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)1]. [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 10-1Tb].
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.

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 Code No.	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	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	870	LF	Sawcut for signal loop detector.
862101	2690	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
861104	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	25	LF	2 in. polyvinyl chloride (Schedule 80) electrical conduit - riser.
800000	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	160	LF	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
800000	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.

CONTACT LIST

The contact persons for District #4 are as follows:

Mr. Dave Malkowski
District Engineer
410-321-2800

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

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

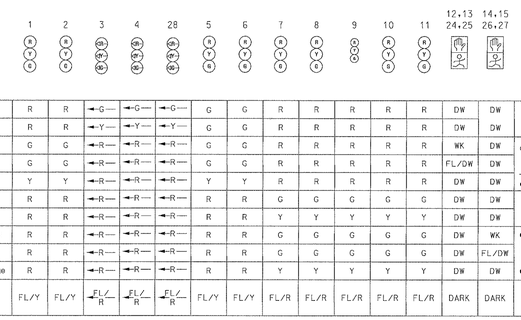
Mr. Dave Ramsey
Assistant District Engineer - Maintenance
410-321-2800

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

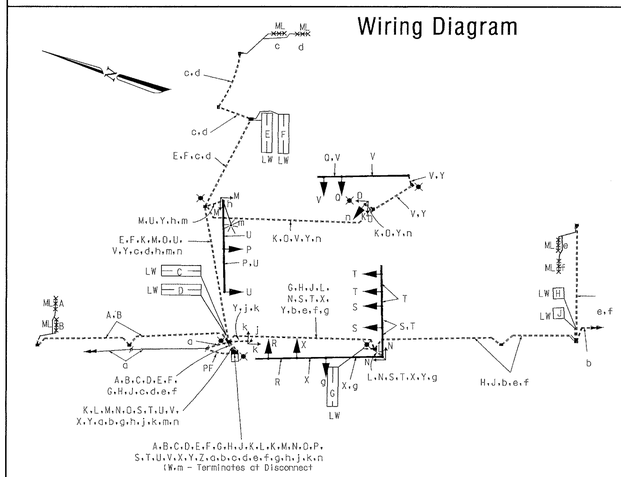
The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Bernie Thuman
7317 Parkway Drive South
Hanover, Maryland 21067
410-859-9030

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

Phase Chart



Wiring Diagram



A d B e C f } Microloop Probe Lead-In Cable

C G D H E J F } 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 R N S O T P k Q 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)

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

The Traffic Group
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APPROVALS

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

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		
SCALE: N/A	COUNTY: Baltimore	T.I.M.S. NO.	20 OF 44
DATE: January 18, 2000	LOG MILE: 03045002.78		

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