DRILL HOLES

BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with interconnect at the intersection of MD 2 (Ritchie Hwy) and Cypress Creek Road in Anne Arundel County. The existing traffic and pedestrian signals shall be replaced by LED traffic and LED Countdown pedestrian signal heads with audible pushbuttons. MD 2 (Ritchie Hwy) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA six-phase, semi-actuated mode, with the MD 2 (Ritchie Hwy) approaches running concurrently. Exclusive left turn phases for both approaches of MD 2 (Ritchie Hwy) shall remain in operation. The pedestrian phase with pushbutton actuation across the south leg of MD 2 (Ritchie Hwy) shall now be a Countdown Pedestrian with audivle pushbuttons. The pedestrian phases across the Cyress Creek Road approaches on recall shall now be Countdown pedestrian phases with audible pushbuttons. Farside sampling stations on the south legs of MD 2 (Ritchie Hwy) shall continue to operate. The Cypress Creek Road approaches shall continue to operate as a side street split phase..

2. The existing full-traffic-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.

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) 787-7650 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. Location of Accessible Pedestrian Signal Pushbuttons must meet location requirements of MUTCD Sec 4E.09 and Fig. 4E.2 and the NCHRP publication, "Accessible Pedestrian signals: Guide to Best Practice". If not met, the Contractor is to stop work on pushbutton locations until a design waiver is obtained, approved by the Director, Office of Traffic and Safety.

5. Pushbuttons are to be located so that they can be activated by a person in a wheelchair from a 60" x 60" level landing area. A level landing area is an area with a cross slope of less than or equal to 2%.

The contact persons for District #5 are as follows:

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

Mr. Charles George
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)	30.5 SF
	M95-1 "NORTH (arrow)/ MD 2 / SOUTH (arrow)" sign, (78"x24").	1 EA
	M95-1 "SOUTH (arrow)/ MD 2 / NORTH (arrow)" sign, (78"x24").	1 EA
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS RITCHIE HWY")	2 EA
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS CYPRESS CREEK RD")	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.	2 EA
2002	Test Pit Excavation	5 C.Y.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	100 L.F.
6002	4" concrete sidewalk.	500 S.F.
8001	12" LED signal head section.	41 EA
8003	2 wire Central Control unit	1 EA
8010	Audible/tactile pedestrian pushbutton station & signs.	6 EA
8011	Breakaway pedestal pole (10')	4 EA
8011	Breakaway pedestal pole (5')	1 EA
8014	LED 16" countdown pedestrian signal heads.	6 EA
8017	Remove and dispose of existing material & equipment per assignment.	1 EA
8022	Disconnect, pull back and reroute cable.	600 L.F.
8026	Schedule 80 rigid PVC conduit up tp 4" - trenched.	55 L.F.
8027	Detectable warning surfaces	40 S.F.
8028	Relocate existing sign.	30 S.F.
8030	Concrete for signal foundation.	3 CY
8033	No. 6 AWG stranded bare copper ground wire.	150 L.F.
8044	Furnish and install electrical handhole.	1 EA
8046	Install overhead sign.	30.5 SF
8052	Ground rod¾" dia. x 10' length.	1 EA
8058	Electrical cable - 2 conductor (No. 14 AWG).	1130 L.F.
8060	Electrical cable - 5 conductor (No. 14 AWG).	1720 L.F.
8061	Electrical cable - 7 conductor (No. 14 AWG).	255 L.F.

