

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF TOLLGATE ROAD AND BOULTON ROAD IN HARFORD COUNTY. TOLLGATE ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE TOLLGATE ROAD APPROACHES OPERATING CONCURRENTLY AND THE BOULTON ROAD/SHOPPING CENTER ENTRANCE APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR SOUTHBOUND TOLLGATE ROAD APPROACH.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "5" POLE MOUNTED CABINET.

PHONE DROP

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 487-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER OF THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-30

STANDARD NO. MD-104.02-01 (FLAGGING OPERATION)

STANDARD NO. MD-104.03-01 (INTERSECTION FLAGGING OPERATION)

STANDARD NO. MD-104.04-01 (SHOULDER WORK)

STANDARD NO. MD-104.60 (MOBILE OPERATION)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. DAVE MALKOWSKI
DISTRICT ENGINEER
PHONE: (410) 321-3461

MR. JOE McMAHON
DISTRICT UTILITIES ENGINEER
PHONE: (410) 321-3456

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 321-3514

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. DAVE RAMSEY
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 321-3468

WIRING DIAGRAM

WIRING KEY

A } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

E } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

J } 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)

L } 2-CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED (NO. 14 A.W.G.)

K } MICROLOOP PROBE LEAD-IN

R } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

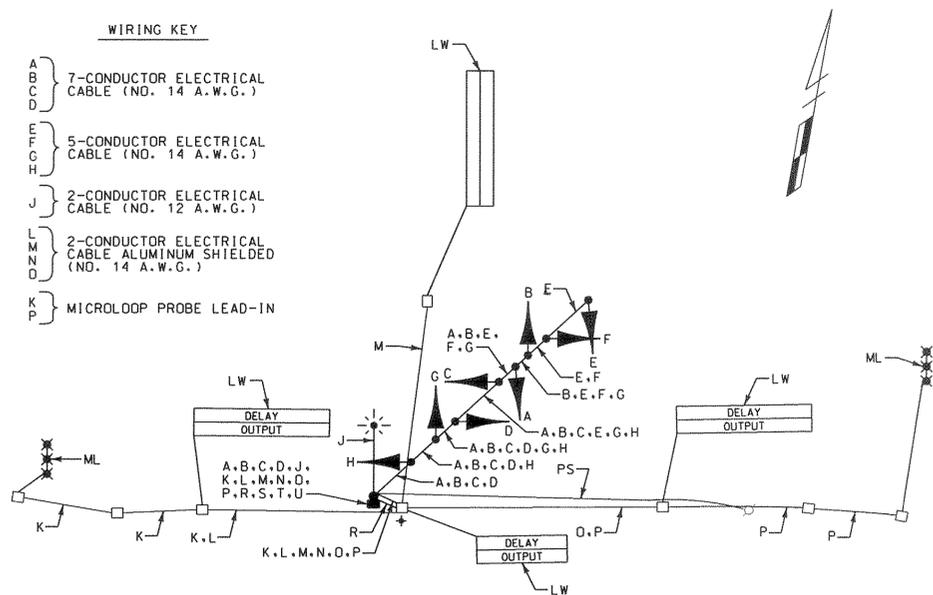
S } 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

LW - LOOP WIRE (NO. 14 A.W.G.)

ML - MICROLOOP PROBE SET

PS - PROPOSED UNDERGROUND ELECTRICAL SERVICE

⊕ - 3/4 IN. X 10 FT. GROUND ROD

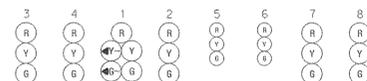


EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	27 FT. STEEL POLE AND 70 FT. MAST ARM WITH ANCHOR BOLTS
9002	2 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9087	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR HOUSED IN A NEMA SIZE "5" POLE MOUNTED CABINET
9089	60 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 1 EACH W3-3 SIGN (36 IN. x 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAG - GROUND MOUNT - 1 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT - 1 EACH R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT - 2 EACH D-3(1) SIGN (VARIABLE x 16 IN.) - POLE MOUNT

