PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the reconstruction of the existing traffic control signal at the intersection of MD 45 and Fairmount Avenue/Carver School Entrance in Baltimore County, Maryland. MD 45 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to continue to operate in a NEMA five (5) phase, full-traffic-actuated mode. There is an exclusive double left turn phase for the southbound movement of MD 45. The MD 45 through movements operate concurrently with a concurrent pedestrian phase across the east leg of the intersection. The Fairmount Avenue/Carver School Entrance movements operate concurrently with an actuated pedestrian phase across the south leg of the intersection.

II. INTERSECTION OPERATION (continue)

A concurrent pedestrian phase for the west leg, and a actuated pedestrian phase for the north leg are to be added to the intersection.

The existing controller shall be utilized. Four 4-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

EQUIPMENT LIST

A. Equipment to be furnished by MD-SHA and installed by Contractor.

Category Code No.	Quantity	Units	Description
900000	1	EA	Standard S.H.A. traffic signal base mounted cabinet, with four 4-channel rack mounted loop detector amplifiers.
900000	69.25	SF	Sheet aluminum sign with mast arm mounting hardware. [1 each 30 in. x 30 in. R 3-4]. [2 each 30 in. x 36 in. R 3-5(L)]. [2 each 16 in. x Var. D-3(1) (Dual Faced)]. [1 each 16 in. x Var. D-3(1)] [1 each 24 in. x 72 in. M 95-1] [1 each 24 in. x 24 in. R 10-11b].
900000	3.0	SF	Sheet aluminum sign with pole mounting hardware. [4 each 9 in. x 12 in. R 10-4(1) Sign to read: Pushbutton To Cross York Rd.].
900000	4	EA	Pushbutton assembly.
900000 (NEW)	1	EA	Relocate video detection interface equipment.
900000 (NEW)	1	EA	Relocate controller.

B. Equipment to be furnished and/or installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Category CodeNo.	Quantity	Units	Description
203030	6	CY	Test pit excavation.
500000	560	LF	12 in. wide HAPPTPM - white for croswalk.
500000	130	LF	24 in. wide HAPPTPM - white for stop line.
818036	1	EA	27 ft. steel mast arm pole with a 50 ft. mast arm [Note: four 1-3/4 in. x 90 in. anchor bolts].
808041	1	EA	21 ft. steel mast arm pole with a 60 ft. mast arm [Note: four 2 in. x 90 in. anchor bolts].
800000	1	EA	23 ft. steel twin mast arm pole with 70 ft. and 50 ft. mast arms [Note: four 2 in. x 90 in. anchor bolts].
868003	1	EA	10 ft. steel pedestal pole with break away transformer base [Note: four 1 in. x 40 in. anchor bolts].
818010	1	EA	14 ft. steel pedestal pole with break away transformer base. (Note: four 1 in. x 40 in. anchor bolts.)
800000	30	EA	12 in. black faced traffic signal head section with mast arm mounting hardware.
800000	3	EA	12 in. black faced traffic signal head section with post top mounting hardware.
800000	12	EA	12 in. pedestrian signal head section with pole mounting hardware.
800000	4	EA	12 in. pedestrian signal head section with post top mounting hardware.
800000	3	EA	8 in. black faced traffic signal head section with mast arm mounting hardware.
871202	1	EA	Install base mounted cabinet/controller.
800002	4	EA	Install pedestrian pushbutton assembly.
800000	69.25	SF	Install sign - mast arm mounted.
80000	3.0	SF	Install sign - pole mounted.
811001	10 ~~13~~	EA	Handhole.
800000	4	EA	Microloop probe (set of three) with 500 ft. lead-in cable.
800000	2	EA	Microloop probe (set of three) with 1000 ft. lead-in cable.
862102	1025 ~~870~~	LF	Sawcut for signal loop detector.
862101	400 ~~2690~~	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
861104	300 ~~1250~~	LF	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
800000	165	LF	2-conductor tray cable (No. 12 A.W.G.).
861105	575	LF	2-conductor electrical cable (No. 14 A.W.G.).
861107	1325	LF	5-conductor electrical cable (No. 14 A.W.G.).
861108	985	LF	7-conductor electrical cable (No. 14 A.W.G.).
861117	5	LF	3-wire (No. 4 A.W.G.) electrical cable.
861102	5	LF	3-wire (NO. 8 A.W.G.) electrical cable.
802501	400	LF	Bare copper stranded ground wire (No. 6 A.W.G.).
805160	50	LF	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
805023	40 ~~25~~	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - riser.
800000	30 ~~100~~	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
~~805145~~	~~65~~	~~LF~~	~~2 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.~~
~~805105~~	~~35~~	~~LF~~	~~2 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.~~
~~805150~~	~~640~~	~~LF~~	~~3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.~~
800000	470 ~~160~~	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
800000	40 ~~25~~	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
~~805155~~	~~165~~	~~LF~~	~~4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.~~
801004	14.6	CY	Concrete foundation for traffic signal equipment.
837001	6	EA	Ground rod - 3/4 in. diameter x 10 ft. length.
838003	1	EA	Control and distribution equipment (120/240 V, one phase, three wire system) for a MD-SHA (Type B-6) underground electrical service.
866103	1	EA	15 ft. luminaire arm.
831010	1	EA	250 W HPS lamp and luminaire.
800000	1	EA	2 in. weatherhead.
800000	Lump Sum	LS	Remove and disposal of existing traffic signal equipment.
800000	2	EA	Cut, clean and cap mast arm.
800000	Lump Sum	LS	Paint all mast arm poles, mast arms, luminaire, luminaire arm, and pedestal poles National Park Service (NPS) Brown.
800000 (NEW)	3	EA	Relocate video detection camera
800000 (NEW)	50	LF	Pull-back and re-feed existing electrical cable
816010 (NEW)	3	EA	Furnish and install 500 ft. video detection cable
805115 (NEW)	260	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
805011 (NEW)	20	LF	1 in. Electrical conduit - galvanized sleeve.
805118 (NEW)	165	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.

