PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING INTERSECTION CONTROL BEACON WITH A FULL-TRAFFIC-ACTUATED SIGNAL AND STREET LIGHTING AT MD 611 AND MD 707 IN WORCESTER COUNTY. MD 611 IS ASSUMED TO RUN IN AN NORTH-SOUTH DIRECTION.

AS PART OF THIS PROJECT, MD 611 WILL BE REMARKED FROM U.S. 50 TO SOUTH OF MD 707 TO PROVIDE LEFT TURN LANES.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC ACTUATED MODE, WITH THE MD 611 APPROACHES RUNNING CONCURRENTLY AND THE MD 707 APPROACHES RUNNING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT TURN PHASES WILL BE PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 611.

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 BACK-UP FOR PHONE DROP, AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410)787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

MAINTENANCE OF TRAFFIC

THE TRAFFIC CONTROL STANDARD NUMBERS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-105.00

STANDARD NO. MD-105.01

STANDARD NO. MD-105.02

STANDARD NO. MD-105.101 (FLAGGING OPERATION)

STANDARD NO. MD-105.103 (INTERSECTION FLAGGING OPERATION)

STANDARD NO. MD-105.105 (SHOULDER WORK)

STANDARD NO. MD-105.107 (LANE SHIFT)

STANDARD NO. MD-105.109 (LANE SHIFT)

NOTE: STANDARDS TO BE MODIFIED, BY REPLACING W21-5 SIGN WITH A W20-1 SIGN (ROAD WORK AHEAD).

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #1 ARE AS FOLLOWS:

MR. DONNIE LEE DREWER
DISTRICT ENGINEER
PHONE: (410) 543-6720

MR. ALFRED D. BUDNICHUK
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 543-6715

