PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING INTERSECTION CONTROL BEACON TO A FULL-TRAFFIC-ACTUATED CONTROL SIGNAL AND INSTALLATION OF STREET LIGHTING AT THE INTERSECTION OF MD 165 (BALDWIN MILL ROAD) AND MD 23 (EAST-WEST HIGHWAY) IN HARFORD COUNTY. MD 165 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 MD 165 APPROACHES OPERATING CONCURRENTLY AND THE MD 23/PRIVATE DRIVEWAYS APPROACHES OPERATING CONCURRENTLY.

A LAG EXCLUSIVE LEFT-TURN PHASE WILL BE PROVIDED FOR SOUTHBOUND MD 165.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER AND INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP. AUTOSCOPE CONTROL EQUIPMENT 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 FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-12

STANDARD NO. MD-104.31-01 (FLAGGING OPERATION)

STANDARD NO. MD-104.33-01 (SHOULDER WORK)

STANDARD NO. MD-104.35-01 (LANE SHIFT)

STANDARD NO. MD-104.32-02 (INTERSECTION FLAGGING OPERATION)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. DAVE MALKOWSKI
DISTRICT ENGINEER
PHONE: 410-321-2810

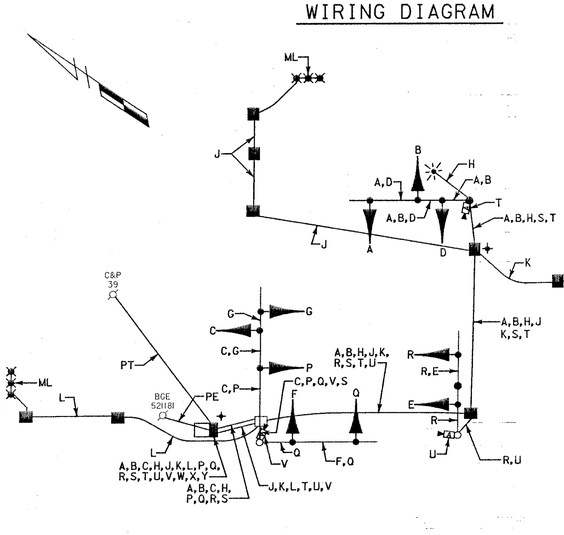
MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 410-321-2781

MR. DAVE RAMSEY
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: 410-321-2761

MR. JOSEPH MCMAHON
DISTRICT UTILITIES ENGINEER
PHONE: 410-321-2841

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

WIRING DIAGRAM



WIRING KEY

- A B C P D R — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- D E F G — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- H — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- J K L — MICROLOOP PROBE LEAD-IN
- S — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- T U V — AUTOSCOPE DETECTION CAMERA CABLES
- W X Y — 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

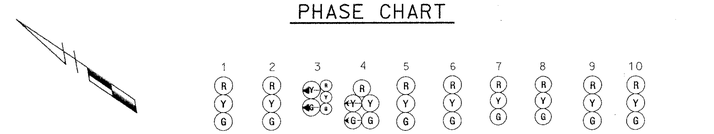
LW - LOOP WIRE (NO. 14 A.W.G.)
ML - MICROLOOP PROBE SET
PT - PROPOSED UNDERGROUND TELEPHONE SERVICE
PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
⏚ - 3/4 IN. X 10 FT. GROUND ROD

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA

ITEM NO.	QUANTITY	DESCRIPTION
9002	1 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9087	1 EACH	EIGHT-PHASE, FULL TRAFFIC ACTUATED CONTROLLER WITH ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9089	71 S.F.	SHEET ALUMINUM SIGNS CONSITING OF:
	- 1 EACH	R10-12 SIGN (36 IN. X 42 IN.) - MAST ARM MOUNT
	- 3 EACH	W3-3 SIGN (36 IN. X 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAG - GROUND MOUNT
	- 1 EACH	M95-1 (72 IN. X 24 IN.) - MAST ARM MOUNT

PHASE CHART



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

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
2001	2 C.Y.	TEST PIT EXCAVATION
5004	40 L.F.	24 INCH WHITE HEAT APPLIED PERMENENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
5007	65 L.F.	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS - ANY WIDTH
8001	5 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8006	1 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8016	1 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FOOT LEAD-IN CABLE
8017	2 EACH.	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 1000 FOOT LEAD-IN CABLE
8020	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8021	60 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8023	15 L.F.	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR WIRE SLEEVE
8024	1195 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8026	85 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8027	10 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8030	50 L.F.	FURNISH AND INSTALL 4 IN. SCHEUDLE 80 RIGID PVC CONDUIT - TRENCHED
8031	85 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8032	150 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8033	9 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8034	2 EACH	FURNISH AND INSTALL GROUND ROD -3/4 INCH DIAMETER X 10 FOOT LENGTH
8044	85 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G)
8045	1020 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G)
8046	220 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G) TYPE TC
8048	395 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8049	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 A.W.G - THHN/THWN
8051	60 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 6 IN.
8052	48 S.F.	INSTALL GROUND MOUNTED SIGN
8053	23 S.F.	INSTALL OVERHEAD SIGN
8055	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8056	1 EACH	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8058	1 EACH	REMOVAL OF EXISTING CONTROLLER, CABINET AND. GALVANIZED SIGNAL STRUCTURE
8059	1 EACH	DELIVERY OF REMOVED CONTROLLER, CABINET AND GALVANIZED SIGNAL STRUCTURE
8060	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT AS PER ASSIGNMENT
8061	1 EACH	INSTALL CONDUIT BEND IN EXISTING BASE
8066	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V, 1 PHASE 3 WIRE SYSTEM)
8077	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 50 FT. MAST ARM
8084	22 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8085	12 EACH	FURNISH AND INSTALL 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
NEG.	3 EACH	FURNISH AND INSTALL AUTOSCOPE TRAFFIC DETECTION CAMERA
NEG.	3 EACH	FURNISH AND INSTALL AUTOSCOPE TRAFFIC DETECTION CABLE
NEG.	1 EACH	FURNISH AND INSTALL AUTOSCOPE TRAFFIC DETECTION CONTROL EQUIPMENT

WR&A
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Baltimore, Maryland 21218
(410) 235-3450

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

GENERAL INFORMATION SHEET
MD 165 AND MD 23

DRAWN BY: S.CHERNACK	F.A.P. NO.		TS NO. TS-3328A	SHEET NO.
CHECKED BY: N.LEARY	S.H.A. NO.			
SCALE: NONE	COUNTY: HARFORD		T.I.M.S. NO. D-809	2 OF 2
DATE: 6/28/00	LOG MILE: 12002307.97			

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