DRILL HOLES

BORDER REV: DATE: June 1, 2004

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PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new Traffic Control Signal with interconnect at the intersection of MD 586 (Veirs Mill Rd) and Broadwood Drive in Montgomery County. New mast arm signal poles with Countdown pedestrian signal heads and audible pushbuttons shall be installed at this location. MD 586 (Veirs Mill Rd) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA six phase, semi-actuated mode, with the MD 586 (Veirs Mill Rd) approaches running concurrently. Exclusive/Permissive left turn phases shall be provided for both approaches of MD 586 (Veirs Mill Rd). A Countdown pedestrian phase with audible pushbutton actuation shall be provided across the west leg of MD 586 (Veirs Mill Rd). The Broadwood Drive approaches shall also run concurrently.

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.

   Montgomery County signal shop shall instal 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. All controller cabinet wiring will be performed by Montgomery County Forces. Contact Kamal Hamud at (240) 777-8761 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.

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

Mr. Jeff Wentz
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. Keith Lord
Signal Shop (Mont Co.)
301-674-8965

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

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
9087	Video detection interface equipment: 5-8 cameras (to be installed by Montgomery County signal shop).	1 EA
9570	Sheet aluminum signs to consist of: (ground mount)	[1] 129 ~~70~~ SF
	W3-3 NEW "SIGNAL AHEAD" sign, (48" x 48") ground mounted with hardware.	2 EA
	R1-1 "STOP" SIGN (30" x 30") ground mounted with hardware.	2 EA
	R3-5 "RIGHT TURN ARROW/ONLY" SIGN (30" x 36") ground mounted with hardware.	2 EA
	R10-7 "DO NOT BLOCK INTERSECTION" SIGN (24" x 30") ground mounted with hardware.	2 EA
	[1] D-3(2) "BROADWOOD DRIVE" (72"x12")	4 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	[1] 147 ~~175~~ SF
	W3-3 NEW "SIGNAL AHEAD" sign, (48" x 48") pole mounted.	1 EA
	D3-2 "Veirs Mill Rd <1300/ Viers Mill Rd 1600>" (variable x16") (dual faced) mast arm mounted	1 EA
	D3-2 "Veirs Mill Rd 1600>/ Viers Mill Rd <1300" (variable x16") (dual faced) mast arm mounted	1 EA
	D3-2 "Broadwood Dr <1500/ Broadwood Dr 200>" (variable x 16") (dual faced) mast arm mounted.	1 EA
	D3-2 "Broadwood Dr <200/ Broadwood Dr 1500>" (variable x 16") (dual faced) mast arm mounted.	1 EA
	W3-3(2) "SIGNAL AHEAD / PREPARE TO STOP WHEN FLASHING" (120"X60") mast arm mounted.	1 EA
9570 [1]	GUIDE SHIELD ASSEMBLY (48"x75") ~~pole~~ ground mounted. M3-4 "WEST"(30"X15") M1-5 "MD 586"(48"X36") M6-1 "left arrow "(30"X24")	1 EA

EQUIPMENT LIST (CONT.)

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

ITEM NO.	DESCRIPTION	QUANTITY
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-2 "EAST"(30"X15") M1-5 "MD 586"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-2 "EAST"(24"X12") M1-5 "MD 586"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
9570 [1]	GUIDE SHIELD ASSEMBLY (30"x51") ~~pole~~ ground mounted. M3-4 "WEST"(24"X12") M1-5 "MD 586"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS VIERS MILL RD")	2 EA

