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

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 152 AND HANSON ROAD IN HARFORD COUNTY. MD 152 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 152 APPROACHES OPERATING CONCURRENTLY AND THE HANSON ROAD APPROACHES RUNNING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASES FOR NORTHBOUND AND SOUTHBOUND MD 152 WILL BE PROVIDED.

CONTROLLER REQUIREMENTS

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

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

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

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

MR. RUSS YUREK
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 321-3468

MR. JOSEPH MCMAHON
DISTRICT UTILITIES ENGINEER
PHONE: (410) 321-3456

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

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA

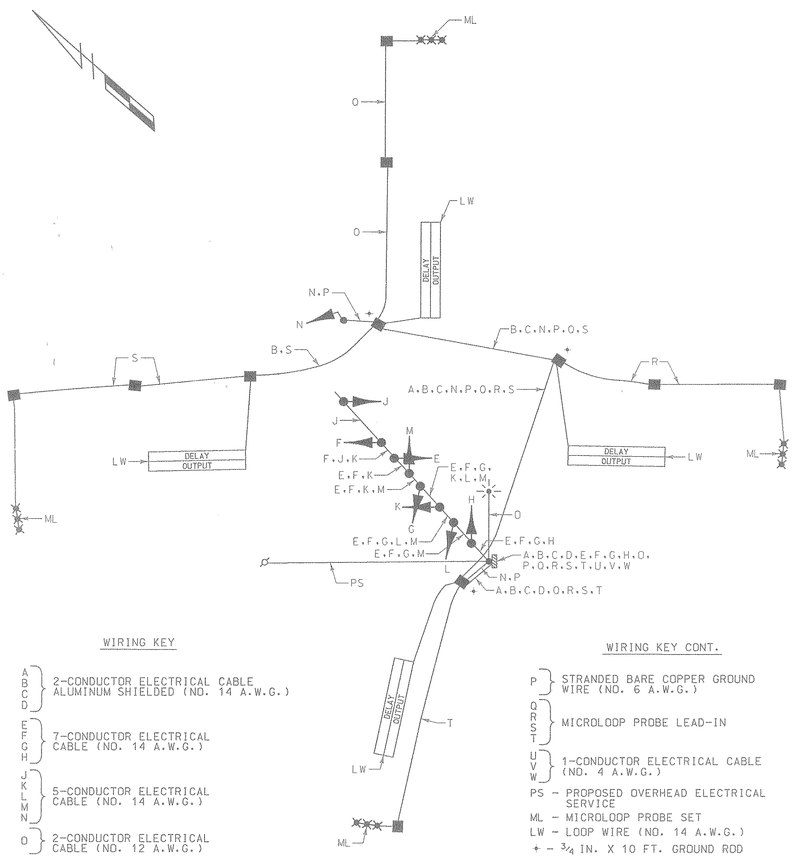
ITEM NO.	QUANTITY	DESCRIPTION
9002	2 EACH	FOUR-CHANNEL, LOOP DETECTOR AMPLIFIER (DELAY OUTPUT).
9014	6 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD - MAST ARM MOUNT.
9016	2 EACH	12 IN., ONE-WAY, FIVE-SECTION (R,Y,YA,G,GA) TRAFFIC SIGNAL HEAD - MAST ARM MOUNT.
9028	1 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD - PEDESTAL TOP MOUNT.
9080	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER AND INTERSECTION MONITOR II WITH BATTERY BACK-UP FOR PHONE DROP HOUSED IN A NEMA SIZE "5" POLE MOUNTED CABINET.
9089	163 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
		- 2 EACH R10-12 SIGN (36 IN. X 42 IN.) - MAST ARM MOUNT.
		- 1 EACH D3-2 SIGN "HANSON RD" (VARIABLE X 16 IN.) DUAL FACED - MAST ARM MOUNT.
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 152, RIGHT ARROW" (30 IN. X 51 IN.) - POLE MOUNT.
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 152, LEFT ARROW" (30 IN. X 51 IN.) - POLE MOUNT.
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 152, RIGHT ARROW" (30 IN. X 51 IN.) - POLE MOUNT.
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 152, LEFT ARROW" (30 IN. X 51 IN.) - POLE MOUNT.
		- 2 EACH W3-3 SIGN (36 IN. X 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND D3-2 SIGN (VARIABLE X 16 IN.) BLACK ON YELLOW - GROUND MOUNT
		- 2 EACH W3-3 SIGN (36 IN. X 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAGS - GROUND MOUNT

