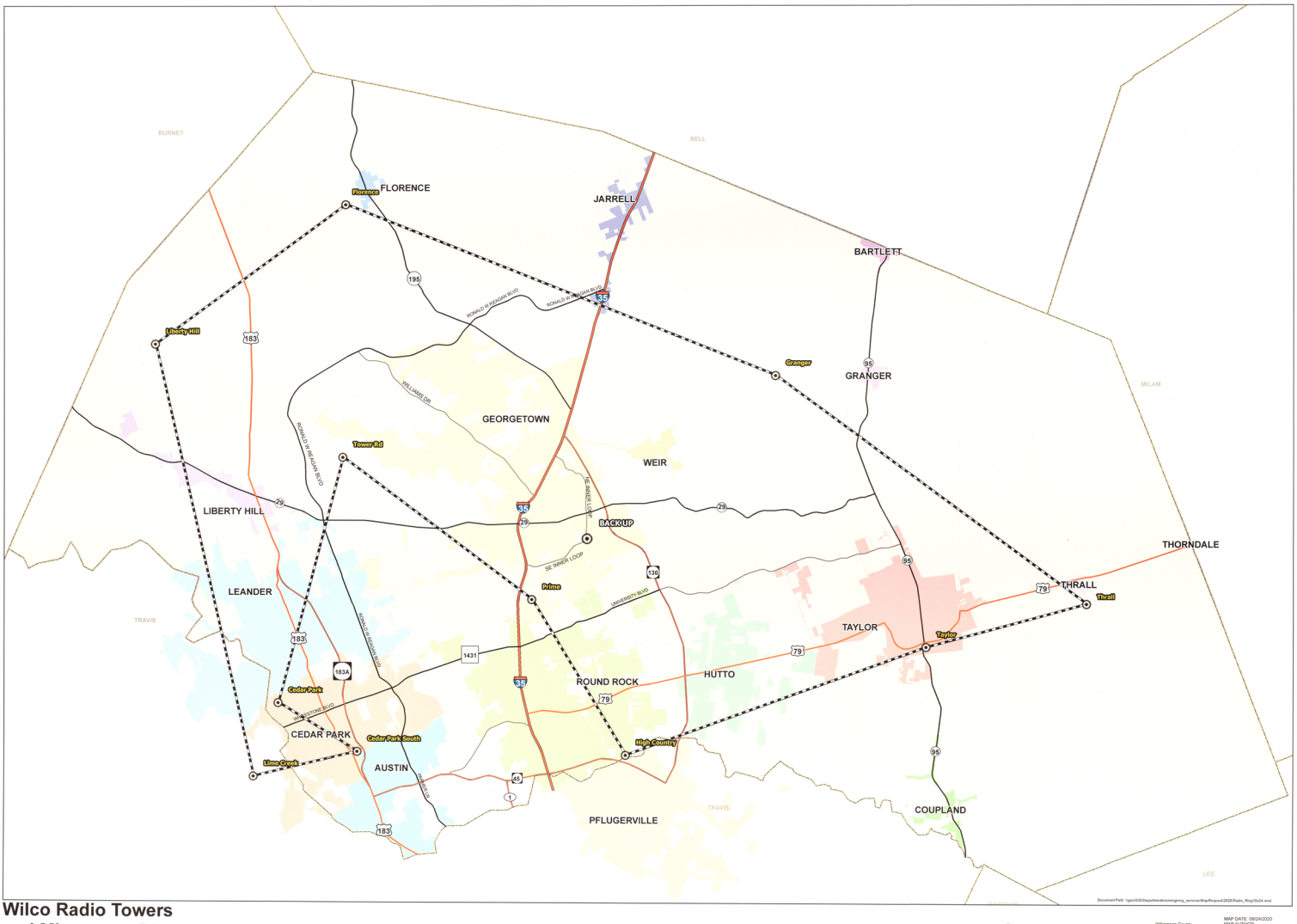
- **Plan Paper Copy**: provide minimum 11" X 17" paper copy of RRFD stamped plan for on-site inspection to verify installation to plan & place in FACP doc box at completion of inspection.
- **Function Test**: Visit the City of Round Rock Permit Portal to schedule an inspector to perform radio test with department radios, verify all 5 signals on FACP & perform visual inspection of the system to verify system is installed based on design.
- **Post Walk Test Results**: email electronic copy (PDF) of test signal strength after system install.

Williamson County Wireless Communications Radio Frequency Signals for Round Rock Fire Dept.

Wireless Communications Division
wirelesscommunications@wilco.org
Main Line: 512-943-3886

Radio	Rx
859.5875	814.5875
859.9625	814.9625
858.9625	813.9625
857.9625	812.9625
858.9875	813.9875
857.9875	812.9875
856.9625	811.9625
855.7125	810.7125
855.2125	810.2125
854.9875	809.9875
856.6875	811.6875
859.9875	814.9875
856.9875	811.9875
855.9875	810.9875
854.9625	809.9625

Rx	Tx
851.01250	806.01250
851.01250	851.01250
851.51250	806.51250
851.51250	851.51250
852.01250	807.01250
852.01250	852.01250
852.51250	807.51250
852.51250	852.51250
853.01250	808.01250
853.01250	853.01250
851.55000	851.55000
853.05000	853.05000
853.35000	853.35000



Wilco Radio Towers and Microwave Ring

Williamson County, Texas

DISCLAIMER - PLEASE READ:
This map is for general planning purposes only. The basemap conforms to National Map Accuracy Standards in undisturbed areas. Williamson County makes no warranty, representation or guarantee as to the content, sequence, accuracy, timeliness or completeness of any of the database information or spatial locations depicted. Furthermore, all warranties on merchantability and fitness for a particular purpose are hereby disclaimed. In no event shall Williamson County be liable to the recipient or any other party for damages of any type, including but not limited to incidental, consequential or exemplary damages arising out of the use or inability to use these materials.

Williamson County Location Map

MAP DATE: 08/24/2020
MAP AUTHOR:
GIS Staff
MAP CONTACT:
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Georgetown, TX 78626
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gis@wilco.org

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