PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AND STREET LIGHTING AT THE INTERSECTION OF U.S. 40 AND MD 7/LANDING LANE IN CECIL COUNTY. U.S. 40 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE U.S. 40 APPROACHES OPERATING CONCURRENTLY AND THE MD 7/LANDING LANE APPROACHES OPERATING SPLIT.

EXCLUSIVE LEFT-TURN PHASING WILL BE PROVIDE ON THE U.S. 40 APPROACHES.

AN ALTERNATE PEDESTRIAN PHASE WILL BE PROVIDED ACROSS THE WEST LEG OF U.S. 40.

CONTROLLER REQUIREMENTS

THE DETECTOR RACK SHALL BE RETRO-FITTED WITH FOUR (4) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS IN THE EXISTING BASE MOUNTED CABINET.

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-104.31-01 (FLAGGING OPERATION)
STANDARD NO. MD-104.49-01 (SHOULDER WORK)
STANDARD NO. MD-104.45-01 (RIGHT-LANE CLOSURE)
STANDARD NO. MD-104.35-01 (LANE SHIFT)
STANDARD NO. MD-104.33-02 (SHOULDER WORK)
STANDARD NO. MD-104.32-02 (INTERSECTION FLAGGING OPERATION)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RICHARD LINDSAY
DISTRICT #2 ENGINEER
PHONE: (410) 778-3061

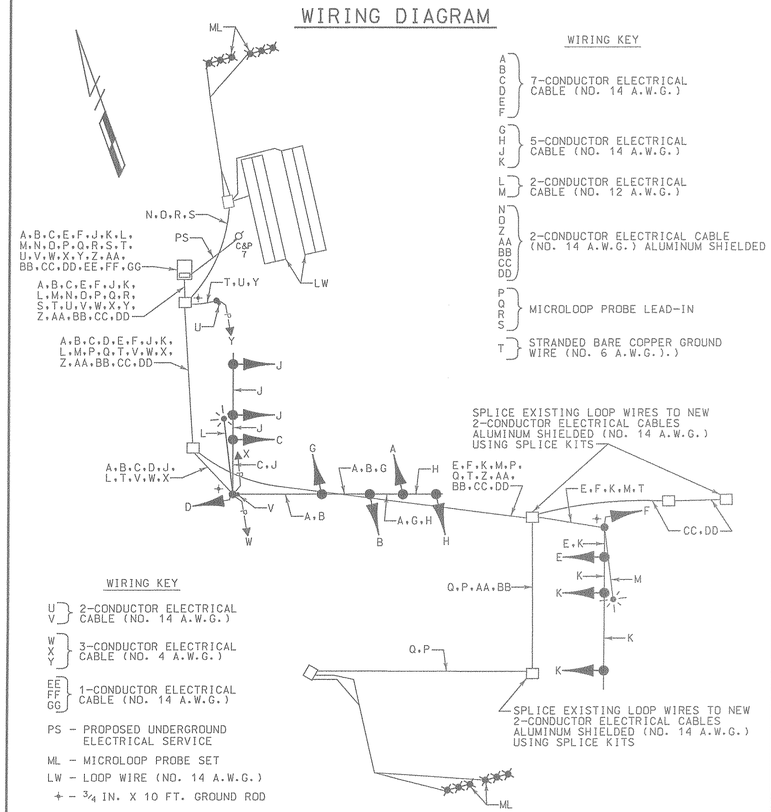
MR. ROBERT KIEL
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 778-3061

MR. TERRY WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 778-3061

MR. BARRY CLOTHIER
DISTRICT #2 UTILITIES ENGINEER
PHONE: (410) 778-3061

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

WIRING DIAGRAM



WIRING KEY

A B C D E F — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
G H J K — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L M — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
N O Z AA BB CC DD — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED
P Q R S — MICROLOOP PROBE LEAD-IN
T — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.).)

WIRING KEY

U V — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
W X Y — 3-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
EE FF GG — 1-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
PS - PROPOSED UNDERGROUND ELECTRICAL SERVICE
ML - MICROLOOP PROBE SET
LW - LOOP WIRE (NO. 14 A.W.G.)
+ - 3/4 IN. X 10 FT. GROUND ROD

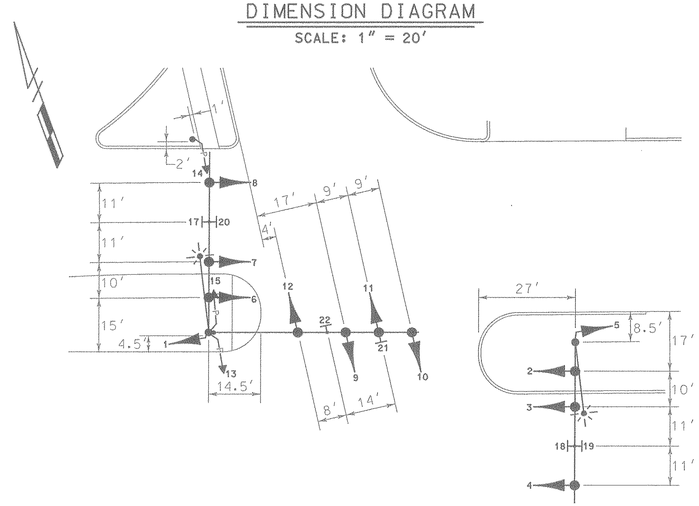
EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	DETECTOR RACK RETRO-FIT
9002	4 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER
9089	46 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
	- 2 EACH	D-3(1) SIGN "LANDING LN" (VARIABLE X 16 IN.) DUAL FACED - MAST ARM MOUNT.
	- 2 EACH	M95-1 SIGN (72 IN. x 24 IN.) - MAST ARM MOUNT.
9096	2 EACH	PUSHBUTTON AND R10-4(1) SIGN

