DRILL HOLES

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BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing strain pole Traffic Control Signal with street lighting and interconnect at the intersection of MD 182 (Layhill Rd) and Glenallan Ave in Montgomery County. The existing pedestrian equipment shall be upgraded to Countdown pedestrian signal heads and audible pushbuttons. MD 182 (Layhill Rd) is assumed to run a north - south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA eight-phase, semi-actuated mode, with the MD 182 (Layhill Rd) approaches running concurrently. The Exclusive/Permissive left turn phases for both appraoches of MD 182 (Layhill Rd) shal remain in operation. The pedestrian phase across MD 182 (Layhill Rd) shall now be countdown pedestrian phases with audible pushbutton actuation. The pedestrian phases across Glenallan Ave shall now be countdown pedestrian phases on recall with audible pushbuttons. Forside sampling stations shall remain in operation on both legs of MD 182 (Layhill Rd) at this intersection. The Exclusive/Permissive left turn phases for both approaches of Glenallan Ave shall remain in operation. The Glenallan Ave approaches shall also continue to run concurrently.

2. A 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.

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. 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.

4. APS will function as follows:

TO CROSS MD 182 (LAYHILL ROAD)

a. When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross Layhill at Glenallan."

b. When WALK phase begins, the pushbutton unit will provide a rapid tick which will last for the duration of the WALK phase.

TO CROSS GLENALLAN AVENUE

a. When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross Glenallan. at Layhill.""

b. When WALK phase begins, the pushbutton unit will provide 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. Keith Lord
Montgomery County Signal Shop
(301) 674-8965

Mr. Sonny Bailey
Sign Shop
410-787-7676

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY	
9570	Sheet aluminum signs to consist of: (ground mount)	8	SF
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS LAYHILL ROAD".)	4	EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS GLENALLAN AVE".)	4	EA

EQUIPMENT LIST (CONT.)

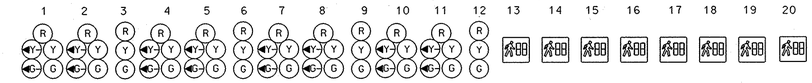
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY	
1001	Maintenance of traffic per assignment.	1	EA
1002	Removal of existing permanent pavement line markings	970	L.F.
2001	Class 2 Excavation.	2	C.Y.
2002	Test Pit Excavation	8	C.Y.
5002	12" white heat applied permanent preformed thermoplastic pavement marking.	800	L.F.
5003	24" white heat applied permanent preformed thermoplastic pavement marking.	195	L.F.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	450	L.F.
6002	5" concrete sidewalk.	1950	S.F.
8003	2 wire Central Control unit	1	EA
8010	Audible/tactile pedestrian pushbutton station & signs.	8	EA
8011	Breakaway pedestal pole (10')	8	EA
8014	LED 16" countdown pedestrian signal heads.	8	EA
8016	Remove and dispose of existing material & equipment per assignment.	1	EA
8026	Schedule 80 rigid PVC conduit up tp 4" - slotted.	325	L.F.
8027	Schedule 80 rigid PVC conduit up tp 4" - trenched.	270	L.F.
8028	Detectable warning surfaces	100	S.F.
8033	No. 6 AWG stranded bare copper ground wire.	720	L.F.
8034	1" electrical conduit - galvanized sleeve.	65	L.F.
8036	1" liquid tight flexible non-metallic conduit (detr sleeve).	25	L.F.
8044	Furnish and install electrical handhole.	4	EA
8045	Install ground mounted sign.	8	SF
8054	Electrical cable - 2 conductor (aluminium shielded)	1470	L.F.
8055	Electrical cable - 2 conductor (No. 14 AWG).	1590	L.F.
8057	Electrical cable - 5 conductor (No. 14 AWG).	1630	L.F.
8059	Loop wire encased in flexible tubing (No. 14 AWG).	3625	L.F.
8060	Saw cut for signal (loop detector).	970	L.F.

C. EQUIPMENT TO BE REMOVED

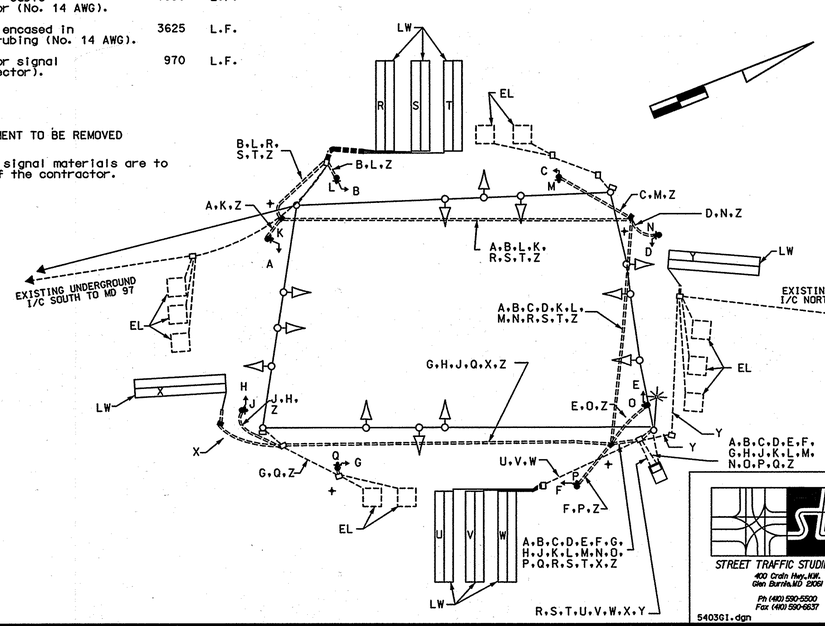
All other removed signal materials are to become property of the contractor.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	R	R	R	R	R	R	DW	DW	DW	DW	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	R	DW	WK	WK	DW	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	◄G-/G	◄G-/G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/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	DW	DW
PHASE 3 & 7	R	R	R	R	R	R	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 3 & 8, 4 & 7 OR 4 & 8																				
PHASE 3 & 8	R	R	R	R	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	R	R	R	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 7	R	R	R	R	R	R	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	DW	DW	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	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 8 ALT	R	R	R	R	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	WK	DW	DW	WK
3 & 8 ALT CHANGE	R	R	R	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	WK	DW	DW	WK
PHASE 4 & 7 ALT	R	R	R	R	R	R	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
4 & 7 ALT CHANGE	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
PHASE 4 & 8 ALT	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	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	DARK	DARK

WIRING CHART



WIRING KEY

A B C D E F G H — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

J K L M N O P Q — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

R S T U V W X Y — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINIUM SHIELDED

Z - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

LW - PROPOSED LOOP WIRE (NO. 14 A.W.G.)

EL - EXISTING LOOP WIRE (NO. 14 A.W.G.)

+ - GROUND ROD

TOD No. XX449-05
SHA No. MO527A51/B51

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 182 (LAYHILL RD) AND GLENALLAN AVE

GLENMONT, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 5/27/08 CONTRACT NO. AT4495185

DESIGNED BY JWA COUNTY MONTGOMERY
DRAWN BY RC LOGMILE 15018200.21
CHECKED BY TIMS NO. 1559
F.A.P. NO. TOD NO.

TS NO. 1005C | DRAWING NO. 2 OF 2 | SHEET NO. OF

STREET TRAFFIC STUDIES, LTD.
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Glen Burnie, MD 21061
Ph (410) 590-5500
Fax (410) 590-5537

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FILE: $FILE$

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