PROJECT DESCRIPTION

I. GENERAL

This project involves the recontruction of an existing Traffic Control Signal at the intersection of MD 450 and Riva Rd./ US 50 Ramps in Anne Arundel County. This traffic control signal shall be included in the MD 2/ MD 178/ MD 450 system. Video detection camera system shall provide the detection. The sampling fields are located farside on the east leg of MD 450. Street lighting shall be provided on the northwest and southeast quadrants.

MD 450 is assumed to run in an east-west direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA (6) six-phase, full-traffic-actuated mode, with Exclusive/ Permissive left turns on MD 450. Riva Rd. and the US 50 Ramps operate as a split phase. The split phase has an AM and a normal operation. Riva Rd has a right turn overlap that runs with the MD 450 left turns and the Riva Rd. split phase during normal operation.

2. Eight-phase, full-traffic actuated, solid state digital controller with one (1) four-channel, rack mounted loop detector amplifies, rack power supply, video interface and all necessray equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at the intersection.

EQUIPMENT LIST (INTERSECTION BREAKDOWN)

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

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9000	1	EA	An eight-phase, olid state full-traffic actuated digital controller with one (1) four-channel, rack-mounted loop detector amplifiers, power supply, with all the necessary equipment housed in a NEMA size '6' base mounted cabinet.
9087	1	EA	ASC II's controller.
9089	136	SF	Flat Sheet aluminum sign (white).
			2 each R3-5L "LEFT TURN ONLY" sign (30" x 36").
			1 each R3-5R "RIGHT TURN ONLY" sign (30" x 36").
			1 each R3-6 "THRU, RIGHT TURN" sign (30" x 36").
			1 each R3-1R "NO RIGHT TURN" sign (30" x 30").
			1 each R3-1L "NO LEFT TURN" sign (30" x 30").
			2 each R10-12 "LEFT TURN, YIELD ON GREEN BALL" sign (36" x 42").
			1 each Guide Shield Assembly pole mounted sign (36" x 75"). M3-2 "EAST" (30"X15"), M1-4 "US 50 shield" (36"X36"), M6-1 "LEFT ARROW" (30"X24")
			1 each Guide Shield Assembly pole mounted sign (48" x 48"). M3-2 "EAST" (30"X15"), M1-5 "MARYLAND 450" (48"X36"), M6-1 "LEFT ARROW " (30"X24")
			1 each Guide Shield Assembly pole mounted sign (30" x 51"). M3-2 "EAST" (24"X12"), M1-5 "MARYLAND 450" (30"X24"), M6-1 "RIGHT ARROW " (21"X15")
			1 each Guide Shield Assembly pole mounted sign (30" x 51"). M3-2 "WEST" (24"X12"), M1-5 "MARYLAND 450" (30"X24"), M6-1 "RIGHT ARROW " (21"X15")
			Flat Sheet aluminum sign (blue or green).
9090	9	SF	1 each D3-2 "ARROW Riva RD" sign, (variable x 16").
			1 each D3-2 "Riva RD" sign, (variable x 16").

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

ITEM NO.	QUANTITY	UNIT	DESCRIPTION.
1001	1	EA	Maintanance of traffic.
2003	9	CY	Class 2 excavation.
2004	3	CY	Test pit excavation.
6004	300	SF	4" concrete sidewalk.
8004	1	EA	Cut,clean and cap traffic signal structure.
8005	1	EA	Deliver existing controller and cabinet.
8008	8	EA	12" traffic signal head section optically programed.
8010	32	EA	12" traffic signal head section.
8012	2	EA	15' bracket arm for signal structure.
8013	2	EA	250 Watt HPS luminaire with photocell.
8018	9	EA	8" traffic signal head section.
8021	1	EA	27' steel pole with 50' mast arm (cut to 45').
8021	1	EA	27' steel pole with 50' mast arm.
8022	1	EA	27' steel pole (cut to 21') with 60' mast arm.

