DRILL HOLES

BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 322 (Easton Parkway) and Glebe Rd in Talbot County. The existing strain pole structure shall be replaced with a new mast arm structure. There will be a total of 8 noninvasive microprobes, 4 video detector cameras and 2 opticom eyes at this intersection . MD 322 (Easton Parkway) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA six-phase, fully-actuated mode, with the MD 322 (Easton Parkway) approaches continuing to run concurrent. The Exclusive/Permissive left turn phase for eastbound MD 322 (Easton Parkway) shall continue to be provided. A new Exclusive/Permissive left turn phase for the westbound approach of MD 322 (Easton Parkway) shall be provided. The Glebe Road approaches shall continue to operate as a side street split phase.

2. A full-traffic-actuated, eight-phase controller with two (2) four channel, rack mount loop detector amplifiers, video interface, opticom discrimnation module and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

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) 787-7650 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.

The contact persons for District #2 are as follows:

Mr. Robert Kiel
Assistant District Engineer - Traffic
Phone: (410) 810-3240

Mr. Terry Wright
Assistant District Engineer - Maintenance
Phone: (410) 810-3250

Mr. Barry Clothier
Assistant District Engineer - Utility
Phone: (410) 810-3060

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

The power company representative is:
Easton Electrical Co-op
Mr Bill Vorwald
1-410-822-6110

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9000	Telemetry interface panel with quick connect block	6 EA
9042	Controller ASC II with telemetry	1 EA
9044	Controller cabinet, size "6" (Note: (1) 4 channel rack mounted detector amplifier, 3M opticom #76 discrimination module)	1 EA
9086	Video detection interface equipment: 1-4 cameras (To be installed by signal shop).	3 EA
9571	Sheet aluminum signs to consist of: (mast arm mount)	69.5 SF
	D3-2 "Easton Pkwy " sign, (variable x 16") dual faced	2 EA
	D3-2 "Glebe Rd " sign, (variable x 16") dual faced	2 EA
	R3-5R "RIGHT TURN ONLY" sign, (30" x 36")	3 EA
	R3-5L "LEFT TURN ONLY" sign, (30" x 36")	2 EA

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1002	Maintenance of traffic per assignment.	3 EA
2002	Test Pit Excavation	6 C.Y.
5003	Removal of existing permanent pavement line markings (grind)	155 L.F.
5006	24" white heat applied permanent preformed thermoplastic pavement marking.	90 L.F.
8001	Furnish and install concrete for signal foundation.	18 C.Y.
8008	Adjust and re-ring existing span wire.	2 EA
8012	Pre-manufactured camera to controller (100' length) cable	3 EA

EQUIPMENT LIST

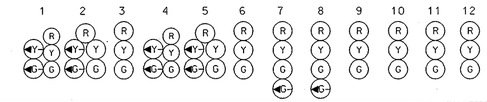
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8013	Pre-manufactured camera to controller (200' length) cable	4 EA
8014	Pre-manufactured camera to controller (300' length) cable	5 EA
8027	Remove and dispose of existing material and equipment per assignment.	1 EA
8035	Disconnect, pull back and reroute cable.	550 L.F.
8041	Furnish and install No. 6 AWG stranded bare copper ground wire.	510 L.F.
8043	1" electrical conduit - galvanized sleeve or riser.	170 L.F.
8049	Furnish and install 4" schedule 80 rigid polyvinyl chloride - bored.	875 L.F.
8050	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched.	15 L.F.
8051	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	16140 L.F.
8052	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	105 L.F.
8056	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	10 L.F.
8057	Metered pedestal service.	1 EA
8059	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	30 L.F.
8065	Furnish and install electrical handhole.	91 EA
8068	Install overhead sign.	69.5 SF
8069	Video detector camera.	12 EA
8072	Furnish and install 3M opticom #721 detector eye	2 EA
8074	Steel pole with a single 38' mast arm.	2 EA
8075	Furnish and install 27' mast arm pole and 50' mast arm.	1 EA
8076	Furnish and install 27' mast arm pole and 60' mast arm.	1 EA
8081	Furnish and install 12-pair communication cable, jelly-filled, (underground).	20450 L.F.
8082	Furnish and install 250 watt HPS Luminaire with photocell.	2 EA
8087	Furnish and install ground rod - 3/4" x 10'.	8 EA
8088	Furnish and install 8" vehicular traffic signal head section.	6 EA
8089	Furnish and install 12" vehicular traffic signal head section	40 EA
8091	Furnish and install 4-conductor opticom detector cable.	300 L.F.
8094	Furnish and install electrical cable - 2 conductor (aluminum shielded) (No. 14 AWG)	1130 L.F.
8097	Furnish and install electrical cable -5 conductor (No. 14 AWG).	115 L.F.
8098	Furnish and install electrical cable -7 conductor (No. 14 AWG).	1545 L.F.
8099	Furnish and install tray cable - 2 conductor (No. 12 AWG).	330 L.F.
8100	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	1140 L.F.
8101	Furnish and install saw cut for signal (loop detector).	400 L.F.
8103	Furnish and install 15' lighting arm for traffic signal structure.	2 EA
8108	Install controller and cabinet base mount.	1 EA