DIMENSION DIAGRAM

SCALE: 1" = 20'



PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G RG	R Y G	R Y G RG	R Y G				
PHASE 1 + 5	←G—	←G—	R	R	←G—	←G—	R	R	R	R	R	R	DW	DW	DW	DW
1 + 5 CHANGE	1 + 5 MAY CHANGE TO PHASE 1 + 6. PHASE 2 + 5 OR PHASE 2 + 6															
PHASE 1 + 6	←G—	←G—	G	G	←R—	←R—	R	R	R	R	R	R	DW	DW	DW	DW
1 + 6 CHANGE	←Y—	←Y—	G	G	←R—	←R—	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 + 5	←R—	←R—	R	R	←G—	←G—	G	G	R	R	R	R	DW	DW	DW	DW
2 + 5 CHANGE	←R—	←R—	R	R	←Y—	←Y—	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 2 + 6	←R—	←R—	G	G	←R—	←R—	G	G	R	R	R	R	DW	DW	DW	DW
2 + 6 CHANGE	←R—	←R—	Y	Y	←R—	←R—	Y	Y	R	R	R	R	DW	DW	DW	DW
PHASE 3	←R—	←R—	R	R	←R—	←R—	R	R	←G G—	G	R	R	DW	DW	DW	DW
3 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	Y	Y	R	R	DW	DW	DW	DW
PHASE 4	←R—	←R—	R	R	←R—	←R—	R	R	R	R	←G G—	G	DW	DW	DW	DW
4 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 ALT.	←R—	←R—	R	R	←R—	←R—	R	R	R	R	←G G—	G	WK	WK	WK	WK
PED. CLEARANCE	←R—	←R—	R	R	←R—	←R—	R	R	R	R	G	G	FL/DW	FL/DW	FL/DW	FL/DW
4 ALT. CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	←FL/R—	←FL/R—	FL/Y	FL/Y	←FL/R—	←FL/R—	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

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	3 EACH	TEST PIT EXCAVATION
5001	300 L.F.	5 IN. YELLOW HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5002	180 L.F.	5 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5004	30 L.F.	24 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5006	1 EACH	HEAT APPLIED PERMANENT PREFORMEDTHERMOPLASTIC PAVEMENT MARKING ARROW
5007	600 L.F.	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
6001	50 S.F.	4 IN. CONCRETE SIDEWALK
8001	9 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8003	1 EACH	FURNISH AND INSTALL BREAKAWAY PEDESTAL POLE (ANY SIZE)
8006	2 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8016	2 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FT. LEAD-IN
8017	2 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 1000 FT. LEAD-IN
8018	2 EACH	INSTALL PUSHBUTTON AND SIGN
8021	600 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8023	90 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	20 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8027	40 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8030	120 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8031	180 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8034	3 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8040	930 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	2700 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8042	160 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)
8043	300 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 A.W.G.)
8044	725 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8045	1200 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8046	490 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) IN TC IN.
8048	300 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 - THHN/THWN (NO. 4 A.W.G.)
8053	46 S.F.	INSTALL OVERHEAD SIGN
8055	2 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8056	2 EACH	FURNISH AND INSTALL 15 FT. LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE
8057	4 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12 IN. BELOW GRADE
8060	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8061	1 EACH	INSTALL CONDUIT IN EXISTING BASE
8066	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240V, 1 PHASE 3 WIRE SYS)
8077	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 50 FT. MAST ARM
8081	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT./60 FT. MAST ARMS
8084	38 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8087	6 EACH	FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION
NEG.	5 EACH	FURNISH AND INSTALL SPLICE KIT

WR&A
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(410) 235-3450

REVISIONS

APPROVALS

ASST. TRAFFIC ENGINEERING DESIGN DIVISION
ASST. DISTRICT ENGINEER, TRAFFIC
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
U.S. 40 & MD 7/LANDING LANE

DRAWN BY:	S.BLOSS	F.A.P. NO.	T-8003(3)	TS NO.	SHEET NO.
CHECKED BY:	N.LEARY	S.H.A. NO.	CE-543-276		
SCALE:	NONE	COUNTY:	CECIL	T.I.M.S. NO.	2 OF 2
DATE:	8-2-99	LOG MILE:	07004014.31		

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