EQUIPMENT LIST (INTERSECTION BREAKDOWN) (con't)

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

ITEM NO.	QUANTITY	UNIT	DESCRIPTION.
8037	1	EA	Remove and dispose material and equipment.
8038	5	EA	Remove and dispose foundation 12" below grade.
8039	5	EA	Remove controller, cabinet or galvanized structure.
8042	20	LF	2" PVC schedule 80 electrical conduit- trenched
8044	200	LF	3" PVC schedule 80 electrical conduit- trenched.
8046	20	LF	4" PVC schedule 80 electrical conduit- trenched.
8048	400	LF	2-conductor electrical cable (No. 12 TC).
8049	12	CY	Concrete for signal foundation.
8052	300	LF	No 6 AWG stranded bare copper ground wire.
8056	230	LF	4" PVC schedule 80 electrical conduit- bored.
8061	30	LF	1-conductor electrical cable (No. 4-AWG-THHN/THWN).
8063	3	EA	Electrical handhole.
8066	145	SF	Install overhead sign.
8071	5	EA	Ground rod 3/4" dia x 10' length.
8072	1	EA	Control and distribution equipment (120/240 V, 1 phase/3 wire).
8073	260	LF	2-conductor electrical cable (No. 14-AWG) aluminum shielded.
8076	120	LF	5-conductor electrical cable (No. 14 AWG).
8077	1600	LF	7-conductor electrical cable (No. 14 AWG).
8084	1	EA	Install controller and cabinet- base mounted.
8090-A	650	LF	Fiber optic interconnect cable.
8092-A	1	EA	Fiber optic I/O panel.
8093-A	1	EA	Fiber optic repeater modem.
8095-A	1	EA	Fiber optic telemetry modules.
8097-A	1	EA	Telemetry interface cable.
8098-A	1	EA	Fiber optic modem cable.
8099-A	1	EA	Fiber optic telemetry cable.
NEG	4	EA	Video detection camera.
NEG	1	EA	Video detection interface equipment.
NEG	2	EA	250' pre-manufactured video detector cable.
NEG	2	EA	500' pre-manufactured video detector cable.
NEG	200	LF	Pull back and re-route existing cables.

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO THE OFFICE OF TRAFFIC, HANOVER.

1 EA Controller and base mounted cabinet.

ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

NOTE:

1. All the above quanities are included on the System GI Sheet No: 15 of 15.

The following contact persons for District #5 are as follows:

Mr. Paul Armstrong
District Engineer
Phone: (410) 841-1001

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

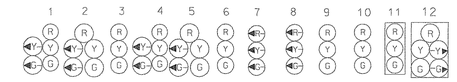
Mr. George Charles
Assistant District Engineer - Maintenance
Phone: (410) 841-1002

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

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

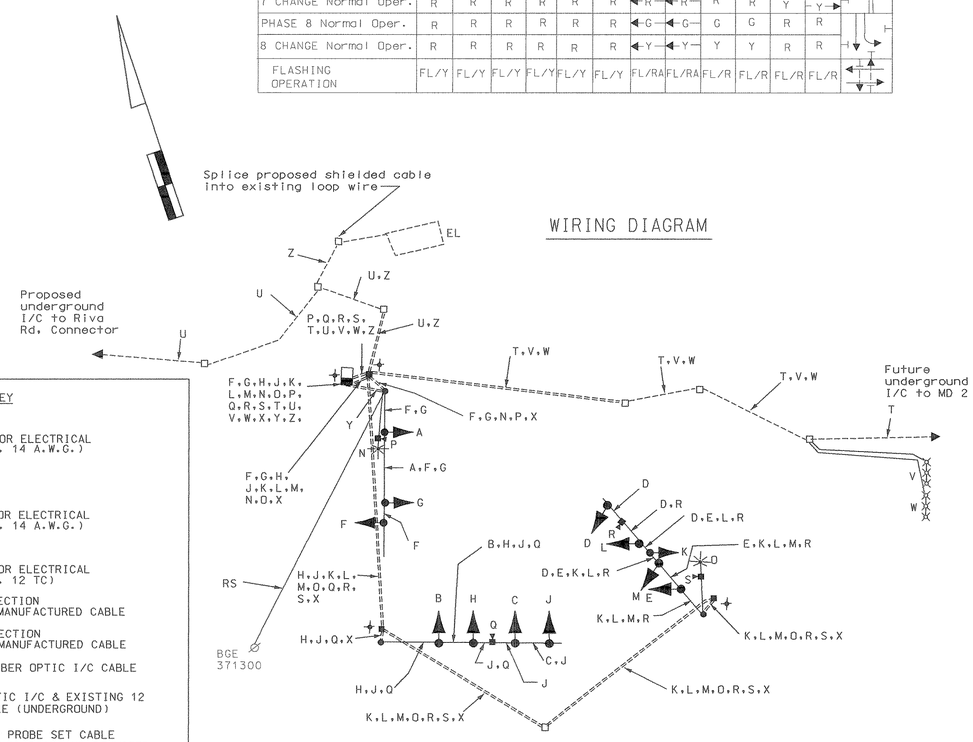
The power company representative is:
Baltimore Gas and Electric
Mike Maliizewski
7317 Parkway Drive
Hanover, Maryland 21076
410-859-9043

