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 41 (Perring Pkwy) and Oakleigh Road in Baltimore County. The existing pedestrian signal heads shall be replaced with Countdown pedestrian signals. MD 41 (Perring Pkwy) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA eight-phase, semi-actuated mode, with the MD 41 (Perring Pkwy) approaches running concurrently. The exclusive left turn phases for the northbound and southbound approaches of MD 41 (Perring Pkwy) will continue to operate as normal. Countdown pedestrian phases with audible pushbutton actuation shall be provided for north, south and east legs of this intersection. The Countdown pedestrian phase with audible pushbuttons across Oakleigh Road shall be on recall. The Oakleigh Road approach shall continue to operatein an exclusive/permissive operation.

2. A proposed eight-phase controller, shall be used to house the 2-wire Central Control Unit and all necessary equipment in a NEMA size "6" base-mounted cabinet 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, excluding interconnect, to the appropriate terminals and shall properly label each cable.

2. All controller cabinet wiring will be performed by the SHA 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:

TO CROSS MD 41 (PERRING PKWY)

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Oakleigh at Perring"

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

TO CROSS OAKLEIGH ROAD

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Perring at Oakleigh"

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 #4 & SHA are as follows:

Ms. Erin Kuhn
Assistant District Engineer - Traffic
Phone: (410) 229-2381

Mr. Andre Futrell
Assistant District Engineer - Maintenance
Phone: (410) 229-2361

Mr. Mike Pasquaiello
Assistant District Engineer - Utility
Phone: (410) 229-2341

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Ed Rodenhizer
Chief, Traffic Signal Operations Division
410-787-7652

Mr. Sonny Bailey
Chief, Sign Shop
410-787-7676

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
9086	Video detection interface equipment: 1-4 cameras (To be installed by signal shop).	1 EA
9570	Sheet aluminum signs to consist of: (ground mount)	60 SF
	R4-7 "KEEP RIGHT (symbolic)" sign, (24" x 30") ground mounted	2 EA
	W11-2 "PEDESTRIAN CROSSING (SYMBOLIC)" sign, (30" x 30") ground mounted with hardware	6 EA
	W16-7P(L) "arrow (symbolic)" diagonal sign, (15" x 21") pole mounted.	6 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	98 SF
	D-3(1) "Oakleigh RD " dual face (variable x 16") mast arm mounted.	2 EA
	D-3(1) "Perring PKWY " dual face (variable x 16") mast arm mounted.	2 EA
	R3-5R "RIGHT TURN ONLY" (30" X 36") sign, mast arm mounted.	1 EA
	R10-3(1) (9"x15") sign. (Note: To read "PUSH BUTTON TO CROSS OAKLEIGH ROAD).	2 EA
	R10-3(1) (9"x15") sign. (Note: To read "PUSH BUTTON TO CROSS PERRING PKWY).	2 EA

EQUIPMENT LIST (con't)

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

ITEM NO.	DESCRIPTION	QUANTITY
	GUIDE SHIELD ASSEMBLY (36"x75") pole mounted. M3-1 "NORTH"(30"X15") M1-5 "MD 41"(36"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (36"x75") pole mounted. M3-3 "SOUTH"(30"X15") M1-5 "MD 41"(36"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (24"x51") pole mounted. M3-1 "NORTH"(24"X12") M1-5 "MD 41"(24"X24") M6-1 "right arrow "(21"X15")	1 EA
	GUIDE SHIELD ASSEMBLY (24"x51") pole mounted. M3-3 "SOUTH"(24"X12") M1-5 "MD 41"(24"X24") M6-1 "right arrow "(21"X15")	1 EA

