PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing strain pole Traffic Control Signal with interconnect at the intersection of MD 190 (River Rd) and MD 191 (Bradley Blvd) in Montgomery County. A new mast arm Traffic Control Signal shall be installed at this location. Video detection shall be used on all approaches and for sampling. MD 190 (River Rd) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA five-phase, semi-actuated mode, with the MD 190 (River Rd) approaches running concurrently. Exclusive/Permissive left turn phases shall continue to be provided for both approaches of MD 190 (River Rd). The pedestrian phase with pushbutton actuation across the west leg of MD 190 (River Rd) shall remain in operation. The pedestrian phases across MD 191 (Bradley Blvd) shall remain on recall. New farside sampling stations shall be provided on the east leg of MD 190 (River Rd) and the north leg of MD 191 (Bradley Blvd) at this intersection. The MD 191 (Bradley Blvd) approaches shall also continue to run concurrently.

2. A full-traffic-actuated, eight-phase controller with L.A.U. and L.A.U. Panel housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.

2. Disconnecting and splicing of interconnect cable shall be performed by Montgomery County Forces. The contractor shall run the interconnect cable into the base of each cabinet and properly tag the cable. Contact Dr. Wilhelm DerMinassian at (240) 777-8795 seventy-two hours in advance of intended work.

3. 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.

4. Contractor is to set mast arm across Bradley Blvd at time of turn on.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

ITEM NO.	DESCRIPTION	QUANTITY
9042	Controller ASC II with telemetry	1 EA
9044	Controller cabinet, size "6"	1 EA
9086	Video detection interface equipment: 1-4 cameras (To be installed by signal shop).	1 EA
9570	Sheet aluminum signs to consist of: (ground mount)	17 SF
	W11-2 "PEDESTRIAN CROSSING (SYMBOLIC)" sign, (30" x 30")	2 EA
	M6-2 "arrow (symbolic)" right diagonal sign, (15" x 21")	2 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	69 SF
	D3-2 "BRADLEY Blvd 8900" sign, (variable x 16") <	1 EA
	D3-2 "BRADLEY Blvd 8900 " sign, (variable x 16") >	1 EA
	D3-2 "RIVER RD 8900" sign, (variable x 16") <	1 EA
	D3-2 "RIVER RD 8900 " sign, (variable x 16") >	1 EA
	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42").	2 EA
	R3-6R "THRU RIGHT TURN ONLY" sign, (30" x 36")	1 EA
	R3-5R "RIGHT TURN ONLY" sign (30" x 36")	1 EA

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

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	3 EA
2001	Class 2 Excavation.	2 C.Y.
2002	Test Pit Excavation	8 C.Y.
5003	Removal of existing permanent pavement line markings	420 L.F.
5005	12" white heat applied permanent preformed thermoplastic pavement marking.	235 L.F.
5006	24" white heat applied permanent preformed thermoplastic pavement marking.	25 L.F.
6002	Depress curb & gutter.	10 L.F.
6003	Standard type A combination curb and gutter 12" gutter pan 8" depth.	20 L.F.
6005	4" concrete sidewalk.	145 S.F.
8001	Furnish and install concrete for signal foundation.	15 C.Y.
8002	Furnish and install 12" pedestrian signal head section	8 EA

