

## SECTION 712 - MISCELLANEOUS

Make the following amendment to said Section:

(I) Amend 712.34(B) **Conductors and Cables for Traffic Signal System** to read as follows:

**"(B) Conductors and Cables.** All Cables with IMSA Specification Reference shall be certified in writing by IPSA as meeting the requirements.

**(1) Type 1 - Signal-Loop Cable for Load Circuits from the Cabinet Looped to Field Pullboxes.** Polyethylene Insulated, Stranded, 14 AWG Copper; 26 Conductor Cable; Polyethylene Jacketed; Color-Coded; IMSA Specification No. 20-1 Certified.

(Note: Use One - 26C #14 Cable for 5 phases or less.  
Use Two - 26C #14 Cable for 6 or more phases.)

**(2) Type 2 - Home-Run Cable Tie-In Loop Detector Stubs or Ped Push Buttons to the Cabinet.** Polyethylene Insulated, Stranded-Tinned-Copper 14 AWG; 2 Conductor Cable; Polyethylene Jacketed; 600 Volts Rated; IMSA Specification No. 50-2 Certified.

**(3) Type 3 - Inter-Connect Cable Tie-In One Signalized Intersection to Another.** Polyethylene Insulated, Solid Copper, 19 AWG; 24 Conductor (12 Twisted Pairs) Cable; Copper Shielded with Polyethylene Jacketed; 300 Volts Rated; Color-Coded; IMSA Specification No. 40-2 Certified.

(Note: Use One - 12 pairs, #19 continuous run from one controller to the next controller. Splicing between controllers is prohibited.)

**(4) Type 4 - Detector-Loop Cable for Installation into the Roadway Sawcut.** 12 AWG Stranded THHN Conductor; 600 Volts; Inserted into a Polyethylene Tube, 0.25 Inch Maximum Diameter; IMSA Specification No. 51-5 Certified. Cable shall be inclusive in the detector loop bid.

**(5) Type 5 - Signal-Drop Cable from 3-Section, RYG Traffic Signal Heads and FDW-W (Pedestrian Signal Head) Dropped from Signal Head on Traffic Signal Standard to Pullbox for Splicing.** The Cable shall be Polyethylene Insulated, Stranded; Copper 14 AWG; 4 - Conductor Cable; 600 Volts, Color-Coded;

IMSA Specification No. 20-1 Certified. Cable incidental to the Traffic Signal Head bid.

(Note: Use One - 4C #14 Cable for 3-Section Traffic Signal Head, Programmable Signal Head, and Pedestrian Signal Head.

Use Two - 4C #14 Cable for Fiber Optic Signal Head)

**(6) Type 6 - Electrical Service Cable from Electrical Company Secondary Lines to Traffic Signal Meter to Controller Cabinet.** RHW-USE; Neoprene Insulated; Three Conductors each; Size as shown on plans; BRW Color Coded.

**(7) Type 7 - Preemption Detector (Opticom) Cables.** Preemption Detector (Opticom) Cables are the specific cables which run continuously from the Optical Detectors mounted on the traffic signal standards to the terminal blocks for the M562 Phase Module located in the controller cabinet. Each detector shall have their own cable running back to the Controller Cabinet. The detector cable shall be 3M's M138 Optical Detector Cable compatible and consistent with the requirements for the Opticom Preemption System. The M138 Cable shall be BerkTek Type B, Shield Jacket, Three - Insulated Conductor Cable, 20 AWG, One - 20 AWG Bare Stranded Ground, 600 Volts, Orange-Blue-Yellow Color Coded and 5/16 inch diameter.

**(8) Ground Wire.** Ground wire shall be single conductor No. 8 AWG as shown on plans, solid electrolytic bare copper medium-hard-drawn and suitable for grounding wire. The conductor shall conform to ASTM B 2. The wire shall weigh approximately 49.9 pounds per 1,000 feet.

**(9) Overhead Construction.** Messenger for overhead interconnect system shall be 0.25 inch 7-wire strand conforming to ASTM A 475, extra galvanized Siemens-Martin grade with breaking strength of 6,000 pounds. Conductor shall be as specified on the project drawings. Messenger Hangar shall be of the universal type suitable for 0.25 inch bolts. Lashing wire shall be of 0.045-inch diameter stainless steel wire."

**END OF SECTION**