PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal at the intersection of MD 320 and MD 410 in Montgomery County. The existing street lighting is provided on the uitility poles. The intersection will be provided with a L.A.U. module and sampling stations on all approaches.

MD 320 is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

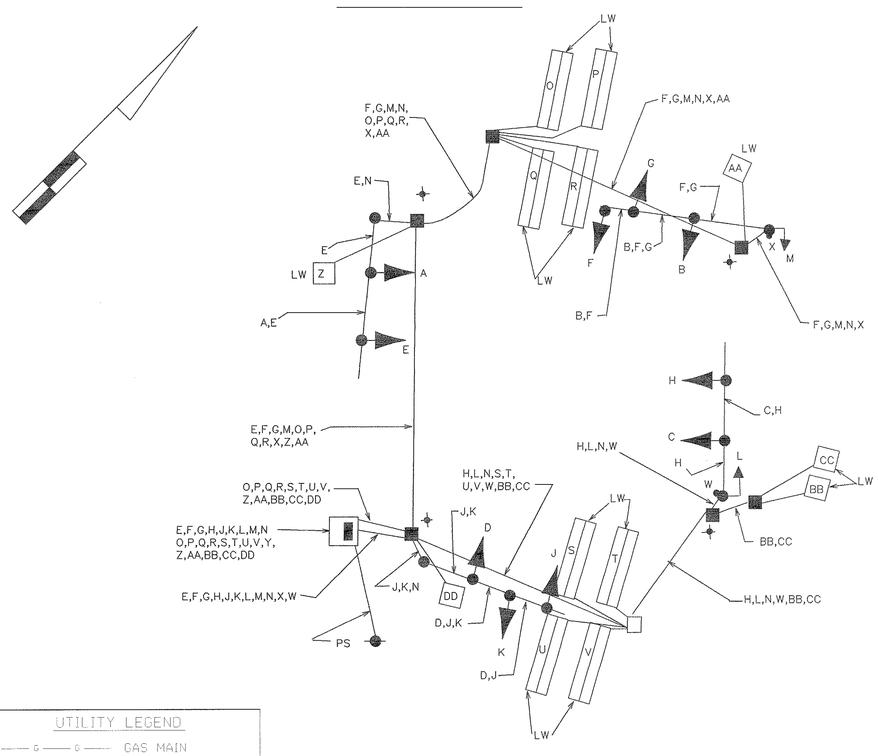
1. The intersection is to operate in a NEMA four-phase, semi-actuated mode, with the MD 320 approaches running concurrently. The MD 410 approaches also run concurrently. A pedestrian phase with pushbutton actuation shall be provided across the north leg of MD 320 (Phase 4).

2. A full-traffic-actuated, eight-phase controller with L.A.U. module two (2) four-channel, rack mount loop detector amplifiers, and detector rack power supply. Intersection Monitor with battery back-up for phone drop (not with interconnect) housed in a NEMA size "6 " base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES:

1. Upon completion of this project, the Contractor shall notify Mr. Robert Snyder at (410) 787-7631 to arrange for the phone line installation. The Contractor is to provide Mr. Robert Snyder with the nearest street address, zip code and phone number.

WIRING DIAGRAM



UTILITY LEGEND

G	G	GAS MAIN
W	W	WATER MAIN
S	S	SEWER MAIN
E	E	ELECTRIC CABLES
A	A	AERIAL CABLES
T	T	TELEPHONE CABLES

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY S.H.A. AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
9028	10 EA.	12", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting.
9027	2 EA.	12", one-way, two-section (DW,W) symbolic pedestian signal head with adjustable bracket for pole mounting and cutaway visors.
9096	2 EA.	Pedestrian pushbutton and R10-3C sign. (Note: Sign to read "PUSHBUTTON TO CROSS PINEY BRANCH RD.”).
9000	1 EA.	Eight-phase, full-traffic-actuated, solid state digital controller with L.A.U. module two (2) 4-channel, rack mount loop detector amplifiers, and detector rack power supple. Intersection Monitor with battery back-up for phone drop housed in a NEMA size " 6 " base-mounted cabinet.
9090	105 S.F.	Flat sheet aluminum sign (green) to consist of:
	1 EA.	D3-2 "Piney Branch Rd, <7500; Piney Branch Rd, 7500>" sign, (variable x 16") dual-faced, mast arm mounted.
	1 EA.	D3-2 "Philadelphia Ave, <400 ; Philadelphia Ave 400>" sign, (variable x 16") dual-faced, mast arm mounted.
9089	35 S.F.	Flat sheet aluminum sign (FYG) to consist of:
	5 EA.	S1-1 " Pedestrian crossing" sign, (30" x 30") 1-pole mounted, 4-post mounted.

