DRILL HOLES

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BORDER REV. DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with interconnect at the intersection of MD 97 (Georgia Ave) and MD 586 (Viers Mill Rd) in Montgomery County. The existing strain pole structure shall be repl;aced by a new mast arm Traffic Signal with Countdown pedestrian signals, audible pushbuttons and video detection. MD 97 (Georgia Ave) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA five-phase, semi-actuated mode, with the MD 97 (Georgia Ave) approach running concurrently. Exclusive left turn phases shall be provided for both approaches of MD 97 (Georgia Ave). The MD 586 (Viers Mill Rd) approach shall operate concurrently with the northbound MD 97 (Georgia Ave) Exclusive left turn phase The MD 586 (Viers Mill Rd) approach shall also operate in its own phase. A Countdown pedestrian phase with audible pushbutton actuation shall be provided across the north leg of MD 97 (Georgia Ave). A Countdown pedestrain phase with audible pushbuttons on recall shall be provided across MD 586 (Viers Mill Rd) .
2. A full-traffic-actuated, eight-phase controller with video interface. 2-wire Control Unit and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.
3. montgomery County signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the Montgomery County Signal Shop for testing and programming.

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 of Traffic Surveillance cable shall be performed by Montgomery County Forces. The Contractor shall run these cables into the splice box and properly tag the cables. All splice box connections will be performed by Montgomery County Forces. Contact Mr. Mike Kinney at (240) 777-8760 one week in advance of intended work for wiring of traffic surveillance camera.
3. All controller cabinet wiring will be performed by the Montgomery County Signal Shop Contact Mr.Kamal Hamud at (2400 777-8761 seventy-two hours in advance of intended work.
4. 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.
5. Disconnecting of interconnect cable shall be performed by Montgomery County Forces. The Contractor shall run these cables into the splice box and properly tag the cables. All splice box connections will be performed by Montgomery County Forces. Contact Mr. Keith lord at (301) 279-1291 one week in advance of intended work for wiring of interconnect.

6. APS will function as follows:

FOR MD 97 (GEORGIA AVE)

- a When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Georgia Avenue"
- b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR MD 586 (VIERS MILL RD)

- a When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Viers Mill Road."
- b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

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

Mr. Jeff Wentz
Assistant District Engineer - Traffic
Phone: (301) 513-7358

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
410-787-7676

The power company representative is:

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

EQUIPMENT LIST

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

	CAT NO.	DESCRIPTION	QUANTITY
	971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	1 EA
[1]	973023	SHEET ALUMINIUM SIGNS	63.5 ~~58.5~~ SF
		D3-2 "Georgia Ave<11100" sign, (variable x 16").	1 EA
		D3-2 "Viers Mill Rd <11100" sign, (variable x 16").	1 EA
		D3-2 "Prichard Rd 2300> (arrow)" sign, (variable x 16").	1 EA
		D3-2 "(arrow) Prichard Rd <2300' sign, (variable x 16").	1 EA
		R10-11a (NO TURN ON RED)" sign, (30" x 24")	2 EA
		Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS VIERS MILL RD").	2 EA
		Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS GEORGIA AVE").	4 EA

EQUIPMENT LIST (CONT.)

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

	CAT NO.	DESCRIPTION	QUANTITY
[1]		R10-6(MOD) "STOP HERE ON RED" sign 24" x 30"	1 EA

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

	CAT NO.	DESCRIPTION	QUANTITY	
	120662	REMOVAL OF EXISTING PAVEMENT MARKINGS - ANY WIDTH	90	LF
	201032	CLASS 2 EXCAVATION	3	CY
[1]	203030	TEST PIT EXCAVATION	11 ~~10~~	CY
	585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	360	LF
△1	585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	130 ~~125~~	LF
	634300	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	150 ~~130~~	LF
△1	655105	5 INCH CONCRETE SIDEWALK	1300	SF
	655120	DETECTABLE WARNING SURFACE FOR CURB RAMPS	80	SF
	800000A	16" COUNTDOWN PEDESTRIAN SIGNAL HEAD	6	EA
	800000A	2 WIRE CONTROL UNIT	1	EA
	800000A	AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	6	EA
	800000A	INSTALL SPLICE CABINET	1	EA
△1	800000A	~~3 WIRE,~~ 1 CONDUCTOR (No. 250 KCMIL) ELECTRICAL CABLE	~~50~~ 150	EA
	800000A	5 FOOT PEDESTAL POLE.	1	EA
[1]	801004	CONCRETE FOR SIGNAL FOUNDATION	.15 ~~14~~	CY
[1]	802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	955 ~~950~~	LF
	805125	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED	405	LF
	805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	40	LF
[1]	805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	125 ~~120~~	LF
	805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	50	LF
	805155	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED	50	LF
	807202	METERED SERVICE PEDESTAL	1	EA
	811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	9	EA
[1]	813015	INSTALL OVERHEAD SIGN	63.5 ~~58.5~~	SF
[1]	816001	VIDEO DETECTION CAMERA	2 ~~4~~	EA
	816005	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	3	EA
	816010	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	1	EA
	816015	VIDEO INTERFACE EQUIPMENT	1	EA
	818004	10 FOOT BREAKAWAY PEDESTAL POLE	5	EA
[1]	**818006**	**20 FOOT BREAKAWAY PEDESTAL POLE**	**1**	**EA**
	818021	STEEL POLE WITH TWIN 50 FOOT MAST ARM	1	EA
	818030	STEEL POLE WITH A SINGLE 38 FOOT MAST ARM	1	LF
△1	~~822001~~ 822002	12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING ~~(OVERHEAD)~~ (UNDERGROUND)	40	LF
△1	~~833062~~ 833060	3 ~~4~~ INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER	30	LF
	837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	12	EA
[1]	860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	21 ~~27~~	EA
	861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	1875	LF
	861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	2060	LF
[1]	861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	1125 ~~825~~	LF
	861117	ELECTRICAL CABLE - 3 WIRE (NO. 4 AWG)	20	LF
	871202	INSTALL CONTROLLER AND CABINET - BASE MOUNT	1	EA
△1	~~873001~~ 800000	REMOVE AND SALVAGE EXISTING EQUIPMENT	1	~~LS~~ EA