CONTACT LIST

The contact persons for District #4 are as follows:

Mr. Randall Scott
Assistant District Engineer - Traffic
410-321-2800

Mr. Joseph McMahon
Assistant District Engineer - Utility
410-321-2800

Mr. Dave Ramsey
Assistant District Engineer - Maintenance
410-321-2800

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

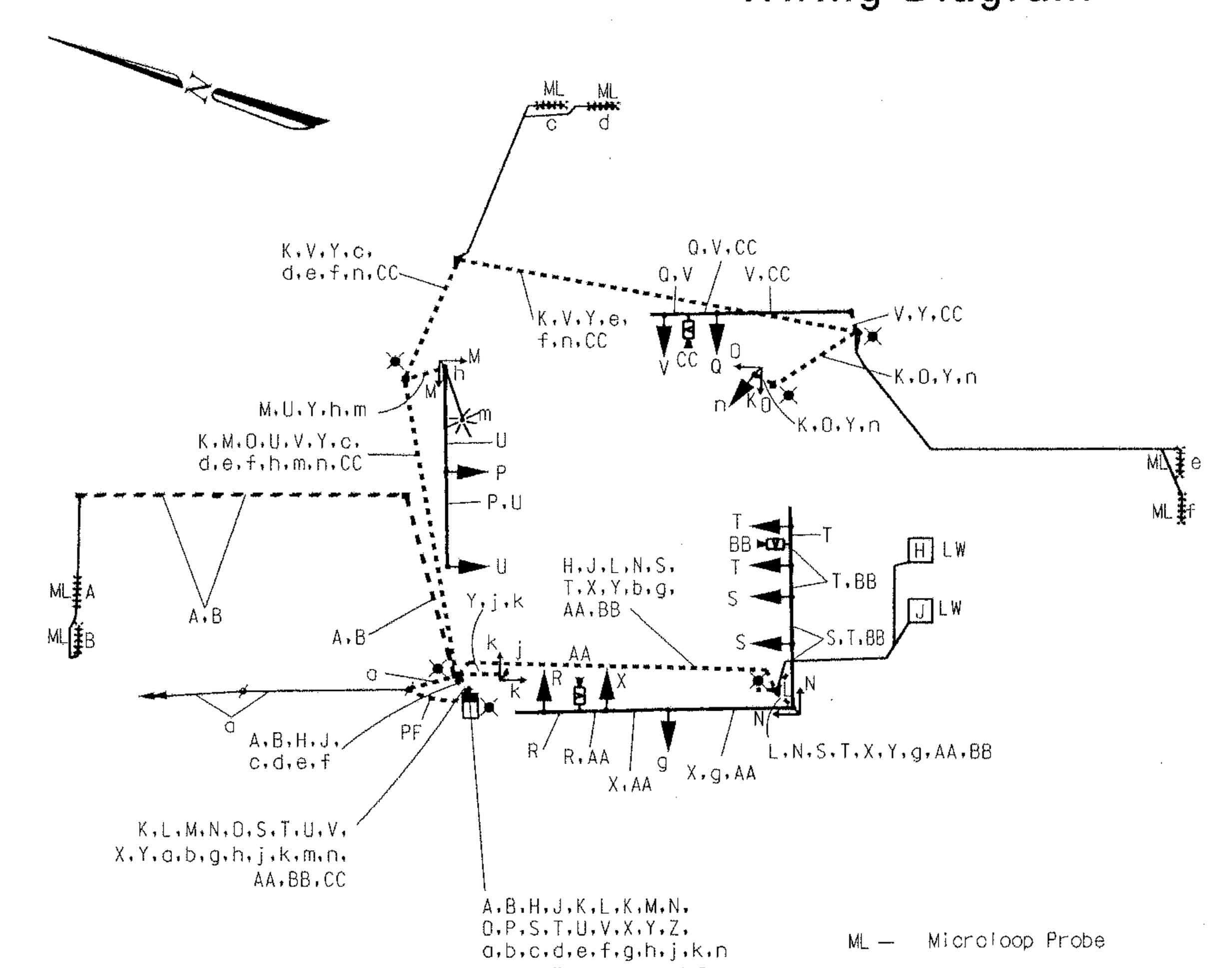
The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Bernie Thuman
7317 Parkway Drive South
Hanover, Maryland 21067
410-859-9030