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 & 5	R G	R G	R	R G	R G	R	R	R	R	R	R	R G
1 & 5 CHANGE	TO PHASE 1 & 6 OR PHASE 2 & 5						R	R	R	R	R	R Y
PHASE 1 & 6	G G	G G	G	R	R	R	R	R	R	R	R	R
1 CHANGE	G Y	G Y	G	R	R	R	R	R	R	R	R	R
PHASE 2 & 5	R	R	R	G G	G G	G	R	R	R	R	R	R
5 CHANGE	R	R	R	G Y	G Y	G	R	R	R	R	R	R
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 3 AM OPERATION	R	R	R	R	R	R	G	G	G	G	R	R
3 CHANGE AM OPERATION	R	R	R	R	R	R	Y	Y	G	G	R	R
PHASE 4 AM OPERATION	R	R	R	R	R	R	R	R	G	G	G	G
4 CHANGE AM OPERATION	R	R	R	R	R	R	R	R	Y	Y	Y	Y
PHASE 7 Normal Oper.	R	R	R	R	R	R	R	R	R	R	G	G G
7 CHANGE Normal Oper.	R	R	R	R	R	R	R	R	R	R	Y	Y Y
PHASE 8 Normal Oper.	R	R	R	R	R	R	G	G	G	G	R	R
8 CHANGE Normal Oper.	R	R	R	R	R	R	Y	Y	Y	Y	R	R
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/RA	FL/RA	FL/R	FL/R	FL/R	FL/R

WIRING DIAGRAM



WIRING KEY

A, B, C, D, E } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

F, G, H, J, K, L, M } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

N, O } 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 TC)

P, Q } VIDEO DETECTION 250' PRE-MANUFACTURED CABLE

R, S } VIDEO DETECTION 500' PRE-MANUFACTURED CABLE

T – FUTURE FIBER OPTIC I/C CABLE

U – FIBER OPTIC I/C & EXISTING 12 PAIR CABLE (UNDERGROUND)

V, W } MICROLOOP PROBE SET CABLE TO BE PULLED BACK AND RE-WIRED

X – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

Y – 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

Z – 2 -CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINIUM SHIELDED

EL – EXISTING LOOP WIRE

RS – RELOCATED OVERHEAD SERVICE TO BE INSTALLED BY BG&E

+ – GROUND ROD

REVISION "D"

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.NW.
Glen Burnie,MD 21061
Ph (410) 590-5520
Fax (410) 590-6637

3925CGI.DGN TASK 5

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 450 AND RIVA RD/US 50 RAMPS
GENERAL INFORMATION SHEET

DRAWN BY: EMM	F.A.P. NO.	AA 085 A56	TS NO. 864D GI	SHEET NO. 6 OF 15
CHECKED BY: RRZ	S.H.A. NO.			
SCALE: NONE	COUNTY: ANNE ARUNDEL		T.I.M.S. NO. D 828	
DATE: 7/13/01	LOG MILE: 02045009.67			

.\3925\3925c\3925cgi.dgn Jul. 12, 2001 13:32:12