

**PROJECT DESCRIPTION**

**I. GENERAL**

This project involves the reconstruction of the existing traffic control signal at the intersection of MD 177 and MD 607 in Anne Arundel County, Maryland. MD 177 is considered to run in an east/west direction.

**II. INTERSECTION OPERATION**

The intersection is to be modified to operate in a NEMA eight (8) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phases for both the east and westbound movements of MD 177. The MD 177 through movements will operate concurrently. There will be exclusive left turn phases for both the north and southbound movements of MD 607. The MD 607 through movements will operate concurrently.

A new eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and 4-four-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. S.H.A. furnished equipment.**  
NONE

**B1. Approved S.H.A. equipment to be purchased by the Developer 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
1	EA	818	27 ft. steel mast arm pole with a 70 ft. mast arm
1	EA	818	27 ft. steel twin mast arm pole with 50 ft. and 70 ft. mast arms.
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and four (4) four-channel loop detector amplifiers (Note: Controller and cabinet shall be purchased from Econalite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650).
4	EA	814	12 in., one-way, three section (R,Y,G) 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) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
4	EA	814	12 in., one-way, three section (R,Y,G) 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,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in./8 in., one-way, five section (12 in. YA, GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
2	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
3	EA	813	30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware.
1	EA	813	16 in. x Var. D-3(1) Single Face sign with mast arm mounting hardware.
1	EA	806	20 ft. luminaire arm.
1	EA	806	250 W H.P.S. lamp and luminarie.

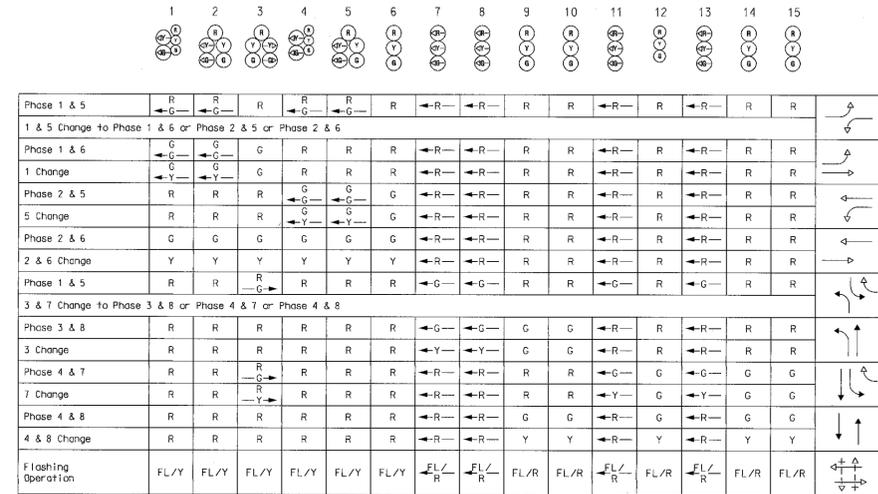
**C. S.H.A. forces shall remove the controller and all auxiliary equipment from the controller cabinet.** The cabinet and all other materials to be removed by the contractor shall become the property of the contractor.

Quantity	Units	Description
1	EA	Pole mounted cabinet.
3	EA	12 in. 3-section traffic signal head.
2	EA	12 in. 4-section traffic signal head.
3	EA	12 in. 5-section traffic signal head.
1	EA	R 10-12 sign.
5	EA	R 3-5 sign.
2	EA	Mast arm pole and mast arm.

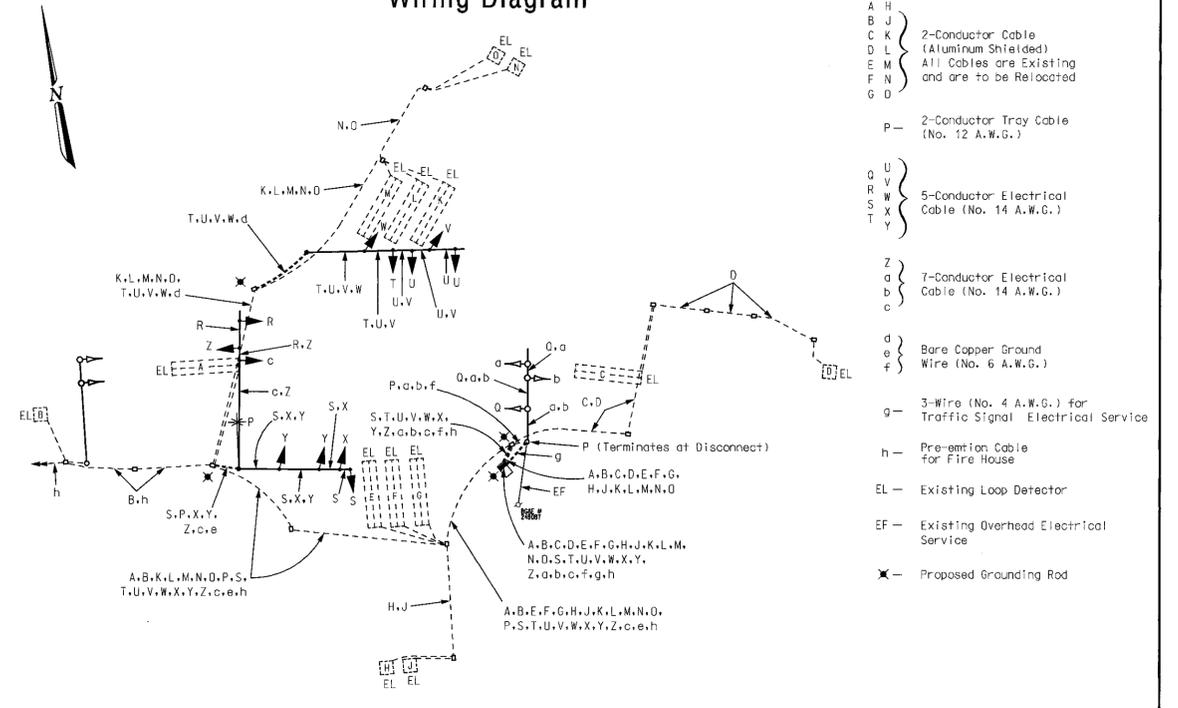
**B2. Equipment to be furnished and/or installed by the Contractor.** All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
3	CY	205	Test pit excavation.
275	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
2600	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
825	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
25	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
375	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
35	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
40	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
20	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
11.5	CY	801	Concrete foundation for traffic signal equipment.
4	EA	804	Ground rod 3/4 in. diameter x 10 ft. length.
30	LF	812	4 in. x 4 in. wood sign support.
1	EA	---	Cut, clean, cap, regalvanize mast arm pole.
2	EA	---	Relocate existing mast arm mounted sign.
Lump Sum	LS	---	Re-route existing electrical service.
Lump Sum	LS	---	Relocate traffic loop detector cables.
Lump Sum	LS	---	Remove existing traffic signal equipment.
Lump Sum	LS	---	As-built for S.H.A. on CADD.

**Phase Chart**



**Wiring Diagram**



**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
Office of Traffic & Safety  
**TRAFFIC ENGINEERING DESIGN DIVISION**  
(General Information Plan)  
**MD 177 at MD 607/Magothy Bridge Road**

DRAWN BY: J.Dirndorfer	F.A.P. NO. N/A	TS NO. 106 G	SHEET NO. 2 OF 2
CHECKED BY:	S.H.A. NO. BW996M82	T.I.M.S. NO. F-832	
SCALE: N/A	COUNTY: Anne Arundel	LOG MILE: 02017704.21	
DATE: June 23, 2003			

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