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 at the intersection of MD 150 (Eastern Avenue) and 54th Street in Baltimore County. The existing strain pole Traffic Control Signal shall be replace with a new mast arm pole Traffic Control Signal. Countdown pedestrian heads with audible pushbuttons shall be installed across all legs. MD 150 (Eastern Avenue) is assumed to run an east-west direction.

### II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA four-phase, semi-actuated mode, with the MD 150 (Eastern Avenue) approaches continuing to run concurrently. An Exclusive/Permissive left turn phase shall now be provided for the eastbound approach of MD 150 (Eastern Avenue). The pedestrian phase across the east leg of MD 150 (Eastern Avenue) shall now be a Countdown pedestrian phase with audible pushbutton actuation. A new Countdown pedestrian phase with audible pushbuttons on recall shall be provided across 54th Street. The 54th Street approach shall continue to run in its own phase.

2. A full-traffic-actuated, eight-phase controller with video interface, a central control unit and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed 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. APS will function as follows:

TO CROSS MD 150 (EASTERN BLVD)

a When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross Eastern at 54th."

b. When the WALK phase begins, the pushbutton unit will provide a rapid tick which will last for the duration of the WALK phase.

TO CROSS 54th STREET

a When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message " Wait to cross 54th at Eastern."

b. When the WALK phase begins, the pushbutton unit will provide 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. Ed Rodenhizer
Signal Shop
410-787-7652

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

Mr. Sonny Bailey
Sign Shop
410-787-7676

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

The power company representative is:

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

Baltimore Gas and Electric
7317 Parkway Drive South
Hanover, MD 21076
410-850-4620

## 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) | 16.5 SF |
| | W11A-2 "Advance Pedestrian Crossing (Symbolic)" sign, (30" x 30"). | 1 EA |
| | W11-1 "Bike (Symbolic)" sign, (30" x 30"). | 1 EA |
| | W16-1 "SHARE THE ROAD" sign, (30" x 18") | 1 EA |
| 9571 | Sheet aluminum signs to consist of: (mast arm or pole mount) | 47 SF |
| | D3-2 "54th Street " sign, (dual faced) (variable x 16") mast arm | 1 EA |
| | D3-2 "Eastern Avenue" sign, (variable x 16") mast arm | 1 EA |
| | R3-5L "LEFT TURN ONLY" sign, (30" x 36") mast arm | 1 EA |
| | R10-11b "NO TURN ON RED" sign, (24"x24") mast arm | 1 EA |

## EQUIPMENT LIST (CONT.)

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

| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| | W95-1 (mod) "EAST (arrow)/ MD 150 / WEST (arrow)" sign (78" x 24") mast arm. | 1 EA |
| | R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS 54TH STREET".) | 2 EA |
| | R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS EASTERN BLVD".) | 2 EA |

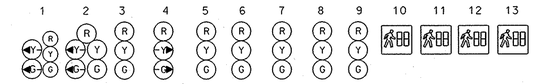
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| 1001 | Maintenance of traffic per assignment. | 2 EA |
| 2002 | Test Pit Excavation | 7 C.Y. |
| 5001 | 5" heat applied yellow permanent preformed thermoplastic pavement marking. | 160 L.F. |
| 5002 | Removal of existing permanent pavement line markings | 135 L.F. |
| 5004 | 12" heat applied white permanent preformed thermoplastic pavement marking. | 275 L.F. |
| 5005 | 24" heat applied white permanent preformed thermoplastic pavement marking. | 100 L.F. |
| 6001 | Standard type A combination curb and gutter 12" gutter pan 8" depth. | 130 L.F. |
| 6002 | 4" concrete sidewalk. | 840 S.F. |
| 8001 | 12" LED signal head section. | 28 EA |
| 8002 | 2 wire Central Control unit | 1 EA |
| 8004 | 8" LED signal head section. | 3 EA |
| 8008 | Audible/tactile pedestrian pushbutton station & signs. | 4 EA |
| 8009 | Breakaway Pedestal pole (10'). | 3 EA |
| 8014 | LED 16" countdown pedestrian signal head. | 4 EA |
| 8017 | Mast arm pole 15' T and 60' (cut to 58') mast arm. | 1 EA |
| 8020 | Microloop probe with any length lead-in cable | 2 EA |
| 8022 | Remove and dispose of existing material and equipment per assignment. | 1 EA |
| 8024 | Twin mast arm pole 15' T and 50'/70' mast arms. | 1 EA |
| 8026 | Video detection camera & cable up to 500' | 2 EA |
| 8027 | 1" electrical conduit - galvanized sleeve. | 25 L.F. |
| 8034 | Schedule 80 rigid PVC conduit up tp 4" - trenched. | 440 L.F. |
| 8035 | Schedule 80 rigid PVC conduit up tp 4" - bored. | 170 L.F. |
| 8036 | Wood sign supports up to 4"x6". | 32 L.F. |
| 8037 | Detectable warning surfaces | 32 S.F. |
| 8038 | Install overhead or ground mounted sign (including hardware). | 63.5 S.F. |
| 8040 | No. 6 AWG stranded bare copper ground wire. | 300 L.F. |
| 8042 | Metered service pedestal embedded. | 1 EA |
| 8044 | Electrical cable 1-conductor No. 4 AWG THHN/THWN. | 30 L.F. |
| 8046 | Furnish and install electrical handhole. | 5 EA |
| 8051 | Cut, clean, galvanize and cap traffic signal structure. | 1 EA |
| 8053 | Electrical cable - 2 conductor (No. 14 AWG). | 490 L.F. |
| 8055 | Electrical cable - 5 conductor (No. 14 AWG). | 725 L.F. |
| 8056 | Electrical cable - 7 conductor (No. 14 AWG). | 800 L.F. |
| 8059 | Saw cut for signal (loop detector). | 15 L.F. |
| 8064 | Install controller and cabinet base mount. | 1 EA |

