DRILL HOLES

BORDER REV: DATE: June 1, 2004

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PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting at the intersection of MD 235 (Three Notch Rd) and MacArthur Blvd / Millstone Landing Rd in St. Mary's County. The existing pedestrian signal heads shall be replaced by Countdown pedestrian signal heads with audible pushbuttons. MD 235 (Three Notch Rd) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA six-phase, fully-actuated mode, with the MD 235 (Three Notch Rd) approaches running concurrently. The Exclusive left turn phases shall remain in operation for both approaches of MD 235 (Three Notch Rd) . The pedestrian phase on actuation across the south leg of MD 235 (Three Notch Rd) shall now be a Countdown pedestrian phase with audible pushbuttons The pedestrian phases across MacArthur Blvd / Millstone Landing Rd on recall shall now be Countdown pedestrian phases with audible pushbuttons. Farside sampling stations shall continue to be provided on both legs of MD 235 (Three Notch Rd) at this intersection. The pre emption phase for both approaches of MD 235 (Three Notch Rd) shall continue to operate. The MacArthur Blvd / Millstone Landing Rd approaches shall continue to operate as a side street split phase.

2. The existing full-trdffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be maintained at this intersection.

3. SHA signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the SHA Signal Shop for testing and programming. Contact Mr. Ed Rodenhizer (410) 787-7652.

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 the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7652 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:

FOR THREE NOTCH ROAD

a When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Three Notch Road."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR MACARTHUR BLVD

a When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Macarthur Blvd."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration

FOR MILLSTONE LANDING ROAD

a When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Millstone Landing Road."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration

The contact persons for District #5 are as follows:

Ms. Kim Tran
Assistant District Engineer - Traffic
Phone: (410) 841-1003

Mr. Andre Futrell
Assistant District Engineer - Maintenance
Phone: (410) 841-1002

Mr. John Mays
Assistant District Engineer - Utility
Phone: (410) 841-1005

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

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	6 SF
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS THREE NOTCH RD") (9"X15")	2 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS MILESTONE LANDING RD') (9"X15")	2 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS MACARTHUR BLVD") (9"X15")	2 EA

EQUIPMENT LIST (CONT.)

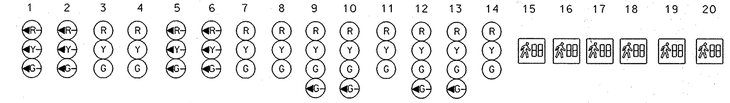
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	1 EA
2002	Test Pit Excavation	6 C.Y.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	170 L.F.
6002	4" concrete sidewalk.	1500 S.F.
8003	2 wire Central Control unit	1 EA
8010	Audible/tactile pedestrian pushbutton station & signs.	6 EA
8011	Breakaway pedestal pole (10').	6 EA
8014	LED 16" countdown pedestrian signal heads.	6 EA
8017	Remove and dispose of existing material & equipment (Paid for under MD 235 / Walmart Entrance).	
8026	Schedule 80 rigid PVC conduit up tp 4" - trenched.	175 L.F.
* 8027	Detectable warning surfaces	100 ~~36~~ S.F.
8030	Concrete for signal foundation.	4.2 CY
8033	No. 6 AWG stranded bare copper ground wire.	205 L.F.
8044	Furnish and install electrical handhole.	1 EA
8046	Install overhead sign.	6 SF
8052	Ground rod 3/4" dia. x 10' length.	2 EA
8058	Electrical cable - 2 conductor (No. 14 AWG).	1400 L.F.
8060	Electrical cable - 5 conductor (No. 14 AWG).	1430 L.F.

