PROJECT DESCRIPTION

I. GENERAL

This part of the project involves the reconstruction of existing traffic control signal at the intersection of MD 2 (Solomons Island Road) and Forest Drive in Anne Arundel County, Maryland.
MD 2 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to be modified to operate in a NEMA (8) eight-phase, full-traffic-actuated mode to include intersection lighting, interconnect to MD 450, and video detection. There will be an exclusive left turn phase for both the north and southbound movements of MD 2 (Solomons Island Rd.) The MD 2 through movements will operate concurrently with an actuated pedestrian movement across the east leg of the intersection. There will be an exclusive left turn phase for both the east and westbound movements of Forest Drive. The Forest Drive through movements will operate concurrently with an actuated pedestrian movement across the north leg of the intersection.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, video detection equipment, telemetry interface, and 2 four-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
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
2	EA	818	27 ft. steel mast arm pole with a 50 ft. mast arm.
1	EA	818	27 ft. steel mast arm pole with a 60 ft. mast arm.
1	EA	818	27 ft. steel mast arm pole with a 70 ft. mast arm.
1	EA	816	Standard S.H.A. ASC II traffic signal controller, NEMA Size 6 base mounted cabinet with video detection equipment, telemetry interface, 2 four-channel rack mounted loop detector amplifiers (Note: Controller and cabinet shall be purchased from Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650).
10	EA	814	12 in., one-way, three section L.E.D. (RA,YA,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
8	EA	814	12 in., one-way, three section L.E.D. (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
3	EA	814	16 in., L.E.D., one-way, one section, countdown pedestrian signal head with pole mounting hardware.
1	EA	814	16 in., L.E.D., one-way, one section, countdown pedestrian signal head with post top mounting hardware
4	EA	---	Video Detection Camera and cable. (1 - 100 LF, 2 - 200 LF, 1 - 300 LF)
6	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
4	EA	813	16 in. x Var. (Dual-faced) sign with mast arm mounting hardware.
2	EA	813	30 in. x 51 in. Shield Assembly with pole mounting hardware.
2	EA	813	48 in. x 75 in. Shield Assembly with pole mounting hardware.
4	EA	817	APS (Audible Pedestrian Signal) pushbutton station and sign.
4	EA	817	9 in. x 12 in. R 10-4(1)MOD pedestrain education sign.
3	EA	---	Non-invasive probe (set of 3) with 1000 ft. lead-in cable.
2	EA	806	20 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminaire.
5	CY	205	Test pit excavation.

C. SHA forces shall remove the controller and all auxiliary equipment from the controller cabinet.
The cabinet and all other materials to be removed by the contractor shall become the property of the contractor.

Quantity	Units	Description
1	EA	Controller.

CONTACT LIST

The contact persons for District #5 are as follows:

Ms. Kim Tran
Assistant District Engineer - Traffic
410-841-1019

Mr. John S. Mays
Assistant District Engineer - Utility
410-841-1039

Mr. Chuck E. George
Assistant District Engineer - Maintenance
410-841-1013

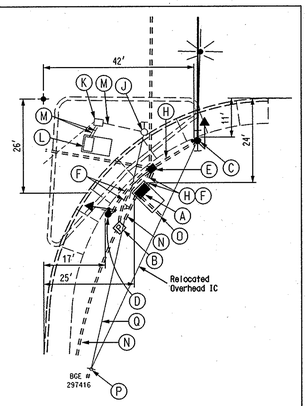
Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

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

Quantity	Units	Specification Section	Description
6	EA	811	Handhole.
25	LF	810	1-conductor electrical cable (No. 4 A.W.G.) (3 pieces).
350	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
330	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
450	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
2460	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
325	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
10	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
315	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
65	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
110	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
320	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
18.5	CY	801	Concrete foundation for traffic signal equipment.
8	EA	804	Ground rod - 3/4 in. diameter x 10 ft. length.
1	EA	807	Electrical utility service equipment (120/240 V, one phase, three wire system) for a MD-SHA Typ. 807.05-01 underground electrical service.
42	SF	---	Remove and replace concrete in island.
Lump Sum	LS	---	Remove and dispose of existing signal equipment.
Lump Sum	LS	---	As-built for S.H.A. (on CADD).