C. EQUIPMENT TO BE REMOVED

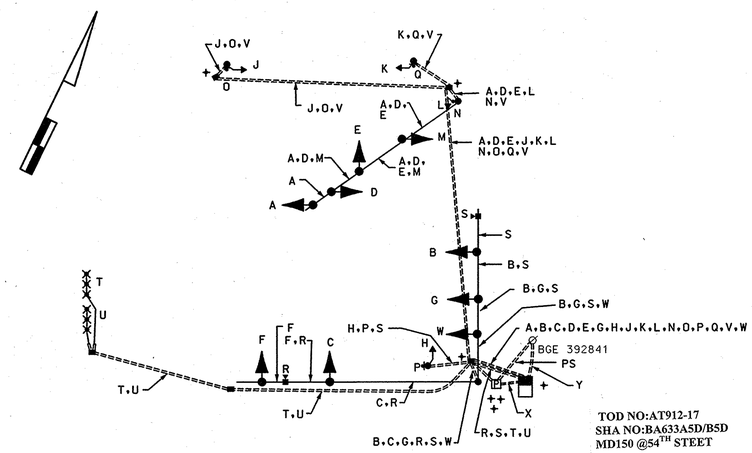
SHA Forces shall remove the controller and all auxiliary equipment from the controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

## PHASE CHART




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 & 6 | ◄G-/G | ◄G-/G | G | -G► | R | R | R | R | R | DW | DW | DW | DW |
| 1 & 6 CHANGE | ◄Y-/G | ◄Y-/G | G | -G► | R | R | R | R | R | DW | DW | DW | DW |
| PHASE 2 & 6 | G | G | G | -G► | G | G | R | R | R | WK | WK | DW | DW |
| PED CLEAR / COUNTDOWN | G | G | G | -G► | G | G | R | R | R | FL/DW | FL/DW | DW | DW |
| 2 & 6 CHANGE | Y | Y | Y | -Y► | Y | Y | R | R | R | DW | DW | DW | DW |
| PHASE 4 | R | R | R | R | R | R | G | G | G | DW | DW | DW | DW |
| 4 CHANGE | R | R | R | R | R | R | Y | Y | Y | DW | DW | DW | DW |
| PHASE 4 ALT | R | R | R | R | R | R | G | G | G | DW | DW | WK | WK |
| PED CLEAR / COUNTDOWN | R | R | R | R | R | R | G | G | G | DW | DW | FL/DW | FL/DW |
| 4 ALT CHANGE | R | R | R | R | R | R | Y | Y | Y | DW | DW | DW | DW |
| FLASHING OPERATION | FL/Y | FL/Y | FL/Y | FL/-Y► | FL/Y | FL/Y | FL/R | FL/R | FL/R | DARK | DARK | DARK | DARK |

## WIRING DIAGRAM




TOD NO:AT912-17
SHA NO:BA633A5D/B5D
MD150 @54TH STEET

**WIRING KEY**

- A B C D E } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G )
- F G H J K L M W } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G )
- N O P Q } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G )
- R S } CONTROL CABLE (200')
- T U } NON INVASIVE PROBE LEAD IN (500')
- V - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- X - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- Y - TELEPHONE DROP
- PS - PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BGE
- + - GROUND ROD

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

# MD 150 (EASTERN AVENUE) AND 54th STREET

## GENERAL INFORMATION SHEET

SCALE NONE DATE 4/1/08 CONTRACT NO. AT7175185

DESIGNED BY JIMMY ALLEN
DRAWN BY R.C.
CHECKED BY
F.A.P. NO.

COUNTY BALTIMORE
LOGMILE 03015001.09
TIMS NO. H274
TOD NO.

TS NO. 612B | DRAWING NO. 2 OF 2 | SHEET NO. OF

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