DRILL HOLES

BORDER REV: DATE: June 1, 2004

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PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstrustion of an existing Traffic Control Signal with interconnect at the intersection of MD 140 (Reisterstown Rd) and Carway Road/Hannah More Center in Baltimore County. The existing signal heads shall be replaced with LED signal heads and existing pedestrian signal heads with Countdown pedestrian signals. MD 140 (Reisterstown Rd) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA six-phase, semi-actuated mode, with the MD 140 (Reisterstown Rd) approaches running concurrently. The Exclusive/Permissive left turn phase for the northbound approach of MD 140 (Reisterstown Rd) will continue to operate as normal. The Countdown pedestrian phase with audible pushbutton actuation shall be provided across the south leg of MD 140 (Reisterstown Rd), west leg of Carawy Road and east of Hannah More Center. The Countdown pedestrian phase with audible pushbuttons across Caraway Road and Hannah More Center shall be on recall. The side street approaches shall continue to operate concurrantly.

2. A full-traffic-actuated, existing eight-phase controller with proposed video interface, 2-wire Central Control Unit and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection.

3. SHA signal shop shall install APS central control unit into controller cabinet. The Contractor shall deliver the Central 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 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 MD 140 (REISTERSTOWN RD)

a. When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Reisterstown at Carawy and Hannah More"

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

FOR HANNAH MORE CENTER

a When pedestrian locates gnd presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Hannah More at Reisterstown.

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

FOR CARAWAY ROAD

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

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 are as follows:

Ms. Erin Kuhn
Assistant District Engineer - Traffic
Phone: (410) 321-2781

Mr. Andre Futrell
Assistant District Engineer - Maintenance
Phone: (410) 321-2761

Mr. Mike Pasquaiello
Assistant District Engineer - Utility
Phone: (410) 321-2841

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

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

Mr. Sonny Bailey
Chief Sign Shop
410-787-7670

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9041	Cabinet master w/ telemetry	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)	44 SF
	S1-1 "SCHOOL(symbolic)" sign, (36" x 36") ground mounted.	4 EA
	W16-7P(L) "arrow (symbolic)" diagonal sign, (15" x 21") ground mounted.	4 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	56 SF
	D-3(1) "Caraway Rd (arrow) " dual face (variable x 16") mast arm mounted.	2 EA
	R3-5L "LEFT TURN ONLY" sign, (30" x 36") mast arm mounted.	1 EA
	R10-3(1) (9"x15") sign. (Note: To read "PUSH BUTTON TO CROSS REISTERSTOWN ROAD).	2 EA
	R10-3(1) (9"x15") sign. (Note: To read "PUSH BUTTON TO CROSS HANNAH MORE CENTER).	2 EA

EQUIPMENT LIST (Con't)

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

ITEM NO.	DESCRIPTION	QUANTITY
	R10-3(1) (9"x15") sign. (Note: To read "PUSH BUTTON TO CROSS CARAWAY ROAD).	2 EA
	M95-1 (mod) "Reisterstown Rd / NORTH (arrow) "MD 140" SOUTH (arrow)" sign (78"x24")	1 EA
	M95-1 (mod) "Reisterstown Rd / SOUTH (arrow) "MD 140" NORTH (arrow)" sign (78"x24")	1 EA

