

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with interconnect at the intersection of MD 355 (Rockville Pike) and MD 187 (Old Georgetown Road) in Montgomery County. The modification is due to geometric improvements on the westbound approach of Old Georgetown Rd. MD 355 (Rockville Pike) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA six-phase, semi-actuated mode, with the MD 355 (Rockville Pike) approaches continuing to run concurrently. Exclusive/Permissive left turn phases shall remain in operation for both approaches of MD 355 (Rockville Pike). The pedestrian phase with pushbutton actuation across the south leg of MD 355 (Rockville Pike) shall continue to operate. The pedestrian phases across MD 187 (Old Georgetown Road) shall remain in recall. Farside sampling stations shall continue to be provided on all legs of this intersection. The MD 187 (Old Georgetown Road) approaches shall operate as a side street split phase.
- The existing full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection. One new four channel, rack mount loop detector amplifier shall be installed into the cabinet.

III. SPECIAL NOTES

- 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.
- 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.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8087	R10-4(1) Pedestrian education sign, (9" x 12") pole mounted.	1 Each
8088	M1-1 "I 495" sign, (30"x24") ground mounted with hardware.	1 Each
8088	M1-1 "I 270" sign, (30"x24") ground mounted with hardware.	1 Each
8088	M1-2 "JCT" sign, (21"x15") U-channel mounted.	1 Each
8088	M1-5 "Maryland Route 355" sign, (30"x24") U-channel mounted.	1 Each
8088	M1-5 "Maryland Route 355" sign, (30"x24") ground mounted with hardware.	2 Each
8088	M3-1 "NORTH" sign, (24"x12") ground mounted with hardware.	1 Each
8088	M3-3 "SOUTH" sign, (24"x12") ground mounted with hardware.	1 Each
8088	M3-4 "WEST" sign, (24"x12") ground mounted with hardware.	1 Each
8088	M4-5a "TQ" sign, (24"x12") ground mounted with hardware.	2 Each
8088	M4-11 "BEGIN" sign (24"x12") U-Channel mounted.	1 Each
8088	R3-9b "CENTER LANE ONLY - left turn" sign (30"x48") U-Channel mounted.	1 Each
8088	M4-12 "END" sign (24"x12") U-Channel mounted.	1 Each
8088	R3-9b "CENTER LANE ONLY - left turn" sign (30"x48") U-Channel mounted.	1 Each
8088	M6-1 "Arrow" sign, (21"x15") ground mounted with hardware.	2 Each
8088	M6-2(L) "Arrow" sign, (21"x15") U-channel mounted.	4 Each
8088	M6-3 "ARROW" sign, (21"x15") ground mounted with hardware.	2 Each
8088	R1-2 "Yield" sign, (36"x36"x36") U-channel mounted.	2 Each
8088	R3-5L "LEFT TURN ONLY" sign, (30" x 36") span wire mounted.	1 Each
8088	R3-8(Mod) "Left Only / Thru Only / Right Only (Symbolic)" sign, (44"x30") ground mounted with hardware.	1 Each
8088	R4-7 "Keep Right (Symbolic)" sign, (24"x30") U-channel mounted.	3 Each
8088	R7-1 "No Parking (Symbolic)" sign, (12"x18") U-channel mounted.	2 Each
8088	W11-2 "Pedestrian Crossing (symbolic)" sign, (30"x30") U-channel mounted.	4 Each

EQUIPMENT LIST (Cont.)
A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
NEG.	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-3 "SOUTH"(30"x15") M1-5 "MD 355"(48"x36") M6-1 "left arrow"(30"x24")	1 Each
NEG.	GUIDE SHIELD ASSEMBLY (30"x51") ground mounted. M3-1 "NORTH"(24"x12") M1-5 "MD 355"(30"x24") M6-1 "right arrow"(21"x15")	1 Each

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
2002	Test pit excavation.	1 C.Y.
5016	4" concrete sidewalk, mix No. 2.	45 S.F.
5022	Remove sidewalk.	45 S.F.
8001	Concrete foundation.	1 C.Y.
8023	3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	50 L.F.
8029	4" polyvinyl chloride electrical conduit (Schedule 80) (slotted).	30 L.F.
8031	1" liquid tight flexible non metallic conduit (detector wire sleeve).	15 L.F.
8043	Ground rod, 3/4" diameter x 10' length with clamp.	1 Each
8060	Loop wire (No. 14 A.W.G.) encased in 1/4" flexible tubing.	1365 L.F.
8063	Canoga 4-conductor electrical cable (No. 14 A.W.G.) (shielded).	925 L.F.
8065	3-conductor electrical cable (No. 14 A.W.G.).	425 L.F.
8066	5-conductor electrical cable (No. 14 A.W.G.).	25 L.F.
8067	7-conductor electrical cable (No. 14 A.W.G.).	450 L.F.
8075	1-conductor electrical cable (No. 6 A.W.G.) stranded bare copper ground wire.	10 L.F.
8081	Wood sign supports (4" x 4").	80 L.F.
8084	Galvanized steel post, 12' U-channel.	13 Each
8131	Traffic signal handbox (pulbox).	3 Each
8132	Sawcut.	365 L.F.
8158	Removal and salvage of pedestal pole.	1 Each
8161	Removal of handbox.	1 Each
8162	Removal and salvage of pedestrian signal	1 Each
Neg.	Telspar tubular post.	3 Each
Neg.	10' breakaway pedestal pole with transformer base.	1 EA
Neg.	Furnish and install 12" vehicular traffic signal head section	13 Each
Neg.	Furnish and install 12" pedestrian signal head section	2 Each
Neg.	(Cont/Cab/Add) detector amplifier 4-ch rack mt	1 Each
Neg.	5" white permanent thermoplastic pavement marking.	280 L.F.
Neg.	5" yellow permanent thermoplastic pavement marking.	960 L.F.
Neg.	8" yellow permanent thermoplastic pavement marking.	420 L.F.
Neg.	12" white heat applied permanent preformed thermoplastic pavement marking.	1560 L.F.
Neg.	24" white heat applied permanent preformed thermoplastic pavement marking.	75 L.F.

