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## **1.0 Items Covered**

This recommendation applies to the replacement of the following equipment:

- Traffic Signal Head Backboard
- Traffic Signal Head
- Traffic Signal Head Hanger and Traffic Signal Plumizer
- Pedestrian Signal Head
- Audible Pedestrian Signal (APS) Head
- Mast Arm

## **2.0 Equipment Replacement**

### **2.1 Initial Site Visit**

- If equipment is damaged such that immediate replacement is required remove all debris from the roadway and make the area safe then proceed to Section 2.2.
- If equipment damage is sufficient to warrant replacement at a later date, then the following steps should be taken:
  - remove all debris from the roadway and make the area safe.
  - check the arm/heads clearance above the roadway or boulevard and adjust as required, provide temporary signal head and/or stand and ensure the stand is secure and properly weighted down.
  - for head damages relamp all signal indications
  - report the equipment which needs replacement and schedule repair

### **2.2 Equipment Replacement**

#### **2.2.1 Traffic Signal Head Backboard**

- Loosen backboard screws or “J” hook assemblies and remove old backboard.
- Slide new backboard around signal head and align screw holes.
- Reinstall backboard screws or “J” hook assemblies and tighten.
- Check signal head for proper alignment, operation and clearance.

#### **2.2.2 Traffic Signal Head**

- Open head and disconnect wiring and tape ends of riser conductors.
- Loosen hanger lock nuts and remove signal head.
- Inspect riser cable inside head hanger for signs of wear on the insulation. Replace riser cable if worn.
- Install new signal head on hanger, align head and tighten lock nuts.
- Fish riser wire into head and reconnect wiring.
- Check signal head for proper operation, alignment and clearance.

### **2.2.3 Traffic Signal Head Hanger and Traffic Signal Plumizer**

- Open head and disconnect wiring and tape ends of riser conductors.
- Loosen hanger lock nuts and remove signal head.
- Loosen set-screws on hanger and slide hanger off of mast arm.
- Inspect riser cable inside mast arm for signs of wear on the insulation. Replace riser cable if worn.
- While on the ground, install new hanger on the signal head.
- Reinstall the signal head and hanger assembly on the mast arm. At the same time fish the riser wire through the hanger and into the signal head.
- Tighten set-screws on the hanger and align the signal head and tighten the lock nuts on the head hanger.
- Reconnect wiring.
- Check signal head for proper operation, alignment and clearance.

### **2.2.4 Pedestrian Signal Head**

- Open head and disconnect wiring and tape ends of riser conductors.
- Loosen mounting arm lock nuts on mounting arm, which houses the riser cable.
- Remove banding or lag bolts on opposite mounting arm and remove entire head and single mounting arm assembly from pole.
- Inspect riser cable for signs of wear on the insulation. Replace riser cable if worn.
- While on ground, remove mounting arm from old pedestrian head and reinstall arm on the new pedestrian head. Hand tighten lock nuts.
- Raise arm and head assembly into place on mounting arm still attached to pole. Fish riser wire into head. Install lock nuts, align head and tighten lock nuts on both mounting arms.
- Reconnect wiring.
- Check signal head for proper operation, alignment and clearance.

### **2.2.5 Audible Pedestrian Signal Head**

- Open pedestrian signal and disconnect APS wiring.
- Loosen APS lock nuts and unscrew APS head from the “T” fitting.
- Install new APS head on “T” fitting plug, align head and tighten lock nuts.
- Fish APS wire into Pedestrian head and reconnect wiring.
- Check APS for proper operation and alignment.

### **2.2.6 Mast Arm**

- Disconnect riser cable wiring in pole handhole.
- Open signal head and disconnect wiring.
- Loosen hanger lock nuts and remove signal head.
- Loosen set-screws on hanger and slide hanger off of mast arm.
- Loosen mast arm plate bolts and remove mast arm.
- If required remove old mast arm plate and hardware from pole.
- Install new mast arm plate on pole to ensure proper clearance height for signal head.
- Slide new mast arm into pole plate, align arm and tighten bolts.
- While on ground install hanger on the signal head and install new riser cable.

- Install the signal head and hanger assembly on the mast arm. At the same time fish the riser wire through the mast arm.
- Tighten set screws on the hanger and align the signal head and tighten the lock nuts on the head hanger.
- Fish the riser cable out of the mast arm and into the pole handhole or into the junction box.
- Reconnect wiring in the handhole/junction box.
- Check signal head for proper operation, alignment and clearance.