PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the reconstruction of the existing traffic control signal at the intersection of MD 140 and McHenery Ave./Walker Ave. in Baltimore County, Maryland. MD 140 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to continue to operate in a NEMA six (6) phase, full-traffic-actuated mode. There is an exclusive/permissive left turn phase for both the north and southbound movements of MD 140. The MD 140 through movements operate concurrently. The McHenery Ave./Walker Ave. movements operate concurrently with actuated pedestrian movements across MD 140.

The existing controller shall be utilized. Three 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 the Contractor.

Category Code No.	Quantity	Units	Description
900000	1	EA	Standard S.H.A. traffic base mounted cabinet, and three 4-channel rack mounted loop detector amplifiers
900000	59.25	SF	Sheet aluminum sign with mast arm mounting hardware: [1 each 30 in. x 30 in. R 10-11b] [2 each 36 in. x 42 in. R 10-12] [2 each 16 in. x Var. D-3(1) (Dual Faced)].
900000	3	SF	Sheet aluminum sign with pole mounting hardware: [4 each 9 in. x 12 in. R 10-4(1) pedestrian].
900000	4	EA	Pedestrian 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	6	CY	Test pit excavation.
500000	390	LF	12 in. wide HAPPTPM - white for crosswalk.
500000	100	LF	24 in. wide HAPPTPM - white for stop line.
800000	1	EA	21 ft. steel mast arm pole with a 70 ft. mast arm [Note: four 2 in. x 90 in. anchor bolts].
818021	1	EA	21 ft. steel twin mast arm pole with 50 ft. mast arms [Note: four 1-3/4 in. x 90 in. anchor bolts].
868003	4	EA	10 ft. steel pedestal pole with break away transformer base [Note: four 1 in. x 40 in. anchor bolts].
800000	40	EA	12 in. black faced traffic signal head section with mast arm mounting hardware.
800000	8	EA	12 in. pedestrian signal head section with post top mounting hardware.
871202	1	EA	Install base mounted cabinet/controller.
800000	4	EA	Install pedestrian pushbutton assembly.
800000	59.25	SF	Install sign - mast arm mounted.
800000	3	SF	Install sign - pole mounted.
811001	11	EA	Handhole.
862102	725	LF	Sawcut for signal loop detector.
862101	2340	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
861104	805	LF	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
861105	785	LF	2-conductor electrical cable (No. 14 A.W.G.).
861106	830	LF	3-conductor electrical cable (No. 14 A.W.G.).
861107	180	LF	5-conductor electrical cable (No. 14 A.W.G.).
861108	1425	LF	7-conductor electrical cable (No. 14 A.W.G.).
861117	5	LF	3-wire (No. 4 A.W.G.) electrical cable.
802501	495	LF	Bare copper stranded ground wire (No. 6 A.W.G.).
805160	40	LF	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
800000	25	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
805105	20	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
805145	165	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
800000	40	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
805115	40	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
805150	350	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
800000	20	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
805118	45	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
805155	390	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
801004	13.35	CY	Concrete foundation for traffic signal equipment.
837001	6	EA	Ground rod -¾in. diameter x 10 ft. length.
838003	1	EA	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-5 underground electrical service.
800000	2	EA	Cut, clean, and cap mast arm.
800000	4	EA	Microloop probe (set of three) with 500 ft. lead-in cable.
800000	Lump Sum	LS	Remove and disposal of existing traffic signal equipment.
800000	Lump Sum	LS	Paint all mast arms poles, mast arms, 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