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1003	Maintenance of traffic per assignment.	3 EA
2002	Test Pit Excavation	8 C.Y.
8001	12" LED signal head section.	44 EA
8002	2 wire Central Control unit	1 EA
8004	8" LED signal head section.	6 EA
8005	Adjust existing handhole to grade.	1 EA
8007	Any size lighting arm on signal pole.	2 EA
8008	Audible/tactile pedestrian pushbutton station & signs.	6 EA
8009	Breakaway pedestal pole (10')	3 EA
8012	Embedded Metered service pedestal.	1 EA
8016	LED 16" countdown pedestrian signal heads.	6 EA
8018	Mast arm pole & 38' mst arm. any "T" dimension.	1 EA
8019	Mast arm pole & 50' mst arm. any "T" dimension.	1 EA
8020	Mast arm pole & 60' mst arm. any "T" dimension.	2 EA
8024	Remove and dispose of existing material & equipment per assignment.	1 EA
8028	Video detection camera arm. and cable up to 500'	4 EA
8032	Disconnect, pull back and reroute cable.	75 L.F.
8034	Schedule 80 rigid PVC conduit up to 4" - bored.	450 L.F.
8036	Schedule 80 rigid PVC conduit up to 4" - trenched.	300 L.F.
8037	Wood sign supports up to 4"x6".	210 L.F.
8038	Install overhead or ground mounted sign.	158 SF
8040	No. 6 AWG stranded bare copper ground wire.	600 L.F.
8043	Electrical cable 1-conductor No. 4 AWG THHN/THWN.	120 L.F.
8044	Furnish and install electrical handhole.	4 EA
8051	Electrical cable - 2 conductor (No. 14 AWG).	1580 L.F.
8053	Electrical cable - 5 conductor (No. 14 AWG).	3050 L.F.
8054	Electrical cable - 7 conductor (No. 14 AWG).	1500 L.F.
8055	Electrical cable - 2 conductor (No. 12 AWG). tray cable.	620 L.F.
8061	Install controller and cabinet base mount.	1 EA

