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 Washington Avenue 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 three (3) phase, full-traffic-actuated mode. The MD 45 through movements operate concurrently. The Washington Avenue movements operate alone with an actuated pedestrian phase across the south leg of the intersection.

The existing controller shall be utilized. Two 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 two 4-channel rack mounted loop detector amplifiers.
900000	39.5	SF	Sheet aluminum sign with mast arm mounting hardware. [1 each 16 in. x Var. D-3(1) (Dual Faced)]. [1 each 30 in. x 36 in. R 3-5(R)]. [1 each 16 in. x Var. D-3(1)].
900000	7.75	SF	Sheet aluminum sign with pole mounting hardware. [2 each 9 in. x 12 in. R 10-4(1) Sign to read: Pushbutton To Cross York Rd.]. [1 each 30 in. x 30 in. R 10-11b]
900000	2	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 CodeNo.	Quantity	Units	Description
203030	3	CY	Test pit excavation.
500000	300	LF	12 in. wide HAPPTPM - white for croswalk.
500000	50	LF	24 in. wide HAPPTPM - white for stop line
818036	1	EA	27 ft. steel twin mast arm pole with two 50 ft. mast arms [Note: four 1-3/4 in. x 90 in. anchor bolts].
868003	2	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 brerak away transformer base [Note: four 1 in. x 40 in. anchor bolts]
800000	18	EA	12 in. black faced traffic signal head section with mast arm mounting hardware.
800000	6	EA	8 in. black faced traffic signal head section with two-way post top mounting hardware.
800000	4	EA	12 in. pedestrian signal head section with post top mounting hardware.
871202	1	EA	Install base mounted cabinet/controller.
800002	2	EA	Install pedestrian pushbutton assembly.
800000	39.5	SF	Install sign - mast arm mounted.
800000	7.75	SF	Install sign - pole mounted.
811001	13	EA	Handhole.
800000	2	EA	Microloop probe (set of 3) with 500 ft. lead-in cable.
862102	280	LF	Sawcut for signal loop detector.
862101	840	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
861104	1450	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	160	LF	2-conductor electrical cable (No. 14 A.W.G.).
861106	175	LF	3-conductor electrical cable (No. 14 A.W.G.).
800000	185	LF	4-conductor electrical cable (No. 14 A.W.G.).
861107	210	LF	5-conductor electrical cable (No. 14 A.W.G.).
861108	645	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	200	LF	Bare copper stranded ground wire (No. 6 A.W.G.).
805160	30	LF	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
800000	45	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
805145	150	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
800000	40	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
805150	775	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
800000	90	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
801004	6.0	CY	Concrete foundation for traffic signal equipment.
837001	5	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	Cut, clean, and cap mast arm.
800000	1	EA	Photo cell.
800000	Lump Sum	LS	Remove and disposal of existing traffic signal equipment.
800000	Lump Sum	LS	Paint all mast arm pole, mast arms, luminaire, luminaire arm, and pedestal pole 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
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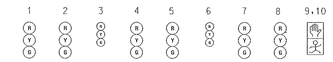
410-787-7630

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

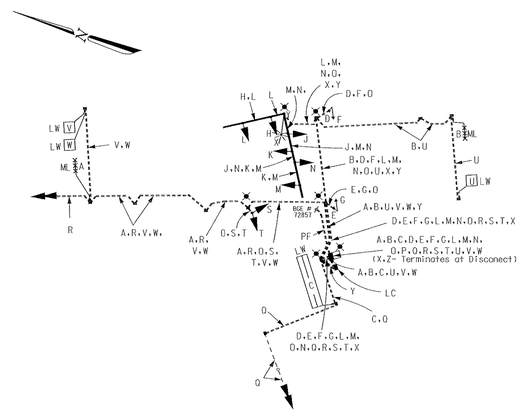
All mast arm poles, mast arms, luminaire, luminaire arm and pedestal poles are to be painted National Park Service (NPS) Brown.

Phase Chart



Phase 2 & 6	G	G	G	G	G	R	R	R	DW	←
2 & 6 Change	Y	Y	Y	Y	Y	R	R	R	DW	→
Phase 4	R	R	R	R	R	G	G	G	DW	↑
4 Change	R	R	R	R	R	Y	Y	Y	DW	↑
Phase All 4	R	R	R	R	R	G	G	G	WK	↑ ↑ ↑ ↑
Ped Clearance	R	R	R	R	R	G	G	G	FL/DW	↑ ↑ ↑ ↑
All 4 Change	R	R	R	R	R	Y	Y	Y	DW	↑ ↑ ↑ ↑
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	DARK	↔

Wiring Diagram



A, B — Microloop Lead-in Cable

C V, U W — 2-Conductor Cable (Aluminum Shielded)

X — 2-Conductor Tray Cable (No. 12 A.W.G.)

D, E — 2-Conductor Electrical Cable (No. 14 A.W.G.)

F, G — 3-Conductor Electrical Cable (No. 14 A.W.G.)

Y — 4-Conductor Electrical Cable (No. 14 A.W.G.)

H K, J T — 5-Conductor Electrical Cable (No. 14 A.W.G.)

L N, M S — 7-Conductor Electrical Cable (No. 14 A.W.G.)

O — Bare Copper Ground Wire (No. 6 A.W.G.)

P — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

Z — 3-Wire (No. 8 A.W.G.) for Street Llighting Electrical Service

LC — Streetscape lighting cabinet by others.

R — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Bosley Ave. - Washington Ave. Run)

O — Existing Interconnect Cable

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

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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 (York Road) at Washington Avenue

DRAWN BY: Frank Hoeckel	F.A.P. NO. N/A	TS NO. 3983-GI	SHEET NO. 24 OF 44
CHECKED BY:	S.H.A. NO. BA3305138		
SCALE: N/A	COUNTY: Baltimore	T.I.M.S. NO.	
DATE: January 7, 2000	LOG MILE: 03045002.26		

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