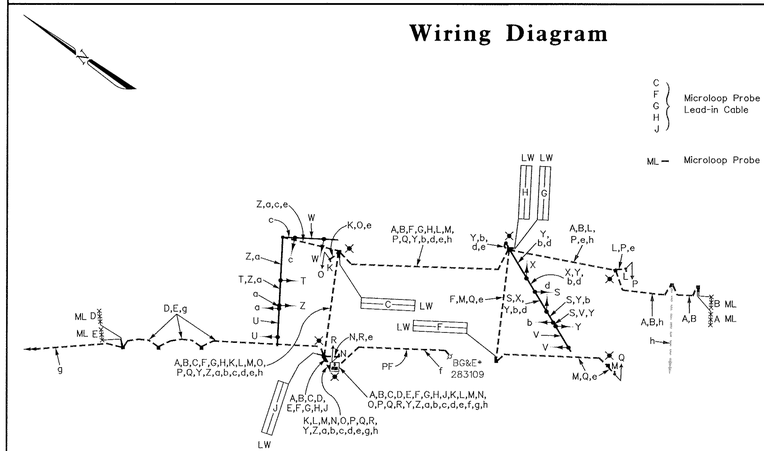
The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Bernie Thuman
7317 Parkway Drive South
Hanover, Maryland 21067
410-859-9030

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

Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	12	13,16	14,15	
Phase 1 & 5	R	R	R G	R	R	R	R G	R	R	R	R	R	DW	DW	
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6															
Phase 1 & 6	G	G	G G	G	R	R	R	R	R	R	R	R	DW	DW	
1 Change	G	G	G Y	G	R	R	R	R	R	R	R	R	DW	DW	
Phase 2 & 5	R	R	R	R	G	G	G G	G	R	R	R	R	DW	DW	
5 Change	R	R	R	R	G	G	G Y	G	R	R	R	R	DW	DW	
Phase 2 & 6	G	G	G	G	G	G	G	G	R	R	R	R	DW	DW	
2 & 6 Change	Y	Y	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	
Phase 4 & 8	R	R	R	R	R	R	R	R	G	G	G	G	DW	DW	
4 & 8 Change	R	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
Phase Alt 4 & 8	R	R	R	R	R	R	R	R	G	G	G	G	WK	DW	McHenry Ave.
Ped Clearance	R	R	R	R	R	R	R	R	G	G	G	G	FL/DW	DW	
Alt 4 & 8 Change	R	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
Phase 4 & Alt 8	R	R	R	R	R	R	R	R	G	G	G	G	DW	WK	Walker Ave.
Ped Clearance	R	R	R	R	R	R	R	R	G	G	G	G	DW	FL/DW	
4 & Alt 8 Change	R	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	

Wiring Diagram



C, F, G, H, J — Microloop Probe Lead-in Cable

ML — Microloop Probe

C, F, G, H, J — 2-Conductor Cable (Aluminum Shielded)

K, L, M, N — 2-Conductor Electrical Cable (No. 14 A.W.G.)

O, P, Q, R — 3-Conductor Electrical Cable (No. 14 A.W.G.)

S, T, U, V, W, X — 5-Conductor Electrical Cable (No. 14 A.W.G.)

Y, Z, a, b, c, d — 7-Conductor Electrical Cable (No. 14 A.W.G.)

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

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

g — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Old Court Rd.- McHenery Ave./ Walker Lane Run)

h — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (McHenery Ave./Walker Ave. - Church Lane Run)

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

PF — Proposed Underground Electrical Service By BGE (To be deteremined in the field)

— Proposed Grounding Rod

The Traffic Group
The Traffic Group, Inc.
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Baltimore, Maryland 21236
410-931-6600
1-800-583-8411
Fax 410-931-6601
Job. No. 970727-026
SIG3.DGN

MDOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information)

MD 140 at McHenry Avenue and Walker Avenue

LOG MILE • 03014001.17

DATE: November 2, 1999					
DRAWN BY: JES	F.A.P. NO.	SEE TITLE SHEET	PLAN SHEET NO.:	SHEET NO.
CHK. BY:	S.H.A. NO.	BA3035183	2277C-GI	6 of 21
SCALE: N/A	COUNTY:	Baltimore		

F:\970727\026\ver\sig3.dgn 06 DEC 1999