

CITY OF CROSSVILLE

SIGNAL SPECIFICATIONS (Revised June 25, 2025)

- **Controller Equipment Cabinet:** Controller equipment cabinets (EAGLE, TCS, or Approved Equal) shall be TS1/TS2-2 16 POS, With A, B, C, Connectors, weatherproof aluminum, and shall be installed in accordance with the TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.26 (Latest Revision) and TDOT Standard Drawing T-SG-5 (Latest Revision). Cabinets shall be concrete pad mounted. An additional concrete pad is required to be placed in front of the cabinet doors which shall be a minimum 64 inches wide by 36 inches long and a minimum thickness of 6 inches. The concrete pad shall be utilized for maintenance and servicing of the cabinets and components.
- **Battery Back-Ups:** Battery back-ups are required for signal installations and shall be Myers MP 2000 (uninterrupted power supply). Battery backups shall be installed in a separate weatherproof aluminum cabinet, adjacent to the controller equipment cabinet. Battery Backups shall be installed in accordance to TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.27 (Latest Revision).
- **Cantilever Signal Supports:** Cantilever signal supports shall be installed in accordance with the TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.32 (Latest Revision) and TDOT Standard Drawings T-SG-9 and T-SG-10 (Latest Revisions). Span wiring signal supports may be allowed in certain intersections if cantilever signal supports cannot be utilized, all proposed span wiring must be reviewed and accepted by the City of Crossville Engineering Department prior to installation. Span wire systems shall utilize aluminum or steel poles.
- **Signal Controllers:** Signal controllers are required to be COBALT Shelf Mount ATC controllers. RENO Model MMU2-1600G Malfunction Management Unit Monitors shall be used. Traffic Signal Controllers and Monitors shall be installed in accordance to TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.25 (Latest Revision).
- **Vehicle Detection:** Vehicle detection shall be microwave detection: Wavetronix Smartsensor Matrix for stop bar detection and Wavetronix Smartsensor Advanced for the advanced detection with a Wavetronix ARC5 interface device. Traffic Signal Radar Detection Systems shall be installed in accordance to TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.29 (Latest Revision).

- **Signal Heads:** Signal heads shall be black aluminum with L.E.D. lighting, installed in accordance with TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.24 (Latest Revision) and TDOT Standard Drawings T-SG-7 through T-SG-75 (Latest Revision) as per the number of approaches.
- **Pedestrian Signals:** Accessible pedestrian signals and pedestrian pushbuttons shall be GUARDIAN WAVE w/ Single Arrow and 5" x 7-3/4" Aluminum Signs. Pedestrian Crossings shall be installed in accordance with TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021 Section 730.24, (Latest Revision) and TDOT Standard Drawing T-SG-6 (Latest Revision). Pedestrian signals shall be countdown pedestrian signals installed in accordance to TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.29 (E) (Latest Revision) and TDOT Standard Drawing T-SG-6 (Latest Revision).
- **Coordination Equipment:** Coordination equipment shall be compatible with COBALT Shelf Mount ATC controllers. Coordination Equipment shall be installed in accordance to TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.27 (Latest Revision). Fiber optics cable shall be utilized for most inter-connects. Where fiber optics cable cannot be utilized, ENCOM 5200 radios shall be installed. Said radios must be reviewed and accepted by the City of Crossville Engineering Department prior to installation.
- **Pull Boxes:** Pull boxes shall be TDOT Type B with traffic rated lids and shall be installed in accordance with TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.12 (Latest Revision) and TDOT Standard Drawing T-SG-2 (Latest Revision).
- **Wiring:** Wiring shall be 14 gauge or larger and installed in accordance with TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.17 (Latest Revision).
- **Education:** Installation personnel shall have a minimum of two years' experience with the above specified equipment. Installation personnel shall have IMSA certifications, Tennessee state LLE licenses, and shall be a certified as a Traffic Signal Technician.