

TRAFFIC SIGNAL SYSTEM GENERAL NOTES

A. NEW EQUIPMENT

4. TRAFFIC SIGNAL CONDUIT & SLEEVES

- a. ALL TRAFFIC SIGNAL CONDUIT SHALL BE 50 mm DIAMETER OR LARGER AS REQUIRED BY THE ELECTRICAL CODE. PAYMENT SHALL BE UNDER ITEM 678.23 WIRED CONDUIT. SEE VTrans STANDARD E-172 AND SPECIFICATION SUBSECTION 678.09 FOR ADDITIONAL INFORMATION.
 - b. CONDUIT PLACED UNDER ROADS SHALL BE ENCASED IN SCHEDULE 80 PVC SLEEVE AS SHOWN ON PLANS. MINIMUM SLEEVE DIAMETER SHALL BE 150 mm. PAY AS VTrans ITEM 678.30 ELECTRICAL CONDUIT SLEEVE. SEE VTrans STANDARD SPECIFICATION 678.30 FOR ADDITIONAL INFORMATION.
 - c. OPEN CUT TRENCH EXCAVATION FOR BITUMINOUS CONCRETE PAVEMENT REQUIRED TO PLACE PVC ELECTRICAL CONDUIT SLEEVE SHALL BE PERFORMED USING VTrans STANDARD SHEET D-20. A SAWCUT SHALL BE PERFORMED IN THE EXISTING PAVEMENT SURFACE PRIOR TO EXCAVATION. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 678.30. BACKFILL INCIDENTAL TO ITEM 678.30. BACKFILL & PAVEMENT TO MATCH RESPECTIVE EXISTING MATERIALS AS SPECIFIED BY RESIDENT ENGINEER.
 - d. THE MINIMUM DEPTH BELOW THE ROADWAY SURFACE FOR THE PLACEMENT OF ELECTRICAL CONDUIT SLEEVES SHALL BE 1.5 m. THE MINIMUM DEPTH BELOW FINISHED GRADE FOR ELECTRICAL CONDUIT SHALL BE 0.6 m.
 - e. 150 mm WIDE RED PLASTIC MARKING TAPE SHALL BE PLACED IN THE EXCAVATED TRENCH 150 mm TO 300 mm INCHES BELOW THE FINISHED GRADE FOR ALL CONDUIT AND SLEEVE RUNS EXCEPT THOSE BORED UNDER ROADWAY, PAYMENT INCIDENTAL TO THE CONDUIT OR SLEEVE.
 - f. VEHICLE LOOP DETECTORS - SEE VTrans STANDARD E-172. LOOPS SHALL EXTEND 1.2 m AHEAD OF STOP BAR UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL EQUIPMENT SHALL MEET OR EXCEED NEMA STANDARDS AND IMSA OR ITE SPECIFICATIONS, WHERE APPLICABLE.
 6. NEW STRAIN POLES & CANTILEVERS SHALL BE DESIGNED USING THE LATEST VERSION OF AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS". SEE POLE AND FOOTING DETAIL SHEETS. DIAMETER, HEIGHT, YIELD STRENGTH AND GAGE SHALL BE STAMPED ON THE POLE BASE PLATE OR ON AN ATTACHED METAL TAG. CANTILEVER TAGS SHALL INDICATE BOTH UPRIGHT AND ARM DATA. THE STRAIN POLES AND ALL CANTILEVERS SHALL HAVE A FLAT BLACK FINISH.
 7. ALL PEDESTRIAN PUSH BUTTONS SHALL COMPLY WITH ADA STANDARDS.