C. EQUIPMENT TO BE REMOVED

Montgomery County 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 SUPPIIED BY MONTGOMERY COUNTY

Montgomery County splice cabinet

[1] **REDLINE REVISION 6/6/08**

△1 ADDENDUM 1: DATE: 10/16/07

PHASE CHART

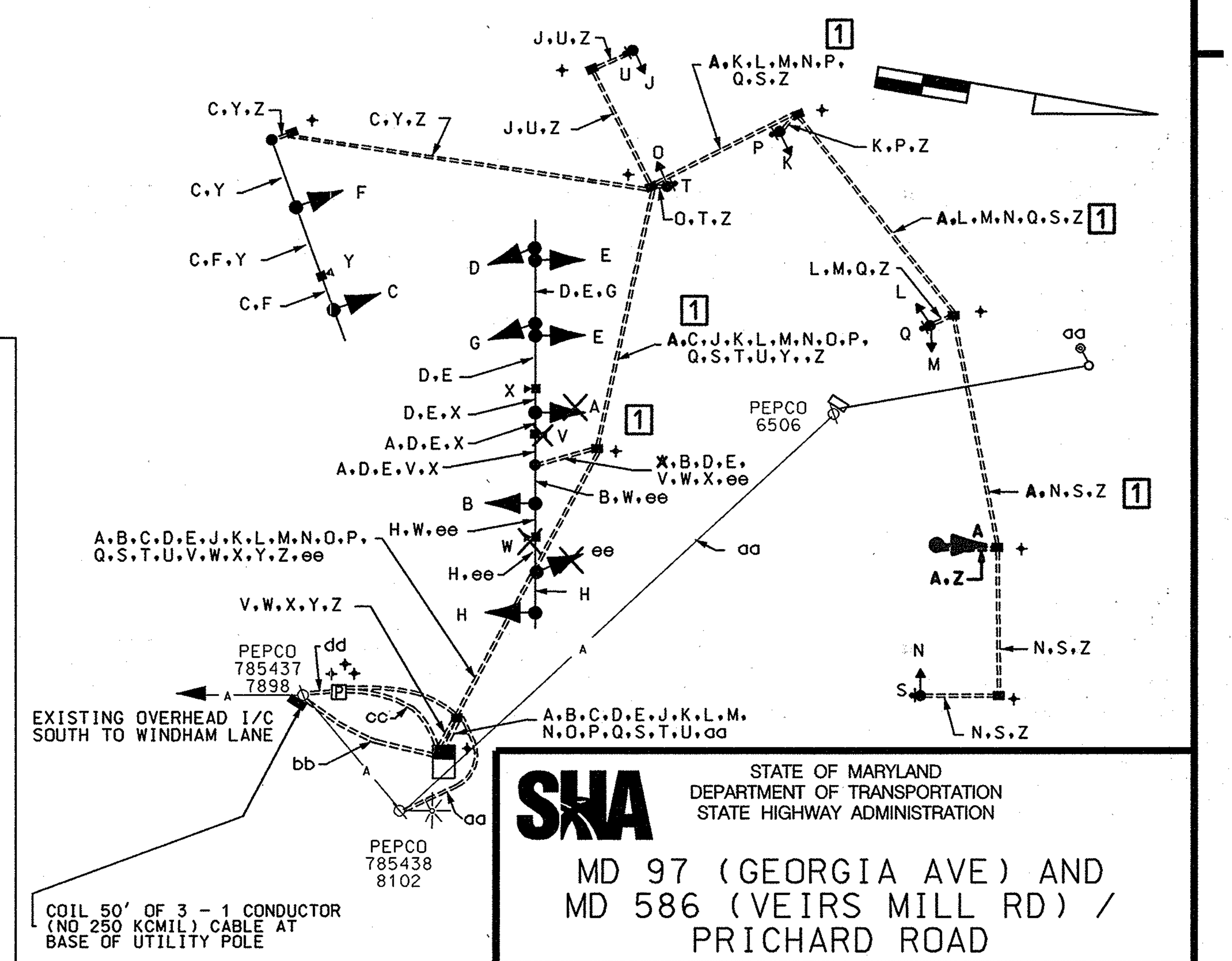
[1] (above signal 5)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	~~17~~	~~18~~
PHASE 1	↖G	↖G	[1] ~~R~~ G	[1] ~~R~~ G	[1] ↖~~R~~ G	[1] ↖R	R	R	G	G	[1] DW ~~WK~~	[1] DW ~~WK~~	[1] DW ~~WK~~	[1] DW ~~WK~~	DW	DW	DW	DW
[1] ~~PED CLEAR / COUNTDOWN~~	~~↖G~~	~~↖G~~	~~R~~	~~R~~	[1] ↖~~R~~ G	[1] ↖~~R~~	~~R~~	~~R~~	~~G~~	~~G~~	~~FL/DW~~	~~FL/DW~~	~~FL/DW~~	~~FL/DW~~	~~DW~~	~~DW~~	DW	DW
1 CHANGE	↖G	↖G	[1] ~~R~~ G	[1] ~~R~~ G	[1] ↖~~R~~ G	[1] ↖R	R	R	G	G	DW	DW	DW	DW	DW	DW	DW	DW
[1] **PHASE 1 ALT**	**↖G**	**↖G**	**R**	**R**	**R**		**R**	**R**	**G**	**G**	**WK**	**WK**	**WK**	**WK**	**DW**	**DW**	**DW**	**DW**
[1] **PED CLEAR / COUNTDOWN**	**↖G**	**↖G**	**R**	**R**	**R**		**R**	**R**	**G**	**G**	**FL/DW**	**FL/DW**	**FL/DW**	**FL/DW**	**DW**	**DW**	**DW**	**DW**
[1] **1 ALT CHANGE**	**↖G**	**↖G**	**R**	**R**	**R**		**R**	**R**	**G**	**G**	**DW**	**DW**	**DW**	**DW**	**DW**	**DW**	**DW**	**DW**
PHASE 1 & 6	↖G	↖G	G	G	[1] ↖~~R~~ G	[1] ↖R	R	R	G	G	DW	DW	DW	DW	DW	DW	DW	DW
1 & 6 CHANGE	↖Y	↖Y	G	G	[1] ↖~~R~~ G	[1] ↖R	R	R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	↖R	↖R	G	G	[1] ↖~~G~~ G	[1] ↖~~G~~	G	G	R	R	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	↖R	↖R	G	G	[1] ↖~~G~~ G	[1] ↖~~G~~	G	G	R	R	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
