

EQUIPMENT LIST (con't)

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal at MD 170 and Gate 1 of Northrop Grumman in Anne Arundel County. This intersection is included with the MD 162/MD 170 (Aviation Blvd) Interconnect System.

MD 170 is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

- The intersection will continue to operate in a NEMA four-phase, semi-actuated mode. MD 170 approaches running concurrently, with an Exclusive/Permissive left turn for the north leg of MD 170. The Exclusive/Permissive right turn for Gate 1 operates on demand. Gate 1 operates alone with a left turn arrow.
- An eight phase fully-actuated ASC II local controller with telemetry panel and harness, detector panel and rack power supply housed in a NEMA size "6" base-mounted cabinet shall be installed on the existing cabinet's foundation. The autoscope and opticom cabinet equipment shall be relocated from the existing cabinet by the Signal Shop. The control and distribution equipment shall be replaced.

III. SPECIAL NOTES

- All field wiring to the existing controller cabinets shall be terminated to the appropriate controller cabinet connectors by the Contractor and labeled. All other controller cabinet wiring will be performed by the S.H.A. Signal Shop. Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.
- The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY M.S.H.A.

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9000	1	EA	Video interface equipment
9086	1	EA	An eight-phase, fully-actuated ASC II local controller with telemetry panel and harness, detector panel and rack power supply housed in a NEMA size "6" base mounted cabinet.
9089	11	SF	Flat Sheet aluminum sign (white). 1 each R10-12 "LEFT TURN, YIELD ON GREEN BALL" (36" X 42") mast arm mounted.

The quantities for Gate 1's reconstruction are included in the quantities on the System General Information Sheet No. 21 of 21.

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
2001	3	CY	Class 2 Excavation.
2002	1	CY	Test Pit Excavation.
6002	40	LF	Standard Type A combination curb and gutter.
6004	240	SF	4" concrete sidewalk.
8001	2	EA	250' video cable to controller
8006	1	EA	Cut, clean & cap Traffic signal structure.
8011	18	EA	12" vehicle signal head section. (Blackfaced)
8011	3	EA	8" vehicle signal head section. (Blackfaced)
8022	1	EA	Electrical utility service control and distribution equipment (120/240 volts).
8033	1	EA	Twin Mast Arm Pole and 50 FT/60 FT Mast Arms.
8054	530	LF	3" PVC Conduit-trenched.
8055	100	LF	4" PVC Conduit-bored.
8061	240	LF	4-conductor opticom cable.
8063	4	CY	Concrete for signal foundation.
8066	180	LF	No. 6 AWG stranded bare copper ground wire.
8074	60	LF	1-conductor (No. 4 AWG) electrical cable (THHN/THWN).
8076	4	EA	Electrical handhole.
8079	11	SF	Overhead sign.
8083	1	EA	Ground rod - 3/4 inch diameter x 10 foot length.
8087	60	LF	Electrical cable - 5 conductor (No 14 AWG).
8088	525	LF	Electrical cable - 7 conductor (No 14 AWG).
8096	1	EA	Install base-mounted system cabinet with controller.
NEG	5	EA	4" galvanized conduit in 8' length filled with concrete.
NEG	3	EA	Disconnect and relocate autoscope camera and/or opticom detector eye.

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.

The contact persons for District #5 are as follows:

Mr. Lawrence Elliott  
Assistant District Engineer - Traffic  
Phone: (410) 841-1003

Mr. George Charles  
Assistant District Engineer - Maintenance  
Phone: (410) 841-1002

Mr. John Mays  
Assistant District Engineer - Utility  
Phone: (410) 841-1005

Mr. Richard L. Daff, Sr.  
Chief, Traffic Operations Division  
Phone: (410) 787-7630