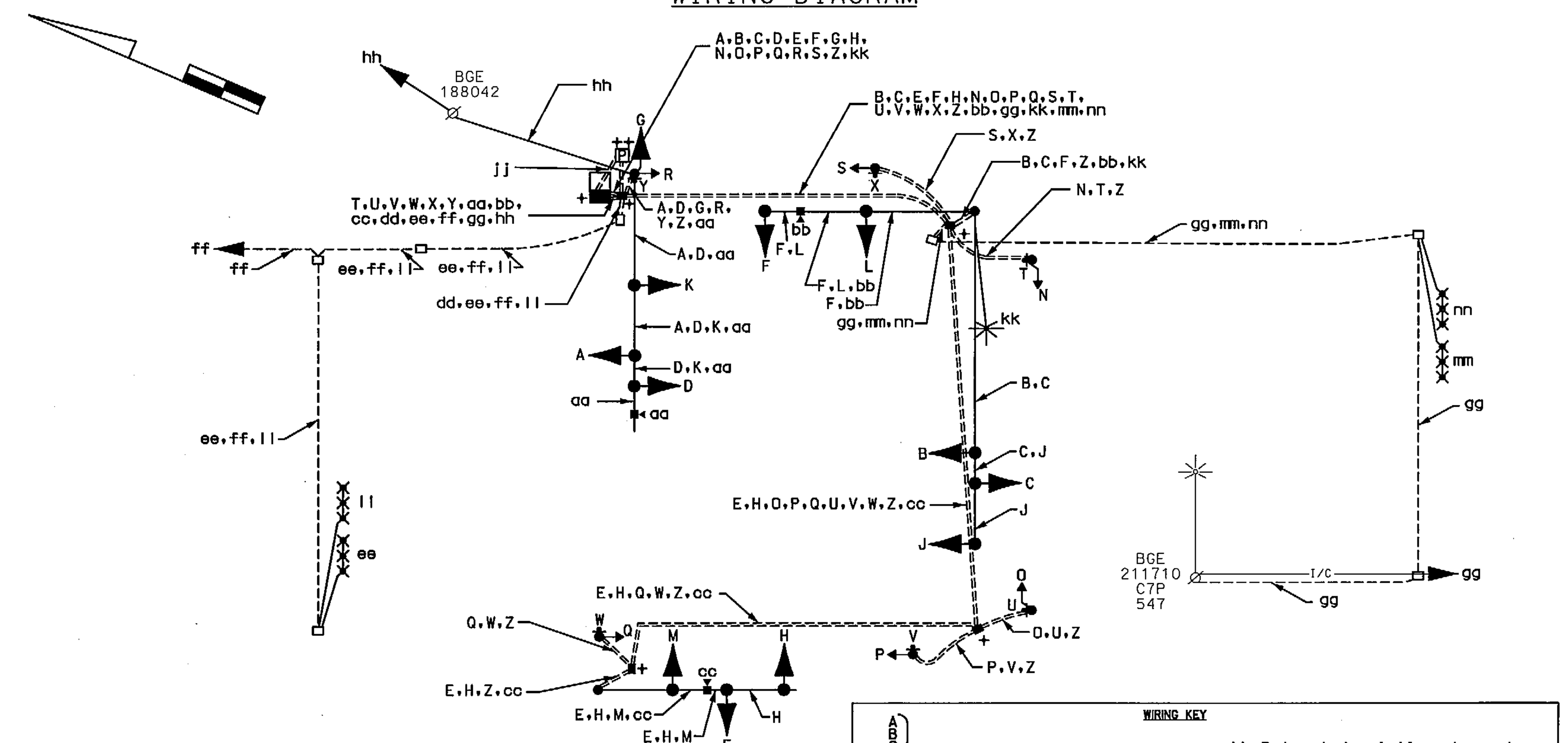
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1003	Maintenance of traffic per assignment.	3 EA
2002	Test Pit Excavation	9 C.Y.
5003	Removal of existing permanent marking letters, symbols, arrows and numbers.	20 L.F.
5004	12" white heat applied permanent preformed thermoplastic pavement marking.	765 L.F.
5005	24" white heat applied permanent preformed thermoplastic pavement marking.	85 L.F.
5007	Removal of existing permanent pavement line markings	315 L.F.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	280 L.F.
6002	5" concrete sidewalk.	900 S.F.
8001	2 wire Central Control unit	1 EA
8003	8" LED signal head section.	3 EA
8006	Any size lighting arm on signal pole.	1 EA
8007	Audible/tactile pedestrian pushbutton station & signs.	6 EA
8008	Breakaway pedestal pole (ANY SIZE)	5 EA
8013	LED 16" countdown pedestrian signal heads.	6 EA
8015	Mast arm pole & 38' mst arm. any "T" dimension.	1 EA
8018	Mast arm pole & 50' mst arm. any "T" dimension.	1 EA
8019	Microloop probe (any length lead in cable).	4 EA
8021	Remove and dispose of existing material & equipment per assignment.	1 EA
8024	Twin mast arm pole & 50'/70' mast arms any "T" dimension.	1 EA
8025	Video detection camera arm. and cable up to 500'	3 EA
8026	1" electrical conduit - galvanized sleeve or flexible liquid tight.	50 L.F.
8031	Disconnect, pull back and reroute cable.	200 L.F.
8033	Schedule 80 rigid PVC conduit up to 4" - bored.	500 L.F.
8035	Schedule 80 rigid PVC conduit up to 4" - trenched.	300 L.F.
8036	Wood sign supports up to 4"x6".	60 L.F.
8037	Detectable warning surfaces	120 S.F.
8038	Install overhead or ground mounted sign.	100 S.F.
8040	No. 6 AWG stranded bare copper ground wire.	600 L.F.
8041	Weatherhead, 3 inch	1 EA
8042	Embedded Metered service pedestal.	1 EA
8044	Electrical cable 1-conductor No. 4 AWG THHN/THWN.	80 L.F.
8046	Furnish and install electrical handhole.	4 EA
8050	12" LED signal head section.	37 EA
8052	Cut, clean, galvanize and cap traffic signal structure.	1 EA
8054	Electrical cable - 2 conductor (No. 14 AWG).	1375 L.F.
8056	Electrical cable - 5 conductor (No. 14 AWG).	1450 L.F.

PHASE CHART

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

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 Q R S } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

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

aa bb cc } CONTROL CABLE (CAMERA TO CONTROLLER) UP TO 500'

dd- Relocated existing phone drop

ff gg - RELOCATED EXISTING OVERHEAD 12-PAIR INTERCONNECT CABLE

hh- RELOCATED EXISTING OVERHEAD PRE-EMPTION CABLE

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

kk- 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G) TRAY CABLE

ee ll mm nn } Microloop Probe Set

+ - GROUND ROD

EQUIPMENT LIST (Con't)

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8057	Electrical cable - 7 conductor (No. 14 AWG).	1100 L.F.
8058	Electrical cable - 2 conductor (No. 12 AWG). tray cable.	150 L.F.
8060	Saw cut for signal (loop detector).	100 L.F.
8065	Install controller and cabinet base mount.	1 EA

C. EQUIPMENT TO BE REMOVED

SHA Forces shall transfer master, local controller and all auxilliary equipment from the exising controller cabinet at time of turn on. The cabinet and all other removed signal materials are to become property of the contractor.

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

5668.dgn T-219

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 140 (REISTERSTOWN ROAD) AND CARAWAY ROAD

REISTERSTOWN, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 5/4/09 CONTRACT NO. XX4465185

DESIGNED BY JAMES ALLEN Jr. COUNTY BALTIMORE
DRAWN BY JAMES ALLEN Jr. LOGMILE 03014008.45
CHECKED BY TIMS NO. J339
F.A.P. NO. TOD NO.

TS NO. ~~386~~H DRAWING NO. 2 OF 2 SHEET NO. OF

PLOTTED: $DATETIME$
FILE: $FILE$

TS NO. 368

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