2 & 6 CHANGE	↖R	↖R	[1] ~~Y~~ G	[1] ~~Y~~ G	[1] ↖~~Y~~ G	[1] ↖Y	Y	Y	R	R	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/↖R	FL/↖R	FL/Y	FL/Y	FL/↖~~R~~ [1] R	FL/↖R	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

[1] **NOTE: SIGNAL #5 SHALL REMAIN "GREEN" UNTIL ACTUATED BY PHASE 1 ALT.**

WIRING DIAGRAM

[1] **NOTE: CABLES A,V,W and ee are for future use.**



WIRING KEY

- A, B, C, D, ee } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- E, F, G, H, J, K, L, M, N, O } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- P, Q, S, T, U } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- R - DELETED
- V, W, X } CONTROL CABLE (CAMERA TO CONTROLLER) 250'
- Y - CONTROL CABLE (CAMERA TO CONTROLLER) 500'
- Z - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- aa - EXISTING TRAFFIC SURVEILLANCE CABLE (POWER CABLE)
- bb - 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)
- cc - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- dd - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 250 KCMIL)
- + - GROUND ROD

REVISION "A"

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

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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 97 (GEORGIA AVE) AND MD 586 (VEIRS MILL RD) / PRICHARD ROAD

GENERAL INFORMATION SHEET

SCALE NONE DATE 6/18/07 CONTRACT NO. MO2825185

DESIGNED BY JWA COUNTY MONTGOMERY
DRAWN BY RC LOGMILE 15009702.15
CHECKED BY Bruce Thompson 6/08 TIMS NO. H601
F.A.P. NO. AC-STPG-000A(241)E TOD NO.

TS NO. 213 A DRAWING NO. 2 OF 3 SHEET NO. 26 OF 42

PLOTTED: $DATETIME$
FILE: $FILE$

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