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
5001	260 L.F.	6 IN. YELLOW PERMANENT PREFORMED PAVEMENT MARKING TAPE
5004	95 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5013	30 L.F.	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
8001	7 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8003	1 EACH	FURNISH AND INSTALL 14 FT. BREAKAWAY PEDESTAL POLE
8011	9 EACH	INSTALL SIGNAL HEAD - ANY TYPE
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
8019	1 EACH	INSTALL CONTROLLER AND CABINET - POLE MOUNT
8021	625 L.F.	SAW CUT FOR SIGNAL (LOOP DETECTOR)
8023	55 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR WIRE SLEEVE
8024	1050 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8025	130 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8026	45 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8027	20 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8031	75 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8033	11 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8034	3 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8040	1900 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	550 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
8044	275 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8045	250 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8046	55 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G)
8049	155 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8050	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO 4. A.W.G. - THHN/THWN
8051	144 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 4 IN.
8053	86 S.F.	INSTALL GROUND MOUNTED SIGN
8054	77 S.F.	INSTALL OVERHEAD SIGN
8056	1 EACH	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE WITH PHOTOCELL
8057	1 EACH	FURNISH AND INSTALL LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8061	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8070	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
8084	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 70 FT. MAST ARM
8000	LUMP SUM	TRIM TREES

WIRING DIAGRAM



WIRING KEY

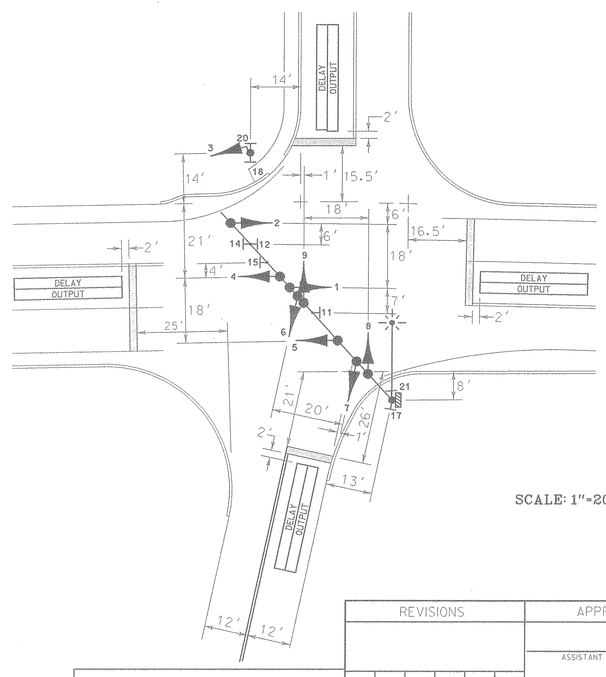
A, B, C, D	2-CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED (NO. 14 A.W.G.)
E, F, G, H	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
J, K, L, M, N	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
O	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)

WIRING KEY CONT.

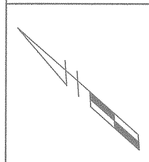
P	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
Q, R, S, T	MICROLOOP PROBE LEAD-IN
U, V, W	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

PS - PROPOSED OVERHEAD ELECTRICAL SERVICE
ML - MICROLOOP PROBE SET
LW - LOOP WIRE (NO. 14 A.W.G.)
+ - 3/4 IN. X 10 FT. GROUND ROD

DIMENSION DIAGRAM



PHASE CHART



	1	2	3	4	5	6	7	8	9
PHASE 1 + 5	R, G	R	R	R, G	R	R	R	R	R
1 + 5 CHANGE	1 + 5 MAY CHANGE TO PHASE 1 + 6. PHASE 2 + 5 OR PHASE 2 + 6								
PHASE 1 + 6	G, G	G	R	R	R	R	R	R	R
1 + 6 CHANGE	G, Y	G	R	R	R	R	R	R	R
PHASE 2 + 5	R	R	G	G, G	G	R	R	R	R
2 + 5 CHANGE	R	R	G	G, Y	G	R	R	R	R
PHASE 2 + 6	G	G	G	G	G	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R
PHASE 4 + 8	R	R	R	R	R	G	G	G	G
4 + 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

REVISIONS	APPROVALS	REVISIONS
	ASSISTANT DIVISION CHIEF	
	ASST. DISTRICT ENGINEER, TRAFFIC	
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION	
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY	

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 152 AND HANSON ROAD

DATE: 10-1-97	DRAWN BY: S.BLOSS	F.A.P. NO.	AC-STPG-000S(589)E	PLAN SHEET NO.:	SHEET NO.
SCALE: 1" = 20'	DESIGNED BY: N.LEARY	S.H.A. NO.	AW279A5 & AW279B7 [redacted]		2 OF 2
APPROVED BY:	CHECKED BY: T.HANNAN	COUNTY	HARFORD		

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