

TRAFFIC CONTROL SIGNAL PROJECT DESCRIPTION

EQUIPMENT LISTS (CON'T.)

I. GENERAL

This project involves the reconstruction of the existing Traffic Control Signal with street lighting and Fire Pre-emption at the intersection of MD 144 and Mellor Avenue/Egges Lane in Baltimore County. The project is necessary due to the realignment of Egges Lane by Baltimore County Department of Public Works. MD 144 is assumed to run in an east-west direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA five-phase, fully-actuated mode, with the MD 144 approaches running concurrently. The fire pre-emption phase shall operate as a lag left/thru on westbound MD 144, with the advance Hazard Identification Beacon flashing Yellow. Pedestrian phases with pushbutton actuation shall be provided across both the east and west legs of MD 144. The Mellor Avenue/Egges Lane approaches shall also run concurrently.
- A full-traffic actuated, eight-phase controller with one (1) four-channel, rack mount loop detector amplifier, Intersection Monitor with battery back-up for phone drop and associated harnesses housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

- The project will be paid for lump sum and the items will be measured as per these contract documents.
- The Contractor shall be responsible for terminating all signal cables to the appropriate terminals and shall properly label each cable.
- 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.
- Upon completion of this project, the Contractor shall notify Mr. Robert Snyder at (410) 887-7631 to arrange for phone line installation. The Contractor is to provide Mr. Robert Snyder with the nearest street address, zip code and phone number.

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY BALTIMORE COUNTY

- | QUANTITY | DESCRIPTION |
|----------|---|
| 2 Each | 10' breakaway pedestal pole (black) with transformer base. |
| 2 Each | 27' steel pole (black) with twin 40' mast arms (black). (Note: 4 anchor bolts will be 1 3/4" x 90".) |
| 7 Each | 12", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors. |
| 4 Each | Combination 12"-8", one-way, three-section (12"-R,Y) (8"-Y) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors. |
| 1 Each | 12", one-way, four-section (R,Y,G,G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors. |
| 2 Each | 12", one-way, two-section (DW,W) symbolic pedestrian signal head with adjustable bracket for pole mounting and cutaway visors. |
| 2 Each | 12", one-way, two-section (DW,W) symbolic pedestrian signal head having proper post top adapter for pedestal mounting and cutaway visors. |
| 4 Each | Pedestrian pushbutton and pedestrian education sign. (Note: Sign to read "PUSH BUTTON TO CROSS FREDERICK ROAD".) |
| 1 Each | Eight-phase, full-traffic actuated, solid state digital controller with one (1) 4-channel, rack mount loop detector amplifier, Intersection Monitor with battery back-up for phone drop and associated harnesses housed in a NEMA size "6" base-mounted cabinet. |
| 90 S.F. | Sheet aluminum signs to consist of: <ul style="list-style-type: none"> 2 EA D3-2 "Frederick Rd" sign, (variable x 16") mast arm mounted. 2 EA D3-2 (arrow) Egges Ln, Mellor Ave (arrow)" sign, (variable x 32") mast arm mounted. 2 EA D3-2 (arrow) Mellor Ave, Egges Ln (arrow)" sign, (variable x 32") mast arm mounted. 1 EA R10-11b "NO TURN ON RED" sign, (24" x 24") mast arm mounted. 1 EA W11-8b "FIRE HOUSE SIGNAL" sign, (72" x 36") mast arm mounted. |
| 2 Sets | Probes (Model 20002) (set of 3) with lead-ins and 500 LF of Micro-loop lead-in cable (home-run cable). |

