

# TRAFFIC SIGNAL SYSTEM NOTES

## A. NEW SIGNAL EQUIPMENT

1. ALL SIGNAL HEADS SHALL BE 12" POLYCARBONATE. THE SIGNAL HEAD COLOR SHALL BE PARK GREEN INCLUDING VISORS.
2. ALL EAST/WEST SIGNAL HEADS SHALL HAVE PARK GREEN LOUVERED BACKPLATES.
3. THE TRAFFIC SIGNAL CONTROLLER AND RELATED EQUIPMENT SHALL BE AN ECONOLITE ASC/3-2100 (NEMA TS2) OR NAZTEC 980 (NEMA TS2) IN A NEMA P44 TRAFFIC CONTROL CABINET WITH 15-INCH BASE EXTENSION INSTALLED AT THE LOCATION SHOWN ON THE PLANS. TRAFFIC CONTROL CABINET SHALL BE ORIENTED SUCH THAT THE DOOR DOES NOT FACE THE ROADWAY.
4. ALL SIGNAL HEADS SHALL HAVE RED, YELLOW AND GREEN L.E.D. SIGNALS WITH A VISIBLE BEAM SPREAD OF 80 DEGREES OFF AXIS.
5. ALL TRAFFIC SIGNALS, BACKPLATES, CABINET, AND OTHER VISIBLE SIGNAL EQUIPMENT SHALL MATCH THE COLOR SPECIFIED FOR LIGHTING FIXTURE ITEMS. PRIOR TO ORDERING THIS EQUIPMENT, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER FOR APPROVAL A PAINT CHIP MATCHING THE SPECIFIED COLOR.
6. ALL TRAFFIC SIGNAL EQUIPMENT AND SPAN WIRE MOUNTED SIGNS SHALL HAVE SAFETY CABLES.
7. A DISCONNECT BREAKER FOR EACH CIRCUIT SHALL BE INSTALLED IN A RAINPROOF (NEMA 3R), LOCKED CABINET ON A STANCHION NEXT TO OR BELOW THE METER SOCKET.

## B. SIGNAL OPERATION

1. SWITCH-OVER TO THE NEW TRAFFIC SIGNAL SYSTEM SHALL NOT OCCUR DURING PEAK TRAFFIC OPERATING PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING THE SWITCH-OVER.
2. ALL SIGNALS SHALL DWELL ON ROUTE 116 UNLESS OTHERWISE NOTED.
3. ROUTE 116 THRU PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASHING OPERATION.
4. SIGNAL TIMING SHOWN ON THE PLANS MAY REQUIRE FINE-TUNING IN THE FIELD BASED ON TRAFFIC OBSERVATION AND/OR ADDITIONAL FIELD STUDIES.

## C. PULL BOXES AND JUNCTION BOXES

1. PULLBOXES AND JUNCTION BOXES ARE DETAILED ON VTRANS STANDARD E-173. MINIMUM JUNCTION BOX SIZE SHALL BE 18" X 12" X 12", OR LARGER AS REQUIRED BY THE ELECTRICAL CODE.
2. THE LOGO ON PULLBOX AND JUNCTION BOX COVERS SHALL BE "TRAFFIC SIGNAL."
3. PULLBOXES WITH LIGHTING AND SIGNAL CONDUIT SHALL BE LABELED "TRAFFIC SIGNAL AND LIGHTING".
4. ALL PULLBOXES AND JUNCTION BOXES SHALL BE INSTALLED IN ACCORDANCE WITH VTRANS' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 678.

## D. TRAFFIC SIGNAL CONDUIT

1. ALL TRAFFIC SIGNAL CONDUIT SHALL BE SCHEDULE 80 PVC.
2. WHEN CONDUIT IS PLACED BELOW THE ROADWAY OR ACROSS SIDE ROADS, IT SHALL BE PLACED IN A SLEEVE, SIZE SHOWN ON THE PLANS.
3. ALL TRAFFIC SIGNAL CONDUIT WORK SHALL BE PERFORMED IN ACCORDANCE WITH VTRANS' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 678.

## E. VEHICLE STOP BAR DETECTION

1. VEHICLE DETECTORS SHALL BE PLACED SO THAT OCCLUSION IS MINIMIZED AND PHASING IS NOT AFFECTED.
2. VEHICLE DETECTION AREAS SHALL EXTEND FIVE FEET PAST THE STOP BAR.
3. VEHICLE DETECTION SYSTEM SHALL BE ECONOLITE AUTOSCOPE DUO VIDEO DETECTOR OR WAVETRONIX RADAR DETECTOR OR FLIR INFRARED DETECTOR.
4. SEE THE PLANS OR THE SPECIAL PROVISIONS FOR A DETAILED LIST OF EQUIPMENT.