MR. JAMES R. WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 543-6715

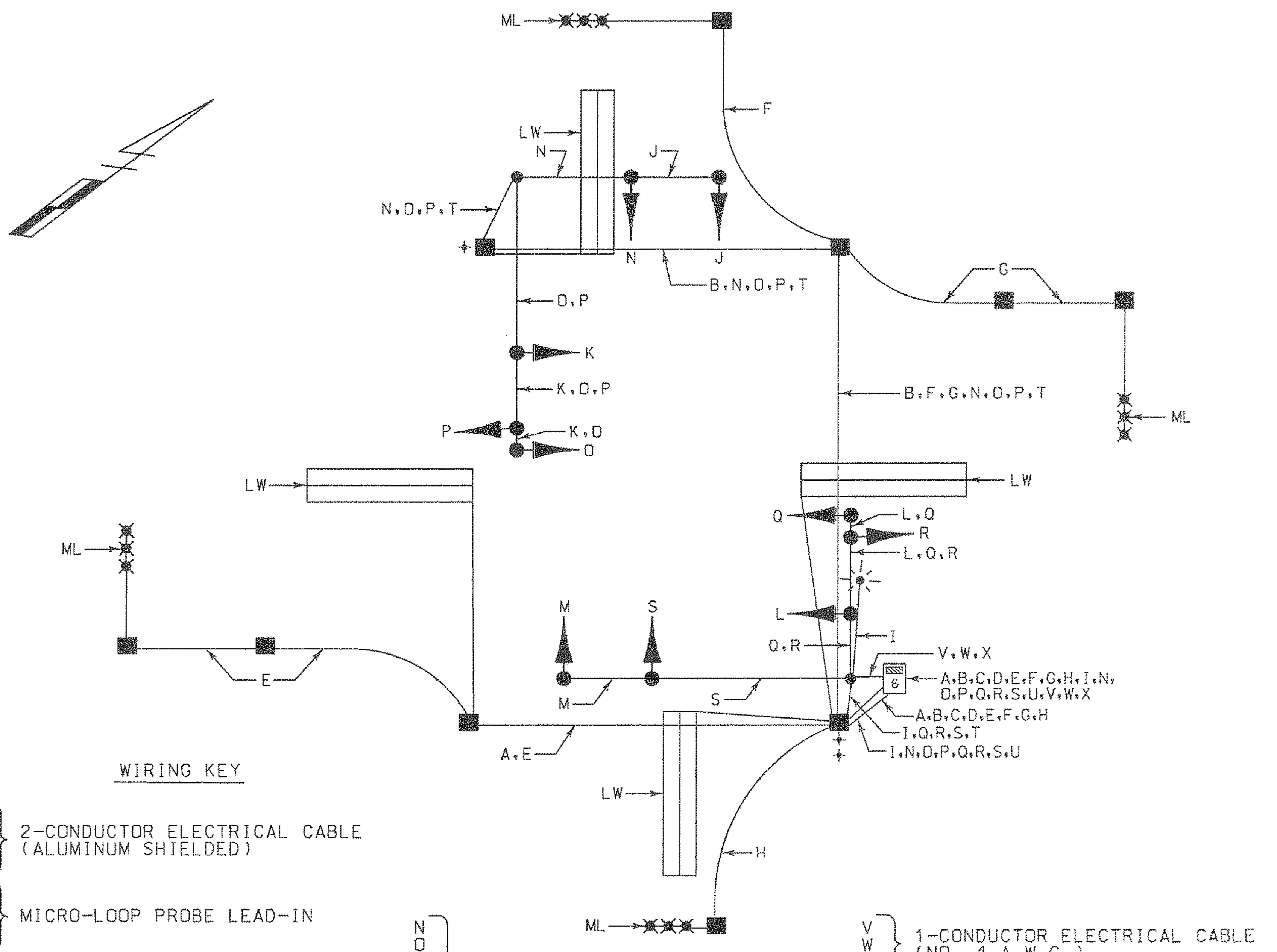
MR. BRUCE W. POOLE
ASSISTANT DISTRICT ENGINEER - UTILITY
PHONE: (410) 543-6715

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

THE POWER COMPANY REPRESENTATIVE IS:

MR. JOE HALSTONE
DELMARVA POWER COMPANY
8403 COASTAL HIGHWAY
P.O. BOX 799
OCEAN CITY, MARYLAND 21842
(410) 524-9565

WIRING DIAGRAM



WIRING KEY

A, B, C, D – 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)

E, F, G, H – MICRO-LOOP PROBE LEAD-IN

I – 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)

J, K, L, M – 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

N, O, P, Q, R, S – 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

T, U – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

V, W, X – 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

LW - LOOP WIRE (NO. 14 A.W.G.)
ML - MICRO-LOOP PROBE
PS - PROPOSED 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
9001	6 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9001	2 EACH	12 IN., ONE-WAY, FIVE-SECTION (R,Y,YA,G,GA) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9001	2 EACH	8 IN./12 IN., ONE-WAY, FIVE-SECTION (R,Y,YA,G,GA) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9007	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.
9012	194 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 4 EACH W3-3 SIGN (48 IN. X 48 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAGS-GROUND MOUNT. - 4 EACH D3-2 SIGN (VARIABLE X 16 IN.) - MAST ARM MOUNT. - 2 EACH R10-12 SIGN (36 IN. X 42 IN.) - MAST ARM MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 611, RIGHT ARROW" (24 IN. X 51 IN.) - POLE MOUNT. - 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 611, LEFT ARROW" (24 IN. X 51 IN.) - POLE MOUNT. - 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 611, RIGHT ARROW" (24 IN. X 51 IN.) - POLE MOUNT. - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 611, LEFT ARROW" (24 IN. X 51 IN.) - POLE MOUNT.
9010	2 EACH	FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER.
9011	2 EACH	MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN.
9011	2 EACH	MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN.