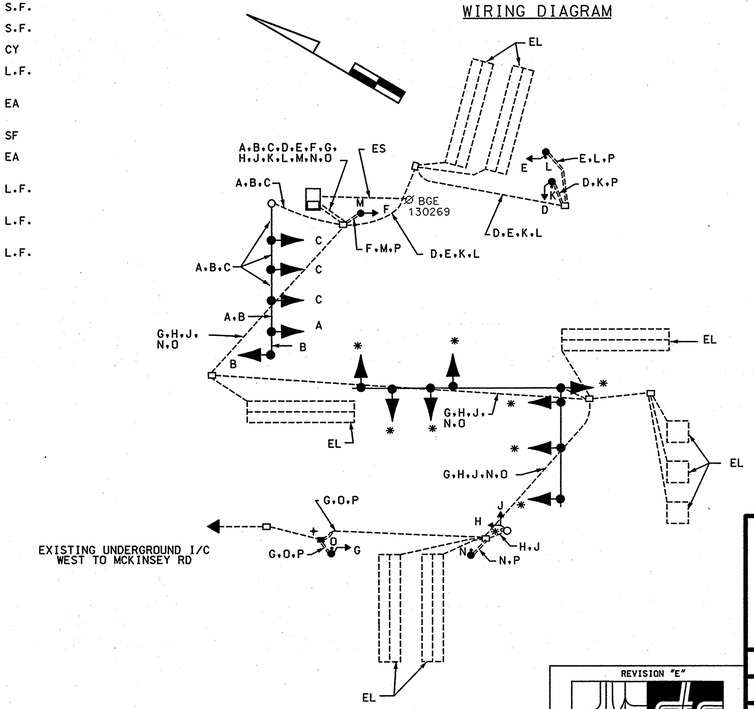
C. EQUIPMENT TO BE REMOVED

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

PHASING CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	◄R ◄Y ◄G	◄R ◄Y ◄G	R Y G	R Y G	R Y G	◄R ◄Y ◄G	◄R ◄Y ◄G	R Y G	R Y G	R Y G ◄G	R Y G	R Y G ◄G	R Y G						
PHASE 1 & 5	◄G-	◄G-	R	R	R	◄G-	◄G-	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	◄G-	◄G-	G	G	G	◄R-	◄R-	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
1 & 6 CHANGE	◄Y-	◄Y-	G	G	G	◄R-	◄R-	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 2 & 5	◄R-	◄R-	R	R	R	◄G-	◄G-	G	G	R	R	R	R	WK	DW	DW	WK	DW	DW
2 & 5 CHANGE	◄R-	◄R-	R	R	R	◄Y-	◄Y-	G	G	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 2 & 6	◄R-	◄R-	G	G	G	◄R-	◄R-	G	G	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE / COUNTDOWN	◄R-	◄R-	G	G	G	◄R-	◄R-	G	G	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	◄R-	◄R-	Y	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G ◄G-	G	R	R	DW	DW	DW	DW	DW	DW
3 CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	Y	Y	R	R	DW	DW	DW	DW	DW	DW
PHASE 4	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	G ◄G-	G	DW	DW	DW	DW	DW	DW
4 CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 3 ALT	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G ◄G-	G	R	R	DW	DW	DW	DW	WK	WK
PED CLEARANCE / COUNTDOWN	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G ◄G-	G	R	R	DW	DW	DW	DW	FL/DW	FL/DW
3 ALT CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	Y	Y	R	R	DW	DW	DW	DW	DW	DW
PRE EMPT	◄R-	◄R-	G	G	G	◄R-	◄R-	G	G	R	R	R	R	DW	DW	DW	DW	DW	DW
PRE EMPT CHANGE	◄R-	◄R-	Y	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/◄R	FL/◄R	FL/Y	FL/Y	FL/Y	FL/◄R	FL/◄R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A, B — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

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

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

* - USE EXISTING SIGNAL CABLE

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

ES - EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY BGE

+ - GROUND ROD

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 2 (RITCHIE HWY)
@ CYPRESS CREEK RD

GENERAL INFORMATION SHEET

SCALE NONE DATE 2/28/07 CONTRACT NO. AT9365185

DESIGNED BY J. ALLEN COUNTY ANNE ARUNDEL
DRAWN BY R. C. LOGMILE 02000228.70
CHECKED BY TIMS NO. H919
F.A.P. NO. TOD NO.

TS NO. 309E | DRAWING NO. 2 OF 2 | SHEET NO. OF

REVISION "E"

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.NW.
Glen Burnie,MD 21061
Ph (410) 590-5500
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PLOTTED: $DATETIME$
FILE: $FILE$

DRILL HOLES

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