DRILL HOLES

BORDER REV: DATE: June 1, 2004

## PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal at the intersection of MD 22 (Churchville Rd) and Thomas Run Road/Shucks Road in Harford County. The twin mast arm on the northwest quadrant is being replaced by two single mast arms. LED Traffic Signal heads and video detection equipment is being installed. The Traffic Signal is interconnected to Prospect Mill Road to the west and Harford Community College to the east. The existing microloop probe for eastbound MD 22 is being replaced. MD 22 (Churchville Rd) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

1. The intersection shall ~~continuously~~ operate in a NEMA ~~eight~~ phase, fully-actuated mode, with the MD 22 (Churchville Rd) approaches running concurrently. ~~The~~ Exclusive/Permissive left turn phases for ~~the eastbound~~ both approaches of MD 22 (Churchville Rd) shall ~~remain in operation~~ be provided. The Exclusive/Permissive left turn phases for the Thomas Run Road/Shucks Road approaches shall remain in operation. The Thomas Run Road/Shucks Road approaches shall shall also continue to run concurrently. 1

2. A full-traffic-actuated, eight-phase controller with video interface 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, 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.

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
Signal Shop
410-787-7652

Mr. Sonny Bailey
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 |
| 9571 | Sheet aluminum signs to consist of: (mast arm or pole mount) | 33 SF |
| | D3-2 "Churchville Rd" (variable x 16") dual face mast arm mounted. | 1 EA |
| | R3-5R "RIGHT TURN ONLY" sign, (30" x 36"). | 2 EA |

## Equipment List (Cont)

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

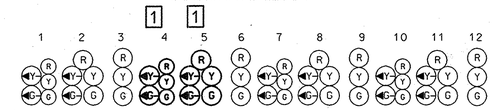
| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| 1001 | Maintenance of traffic per assignment. | 2 EA |
| 2002 | Test Pit Excavation | 2 C.Y. |
| 5003 | Removal of existing permanent pavement line markings | 320 L.F. |
| 5006 | 24" heat applied white permanent preformed thermoplastic pavement marking. | 110 L.F. |
| 8001 | 12" LED signal head section. | 43 ~~39~~ EA |
| 8004 | 8" LED signal head section. | 9 EA |
| 8011 | Embedded Metered service pedestal. | 1 EA |
| 8015 | Mast arm pole and 38' mast arm any "T" dimension | 1 EA |
| 8018 | Mast arm pole and 60' mast arm any "T" dimension | 1 EA |
| 8020 | Non-invasive detector (any length) lead-in cable up to 1000'. | 1 EA |
| 8022 | Remove and dispose of existing material and equipment per assignment. | 1 EA |
| 8027 | Video detection camera & cable. | 4 EA |
| 8030 | Disconnect, pull back and reroute cables. | 410 L.F. |
| 8032 | Schedule 80 rigid PVC conduit up tp 4" - bored. | 210 L.F. |
| 8034 | Schedule 80 rigid PVC conduit up to 4" - trenched. | 375 L.F. |
| 8038 | No. 6 AWG stranded bare copper ground wire. | 380 L.F. |
| 8043 | Electrical cable 1-conductor No. 4 AWG THHN/THWN. | 90 L.F. |
| 8044 | Furnish and install electrical handhole. | 2 EA |
| 8046 | Install overhead sign. | 33 S.F. |
| 8052 | 250 watt HPS lamp & luminaire. | 1 EA |
| 8058 | Electrical cable - 5 conductor (No. 14 AWG). | 160 L.F. |
| 8059 | Electrical cable - 7 conductor (No. 14 AWG). | 1960 L.F. |
| 8060 | Electrical cable - 2 conductor (No. 12 AWG) tray cable. | 450 L.F. |
| 8063 | 15' lighting arm on signal structure. | 1 EA |
| 8067 | Install controller and cabinet base mount. | 1 EA |

C. EQUIPMENT TO BE REMOVED

SHA Forces shall remove the controller and all auxiliary equipment from The controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

