PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE SYSTEMIZATION OF TRAFFIC SIGNALS ON MD 103 FROM US 29 RAMP "F" TO LONG GATE PARKWAY IN HOWARD COUNTY. THE MODIFICATION AT MD 103 AND OLD COLUMBIA PIKE INVOLVES THE INSTALLATION OF VIDEO DETECTION FOR PRESENCE ON APPROACHES. SETBACK ON THE EAST-, WEST-, AND SOUTHBOUND APPROACHES WILL BE MAINTAINED WITH SMALL AREA DETECTORS. ALL EXISTING TRAFFIC SIGNAL HEADS WILL BE UPGRADED TO BLACK FACED LED AND ALL EXISTING PEDESTRIAN SIGNAL HEADS WILL BE UPGRADED TO 16 INCH LED. A NEW TRAFFIC SIGNAL MASTER CONTROLLER WILL REPLACE THE EXISTING CONTROLLER. MD 103 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EMERGENCY VEHICLE PRE-EMPTION IN THE NORTHBOUND DIRECTION AND EXCLUSIVE/PERMISSIVE LEFT TURN PHASES FOR THE EAST AND WESTBOUND APPROACHES. ALTERNATE SIDE STREET PEDESTRIAN PHASES ARE TO REMAIN AND ALTERNATE MAINLINE PEDESTRIAN PHASES ARE PROPOSED.

CONTROLLER REQUIREMENTS

INSTALL A NEW EIGHT-PHASE FULLY ACTUATED MASTER TRAFFIC SIGNAL CONTROLLER, LOOP DETECTOR AMPLIFIER, VIDEO INTERFACE EQUIPMENT, 2-WIRE CENTRAL CONTROL UNIT AND ASSOCIATED HARNESSES IN A NEMA SIZE "6" BASE MOUNTED CABINET.

PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE SHA AT (410) 787-7635 TO ARRANGE THE TWO PHONE DROP LINE INSTALLATIONS. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #7 ARE AS FOLLOWS:

Mr. John Concannon
Assistant District Engineer - Traffic
Phone: 301-624-8140

Ms. Andrea Abend
Assistant District Engineer - Utility
Phone: 301-624-8115

Mr. Ray Johnson
Assistant District Engineer - Maintenance
Phone: 301-624-8108

Mr. Edward Rodenhizer
Chief, SHA Traffic Signal Shop
Phone: 410-787-7650

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

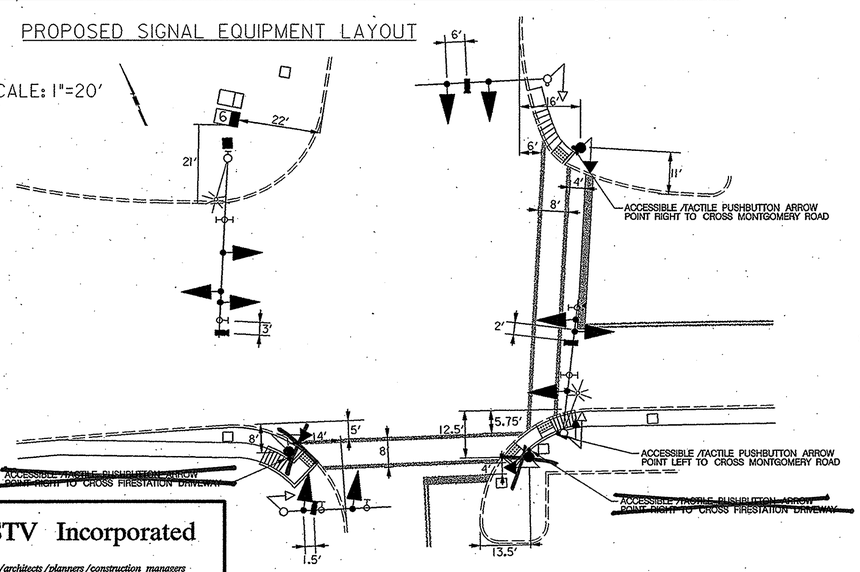
The Power Company Representative is:
Baltimore Gas & Electric Company
7317 Parkway Drive South
Hanover, MD 21076
Phone: 410-859-9062

