I. GENERAL

This project involes the installation of a new traffic signal at the intersection of MD 117 and Kingsview Road in Montgomery County. MD 117 is considered to run in an east/west direction

II. INTERSECTION OPERATION

The intersection is to operate in NEMA three (3) phase, semi-traffic-actuated mode. There The MD 117 through movements will operate concurrently. The Kingview Road movements will operate concurrently.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and three four-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

A. Equipment to be supplied by SHA

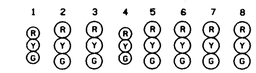
Item No.	Quantity	Units	Description
9001	1	EA	4-channel rack mount detector amplifier
9002	6	EA	12 in., one-way, three section (R,Y,G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
9003	1	EA	Standard S.H.A. traffic signal controller, with system package, housed in a base mounted (NEMA 6) cabinet.
9004	79.66	SF	Flat sheet aluminum sign consisting of:
		SF	48 in. x 48 in. W 3-3 "NEW" sign for ground mounting.
		SF	32 in. x var. D 3-2 sign with mast arm mounting hardware.
		SF	32 in. x var. D 3-2 sign for ground mounting (White on Green)
		SF	78" in. x 24" M95-1 sign mast arm mounted (MD 117 EAST - WEST)

EQUIPMENT LIST

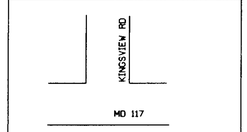
B. Equipment to be furnished and/or installed by the Contractor.

Item No.	Quantity	Units	Description
1001	Lump Sum	LS	Maintenance of traffic.
2001	2	CY	Test pit excavation.
5010	65		24 in. wide thermoplastic pavement marking - white for stop line.
5013	15	LF	Removal of existing pavement marking - any width.
8001	7.30	CY	Concrete foundation for traffic signal equipment.
8006	1	EA	Cut, clean, and cap mast arm pole.
8011	8	EA	Install signal head.
8016	1	EA	Micro- loop probes (set of 3) with 500 ft. lead-in cable.
8020	1	EA	Install cabinet - base mount.
8021	350	LF	Sawcut for signal loop detector.
8023	30	LF	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
8024	730	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
8028	-	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
8030	30	LF	4 in. polyvinyl chloride [Schedule 40] electrical conduit - trenched.
8033	7	EA	Handhole.
8034	3	EA	Ground rod -*in. diameter x 10 ft. length.
8040	800	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
8041	500	LF	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
8044	50	LF	5-conductor electrical cable (No. 14 A.W.G.).
8045	900	LF	7-conductor electrical cable (No. 14 A.W.G.).
8046	375	LF	2-conductor electrical tray cable (No. 12 A.W.G.).
8047	1	EA	Furnish and install mast arm pole and twin 50 ft/60ft mast arms. (cut 50 ft. mast arm to 40 ft.) [Note: four 2 in. x 90 in. anchor bolts].
8049	300	LF	Bare copper stranded ground wire (No. 6 A.W.G.).
8050	20	LF	3-wire (No. 4 A.W.G.) electrical cable.
8052	56	LF	4 in. x 6 in. wood sign support.
8053	2	EA	Install ground mounted sign.
8054	6	EA	Install overhead sign.
8056	2	EA	250 W H.P.S. lamp and luminarie.
8057	2	EA	10 ft. luminaire arm.
8061	1	EA	Removal and salvage existing ground mounted sign.
8071	1	EA	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-16 underground electrical service.
8082	1	EA	27 ft. steel mast arm pole with 38 ft. mast arm. [Note: four 1-3/4 in. x 90 in. anchor bolts].
NEG	2,500	LF	50 - Pair communication cable (Overhead).

PHASE CHART

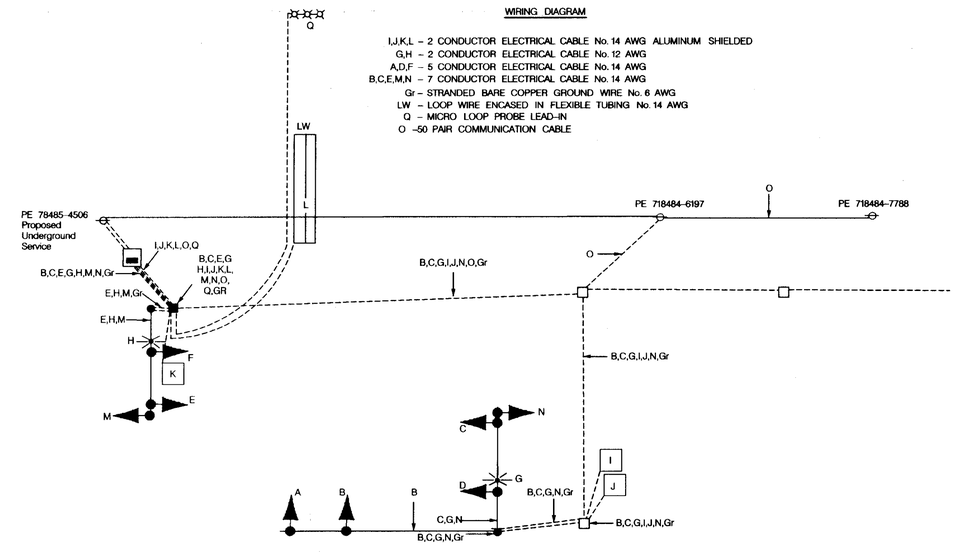


Phase 2 & 6	G	G	G	G	G	G	R	R	←
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	→
Phase 4 & 8	R	R	R	R	R	R	G	G	↓
4 & 8 Change	R	R	R	R	R	R	Y	Y	↓
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	↑ ← → ↓



WIRING DIAGRAM

I,J,K,L - 2 CONDUCTOR ELECTRICAL CABLE No. 14 AWG ALUMINUM SHIELDED
G,H - 2 CONDUCTOR ELECTRICAL CABLE No. 12 AWG
A,D,F - 5 CONDUCTOR ELECTRICAL CABLE No. 14 AWG
B,C,E,M,N - 7 CONDUCTOR ELECTRICAL CABLE No. 14 AWG
Gr - STRANDED BARE COPPER GROUND WIRE No. 6 AWG
LW - LOOP WIRE ENCASED IN FLEXIBLE TUBING No. 14 AWG
Q - MICRO LOOP PROBE LEAD-IN
O -50 PAIR COMMUNICATION CABLE



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

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
General Information Sheet
MD 117 and Kingsview Road

Signal# 15011707.30

DRAWN BY:	DBD	F.A.P. NO.			
CHECK BY:		S.H.A. NO.	AW-2775185	3798	OF
SCALE:	1" = 20'	COUNTY	Montgomery		

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