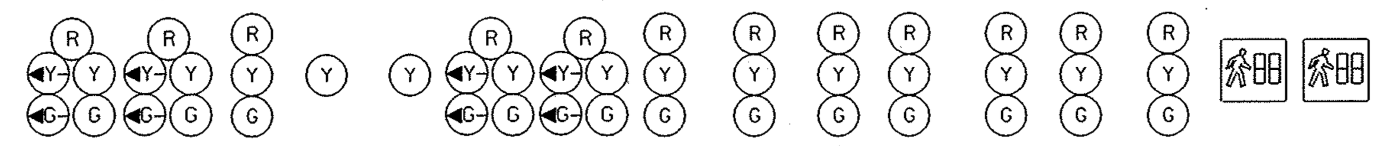
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	3 EA
2001	Class 2 Excavation.	20 C.Y.
2002	Test Pit Excavation	[1] 8 ~~7~~ C.Y.
5002	Removal of existing permanent pavement line markings	162 L.F.
5004	12" heat applied white permanent preformed thermoplastic pavement marking.	475 L.F.
5005	24" heat applied white permanent preformed thermoplastic pavement marking.	235 L.F.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	155 L.F.
6002	4" concrete sidewalk.	1425 S.F.
[1] 8000	REMOVE AND DISPOSE OF EX. GROUND MOUNTED SIGN	100 S.F.
8001	12" LED signal head section.	46 EA
8002	2 wire Central Control unit	1 EA
8008	Audible/tactile pedestrian pushbutton station & signs.	2 EA
8009	Breakaway Pedestal pole (10').	[1] 2 ~~1~~ EA
8014	LED 16" countdown pedestrian signal head.	2 EA
8016	Mast arm pole and 38' mast arm any "T" dimension	[1] 1 ~~2~~ EA
8017	Mast arm pole and 60' (cut to 25') mast arm any "T" dimension	1 EA
[1] 8018	Mast arm pole and 70' (cut to 64') mast arm any "T" dimension	1 EA
8024	Twin mast arm pole and 50'/70' mast arms any "T" dimension.	1 EA
8026	Video detection camera & cable up to 500'	4 EA
8029	12-pair communication cable jelly-filled.	2510 L.F.
8030	3" electrical conduit (PVC) riser.	60 LF
8031	Cable 1 conductor KCMIL, CU, USE	205 LF
8034	Schedule 80 rigid PVC conduit up tp 4" - slotted.	330 L.F.
8035	Schedule 80 rigid PVC conduit up tp 4" - trenched.	[1] 2945 ~~2905~~ L.F.
8036	Schedule 80 rigid PVC conduit up tp 4" - bored.	100 L.F.
8037	Wood sign supports up to 4"x6".	[1] 156 ~~136~~ L.F.
8038	Detectable warning surfaces	96 S.F.
8039	Install overhead or ground mounted sign (including hardware).	[1] 276 ~~277~~ S.F.
8041	No. 6 AWG stranded bare copper ground wire.	655 L.F.
8042	Weatherhead, 3 inch	2 EA
8043	Metered service pedestal embedded.	1 EA
8045	Electrical cable 1-conductor No. 4 AWG THHN/THWN.	70 L.F.
8047	Furnish and install electrical handhole.	15 EA
8052	Cut, clean, galvanize and cap traffic signal structure.	[1] 2 ~~1~~ EA
8054	Electrical cable - 2 conductor (No. 14 AWG).	315 L.F.
8056	Electrical cable - 5 conductor (No. 14 AWG).	445 L.F.
8057	Electrical cable - 7 conductor (No. 14 AWG).	1235 L.F.
8065	Install controller and cabinet base mount.	1 EA

C. EQUIPMENT TO BE REMOVED

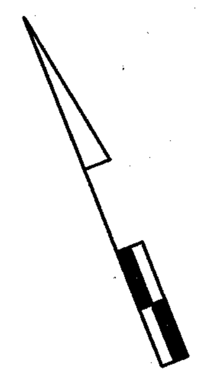
There are no signal materials to be removed for this project.