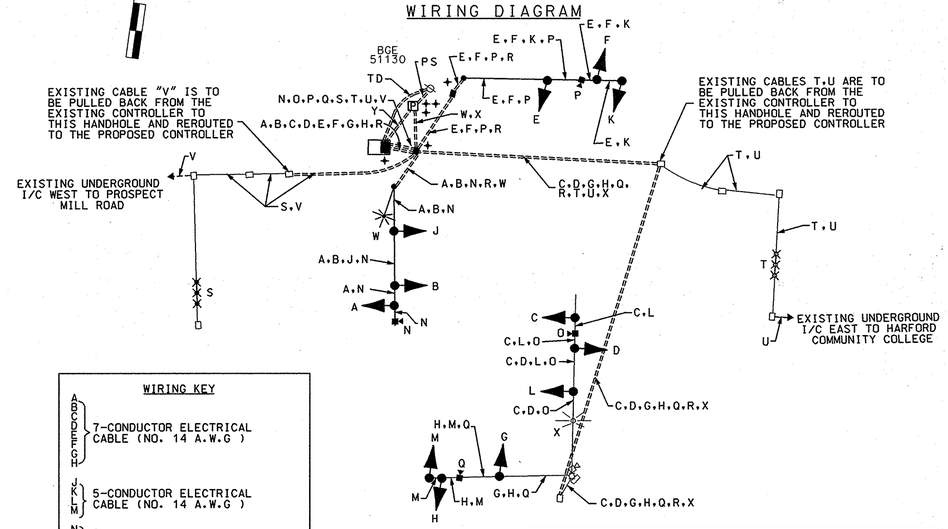
1 REDLINE REVISION 6/6/08
TEDD APPROVAL

## PHASE CHART




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 PHASE 1 & 5 | ◄G-/R | ◄G-/R | R | ◄G-/R | ◄G-/R | R | R | R | R | R | R | R |
| 1 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 |
| 1 PHASE 2 & 5 | R | R | R | ◄G-/G | ◄G-/G | G | R | R | R | R | R | R |
| 1 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 3 & 7 | R | R | R | R | R | R | ◄G-/R | ◄G-/R | R | ◄G-/R | ◄G-/R | R |
| CHANGES TO PHASES 3 & 8, 4 & 7 OR 4 & 8 | | | | | | | | | | | | |
| PHASE 3 & 8 | R | R | R | R | R | R | ◄G-/G | ◄G-/G | G | R | R | R |
| 3 & 8 CHANGE | R | R | R | R | R | R | ◄Y-/G | ◄Y-/G | G | R | R | R |
| PHASE 4 & 7 | R | R | R | R | R | R | R | R | R | ◄G-/G | ◄G-/G | ◄G-/G |
| 4 & 7 CHANGE | R | R | R | R | R | R | R | R | R | ◄Y-/G | ◄Y-/G | ◄Y-/G |
| 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 |
| 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, P, Q } CONTROL CABLE (CAMERA TO CONTROLLER)

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

S - MICROLOOP LEAD-IN CABLE

T - EXISTING MICROLOOP LEAD-IN CABLE

U - EXISTING 6-PAIR I/C CABLE

V - EXISTING 12-PAIR I/C CABLE

W, X } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G )

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

PS - PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BGE

TD - TELEPHONE DROP

+ - GROUND ROD

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 22 (Churchville Road) @ Thomas Run Road / Shucks Road

GENERAL INFORMATION SHEET

SCALE NONE DATE 3/11/2008 CONTRACT NO. AT9145185

DESIGNED BY JAMES ALLEN COUNTY HARFORD
DRAWN BY ROB CICCHINI LOGMILE 12002203.59
CHECKED BY TIMS NO. 1551
F.A.P. NO. TOD NO.

TS NO. ~~3338F~~ 265F | DRAWING NO. 2 OF 2 | SHEET NO. OF

STREET TRAFFIC STUDIES, LTD.
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Glen Burnie, MD 21061
Ph (410) 590-5500
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