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

- | QUANTITY | DESCRIPTION |
|----------|---|
| 1 Each | Mobilization for traffic control signal. |
| 2 C.Y. | Test pit excavation for traffic control signal. |
| 6 C.Y. | Remove existing sidewalk by prime contractor. |
| 60 L.F. | Remove existing curb and gutter by prime contractor. |
| 265 L.F. | Furnish and install thermo plastic preformed pavement marking tape, white (12" width for crosswalks) by others. |
| 90 L.F. | Furnish and install thermo plastic preformed pavement marking tape, white (24" width for stopline) by others. |
| 170 L.F. | Remove existing pavement marking - any width by others. |
| 540 S.F. | Furnish and install 4" concrete sidewalk, mix No. 2 by prime contractor. |
| 60 L.F. | Furnish and install depressed curb and gutter by prime contractor. |
| 14 C.Y. | Furnish and install concrete for signal foundation. |
| 2 Each | Furnish and install grout. |
| 2 Each | Cut, clean, galvanize and cap traffic signal structure. |
| 7 Each | Install one-way, three-section traffic signal head, mast arm mounted. |
| 1 Each | Install one-way, four-section traffic signal head, mast arm mounted. |
| 2 Each | Install one-way, two-section pedestrian signal head, pole mounted. |
| 2 Each | Install one-way, two-section pedestrian signal head, pedestal mounted. |
| 2 Each | Install microloop probe set. |
| 4 Each | Install pushbutton and sign. |
| 1 Each | Install controller and cabinet - base mounted. |
| 310 L.F. | Furnish and install sawcut for signal (loop detector). |
| 30 L.F. | Furnish and install 1" galvanized steel electrical conduit (detector wire sleeve). |
| 10 L.F. | Furnish and install 1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve). |
| 185 L.F. | Furnish and install 2" polyvinyl chloride electrical conduit (Schedule 80) (trenched). |
| 575 L.F. | Furnish and install 2" polyvinyl chloride electrical conduit (Schedule 80) (slotted). |
| 30 L.F. | Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (trenched). |
| 240 L.F. | Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (slotted). |
| 30 L.F. | Furnish and install 4" polyvinyl chloride electrical conduit (Schedule 80) (trenched). |
| 7 Each | Furnish and install handhole (frame and cover). |
| 5 Each | Furnish and install ground rod, 3/4" diameter x 10' length. |
| 950 L.F. | Furnish and install loop wire (No. 14 A.W.G.) encased in 1/4" flexible tubing. |
| 160 L.F. | Furnish and install 2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded). |
| 750 L.F. | Furnish and install 2-conductor electrical cable (No. 14 A.W.G.). |
| 855 L.F. | Furnish and install 3-conductor electrical cable (No. 14 A.W.G.). |
| 515 L.F. | Furnish and install 5-conductor electrical cable (No. 14 A.W.G.). |
| 825 L.F. | Furnish and install 7-conductor electrical cable (No. 14 A.W.G.). |
| 380 L.F. | Furnish and install 2-conductor electrical cable (No. 12 A.W.G.) type THHN tray cable. |
| 850 S.F. | Furnish and install stranded bare copper ground wire (No. 6 A.W.G.). |
| 90 S.F. | Install overhead mounted sign. |
| 2 Each | Furnish and install 250W-HPS luminaire. |
| 1 Each | Furnish and install 10' lighting arm (black). |
| 1 Each | Furnish and install 15' lighting arm (black). |
| 6 Each | Remove and dispose of existing foundation 12" below grade. |
| L.S. | Removal and salvage of the existing signal equipment. |
| L.S. | Removal and disposal of the existing material and equipment (Electrical service, wiring, handholes, conduit, etc.). |
| 1 Each | Use existing plan on disk and as-built traffic control device. |
| 1 Each | Furnish and install control and distribution equipment. |
| 2 Each | Install breakaway pedestal pole. |
| 2 Each | Install steel pole with twin mast arms. |
| 1 Each | Clean and paint (black) existing signal pole and mast arm. |

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO: BALTIMORE COUNTY TRAFFIC SIGNAL SHOP, 104 ALMHOUSE ROAD, COCKEYSVILLE, MARYLAND 21030. CONTACT MR. BILL O'NEILL @ (410) 887-7718, FORTY-EIGHT (48) HOURS IN ADVANCE OF RETURNING EQUIPMENT.

- | QUANTITY | DESCRIPTION |
|----------|--------------------------------------|
| 1 EA | Base-mounted cabinet and controller. |
| 14 EA | Traffic signal head. |

NOTE: All equipment and/or materials to be removed by the Contractor but not listed above are to become the property of the Contractor.

The following are the contact persons for Baltimore County:

Mr. Darrell Wiles, Chief
Baltimore County Traffic Engineering and
Transportation Planning
(410)-887-3554

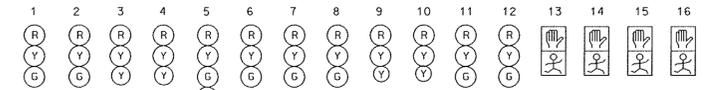
Mr. Stephen Weber, Chief
Division of Traffic Engineering
(410)-887-3554