The contact persons for District #3 (Montgomery County) are as follows:

- Mr. Lee Starkloff
Assistant District Engineer - Traffic
Phone: (301) 513-7318
- Mr. Raleigh Madley
Assistant District Engineer - Maintenance
Phone: (301) 513-7304
- Mr. Augie Rebish
District Engineer - Utility
Phone: (301) 513-7350
- Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

SEQUENCE OF OPERATION SHEET
TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

MD 355
RUNS IN AN
NORTH-SOUTH
DIRECTION

INTERSECTION: MD 355 (ROCKVILLE PIKE) AND MD 187 (OLD GEORGETOWN ROAD)

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	3,4,7,10,13	1,2	5,6	8,9,11,12	14-19
TOTAL:	5	2	2	4	6

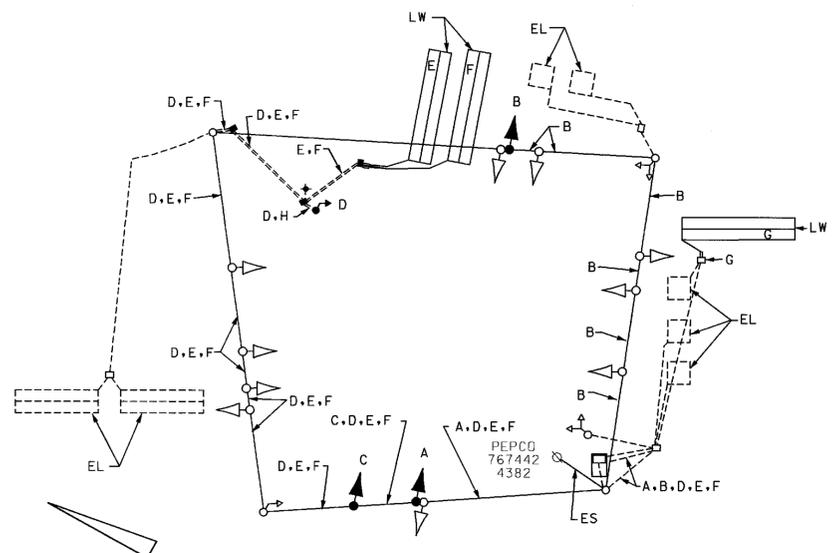
LEGEND	(R)	(R)	(R)	(R)	(R)
OPTICALLY LIMITED	(R)	(R)	(R)	(R)	(R)
R RED	(Y)	(Y)	(Y)	(Y)	(Y)
Y YELLOW	(G)	(G)	(G)	(G)	(G)
G GREEN	(G)	(G)	(G)	(G)	(G)
← ARROW	(G)	(G)	(G)	(G)	(G)
F FLASHING	(G)	(G)	(G)	(G)	(G)

SIGNAL NO.	SEQUENCE OF OPERATION																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
2	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
3	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
4	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
5	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
6	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
7	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
8	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
9	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
10	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
11	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
12	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
13	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
14	WK	DW																			
15	WK	DW																			
16	WK	DW																			
17	WK	DW																			
18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
19	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE	2 & 6	ALL																			

NOTES:

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

WIRING DIAGRAM



WIRING KEY	
A	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
B	CABLE (NO. 14 A.W.G.)
C	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
D	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E	CANOGA 4-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) SHIELDED
F	USE EXISTING CANOGA 4-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) SHIELDED
G	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
H	EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY PEPSCO
EL	LOOP WIRE (NO. 14 A.W.G.) EXISTING
LW	LOOP WIRE (NO. 14 A.W.G.)
ES	EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY PEPSCO
+	GROUND ROD



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 355 (ROCKVILLE PIKE) AND MD 187 (OLD GEORGETOWN ROAD)

DRAWN BY: ROB CICCHINI	F.A.P. NO. _____	TS NO. 3262B
CHECKED BY: NONE	S.H.A. NO. _____	T.I.M.S. NO. F891
SCALE: 5-11-04	COUNTY: MONTGOMERY	LOG MILE: 15018705.32
DATE: 5-11-04		SHEET NO. 2 OF 3