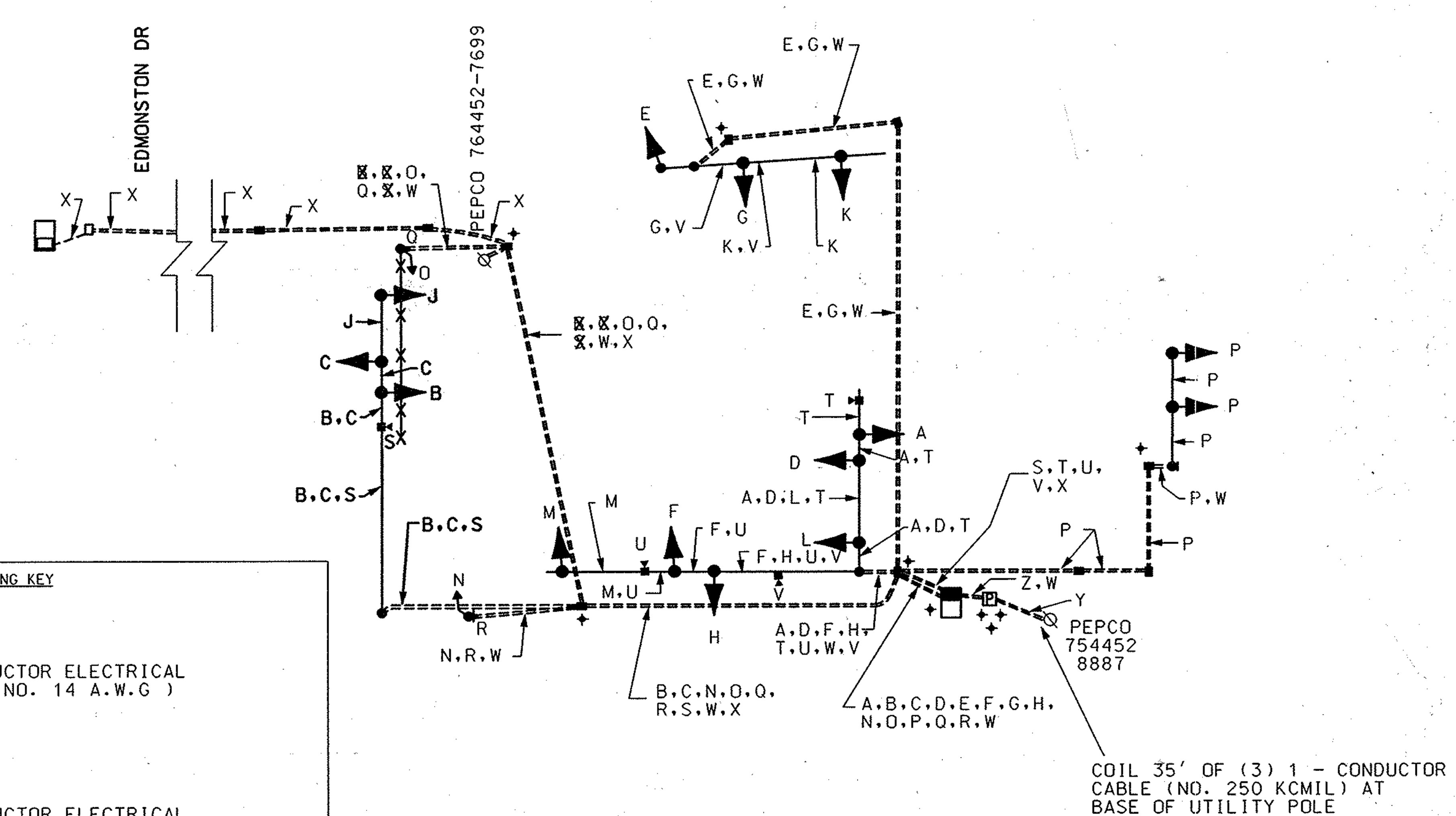
PHASING DIAGRAM



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

WIRING DIAGRAM





WIRING KEY

- A B C D E F G H – 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- J K L M N O P – 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- Q R – 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- S T U V – CONTROL CABLE
- W - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- X - 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)
- Y - (3) 1 - CONDUCTOR CABLE (NO. 250 KCMIL.)
- Z - 2-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- ✦ - GROUND ROD

[1] REDLINE REVISION 3/13/07
TEDD APPROVAL

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.,N.W.
Glen Burnie,MD 21061
Ph (410) 590-5500
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 586 @ BROADWOOD DR

ROCKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 11/20/06 CONTRACT NO. AT9105185

DESIGNED BY JAMES ALLEN Jr. COUNTY MONTGOMERY
DRAWN BY R. C. LOGMILE 15058600.79
CHECKED BY TIMS NO. H772
F.A.P. NO. AC-NHG-STPG-000A(176)E TOD NO.

TS NO. 4510 DRAWING NO. 2 OF 3 SHEET NO. OF

PLOTTED: $DATETIME$
FILE: $FILE$

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