PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a Traffic Control Signal at the intersection of MD 190 (River Road) and Burdette Road in Montgomery County. MD 190 (River Road) is assumed to run in an east-west direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA, semi-actuated mode, with the Burdette Road approaches running concurrently. Exclusive/Permissive left turn phases shall be used for the eastbound and westbound approaches of MD 190. Pedestrian phases shall be provided for both Burdette Road cross-walks and the east leg of the MD 190. Audible pedestrian pushbuttons shall be provided for the MD 190 east leg crosswalk and the north and south legs of Burdette Road.

2. Farside sampling stations, using loop detection shall be provided on both legs of MD 190 (River Road) at this intersection. Video detection cameras shall be used for presence detection at the stop bars for Burdette Road and eastbound and westbound MD 190 left turn lanes.

III. SPECIAL NOTES

1. 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.

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

Mr. Lee Starkloff
Assistant District Engineer - Traffic
Phone: (301) 513-7318

Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Augie Rebish
District Engineer - Utility
Phone: (301) 513-7350

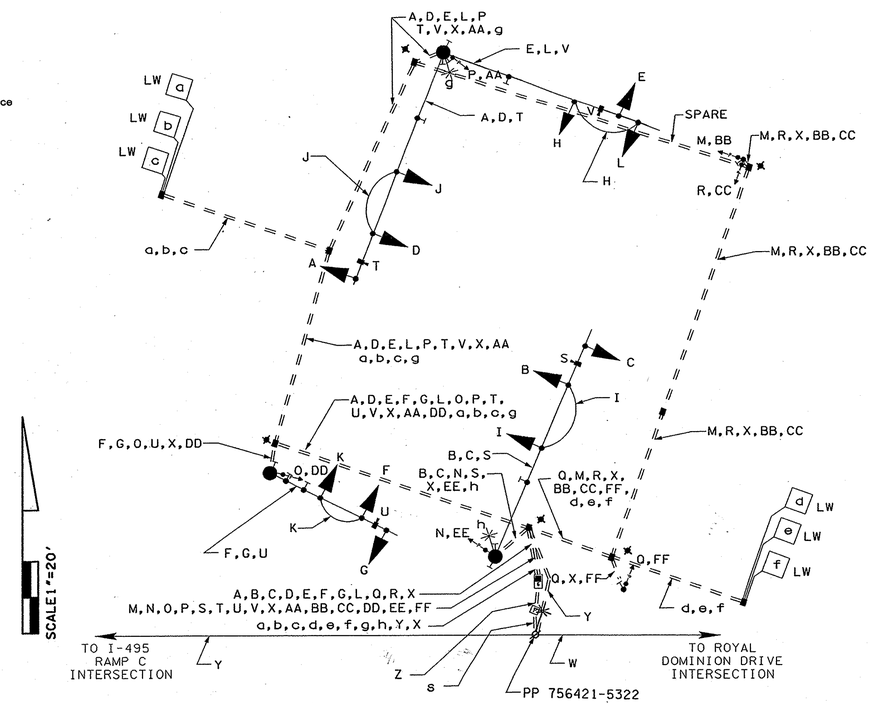
Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Dr. Wilhelm Derminassian
Engineer, Montgomery County DPWT
Phone: (240) 777-8795

Mr. Ed Rodenhizer
SHA Signal Shop
Phone: (410) 787-7650

The Power Company Representative is:
Mr. Steve Custer
PEPCO
Phone: (301) 548-4337