Mr. Greg Carski, Traffic Engineer
(410)-887-3554

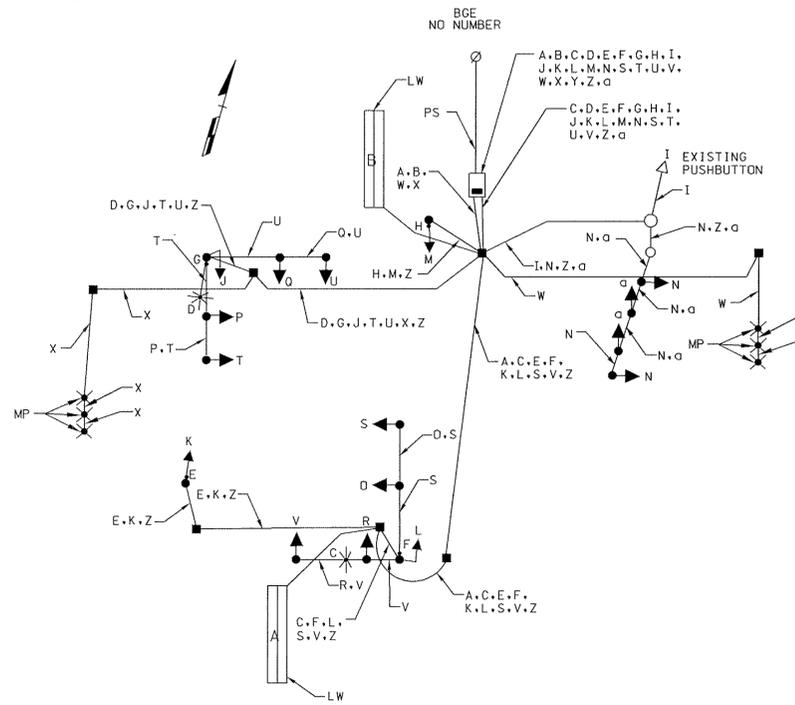
Mr. William O'Neill, Superintendent
Traffic Signal Shop
(410) 887-7718

The power company representative is:

Mr. Joe Bunch
Baltimore Gas and Electric
Customer Operations
7317 Parkway Drive South
Hanover, Maryland 21076
(410) 859-9030



PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 2 & 6	G	G	DARK	DARK	G	G	R	R	FL/R	FL/R	R	R	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	DARK	DARK	G	G	R	R	FL/R	FL/R	R	R	DW	DW	DW	DW
PHASE 3 (PRE-EMPT WARNING-1)	R	R	RAPID FL/8"	RAPID FL/8"	G	G	R	R	FL/R	FL/R	R	R	DW	DW	DW	DW
PHASE 3 (PRE-EMPT WARNING CLEARANCE)	R	R	12"Y	12"Y	G	G	R	R	FL/R	FL/R	R	R	DW	DW	DW	DW
PHASE 3 (PRE-EMPTION)	R	R	R	R	G	G	R	R	FL/8"	FL/8"	R	R	DW	DW	DW	DW
3 & PRE-EMPT CHANGE	R	R	R	R	Y	Y	R	R	12"Y	12"Y	R	R	DW	DW	DW	DW
PHASE 4 & 8	R	R	DARK	DARK	R	R	G	G	FL/R	FL/R	G	G	DW	DW	DW	DW
4 & 8 CHANGE	R	R	DARK	DARK	R	R	Y	Y	FL/R	FL/R	Y	Y	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	DARK	DARK	R	R	G	G	FL/R	FL/R	G	G	WK	WK	WK	WK
PED CLEARANCE	R	R	DARK	DARK	R	R	G	G	FL/R	FL/R	G	G	FL/DW	FL/DW	FL/DW	FL/DW
ALT 4 & 8 CHANGE	R	R	DARK	DARK	R	R	Y	Y	FL/R	FL/R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	DARK	DARK	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK



WIRING KEY

A	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED)
B	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TYPE THHN TRAY CABLE
C	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
D	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
F	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
G	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
I	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
J	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
K	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
M	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
O	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
P	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
Q	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
R	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
S	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
T	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
U	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
V	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
W	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
X	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
Y	3-WIRE ELECTRICAL CABLE (NO. 4 A.W.G.)
Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
MP	MICRO-LOOP PROBES
LW	LOOP WIRE (NO. 14 A.W.G.)
PS	PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BGE

STREET TRAFFIC STUDIES, LTD.
Gateway International
1302 Concourse Drive, Suite 104
Linthicum, Maryland 21050
Ph (410) 859-3553
Fax (410) 859-3579

BALT. CO. DWG 97 - 1227

3173SPC.DGN

REVISIONS	APPROVALS
① 1-5-98 Reconstruct Traffic Signal	ASSISTANT DIVISION CHIEF, TRAFFIC
MSHA BALT. CO.	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, OFFICE OF TRAFFIC AND SAFETY

MDOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic and Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION

MD 144 AND MELLOR AVENUE/EGGES LANE
COUNTY BALTIMORE

DATE: 12-11-97 F.A.P. NO. TS/STD. NO. 3761D-G1 SHEET NO. 2 OF 2

SCALE: N/A S.H.A. NO.