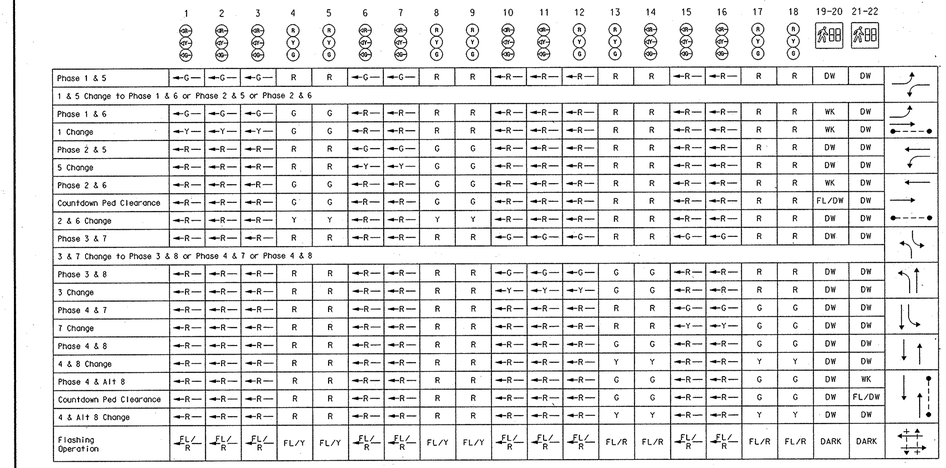
CONSTRUCTION DETAILS

A. Install base mounted NEMA size 6 cabinet/controller and all necessary equipment (Note: two 4 in., two 2 in. PVC conduit bends).
B. Install metered electrical service pedestal per MD SHA 807.05-01.
C. Install 27 ft. steel mast arm pole with a 70 ft. mast arm, vehicle signal heads, signs, countdown pedestrian signal head, APS pushbutton station and sign, pedestrian education sign, video detector camera, 3 in. weather head, 20 ft. luminaire arm, and 250 watt HPS luminaire (Note: one 4 in. PVC conduit bend).
D. Install 10 ft. steel pedestal pole on break away base with countdown pedestrian signal head, APS pushbutton station and sign, pedestrian education sign (Note: one 2 in. PVC conduit bend).
E. Install handhole.
F. Install 2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
H. Install 4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
J. Remove existing steel strain pole and all existing equipment.
K. Remove existing handhole.
L. Remove existing cabinet/controller.
M. Cap and abandon existing conduit.
N. Install 4 in. PVC [Schedule 80] electrical conduit for proposed underground electrical service by BG&E.
O. Install 2 in. PVC [Schedule 80] electrical conduit for proposed phone service by Verizon (to be determined during construction).
P. Pull back existing interconnect cable from existing cabinet, and rerun overhead to proposed cabinet.
Q. Relocate existing overhead interconnect cable.

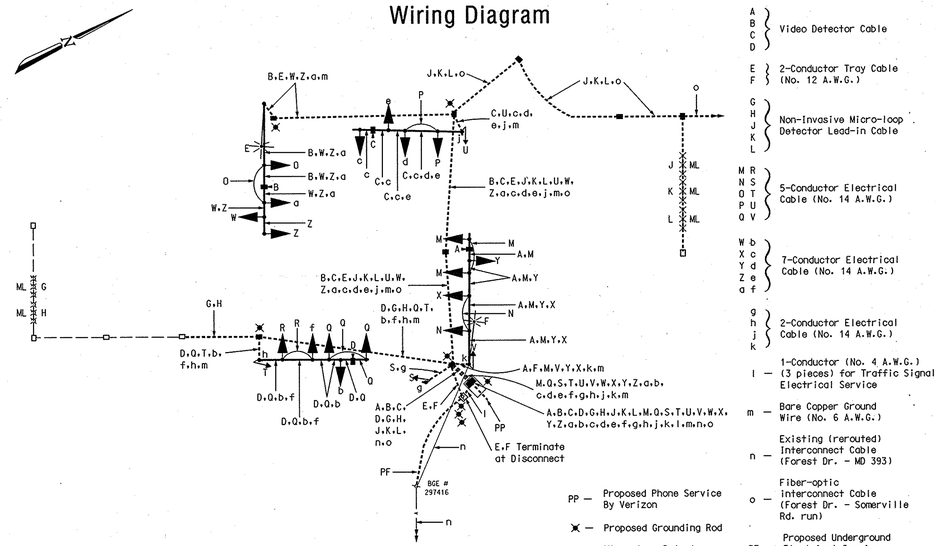


Traffic Control Device Detail
Not to Scale

Phase Chart



Wiring Diagram



Ultimate Signal

Revision "E"

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

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)
MD 2 (Solomons Island Rd.) at Forest Drive

DRAWN BY: F. Brownley	F.A.P. NO. N/A	TS NO. 71E-GI	SHEET NO.
CHECKED BY:	S.H.A. NO. BW996M82		
SCALE: N/A	COUNTY: Anne Arundel	T.I.M.S. NO. H573	4 OF 7
DATE: July 10, 2006	LOG MILE: 02000220.19		

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