## F. GENERAL

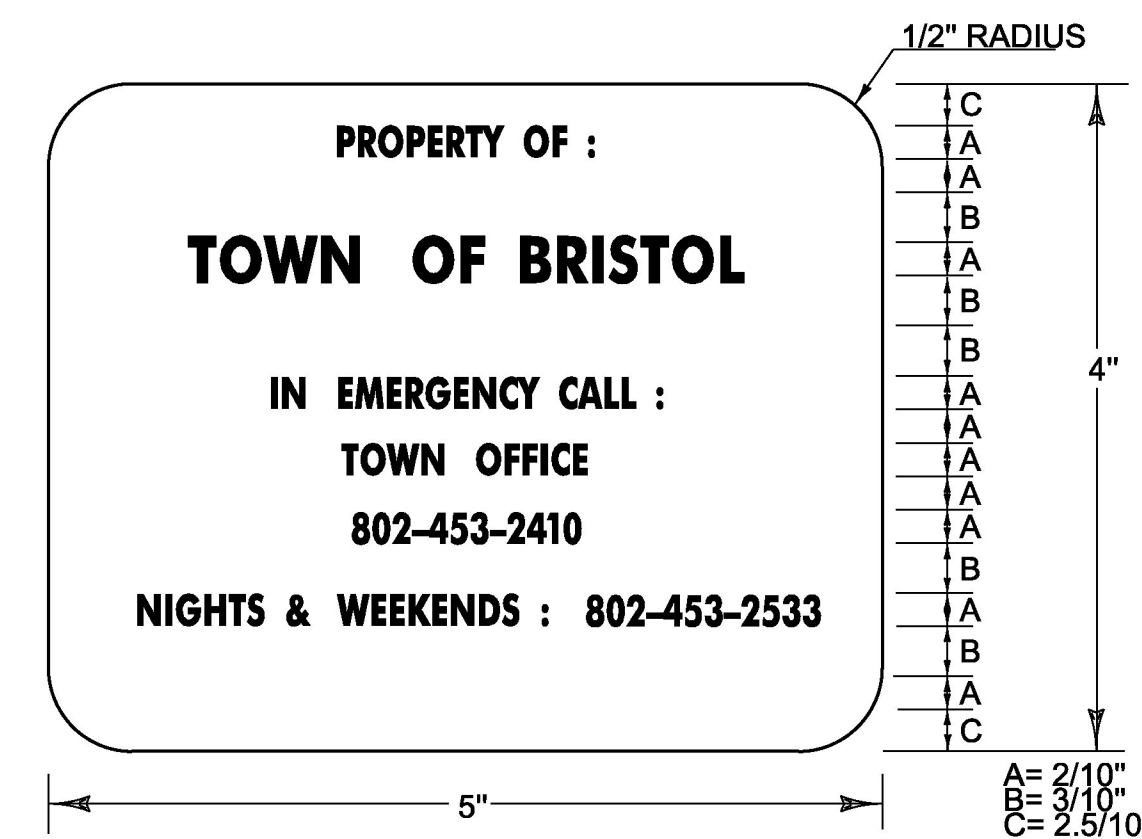
1. A UNIFORMED TRAFFIC OFFICER WITH A BLUE LIGHT SHALL BE PRESENT DURING ALL LANE CLOSURES.
2. THE CONTRACTOR SHALL ACQUIRE ALL THE NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO THE TRAFFIC SIGNAL EQUIPMENT, IF APPLICABLE. THE ROUTING OF POWER TO THE INTERSECTION SHALL BE SUCH THAT THE STATE HAS FULL RESPONSIBILITY FROM THE TRANSFORMER THROUGH THE SIGNAL SYSTEM. NO INTERVENING OWNERSHIP/RESPONSIBILITY SHALL BE ALLOWED.
3. ALL ELECTRICAL WIRING SHALL BE DONE BY A LICENSED ELECTRICIAN AND OVERSEEN BY A MASTER ELECTRICIAN.
4. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO VTRANS' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, WITH CURRENT MODIFICATIONS.
5. IF REQUIRED, OVERHEAD SIGN/SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRE'S, AND TRAFFIC SIGNALS", DATED 2013, AND ITS LATEST REVISIONS.
6. SEE STANDARD E-171A FOR ADDITIONAL NOTES.
7. CONTRACTOR SHALL SCHEDULE FINAL INSPECTION AND OBTAIN WRITTEN APPROVAL OF WORK FROM VTRANS TRAFFIC SIGNAL TECHNICIAN.

## G. MAST ARM FOUNDATIONS

1. FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH VTRANS MREI 10-01 GUIDELINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SOIL BORINGS AND FOUNDATION DESIGN. IN ADDITION TO FABRICATION DRAWINGS, THE BORING LOGS, DESIGN CRITERIA AND DESIGN CALCULATIONS SHALL BE SUBMITTED AS WORKING DRAWINGS IN ACCORDANCE WITH VTRANS' "STANDARD SPECIFICATIONS FOR CONSTRUCTION" DATED 2011, SUBSECTION 105.03.