B. REMOVAL OF EXISTING OR REUSE OF SALVAGED EQUIPMENT

1. ALL REMOVED AND NOT REUSED EQUIPMENT (HEADS, CONTROLLERS, CABINETS, POLES, ETC.) SHALL BE RETURNED TO VTrans. EQUIPMENT SHALL BE RETURNED TO VTRANS WITHIN 48 HOURS OF ITS REMOVAL. CONTRACTOR SHALL COORDINATE WITH VTRANS TO ASSURE REPRESENTATIVE IS AVAILABLE TO RECEIVE EQUIPMENT. (SEE SPECIAL PROVISIONS FOR ADDITIONAL DELIVERY DETAILS).
2. REMOVAL OF EQUIPMENT SHALL INCLUDE REMOVAL OF CONCRETE BASES (DISPOSAL BY CONTRACTOR) AND BACKFILL OF THE HOLES TO A POINT 300 mm BELOW GRADE WITH MATERIAL SIMILAR TO EXISTING SOIL WHERE APPLICABLE. ANY EQUIPMENT THAT IS DAMAGED BY THE CONTRACTOR DURING REMOVAL SHALL BE REPAIRED, OR REPLACED, TO THE SATISFACTION OF THE STATE AT THE CONTRACTOR'S EXPENSE. ANY EQUIPMENT NOT WANTED BY THE STATE SHALL BE DISPOSED OF BY THE CONTRACTOR.
3. PAYMENT FOR REMOVAL AND DISPOSAL OF EXISTING SIGNAL EQUIPMENT SHALL BE PAID AS ITEM 900.620 SPECIAL PROVISION (REMOVAL OF EXISTING TRAFFIC CONTROL SYSTEM).

C. SIGNAL OPERATION

1. SIGNAL TIMING SHOWN ON THE PLANS MAY REQUIRE FINE-TUNING IN THE FIELD BASED ON TRAFFIC OBSERVATION. (COST OF ADJUSTMENTS SHALL BE INCIDENTAL TO OTHER ITEMS).
2. THE TRAFFIC SIGNALS SHALL NOT OPERATE WITHOUT THE PAVEMENT MARKINGS AND SIGNAL RELATED SIGNING IN PLACE.
3. THE ROUTE 2 PHASE SHALL BE USED FOR THE START-UP PHASE AFTER FLASHING OPERATION.
4. SEE TRAFFIC SIGNAL LAYOUT FOR ADDITIONAL OPERATION NOTES.
5. ALL SIGNALS SHALL DWELL ON ROUTE 2 PHASE UNLESS OTHERWISE NOTED.

D. EQUIPMENT TRAINING AND MANUALS

1. COPIES OF ALL EQUIPMENT MANUALS AS WELL AS COMPLETED PROGRAM LISTINGS FOR THE CONTROLLER/TBCs SHALL BE DISTRIBUTED AS FOLLOWS:
 - a. CONTROLLER CABINET(S) (1)
 - b. VTrans DISTRICT TRANSPORTATION ENGINEER (1)
 - c. VTrans TRAFFIC DESIGN ENGINEER (1)

E. GENERAL

1. ALL ELECTRICAL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL OF THE STATE ELECTRICAL INSPECTOR. ALL WORK MUST MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.
2. AFTER PROJECT ACCEPTANCE, THE TRAFFIC SIGNAL INSTALLATIONS SHALL BECOME THE PROPERTY AND RESPONSIBILITY OF THE VERMONT AGENCY OF TRANSPORTATION.
3. THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO SIGNALS.
4. THE REQUIRED 30-DAY TEST PERIOD FOR THE SIGNAL EQUIPMENT SHALL NOT BEGIN UNTIL ALL CONSTRUCTION IS COMPLETE AND ALL PAPERWORK HAS BEEN DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND VTrans TRAFFIC DESIGN ENGINEER.

5. SWITCH OVER TO REPLACEMENT SIGNALS SHALL NOT BE DONE DURING PEAK TRAFFIC PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING SWITCH-OVER.
6. UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM THE BEST AVAILABLE SOURCES, AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. SHOULD ANY UTILITY BE DAMAGED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE REPAIRS AND RESTORATION OF SERVICE WITH THE AFFECTED UTILITY(S).

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