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
8013	Pre-manufactured camera to controller (100' length) cable	1 EA
8014	Pre-manufactured camera to controller (200' length) cable	2 EA
8015	Pre-manufactured camera to controller (300' length) cable	1 EA
8027	Furnish and install breakaway pedestal pole (10').	3 EA
8029	Remove and dispose of existing material and equipment per assignment.	1 EA
8034	3" electrical conduit riser (PVC).	35 LF
8037	Furnish and install electrical cable - 1 conductor (No. 250 KCMIL)	390 L.F.
8038	Disconnect, pull back and reroute cable.	440 L.F.
8040	Detectable warning surface (truncated domes).	32 S.F.
8042	Furnish and install wood sign supports 4" x 4".	32 L.F.
8043	Furnish and install wood sign supports 4" x 6".	32 L.F.
8044	Furnish and install No. 6 AWG stranded bare copper ground wire.	800 L.F.
8047	Weatherhead, 3 inch	2 EA
8050	Furnish and install 4" schedule 80 rigid polyvinyl chloride - bored.	445 L.F.
8051	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched.	15 L.F.
8052	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	130 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	90 L.F.
8058	Metered pedestal service.	1 EA
8061	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	55 L.F.
8067	Furnish and install electrical handhole.	7 EA
8069	Install ground mounted sign.	17 SF
8070	Install overhead sign.	69 SF
8071	Video detector camera.	4 EA
8075	27' steel pole and twin 50' (cut to 38'/50') mast arms.	1 EA
8076	Furnish and install 27' (cut to 21') mast arm pole and 38' mast arm.	1 EA
8077	Furnish and install 27' mast arm pole and 50' mast arm.	1 EA
8083	Furnish and install 12-pair communication cable, jelly-filled, (underground).	150 L.F.
8091	Furnish and install ground rod -3/4" x 10'.	8 EA
8093	Furnish and install 12" vehicular traffic signal head section	45 EA
8096	Cut, clean, galvanize and cap traffic signal structure.	2 EA
8099	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	435 L.F.
8101	Furnish and install electrical cable -5 conductor (No. 14 AWG).	1050 L.F.
8102	Furnish and install electrical cable -7 conductor (No. 14 AWG).	1200 L.F.
8106	Pedestrian pushbutton and R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS RIVER ROAD".)	2 EA
8111	Install controller and cabinet pole mount.	1 EA
8112	Install controller and cabinet base mount.	1 EA
Neg.	Furnish and install Fiber Optic sign (including mast arm mounting hardware).	2 EA

C. EQUIPMENT TO BE REMOVED

SHA Forces shall remove the controller and all auxilliary equipment from the controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

D. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY

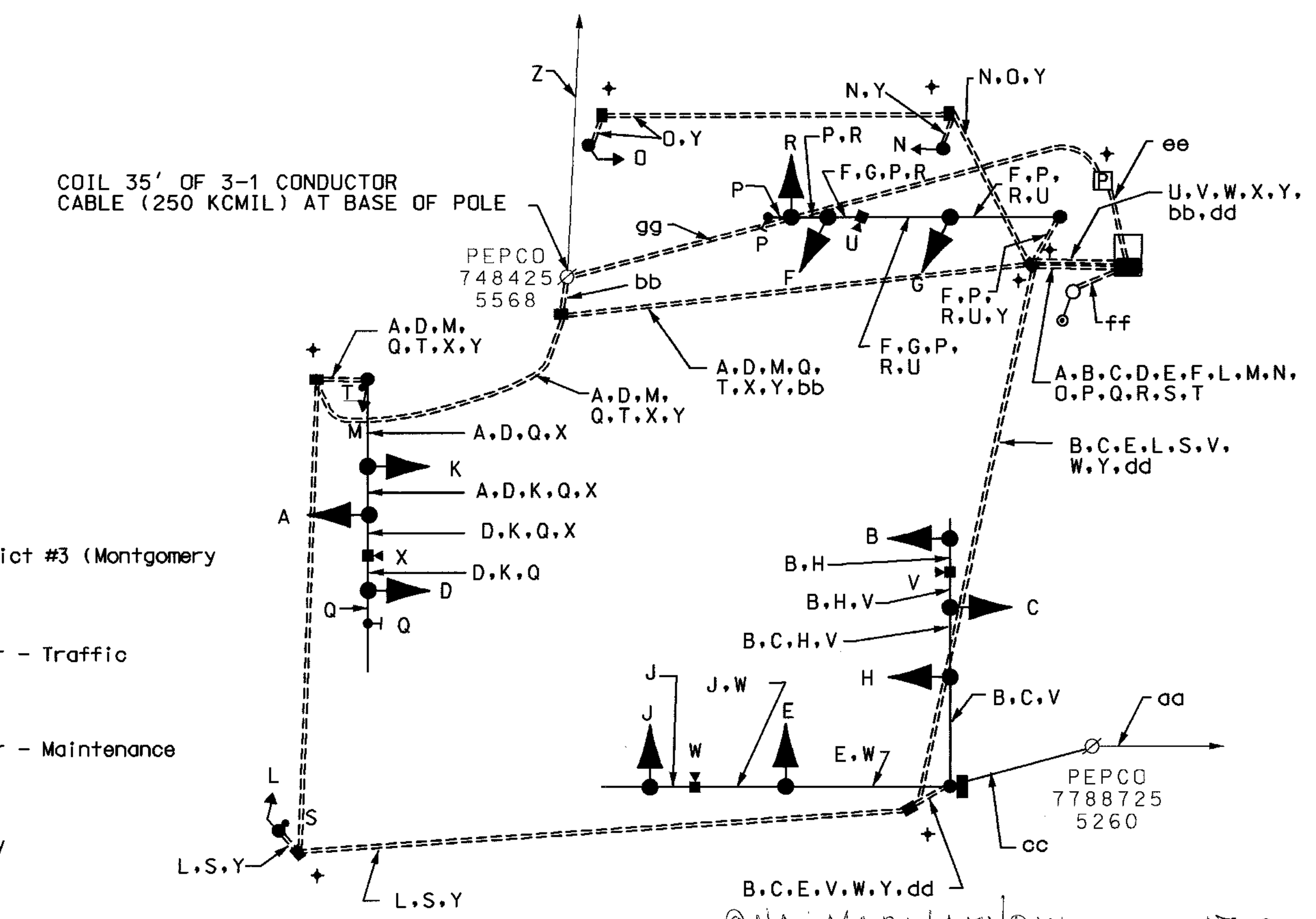
ITEM NO.	DESCRIPTION	QUANTITY
	Splice Cabinet.	1 EA