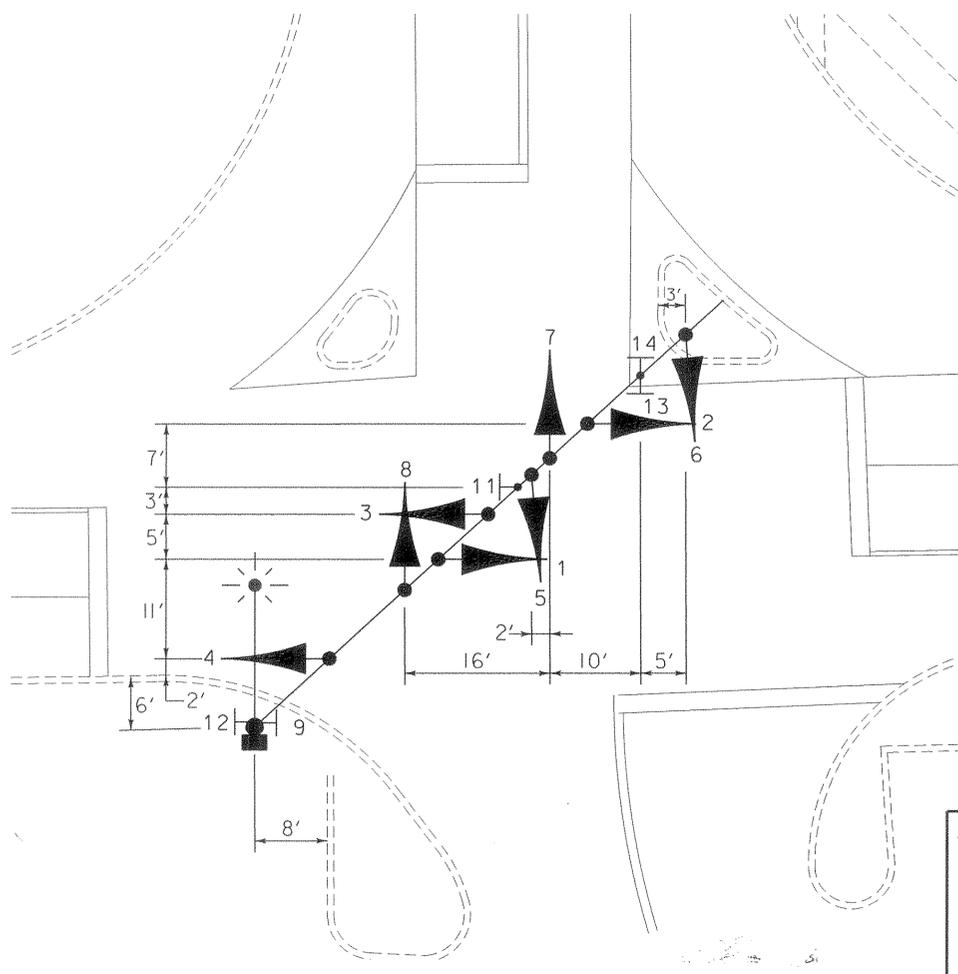
PHASE CHART



PHASE	1	2	3	4	5	6	7	8
PHASE 2 + 5	R	R	G	G	R	R	R	R
2 + 5 CHANGE	R	R	G	G	R	R	R	R
PHASE 2 + 6	G	G	G	G	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	R	R	R	R
PHASE 4 + 8	R	R	R	R	G	G	G	G
4 + 8 CHANGE	R	R	R	R	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

DIMENSION DIAGRAM

SCALE 1" = 10'



EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2002	2 C.Y.	TEST PIT EXCAVATION
8011	20 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8013	1 EACH	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8014	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8019	6 EACH	FURNISH AND INSTALL 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8020	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V., 1 PHASE 3 WIRE SYSTEM)
8029	2 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FT. LEAD-IN
8039	1 EACH	INSTALL MAST ARM POLE AND 70 FT. MAST ARM
8051	50 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8057	5 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION 4 IN. X 6 IN.
8059	20 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 6 IN.
8060	40 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8061	30 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED RISER
8068	60 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR WIRE SLEEVE
8070	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 A.W.G. - THHN/THWN
8074	16 S.F.	INSTALL GROUND MOUNTED SIGN
8075	44 S.F.	INSTALL OVERHEAD SIGN
8080	1 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FOOT LENGTH
8081	400 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8084	120 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8085	350 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8086	60 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) TYPE TC
8087	1430 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN 1/4 INCH FLEXIBLE TUBING (NO. 14 A.W.G.)
8088	490 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8092	1 EACH	INSTALL CONTROLLER AND CABINET - POLE MOUNT



Whitman, Reardon
and Associates, LLP
2315 Saint Paul Street
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(410) 235-3450

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
TOLLGATE ROAD AND BOULTON STREET

DRAWN BY: S. BLOSS	F.A.P. NO.	TS NO.
CHECKED BY: N. LEARY	S.H.A. NO. BW340MB3	TS-4133
SCALE: NONE	COUNTY: HARFORD	T.J.M.S. NO.
DATE: 8/27/01	LOG MILE:	E629

SHEET NO.
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