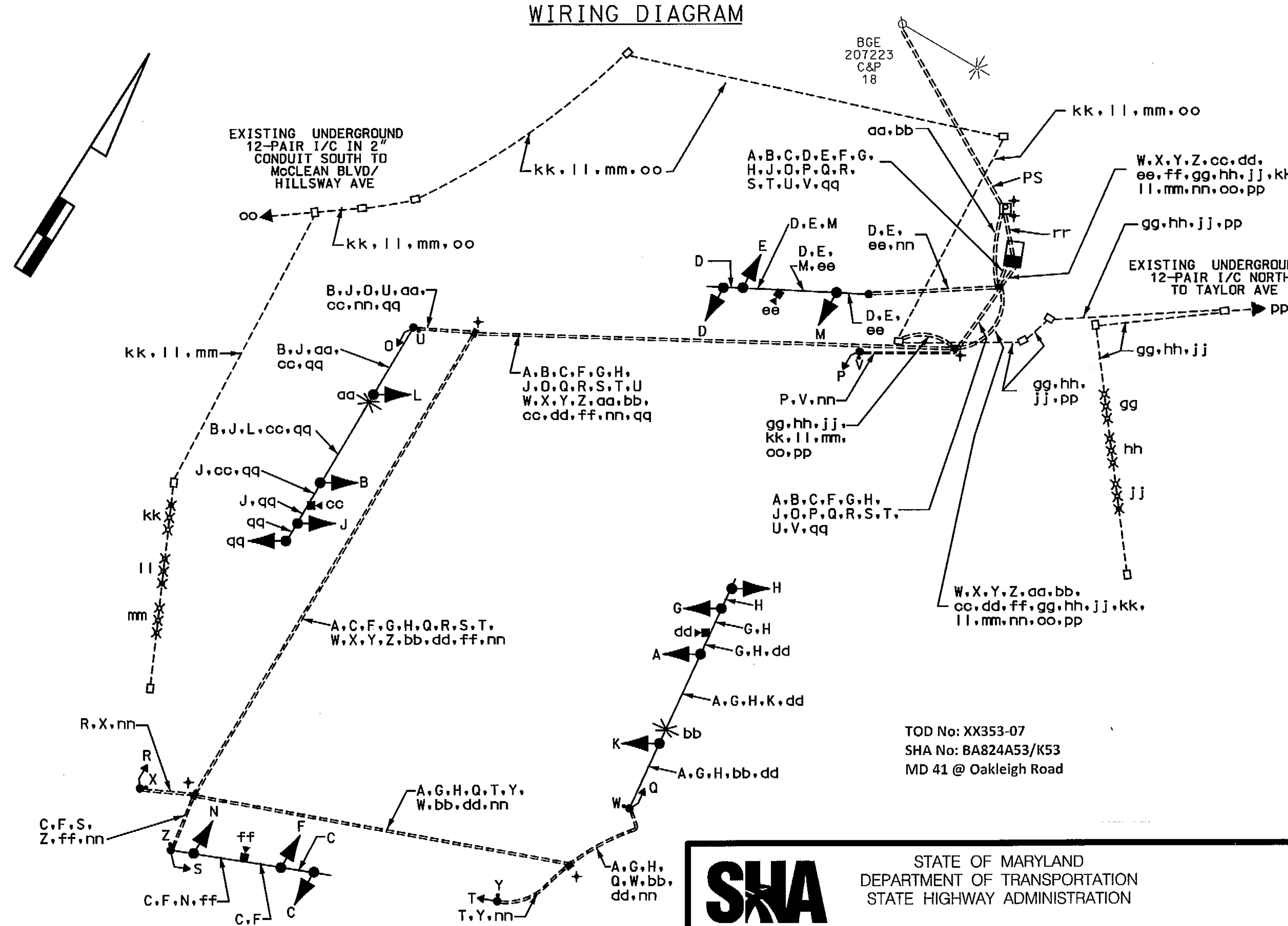
C. EQUIPMENT TO BE REMOVED

SHA 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.

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/-G►	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	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-	◄Y-	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	◄R-	◄R-	R	R	◄G-	◄G-	G	G	R	R	R/-G►	R	R	R	DW	DW	DW	DW	DW	DW
2 & 5 CHANGE	◄R-	◄R-	R	R	◄Y-	◄Y-	G	G	R	R	R/-Y►	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R			DW	DW	DW	DW
2 & 6 CHANGE	◄R-	◄R-	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	R			DW	DW	DW	DW
PHASE 3 & 7	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	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	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄Y-/G	◄Y-/G	Y	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 7	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	G	G	G	G	G	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	Y	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	Y	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



TOD No: XX353-07
SHA No: BA824A53/K53
MD 41 @ Oakleigh Road

WIRING KEY

A-F- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

G H J K L M N O P Q R S T qq } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

U V W X Y Z } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

aa bb } 2-CONDUCTOR ELECTRICAL TRAY CABLE (NO. 12 A.W.G)

cc dd ee ff } CONTROL CABLE (CAMERA TO CONTROLLER) 500'

gg hh jj kk ll mm } EXISTING NON-INVASIVE PROBES TO BE DISCONNECTED AND REROUTED

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

oo pp } DISCONNECT, PULLBACK, REROUTE INTERCONNECT CABLE

rr- 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

EPD- EXISTING PHONE DROP

PS- POWER SERVICE

+-GROUND ROD

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

5533gl.dgn T-163

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 41 (PERRING PKWY) AND OAKLEIGH ROAD

PARKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 3/29/10 CONTRACT NO. XX3535168

DESIGNED BY JAMES ALLEN Jr. COUNTY BALTIMORE
DRAWN BY JAMES ALLEN Jr. LOGMILE 03004100.59
CHECKED BY TIMS NO. 1919
F.A.P. NO. TOD NO.

TS NO. 850D DRAWING NO. 2 OF 2 SHEET NO. OF

PLOTTED: $DATETIME$
FILE: $FILE$

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