C. EQUIPMENT TO BE REMOVED

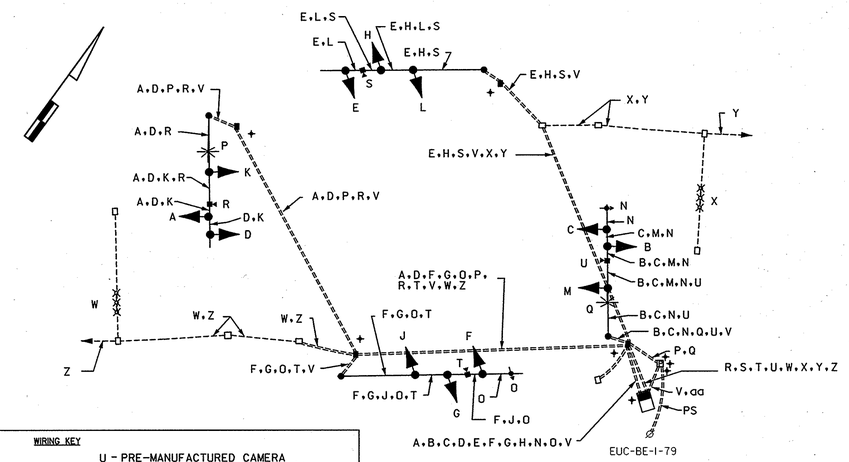
SHA Forces shall remove the controller and all auxilliary equipment from* the controller cabinet. The SHA shall also remove 4 existing video cameras. The cabinet and all other removed signal materials are to become property of the contractor.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	R	R	R	R	R	R
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
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	R	R	R
PHASE 2 & 5	R	R	R	◄G-/G	◄G-/G	G	R	R	R	R	R	R
2 & 5 CHANGE	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y
PRE EMPT 1	G	G	G	G	G	G	R	R	R	R	R	R
PRE EMPT 1 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PRE EMPT 2	R	R	R	R	R	R	G ◄G-	G ◄G-	G	R	R	R
PRE EMPT 2 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R
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

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 } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- N, O } 4-CONDUCTOR OPTICOM DETECTOR CABLE
- P, Q } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)
- R - PRE-MANUFACTURED CAMERA TO CONTROLLER CABLE (300')
- S, T } PRE-MANUFACTURED CAMERA TO CONTROLLER CABLE (200')
- U - PRE-MANUFACTURED CAMERA TO CONTROLLER CABLE (100')
- V - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- W, X } EXISTING MICROLOOP LEAD-IN CABLE
- Y- 12-PAIR INTERCONNECT CABLE (UNDERGROUND) FROM MD 322 / N WASHINGTON ST
- Z- 12-PAIR INTERCONNECT CABLE (UNDERGROUND) FROM MD 322 / MARLBORO RD
- aa- 2-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- + - GROUND ROD
- PS- POWER SERVICE

TOD No: AT720-05
SHA: TA448A51/B51

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 322 AND GLEBE RD

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

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SCALE none	DATE 8-05-05	CONTRACT NO.	
DESIGNED BY R ZACHERL		COUNTY TALBOT	
DRAWN BY ROB CICCHINI		LOGMILE 20032203.81	
CHECKED BY		TIMS NO. G846	
F.A.P. NO.		TOD NO.	
TS NO.1365 B	DRAWING NO. OF	SHEET NO. 2 OF 2	

PLOTTED: @DATETIME@
FILE: @FILE@

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