WIRING DIAGRAM



WIRING KEY

A B C D E F G L	PROPOSED 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H I J K M N O P Q R	PROPOSED 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
AA CC EE BB DD FF	PROPOSED 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
S T U V	PROPOSED VIDEO DETECTION CABLE
a b c d e f	PROPOSED 2-CONDUCTOR (ALUMINUM SHIELDED) (NO. 14 A.W.G.)
g h	PROPOSED 2-CONDUCTOR TRAY CABLE FOR STREET LIGHTS (NO. 12 A.W.G)
LW	LOOP WIRE
W	EXISTING INTERCONNECT CABLE
X	PROPOSED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
Y	PROPOSED 12-PAIR INTERCONNECT CABLE (NO. 9 AWG) CONNECTED BY MONTGOMERY COUNTY DPW&T FORCES.
Z	PROPOSED 3-WIRE NO. 4 A.W.G. FOR ELECTRICAL SERVICE
s	PROPOSED 3-WIRE NO. 250 KCMIL FOR ELECTRICAL SERVICE
✦	GROUND ROD

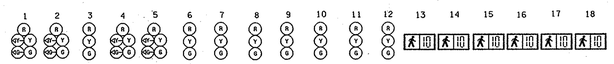
EQUIPMENT LIST

A. Equipment to be furnished by the State Highway Administration:
None

B. Equipment to be furnished and installed by the contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

QUANTITY	UNITS	ITEM NUMBER	DESCRIPTION
1	EA	1001	Maintenance of traffic.
4	CY	2002	Test pit excavation.
50	LF	5002	5 in. wide HAPPTPM - double yellow for lane line.
440	LF	5003	12 in. wide HAPPTPM - white for crosswalk.
140	LF	5004	24 in. wide HAPPTPM - white for stop line.
15	CY	8001	Concrete foundation for traffic signal equipment.
2	EA	8010	Pedestal Pole (10 ft.)
6	EA	8011	Audible/Tactile Pedestrian Pushbutton
1	EA	8014	Pre-manufactured camera to controller cable (100' length)
1	EA	8015	Pre-manufactured camera to controller cable (200' length)
2	EA	8016	Pre-manufactured camera to controller cable (300' length)
10	LF	8022	2 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
325	LF	8026	Electrical cable, 2-conductor tray cable (No. 12 A.W.G.).
430	LF	8030	Bare copper stranded ground wire (No. 6 A.W.G.).
410	LF	8035	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
135	LF	8036	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
65	LF	8037	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
20	LF	8041	1 in. liquid tight flexible non-metallic electrical conduit (detector wire sleeve)
1	EA	8043	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-16 underground electrical service.
32	LF	8044	1-conductor electrical service cable (No 4 A.W.G.)
9	EA	8050	Electrical handhole.
7	SF	8051	30 in x 30 in. R3-7R sign with ground mounting hardware
64	SF	8051	48 in. x 48 in. W3-3 sign with flags and NEW supplemental sign
8	SF	8051	12 in. x Var. W16-8 supplemental ground mounted sign
96	SF	8052	16 in. x Var. D-3(1) (Dual Faced) sign with mast arm mounting hardware.
8	SF	8052	30 in x 36 in R3-5R sign with mast arm mounting hardware
5	SF	8052	9 in. x 12 in. R10-4(1) sign. (Note: signs to read PUSH BUTTON TO CROSS RIVER RD or BURDETTE RD as shown on sheet 1).
67	SF	8052	24" x 51" and 48" x 75" route assembly signs with pole mounting hardware
4	EA	8052	Video detection camera
1200	LF	8055	Interconnect cable - 12-pair (No. 9 AWG)
2	EA	8057	250W-HPS Luminaire
5	EA	8059	Ground rod -Min. diameter x 10 ft. length.
940	LF	8064	Electrical cable - 2-conductor (Aluminum Shielded)
845	LF	8065	Electrical cable, 2-conductor (No. 14 A.W.G.).
935	LF	8067	Electrical cable, 5-conductor (No. 14 A.W.G.).
1890	LF	8068	Electrical cable, 7-conductor (No. 14 A.W.G.).
775	LF	8069	Loop Wire encased in flexible tubing (No. 14 A.W.G.)
245	LF	8070	Saw Cut for Signal (Loop Detector)
1	EA	8071	27 ft. steel mast arm pole with 70 ft.mast arm.
1	EA	8071	27 ft. steel mast arm pole with 38 ft. mast arm.
1	EA	8072	27 ft. steel mast arm pole with twin 70 ft. and 60 ft. mast arm.
1	EA	8077	Standard SHA traffic signal controller and base mounted cabinet.
1	EA	8078	200A metered service pedestal
6	EA	8079	16 in. LED countdown pedestrian signal head
44	EA	8080	12 in. vehicular signal head led section, black face
60	LF	-	Electrical cable, 1-conductor No. 250 KCMIL