WIRING KEY

A B C D	5- CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E F G H J K	7- CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L M	3- CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
O P Q R S T U V Z AA BB CC DD	2- CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUIM SHIELDED)
X W	2- CONDUCTOR (NO. 14 A.W.G.) ELECTRICAL CABLE
Y	1- CONDUCTOR ELECTRICAL CABLE (NO.4 A.W.G.) THHN/THWN
LW	LOOP WIRE (NO. 14 A.W.G.)
PS	PROPOSED UNDERGROUND SERVICE FROM PEPCO
✦	GROUND ROD (3/4" DIA. X 10')

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	L.S.	Maintenance of traffic.
2001	3 C.Y.	Test pit excavation.
2004	6 C.Y.	Class 2 Excavation (sidewalk removal).
5010	60 L.F.	Furnish and install heat applied permanent preformed thermoplastic pavement marking, white (24" width for stopline).
6001	420 S.F.	Furnish and install 4 inch concrete sidewalk.
6010	20 L.F.	Furnish and install depressed curb & gutter.
8001	15 C.Y.	Furnish and install concrete foundation.
8011	12 EA.	Install traffic signal heads.
8081	3 EA.	Furnish and install 21' steel pole with a 38' mast arm (cut to 32') (Note: 4 anchor bolts will be 1½" x 60").
8081	1 EA	Furnish and install 21' steel pole with a 38' mast arm (Note: 4 anchor bolts will be 1½" x 60").
8018	2 EA.	Install pushbutton and sign.
8020	1 EA.	Install base-mounted cabinet and contoller.
8021	925 L.F.	Furnish and install sawcut.
8022	25 L.F.	Furnish and install 1" galvanized steel electrical conduit (detector wire sleeve).
8023	65 L.F.	Furnish and install 1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
8027	145 L.F.	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).

B. EQUIPMENT LIST (CON'T.).

ITEM NO.	QUANTITY	DESCRIPTION
8030	45 L.F.	Furnish and install 4" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
8032	185 L.F.	Furnish and install 4" polyvinyl chloride electrical conduit (Schedule 80) (bored).
8033	6 EA.	Furnish and install handhole (frame and cover).
8034	6 EA.	Furnish and install ground rod (3/4"dia. x 10" length).
8040	3500 L.F.	Furnish and install loop wire (No. 14 A.W.G.) encased in¼" flexible tubing.
8041	1695 L.F.	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded).
8042	415 L.F.	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.).
8043	355 L.F.	Furnish and install 3-conductor electrical cable (No. 14 A.W.G.).
8044	100 L.F.	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).
8045	1370 L.F.	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).
8049	360 L.F.	Furnish and install stranded bare copper ground wire (No. 6 A.W.G.).
8050	90 L.F.	Furnish and install 1-conductor electrical cable (No. 4 A.W.G.)THHN/THWN.
8051	18 L.F.	Furnish and install 4"x4" wood post.
8054	105 S.F.	Install overhead mounted sheet aluminum sign.
8058	4 EA.	Remove and dispose of existing foundation 12" below grade.
8059	1 EA.	Removal of existing controller and cabinet.
8060	1 EA.	Delivery of removed controller and cabinet.
8061	1 EA.	Remove and dispose of existing signal equipment.
8070	1 EA.	Furnish and install control and distribution equipment.
NEG	35 S.F.	Remove and replace existing signs.
NEG.	20 L.F.	Remove existing curb.
NEG.	3 EA.	Cut mast arm to length.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 2 & 6	G	G	G	G	R	R	R	R	R	R	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW
PHASE 4 & 8	R	R	R	R	G	G	G	G	G	G	DW	DW
4 & 8 CHANGE	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW
PHASE 4 PED	R	R	R	R	G	G	G	R	R	R	WK	WK
PED CLEARANCE	R	R	R	R	R	R	R	G	G	G	FL/DW	FL/DW
PED PHASE CHANGE	R	R	R	R	R	R	R	Y	Y	Y	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

STREET TRAFFIC STUDIES, LTD.®
Gateway International
1302 Concourse Drive, Suite 104
Linthicum, Maryland 21090
Ph (410) 859-3553
Fax (410) 859-3579

Task25GI.DGN

REVISIONS	APPROVALS
	ASST. CHIEF TEDD SECTION
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY

ORIGINAL ON FILE

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 320 @ MD 410

DRAWN BY: Milesky	COUNTY: MONTGOMERY	TS NO. 3880	SHEET NO. 2 OF 2
CHECK BY: EMM	LOG MILE: 150410004.96		
DATE: 9/29/99	F.A.P. NO. AC-STPG-000S(588)E	T.I.M.S. NO. C-971	
SCALE: N\A	S.H.A. NO. AW-2775185		