



- * SEE VAOT STD. E-152 FOR PEDESTRIAN SYMBOL DESIGN
- ** VARIABLE LEGEND AS FOLLOWS:
 - A) RIGHT FACING FIGURE & ARROW
 - B) LEFT FACING FIGURE & ARROW

SEE VAOT STD. E-140 FOR COLORS, MATERIALS, SPECIFICATIONS AND TEXT DESIGN.

SPECIFIC COLORS
 LEGEND - BLACK (NON-REFL.)
 BACKGROUND - WHITE (REFL.)
 SYMBOL - WHITE (REFL.)

- NOTE:
 1. PEDESTRIAN SIGNS SHALL BE INCIDENTAL TO ITEM 678.15.

2. PULLBOXES AND JUNCTION BOXES

- a. PULLBOXES AND JUNCTION BOXES ARE DETAILED ON VTRANS STANDARD SHEET E-173.
- b. ALL SPLICES IN PULLBOXES/JUNCTION BOXES SHALL BE SOLDERED AND SEALED IN A WATERPROOF WELL SPLICE KIT. PAYMENT INCIDENTAL TO OTHER ITEMS.
- c. THE LOGO ON PULLBOXES/JUNCTION BOXES SHALL BE "SIGNAL"

3. TRAFFIC SIGNAL CONTROLLER & CABINET

- a. EACH UNIT SHALL BE MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC. OR NAZTEC, INC. GROUND MOUNTED CABINET SHALL BE TYPE P. EACH PHASE (USED OR NOT USED) SHALL HAVE A LOAD SWITCH AND ALL NECESSARY FLASH TRANSFER RELAYS. EACH INSTALLATION SHALL INCLUDE TIME CLOCKS WITH BATTERY BACKUP, MINIMUM 12 CHANNEL MMM WITH STOP TIMING FUNCTION, LED DISPLAY LOAD SWITCHES (INPUT SIDE), REMOTE FLASHER, VEHICLE DETECTOR AMPLIFIERS, UNIFORM CODE FLASH UNIT (PER MUTCD), RADIO INTERFERENCE FILTERS, SURGE PROTECTION, LAMP RECEPTACLE AND CONVENIENCE OUTLET WITH GROUND FAULT INTERRUPTION. ALL CONTROLLERS SHALL HAVE ALL NECESSARY HARDWARE & SOFTWARE FOR TIME-BASED COORDINATION (BACKUP), HARDWARE COORDINATION (PRIMARY), & PREEMPTION. EACH SYSTEM SHALL BE GROUND MOUNTED IN A PREWIRED CABINET WITH A POLICE DOOR HAVING STANDARD SWITCHES (MAIN ON/OFF, SIGNAL ON/OFF AND FLASH). THERE SHALL BE A WATERPROOF PLASTIC ENVELOPE ATTACHED TO THE CABINET INTERIOR FOR STORAGE OF THE CONTROLLER MANUAL AND PLAN SHEETS. THE CONTROLLERS/TBC SHALL BE SHIPPED FROM THE MANUFACTURER PRESET AND A REPRESENTATIVE OF THE MANUFACTURER SHALL BE ON THE PROJECT SITE FOR TURN ON OF THE UNITS. IN ADDITION TO EQUIPMENT FURNISHED TO PROVIDE A FUNCTIONAL SIGNAL SYSTEM, THE CONTRACTOR SHALL SUPPLY SPARE PARTS AS LISTED IN THE STANDARD SPECIFICATIONS. THIS EQUIPMENT MAY BE USED DURING THE CONSTRUCTION PERIOD TO REPLACE MALFUNCTIONING EQUIPMENT BUT MUST BE REPLACED OR MAINTAINED IN THE CABINET PRIOR TO COMPLETION. THE CONTROLLER CABINET(S) SHALL BE ALUMINUM WITH A FACTORY APPLIED FLAT BLACK FINISH AND BE PROVIDED WITH A STANDARD #2 CORBIN LOCK AND A STANDARD POLICE DOOR LOCK. EACH LOCK SHALL HAVE KEYS. EACH CABINET WILL HAVE A MINIMUM OF TWO TWO SPARE LOAD SWITCH POSITIONS. EACH CABINET SHALL INCLUDE A 120 DEGREE - 170 DEGREE FAN/THERMOSTAT (INITIALLY SET AT 120 DEGREES). THE CABINET DOOR SHALL BE SUPPLIED WITH TEST SWITCHES FOR EACH PHASE. ANY DOOR MOUNTED TOGGLE SHALL BE PROTECTED FROM ACCIDENTAL BUMPING. A MAIN DISCONNECT BREAKER SHALL BE INSTALLED IN A RAIN TIGHT LOCKED CABINET EXTERNAL TO THE CONTROLLER. ALL LOAD SWITCHES SHALL BE LABELED ON THE CABINET WALL.

TRAFFIC CONTROL NOTES

1. DURING CONSTRUCTION A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT NIGHT, ON WEEKENDS AND HOLIDAYS, DURING PEAK TRAFFIC AND WHENEVER POSSIBLE DURING CONSTRUCTION. AT THE DISCRETION OF THE RESIDENT ENGINEER (OR OTHER DESIGNATED TOWN REPRESENTATIVE), UNIFORMED TRAFFIC CONTROL OFFICERS SHALL DIRECT TRAFFIC, AND TRAINED FLAGPERSONS SHALL STOP AND RELEASE TRAFFIC, WHENEVER REQUIRED.
2. TRAFFIC CONTROL SIGNING AND CHANNELIZING DEVICES SHALL BE IN ACCORDANCE WITH THE APPROPRIATE STANDARD DRAWINGS AND THE MUTCD. (E-101, E-102, E-106, E-107, E-110, E-111)
3. AFTER SIGNAL INSTALLATION, ALL HEADS MUST BE COVERED (TURNING SHALL NOT BE ALLOWED) UNTIL TURNED ON. THE METHOD OF COVERING SHALL BE AS FOLLOWS:

ALL NEW TRAFFIC AND PEDESTRIAN SIGNAL HEADS WHICH HAVE BEEN INSTALLED BUT NOT PLACED IN EITHER FLASHING OR FULL OPERATION SHALL BE COVERED. EXISTING SIGNAL HEADS WHICH ARE PLACED OUT OF SERVICE IN ORDER TO PERFORM WORK ON THE SIGNAL SYSTEM SHALL ALSO BE COVERED. EXCEPT WHEN SUCH WORK CAN BE COMPLETED IN A RELATIVELY SHORT PERIOD OF TIME (SEVERAL HOURS) AND TRAFFIC CONTROL HAS BEEN PROVIDED FOR.

THE SIGNAL COVERS SHALL CONSIST OF A ONE PIECE PLASTIC BAG HAVING A MINIMUM THICKNESS OF 4 MIL. THE BAG SHALL BE OPAQUE. THE COVER SHALL LIP OVER THE ENTIRE SIGNAL HEAD AND SHALL BE SECURELY TIED AT THE OPENING WITH A ROPE OF SUFFICIENT SIZE AND STRENGTH TO SECURE THE COVER. AN INTERMEDIATE ROPE OF THE SAME MATERIAL SHALL BE DRAWN AROUND THE CENTER OF THE COVER TO PREVENT EXCESS FLAPPING IN THE WIND.

A DRAIN HOLE SHALL BE MADE AT THE BOTTOM OF THE BAG TO ALLOW THE ESCAPE OF MOISTURE. NO TAPE OR ADHESIVE WILL BE ALLOWED TO BE ATTACHED TO ANY SURFACE OF THE SIGNAL HOUSING OR LENSES. ALL COVERS SHALL BE PLACED IN A NEAT MANNER. ANY COVER WHICH IS TORN OR MISSING SHALL BE IMMEDIATELY REPLACED. PAYMENT FOR THE COVERS, THEIR PLACEMENT, AND REMOVAL AN ALL INCIDENTALS FOR COMPLETION OF THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE TRAFFIC SIGNAL.

4. WHERE TWO WAY TRAFFIC IS MAINTAINED DURING CONSTRUCTION, THE SIGN PACKAGE SHOWN ON STD E-100 SHOULD BE USED. FOR ONE-WAY TRAFFIC, E-110 APPLIES. APPROACH CONSTRUCTION SIGNING SHALL REMAIN IN PLACE DURING THE ENTIRE CONSTRUCTION PERIOD. OTHER SIGNING SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
5. VARIATIONS IN THE SIGNING PACKAGES MAY BE DICTATED BY UNIQUE GEOMETRY AND/OR TRAFFIC CONDITIONS.
6. THE CONTRACTOR SHALL NOT WORK WITHIN THE HIGHWAY R.O.W. WITHOUT THE APPROPRIATE CONSTRUCTION SIGNING IN PLACE AS SHOWN ON STD E-100.
7. "SIGNAL UNDER CONSTRUCTION" SIGN PANELS SHALL BE MOUNTED UNDER "ROAD WORK AHEAD" SIGNS ANYTIME SIGNAL SYSTEM WORK IS BEING PERFORMED.

A. NEW EQUIPMENT

- 1a. TRAFFIC SIGNAL HEADS
 UNLESS OTHERWISE NOTED ON PLANS, ALL TRAFFIC SIGNAL HEADS SHALL HAVE 300 mm LED INDICATIONS WITH A VISIBLE BEAM SPREAD OF 80 DEGREES OF AXIS. A GASKET SHALL BE SUPPLIED WITH EACH SECTION TO MOUNT THE LED LAMP. SIGNAL HEADS SHALL BE OPTICALLY PROGRAMMED. AERIAL SIGNALS MOUNTED MORE THAN 4.5m ABOVE GROUND LEVEL SHALL HAVE POLYCARBONATE VISORS AND BODIES, SIGNALS MOUNTED LESS THAN 7.5 M ABOVE GROUND LEVEL SHALL HAVE ALUMINUM VISORS AND BODIES. ALL HOUSING AND VISORS SHALL HAVE A FLAT BLACK FINISH. ALL INCIDENTAL HARDWARE FOR SIGNAL HEAD SHALL BE FLAT BLACK. ALL CANTILEVER MOUNTED SIGNAL HEADS SHALL BE RIGIDLY MOUNTED.
- 1b. PEDESTRIAN SIGNAL HEADS
 HEADS SHALL BE LED TYPE. THE PEDESTRIAN SIGNAL SHALL BE CAPABLE OF DISPLAYING BRIGHTLY AND UNIFORMLY, THE ALTERNATE SYMBOL MESSAGES "HAND" IN PORTLAND ORANGE AND "WALKING PERSON" IN WHITE. THE GENERAL CONSTRUCTION OF THE PEDESTRIAN SIGNAL SHALL INCLUDE A SINGLE PIECE CAST ALUMINUM HOUSING, A SINGLE PIECE DOUBLE PARABOLIC REFLECTOR, A TWO SYMBOL TWO COLOR MESSAGE LENS, A SECOND LENS FOR THE COUNTDOWN MESSAGE, AND SUN VISOR. POLE MOUNTED PEDESTRIAN SIGNALS SHALL BE MOUNTED AS SHOWN ON VTRANS STANDARD E-171B. PEDESTAL POLE MOUNTING SHALL BE AS SHOWN ON VTRANS STANDARD E-170.

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