C. EQUIPMENT TO BE REMOVED

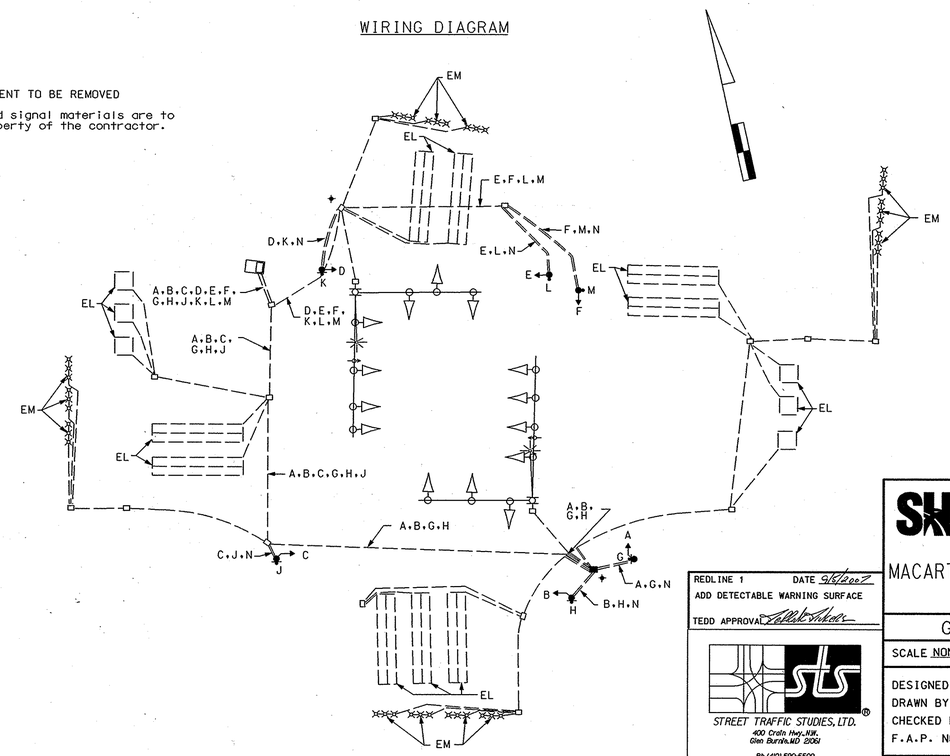
All removed signal materials are to become property of the contractor.

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-	◄G-	R	R	◄G-	◄G-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																				
PHASE 1 & 6	◄R-	◄R-	R	R	◄G-	◄G-	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
1 & 6 CHANGE	◄R-	◄R-	R	R	◄Y-	◄Y-	Y	Y	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 2 & 5	◄G-	◄G-	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
2 & 5 CHANGE	◄Y-	◄Y-	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 2 & 6	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEAR / COUNTDOWN	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	◄R-	◄R-	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	G ◄G-	G ◄G-	G	DW	DW	DW	DW	DW	DW
3 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G ◄G-	G ◄G-	G	R	R	R	DW	DW	DW	DW	DW	DW
4 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G ◄G-	G ◄G-	G	R	R	R	DW	DW	DW	DW	WK	WK
PED CLEAR / COUNTDOWN	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G ◄G-	G ◄G-	G	R	R	R	DW	DW	DW	DW	FL/DW	FL/DW
4 ALT CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
PRE EMPT 1	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PRE EMPT 1 CHANGE	◄R-	◄R-	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/◄R-	FL/◄R-	FL/Y	FL/Y	FL/◄R-	FL/◄R-	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

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

G, H, J, K, L, M — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

EM - EXISTING MICROLOOP LEAD-IN CABLE

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

ES - EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY SMECO

✦ - GROUND ROD

REDLINE 1 DATE 8/16/2007
ADD DETECTABLE WARNING SURFACE
TEDD APPROVAL

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

5042dG1.dgn

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 235 AND
MACARTHUR BLVD / MILLSTONE LANDING RD

CALIFORNIA, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 6/5/07 CONTRACT NO. AT9365185

DESIGNED BY J ALLEN
DRAWN BY R. C.
CHECKED BY
F.A.P. NO.

COUNTY ST. MARY'S
LOGMILE 18023514.43
TIMS NO. F200
TOD NO.

TS NO. 2320B | DRAWING NO. 2 OF 2 | SHEET NO. OF

PLOTTED: FRIDAY, AUGUST 17, 2007 AT 08:48 AM
FILE: J:\DATA\F200\REDLINE REV1\5042D_MACARTHURREDLINE1G1.DGN