PROJECT DESCRIPTION

I. GENERAL

This project involves the modifcation of an existing Traffic Control Signal with street lighting at the intersection of MD 117 (Clopper Road) and Hopkins Road in Montgomery County. The north side of MD 117 (Clopper Road) is being widened in this area for the purpose of creating an eastbound left turn lane. MD 117 (Clopper Road) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

1. The intersection is to continue operating in a three-phase, semi-actuated mode, with the MD 117 (Clopper Road) approaches running concurrently. Farside sampling station shall be provided on both legs of MD 117 (Clopper Road) at this intersection. The Hopkins Road approach shall run independantly.

2. The existing eight-phase controller housed in a NEMA size "6" base-mounted cabinet shall remain in operation at this intersection.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable. Contact Mr. Bob Gonzales at (240) 777-8761 seventy-two hours in advance of intended work.

2. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

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

SPEC. NUMBER	DESCRIPTION	QUANTITY
814	12", one-way, three-section (R,Y,G) black-faced traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	4 EA
814	8", one-way, three-section (R,Y,G) black-faced traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	2 EA
205	Test pit excavation.	1 C.Y.
801	Furnish and install concrete for signal foundation.	5 C.Y.
815	Saw cut for signal (loop detector).	540 L.F.
805	1" liquid tight flexible non-metallic conduit for detector sleeve.	60 L.F.
805	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	140 L.F.
811	Furnish and install electrical handhole.	2 EA
810	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	1815 L.F.
810	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).	100 L.F.
810	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).	600 L.F.
810	Furnish and install ground rod -3/4" x 10'.	1 EA
810	Furnish and install No. 6 AWG stranded bare copper ground wire.	140 L.F.
810	Furnish and install tray cable - 2 conductor (No. 12 AWG)	160 L.F.
	Remove existing overhead mounted sign	2 EA
	Remove existing handhole	2 EA
	Relocate existing overhead sign.	1 EA
806	Furnish and install 250 watt HPS Luminaire with photocell.	1 EA
808	Furnish and install 20' lighting bracket arm for traffic signal structure.	1 EA
822	Remove existing traffic signal head.	6 EA
	Canoga 4-conductor electrical cable (No. 14 A.W.G.) (shielded).	610 L.F.
	Remove existing steel pole, mast arm and concrete foundation 2' below grade.	1 EA
	Furnish and install 27' steel pole pole and 70' mast arm.	1 EA

SEQUENCE OF OPERATION SHEET

MD 117 (CLOPPER ROAD) RUNS IN AN EAST-WEST DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

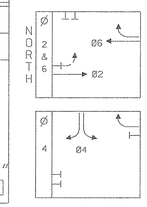
INTERSECTION: MD 117 (CLOPPER ROAD) AND HOPKINS ROAD

NO. _____

SIGNAL HEAD INDICATIONS

SIGNAL NO.	1,2, 3,4				5,6	
TOTAL:	4				2	
LEGEND: OPTICALLY LIMITED; R RED; Y YELLOW; G GREEN; ◄ ARROW; F FLASHING	R, Y, G, 12"	Y, 12"	R, Y, ◄Y, G, ◄G, 12"	R, Y, G, ◄G, 12"	R, Y, G, 8"	✋, 🚶, 9"or12"

PHASING



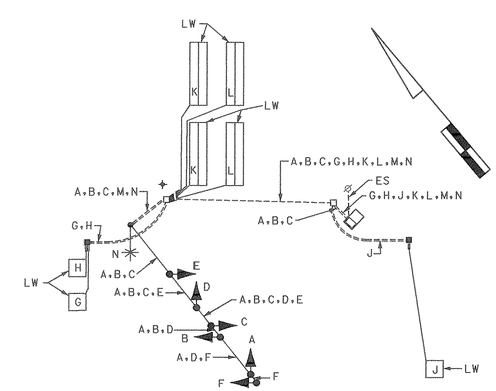
SEQUENCE OF OPERATION

SIGNAL NO.	INTERVAL 1	2	3	4	5	6	FLASH
1	G	Y	R	R	R	R	Y
2	G	Y	R	R	R	R	Y
3	G	Y	R	R	R	R	Y
4	G	Y	R	R	R	R	Y
5	R	R	R	G	Y	R	R
6	R	R	R	G	Y	R	R
PHASE	2 & 6		ALL RED	4		ALL RED	

NOTES:

SUBMITTED: _____ CHECKED: _____ APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

WIRING DIAGRAM



WIRING KEY

A, B, C } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

G, H, J, K, L } CANOGA 4-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) SHIELDED

M - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

N - 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)

LW - LOOP WIRE (NO. 14 A.W.G.)

ES - EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY PEPCO

✚ - GROUND ROD

REVISION "A"

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.NW.
Glen Burnie,MD 21061
Ph (410) 590-5920
Fax (410) 590-6637

3941GI.DGN

REVISIONS

(A) 6-5-01 MODIFY SIGNAL DUE TO MD 117 WIDENING
SHA NO.: BW996M82
RRZ

APPROVALS

ORIGINAL ON FILE

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 117 (CLOPPER ROAD)
AND HOPKINS ROAD

DRAWN BY: S BLOSS	F.A.P. NO. STPG-000S(301)E	TS NO. 3543A	SHEET NO. 2 OF 2
CHECKED BY: T HANNAN	S.H.A. NO. AW-791-501-385		
SCALE: 1"= 20'	COUNTY: MONTGOMERY	T.I.M.S. NO. E-653X	
DATE: 7-28-95	LOG MILE: 15011706.99		

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