PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the installation of a new traffic control signal at the intersection of MD 24 and Forest Valley Drive/ Entrance to Spenceola Commercial in Harford County, Maryland. MD 24 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA six (6) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for both the north and southbound movements of MD 24. The MD 24 through movements will operate concurrently. The Forest Valley Drive/Entrance to Spenceola Commercial will operate concurrently.

Installation of Interconnect cable along MD 24 from Forest Valley Drive/Spenceola Commercial Entrance to Red Pump Road/Bynum Road is also included in this project.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, telemetry interface equipment, video detection equipment, and one 4-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

III. SPECIAL NOTE:

The Contractor shall notify Mr. Robert Snyder of SHA at 410-787-7635 to arrange for the phone drop installation.

The Contractor is to provide Mr. Snyder with the nearest street number, zip code, and telephone number.

EQUIPMENT LIST

A. S.H.A. furnished equipment material.

None.

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

Quantity	Units	Specification Section	Description
3	EA	818	27 ft. steel mast arm pole with 50 ft. mast arm
1	EA	818	27 ft. steel mast arm pole with 60 ft. mast arm
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and one 4-channel loop detector amplifiers, Telemetry interface equipment, and video detection equipment (Note: Controller and cabinet shall be supplied by Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650).
6	EA	814	12 in., one-way, three section (R,Y,G) (LED) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, five section (R,Y,YA,G,GA) (LED) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in./8 in., one-way, five section (12 in. YA, GA/ 8 in. R,Y,G) (LED) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	8 in., one-way three section (R,Y,G) (LED) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
4	EA	---	Video detection camera and cable. (1-150 LF, 2- 250 LF, 1- 350 LF)
2	EA	813	48 in. x 48 in. W 3-3 "NEW" sign for ground mounting.
1	EA	813	36 in. x 36 in. W 3-3 "NEW" sign for ground mounting.
2	EA	813	30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware.
2	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
2	EA	813	16 in. x Var. D3-(1) (dual faced)sign with mast arm mounting hardware.
2	EA	813	36 in. x 75 in. Shield Assembly sign with pole mounted hardware
2	EA	813	24 in. x 51 in. Shield Assembly sign with pole mounted hardware
4	EA	--	Non-invasive micro-loop probe (set of 3) with 500 ft. lead-in cable.
1	EA	806	20 ft. luminaire arm.
1	EA	806	250 W H.P.S. lamp and luminarie.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
4	CY	205	Test pit excavation.
10	EA	811	Handhole.
25	LF	810	1- conductor electrical cable (No. 4 A.W.G.)
300	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
160	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
1175	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
975	LF	810	12-pair Voice Grade (jelly filled) Telemetry Interconnect Cable (No. 19 A.W.G.)
360	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
110	LF	805	2 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
140	LF	805	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
265	LF	805	3 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
365	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
80	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
16.5	CY	801	Concrete foundation for traffic signal equipment.
7	EA	804	Ground rod -3/4in. diameter x 10 ft. length.
1	EA	807	Electrical service equipment (120/240 V, one phase, three wire system) for a MD-SHA Type 807.05-01 underground electrical serviced
150	LF	556	24 in. wide HAPPTPM - white for stop line.
18	LF	812	4 in. x 4 in. wood sign support.
82	LF	812	4 in. x 6 in. wood sign support.
2	EA	---	Cut, clean and cap mast arm pole.
Lump Sum	LS	---	As-built for S.H.A. (on CADD).

CONTACT LIST

The contact persons for District #4 are as follows:

Mr. Randall Scott
Assistant District Engineer - Traffic
410-321-2781

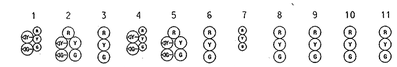
Mr. Mike Pasquariello
Assistant District Engineer - Utility
410-321-3460

Mr. Steve Markiszewski
Assistant District Engineer - Maintenance
410-321-2761

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

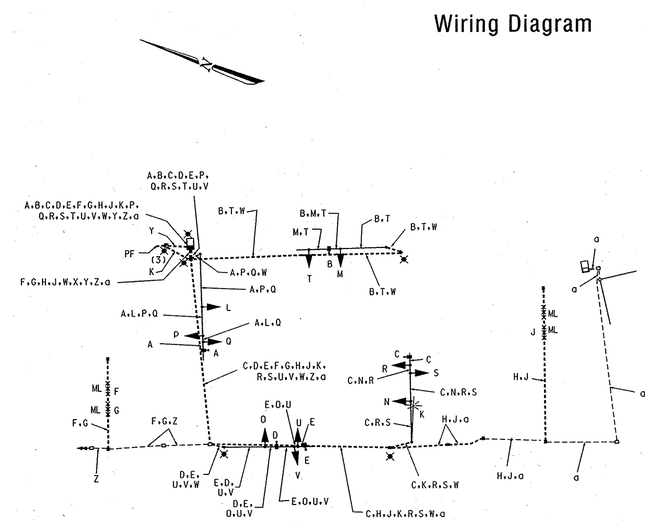
The Power Company Representative is:
Baltimore Gas and Electric Company
7317 Parkway Drive South
Hanover, Maryland 21076
410-859-9070

Phase Chart



	1	2	3	4	5	6	7	8	9	10	11
Phase 1 & 5	R, G	R, G	R	R, G	R, G	R	R	R	R	R	R
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
6 Change	G, Y	G, Y	G	R	R	R	R	R	R	R	R
Phase 2 & 5	R	R	R	G, G	G, G	G	R	R	R	R	R
5 Change	R	R	R	G, Y	G, Y	G	R	R	R	R	R
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	R
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	R
Phase 4 & 8	R	R	R	R	R	R	G	G	G	G	G
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	Y
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R

Wiring Diagram



A, B, C, D, E — Video Detector Cable

F, G, H, J — Non-Invasive Micro-loop Detector Lead-in Cable

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

L, M, N, O — 5-Conductor Electrical Cable (No. 14 A.W.G.)

P, Q, R, S, T, U, V — 7-Conductor Electrical Cable (No. 14 A.W.G.)

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

Y — 1-Conductor (No. 4 A.W.G.) (3 pieces) for Traffic Signal Electrical Service

Z — Existing Interconnect Cable Forest Valley Dr./Entr. to Spenceola Commercial Run)

a — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Forest Valley Dr./Entr. to Spenceola Commercial - Red Pump Rd./Bynum Rd.Run)

ML — Non-invasive Micro-loop Detector

— Proposed Grounding Rod

PF — Proposed Underground Electrical Service By BGE

PRELIMINARY/ FINAL REVIEW

The Traffic Group
The Traffic Group, Inc.
410-931-6600
Fax 410-931-6601

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 24 at Forest Valley Dr./Entr. to Spenceola Commercial

DRAWN BY:	Frank Hoeckel	F.A.P. NO.	N/A	TS NO. 4513 GI	SHEET NO.
CHECKED BY:		S.H.A. NO.	BW996M82		
SCALE:	N/A	COUNTY:	Harford	T.I.M.S. NO. 1031	
DATE:	Sept. 11, 2006	LOG MILE:	12024011.87		2 OF 2

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