All mast arm poles, mast arms, luminaire, luminaire arm and pedestal poles are to be painted National Park Service (NPS) Brown.

Phase Chart

	1	2	3	4	28	5	6	7	8	9	10	11	12.13 24.25	14.15 26.27
Phase 2 & 5	R	R	←G	←G	←G	G	G	R	R	R	R	R	DW	DW
5 Change	R	R	←Y	←Y	←Y	G	G	R	R	R	R	R	DW	DW
Phase 2 & 6	G	G	←R	←R	←R	G	G	R	R	R	R	R	WK	DW
Ped Clearance	G	G	←R	←R	←R	G	G	R	R	R	R	R	FL/DW	DW
2 & 6 Change	Y	Y	←R	←R	←R	Y	Y	R	R	R	R	R	DW	DW
Phase 4 & 8	R	R	←R	←R	←R	R	R	G	G	G	G	G	DW	DW
4 & 8 Change	R	R	←R	←R	←R	R	R	Y	Y	Y	Y	Y	DW	DW
Phase Alt 4 & Alt 8	R	R	←R	←R	←R	R	R	G	G	G	G	G	DW	WK
Ped Clearance	R	R	←R	←R	←R	R	R	G	G	G	G	G	DW	FL/DW
Alt 4 & Alt 8 Change	R	R	←R	←R	←R	R	R	Y	Y	Y	Y	Y	DW	DW
Flashing Operation	FL/Y	FL/Y	←FL/R	←FL/R	←FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

Wiring Diagram



ML — Microloop Probe
LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing
PF — Proposed Underground Electrical Service By BGE.
✕ — Proposed Grounding Rod

A, B, c, d, e, f — Microloop Probe Lead-in Cable
H, J — 2-Conductor Cable (Aluminum Shielded)
K, L, h, j — 2-Conductor Electrical Cable (No. 14 A.W.G.)
m — 2-Conductor Tray Cable (No. 12 A.W.G.)
M, N, O, P, Q, R, S, T, k, n — 5-Conductor Electrical Cable (No. 14 A.W.G.)
U, V, X, g — 7-Conductor Electrical Cable (No. 14 A.W.G.)
Y — Bare Copper Ground Wire (No. 6 A.W.G.)
W — 3-Wire (No. 8 A.W.G.) for Street Lighting Electrical Service
Z — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service
a — Existing Interconnect Cable (West Rd. - Fairmount Ave. Run)
b — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Fairmount Ave.- Bosley Ave. Run)
AA, BB, CC — Video Detection Cable

NEW SHEET
[Z] REDLINE REVISION #2

REVISIONS

(A) REDLINE REVISION No.2 CONTRACT NO. BA3305183 3/2002

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)
MD 45 at Fairmount Avenue/Carver School Entrance

DRAWN BY:	Frank Hoeckel	F.A.P. NO.	N/A	TS NO. 3981-GI	SHEET NO.
CHECKED BY:		S.H.A. NO.	BA3305183	T.I.M.S. NO.	20 OF 44
SCALE:	N/A	COUNTY:	Baltimore		
DATE:	January 18, 2000	LOG MILE:	03045002.78		

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