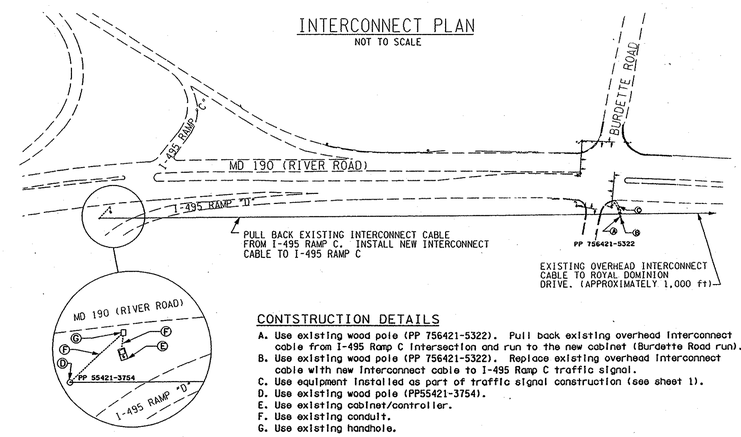
PHASING CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1 & 5	R ◄G-	R ◄G-	R	R ◄G-	R ◄G-	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
CHANGE TO PHASES 1 & 6, 2 & 5, OR 2 & 6																		
PHASE 1 & 6	G ◄G-	G ◄G-	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 & 6 CHANGE	G ◄Y-	G ◄Y-	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
ALT PHASE 1 & 6	G ◄G-	G ◄G-	G	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PED CLEAR	G ◄G-	G ◄G-	G	R	R	R	R	R	R	R	R	R	DW	FL/DW	FL/DW	DW	DW	DW
1 & ALT 6 CHANGE	G ◄Y-	G ◄Y-	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	G ◄G-	G ◄G-	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	G ◄Y-	G ◄Y-	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
ALT PHASE 2 & 5	R	R	R	G ◄G-	G ◄G-	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
PED CLEAR	R	R	R	G ◄G-	G ◄G-	G	R	R	R	R	R	R	FL/DW	DW	DW	FL/DW	DW	DW
ALT 2 & 5 CHANGE	R	R	R	G ◄Y-	G ◄Y-	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
ALT PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
ALT 2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
ALT. PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEAR	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
ALT. 4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

INTERCONNECT PLAN

NOT TO SCALE



CONTSTRUCTION DETAILS

A. Use existing wood pole (PP 756421-5322). Pull back existing overhead interconnect cable from I-495 Ramp C intersection and run to the new cabinet (Burdette Road run).
B. Use existing wood pole (PP 756421-5322). Replace existing overhead interconnect cable with new interconnect cable to I-495 Ramp C traffic signal.
C. Use equipment installed as part of traffic signal construction (see sheet 1).
D. Use existing wood pole (PP55421-3754).
E. Use existing cabinet/controller.
F. Use existing conduit.
G. Use existing handhole.

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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 190 (RIVER ROAD) AND BURDETTE ROAD

DRAWN BY: KRB	F.A.P. NO.		TS NO. 4431	SHEET NO.
CHECKED BY: GDG	S.H.A. NO.			
SCALE: 1"=20'	COUNTY: MONTGOMERY		T.I.M.S. NO. G884	2 OF 2
DATE: JULY 27, 2005	LOG MILE: 15001901L78			