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7941 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

QUANTITY	DESCRIPTION
2	12" X 30' STEEL STRAIN POLE
1	FLASHER CABINET

ALL EQUIPMENT TO BE REMOVED AND NOT LISTED ABOVE SHALL BECOME THE PROPERTY OF THE CONTRACTOR

PHASE CHART

	1	2	3	4	5	6	7	8	9	10
PHASE 1 + 5	R ←G	R ←G	R	R ←G	R ←G	R	R	R	R	R
1 + 5 CHANGE	R ←Y	R ←Y	R	R ←Y	R ←Y	R	R	R	R	R
PHASE 1 + 6	G ←G	G ←G	G	R	R	R	R	R	R	R
1 + 6 CHANGE	G ←Y	G ←Y	G	R	R	R	R	R	R	R
PHASE 2 + 5	R	R	R	G ←G	G ←G	G	R	R	R	R
2 + 5 CHANGE	R	R	R	G ←Y	G ←Y	G	R	R	R	R
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G
4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

NOTE: PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6 OR PHASE 2 + 5

EQUIPMENT LIST "B"

F H W A REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	3 C.Y.	TEST PIT EXCAVATION
5001	6500 L.F.	6 IN. YELLOW PERMANENT PREFORMED PAVEMENT MARKING TAPE
5002	3200 L.F.	6 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5003	20 L.F.	12 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5005	190 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5008	5600 L.F.	REMOVE EXISTING PAVEMENT MARKING-ANY WIDTH
5009	18 EACH	REMOVE EXISTING PAVEMENT MARKING LETTER OR ARROW
8001	12 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8006	2 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8011	10 EACH	INSTALL SIGNAL HEAD
8015	4 EACH	INSTALL MICRO-LOOP PROBE SET
8019	1 EACH	INSTALL CONTROLLER AND CABINET-BASE MOUNT
8022	600 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8024	80 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8025	800 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
8027	370 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT-BORED
8031	30 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
8033	100 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT-BORED
8035	10 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8037	3 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8043	1950 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8044	330 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
8047	90 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE-5 CONDUCTOR (NO. 14 A.W.G.)
8048	1040 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE-7 CONDUCTOR (NO. 14 A.W.G.)
8049	80 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR (NO. 12 A.W.G.)
8052	220 L.F.	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
8053	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE-1 CONDUCTOR (NO. 4 A.W.G. - THHN/THWN)
8054	150 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 4 IN.)
8056	128 S.F.	INSTALL GROUND MOUNTED SIGN
8057	66 S.F.	INSTALL OVERHEAD SIGN
8059	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8060	1 EACH	FURNISH AND INSTALL 20 FT. LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE
8061	2 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12 IN. BELOW GRADE
8062	3 EACH	REMOVAL OF EXISTING CONTROLLER, CABINET, AND GALVANIZED SIGNAL STRUCTURE
8063	3 EACH	DELIVERY OF REMOVED CONTROLLER, CABINET, AND GALVANIZED SIGNAL STRUCTURE
8064	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
8067	1 EACH	USE EXISTING DISK AND AS-BUILT TRAFFIC CONTROL DEVICES
8070	10 L.F.	FURNISH AND INSTALL 2 IN. ELECTRICAL CONDUIT, SCHEDULE 80 - TRENCHED
8076	1 EACH	CONTROL AND DISTRIBUTION
8091	20 L.F.	FURNISH AND INSTALL 1-1/4 IN. ELECTRICAL CONDUIT-GALVANIZED RISER
8101	2 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT./60 FT. MAST ARMS

REVISIONS

APPROVALS

ASSISTANT DIVISION CHIEF

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

REVISIONS

WR&A
Whitman, Requardt and Associates
Engineers and Planners
2315 Saint Paul Street
Baltimore, Maryland 21218
(410) 235-3450

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET
MD 611 AND MD 707

DATE: 8-1-96	DRAWN BY: SS. BLOSS	F.A.P. NO.	STP-33T000S491	PLAN SHEET NO.:	SHEET NO.
SCALE: 1"NONE"	DESIGNED BY: T. ZAYDEL	S.H.A. NOS.	AW101A58 AW101B58		
APPROVED BY:	CHECKED BY: T. HANNAN	COUNTY	WORCESTER	TS-1730 GI	___ OF ___