## H. MAST ARM POLES AND BASES

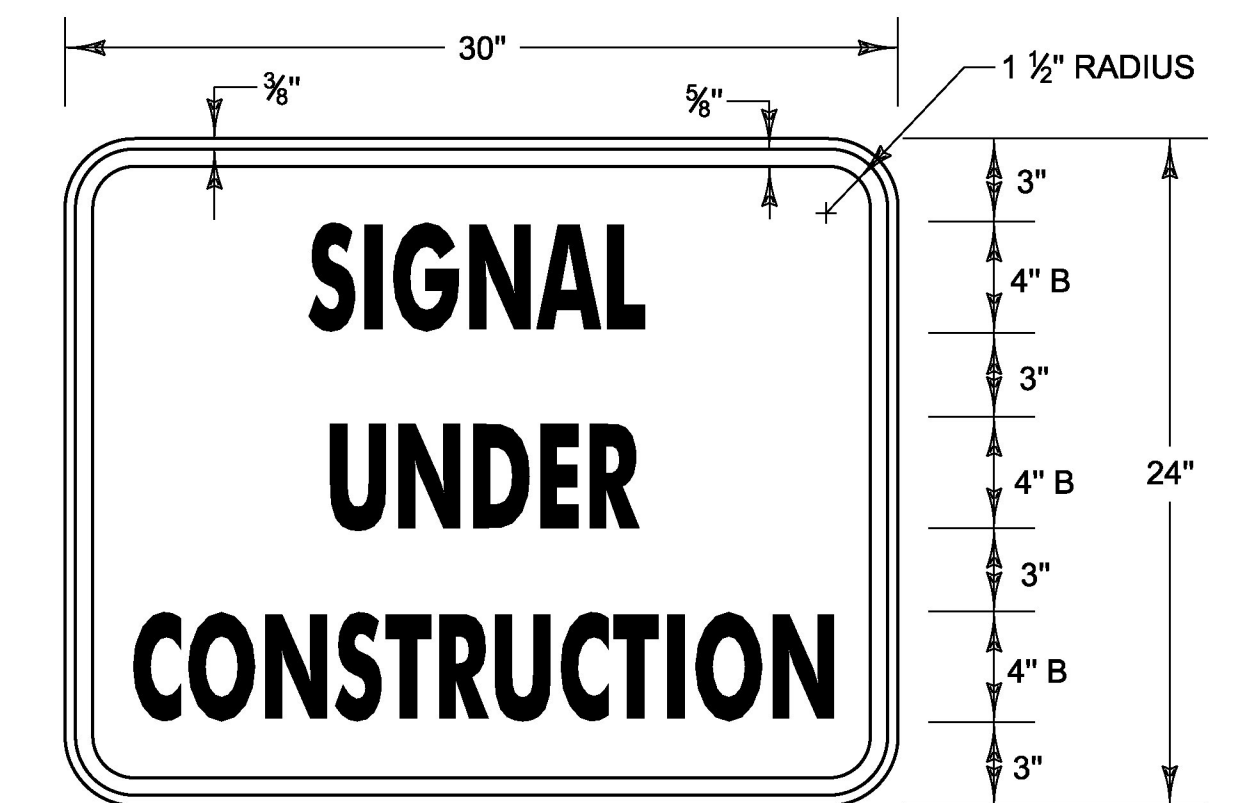
1. MAST ARM POLES AND BASES SHALL BE DECORATIVE TO MATCH THE DECORATIVE LIGHT AND PEDESTAL POLES AND BASES.



LEGEND: - BLACK (NON-REFL.) - STAMPED PRIOR TO PAINTING  
BACKGROUND: NATURAL ALUMINUM OR BRASS SURFACE

### CONTROLLER IDENTIFICATION PLAQUE NOTES:

1. THE PLAQUE SHALL BE MOUNTED ON ALL TRAFFIC SIGNAL CONTROLLER CABINETS. IT SHALL BE FASTENED TO THE CONTROLLER CABINET IN SUCH A MANNER AS TO BE NOT EASILY REMOVED, SUCH AS WELDED, RIVETED OR BOLTED WITH VANDAL PROOF FASTENERS.
2. THE LETTERS SHALL BE PUNCHED OR STAMPED, SUCH STAMPING SHALL PENETRATE AT LEAST 1/2 THE BASE MATERIAL THICKNESS.
3. THE BASE MATERIAL FOR THE PLAQUE SHALL BE BRASS OR ALUMINUM WITH A MINIMUM THICKNESS OF 1/16".



MATERIALS: SEE STD. E-144  
COLORS: TEXT & BORDER - BLACK  
BACKGROUND - ORANGE (RETRO REFLECTIVE SHEETING)

### CONSTRUCTION SIGN DETAIL

NOT TO SCALE

**CONTROLLER IDENTIFICATION PLAQUE**  
NOT TO SCALE



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PROJECT LEADER:	T. LUTHER	CHECKED BY:	G. EDWARDS
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