PHASING DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	R	R	R	R	R	DW	DW	DW	DW
CHANGES 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	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	◄G-/G	◄G-/G	G	R	R	R	R	R	WK	WK	DW	DW
2 & 5 CHANGE	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R	R	WK	WK	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	WK	WK	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 & 7	R	R	R	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW
4 & 7 CHANGE	R	R	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW
PHASE 4 & 7 ALT	R	R	R	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	WK	WK
4 & 7 CHANGE ALT	R	R	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	WK	WK
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	R	R	R	R	G	G	G	G	G	DW	DW	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	G	DW	DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	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	DARK	DARK	DARK	DARK

SIGNS NO. 23 & 27 ARE FIBER OPTIC "NO LEFT TURN (SYMBOLIC)" SIGNS FOR THE WESTBOUND RIVER RD APPROACH & THE NORTHBOUND BRADLEY BLVD APPROACH. THESE SIGNS SHALL BE ILLUMINATED DURING SPECIAL PUBLIC EVENTS ONLY.

WIRING DAIGRAM



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

Mr. Ed Rodenhizer
Signal Shop
410-787-7652

Mr. Sonny Bailey
Sign Shop
410-787-7670

The power company representative is:

Mr. Steve Custer
PEPCO Customer Design
201 W Guide Dr.,
Rockville, MD 20850
Phone: 301 548-4333

WIRING KEY

- A, B, C, D, E, F, R — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- G, H, J, K, L, M, N, O, P, Q — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- S, T — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- U - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (100')
- V, W — PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (200')
- X - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (300')
- Y - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- Z, aa — EXISTING INTERCONNECT CABLE (OVERHEAD)
- bb, cc — REROUTED INTERCONNECT CABLE
- dd- 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)
- ee- 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- ff- SURVEILLANCE CAMERA CABLE BY MONTGOMERY COUNTY FORCES
- gg- 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 250 KCMIL)
- ✦ - GROUND ROD

SHA: MO344A51/B51 TS: AT7804

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400 Crain Hwy.,N.W.
Glen Burnie,MD 21061
Ph (410) 590-5500
Fax (410) 590-6637

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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

MD 190 (RIVER RD) &
MD 191 (BRADLEY BLVD)

DRAWN BY:	JA	F.A.P. NO.		TS NO. 771D-GI	SHEET NO. 2 OF 2
CHECKED BY:	RC	S.H.A. NO.	AT7185185	T.I.M.S. NO. F066	
SCALE:	NONE	COUNTY:	MONTGOMERY		
DATE:	4-1-05	LOG MILE:	15019010.02		

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