POWER COMPANY REPRESENTATIVE

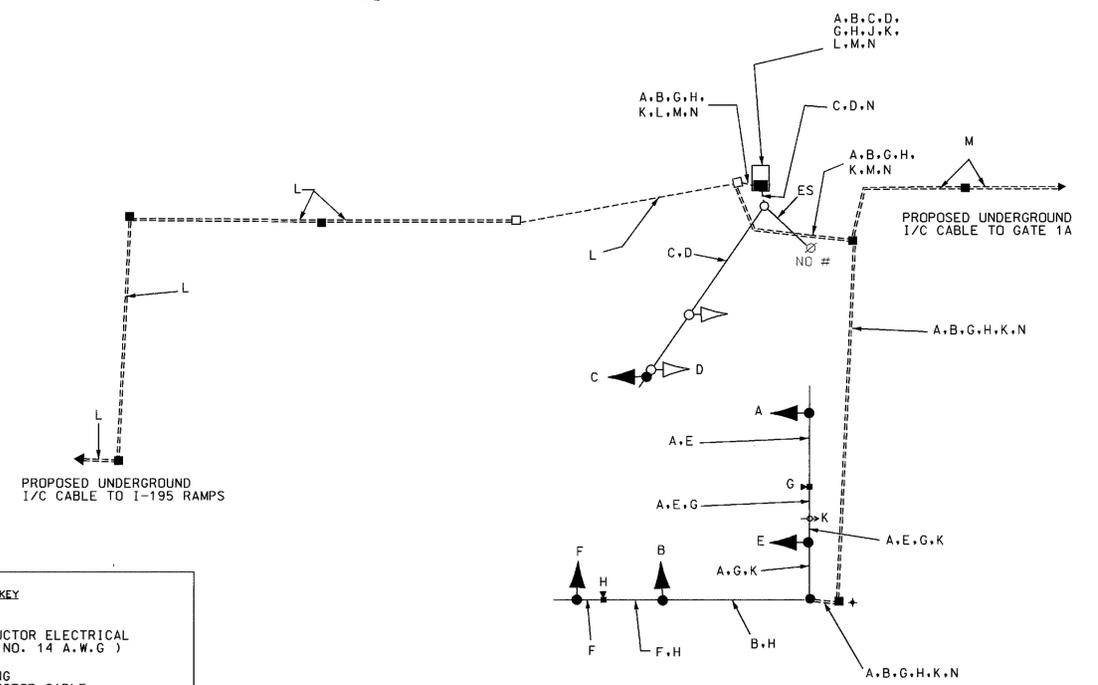
Baltimore Gas Electric  
Mike Malizewski  
7317 Parkway Drive  
Hanover, MD 21076  
Phone: 410-859-9043

PHASE CHART

	1	2	3	4	5	6	7
PHASE 1 & 6	R	R	G	G	R	R	R
1 & 6 CHANGE	R	R	G	G	R	R	R
PHASE 2 & 6	G	G	G	G	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	R	R	R
PHASE 4	R	R	R	R	R	G	G
4 CHANGE	R	R	R	R	R	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R

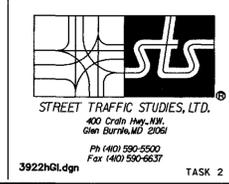


WIRING DIAGRAM



WIRING KEY

A	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
B	7-CONDUCTOR CABLE
C	EXISTING 7-CONDUCTOR CABLE
E	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
F	250' VIDEO CABLE TO CONTROLLER
G	1-CONDUCTOR (NO. 4 A.W.G.) THHN/THWN ELECTRICAL CABLE
H	NO. 4 OPTICOM DETECTOR CABLE
J	12 PAIR VOICE GRADE I/C CABLE; JELLY-FILLED
K	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
L	EXISTING LOOP WIRE
M	EXISTING SERVICE BY BGE
N	GROUND ROD



**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD 170 & GATE 1 OF NORTHROP GRUMMAN

GENERAL INFORMATION

DRAWN BY: EMM	F.A.P. NO. RRZ	TS NO. 1025-C
CHECKED BY: RRZ	S.H.A. NO. AA293A52JB52	SHEET NO. 8 OF 23
SCALE: NONE	COUNTY: ANNE ARUNDEL	T.I.M.S. NO. E 451
DATE: 1-25-02	LOG MILE: 02017007.51	