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	~~11~~	~~12~~	13	14
PHASE 1 + 5	~~G~~ R	~~G~~ R	R	~~G~~ R	~~G~~ R	R	R	R	R	R ~~G~~	~~DW~~	~~DW~~	DW	DW
PHASE 1 + 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASE 1 + 6, 2 + 5, OR 2 + 6													
PHASE 1 + 6	~~G~~ G	~~G~~ G	G	R	R	R	R	R	R	R ~~G~~	~~DW~~	~~DW~~	DW	DW
PHASE 1 CHANGE	~~Y~~ G	~~Y~~ G	G	R	R	R	R	R	R	R ~~Y~~	~~DW~~	~~DW~~	DW	DW
PHASE 2 + 5	R	R	R	~~G~~ G	~~G~~ G	G	R	R	R	R	~~DW~~	~~DW~~	DW	DW
PHASE 5 CHANGE	R	R	R	~~Y~~ G	~~Y~~ G	G	R	R	R	R	~~DW~~	~~DW~~	DW	DW
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	~~DW~~	~~DW~~	DW	DW
PHASE 2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	~~DW~~	~~DW~~	DW	DW
~~PHASE 2 + 6 ALT.~~	~~G~~	~~G~~	~~G~~	~~G~~	~~G~~	~~G~~	~~R~~	~~R~~	~~R~~	~~R~~	~~W~~	~~W~~	~~DW~~	~~DW~~
PHASE 2 + 6 ALT. PED CLEARANCE	G	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	DW	DW
~~PHASE 2 + 6 ALT. CHANGE~~	~~Y~~	~~Y~~	~~Y~~	~~Y~~	~~Y~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~DW~~	~~DW~~	~~DW~~	~~DW~~
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G	~~DW~~	~~DW~~	DW	DW
PHASE 4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	~~DW~~	~~DW~~	DW	DW
PHASE 4 + 8 ALT.	R	R	R	R	R	R	G	G	G	G	~~DW~~	~~DW~~	W	W
PHASE 4 + 8 ALT. PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	~~DW~~	~~DW~~	FL/DW	FL/DW
PHASE 4 + 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	~~DW~~	~~DW~~	DW	DW
PRE-EMPT PHASE 4	R	R	R	R	R	R	~~G~~	G	R	R	~~DW~~	~~DW~~	DW	DW
PRE-EMPT PHASE 4 CHANGE	R	R	R	R	R	R	Y	Y	R	R	~~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	~~DARK~~	~~DARK~~	DARK	DARK

PROPOSED SIGNAL EQUIPMENT LAYOUT

SCALE: 1"=20'



STV Incorporated
engineers /architects /planners /construction managers
7125 Ambassador Road Baltimore, MD 21244-2722 (410) 944-9112

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

ITEM NO	QUANTITY	DESCRIPTION
9044	1 EA	[UPDATED] TRAFFIC RESPONSIVE MASTER CONTROLLER AND CABINET - BASE MOUNT
9086	1 EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9570	8 SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN:
		1 EACH - "M4-5 (24 IN. X 12 IN.), M1-4 (24 IN. X 24 IN.), M6-1 (21 IN. X 15 IN.)"
9571	39 SF	[UPDATED] SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN:
		1 EACH - ASSOCIATED SHIELD ASSEMBLY "WEST, MD 103, RIGHT ARROW" (30 IN. X 51 IN.) POLE MOUNT
		1 EACH - ASSOCIATED SHIELD ASSEMBLY "EAST, MD 103, LEFT ARROW" (48 IN. X ~~75 IN.) POLE MOUNT~~
		~~2 EACH - R10-4(I) (9 IN. X 12 IN.) POLE MOUNT, (FIREHOUSE DRIVEWAY)~~
		2 EACH - R10-4(I) (9 IN. X 12 IN.) POLE MOUNT, (MONTGOMERY ROAD)

EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

ITEM NO	QUANTITY	DESCRIPTION
9044	1 EA	[UPDATED] CONTROLLER CABINET, SIZE 6

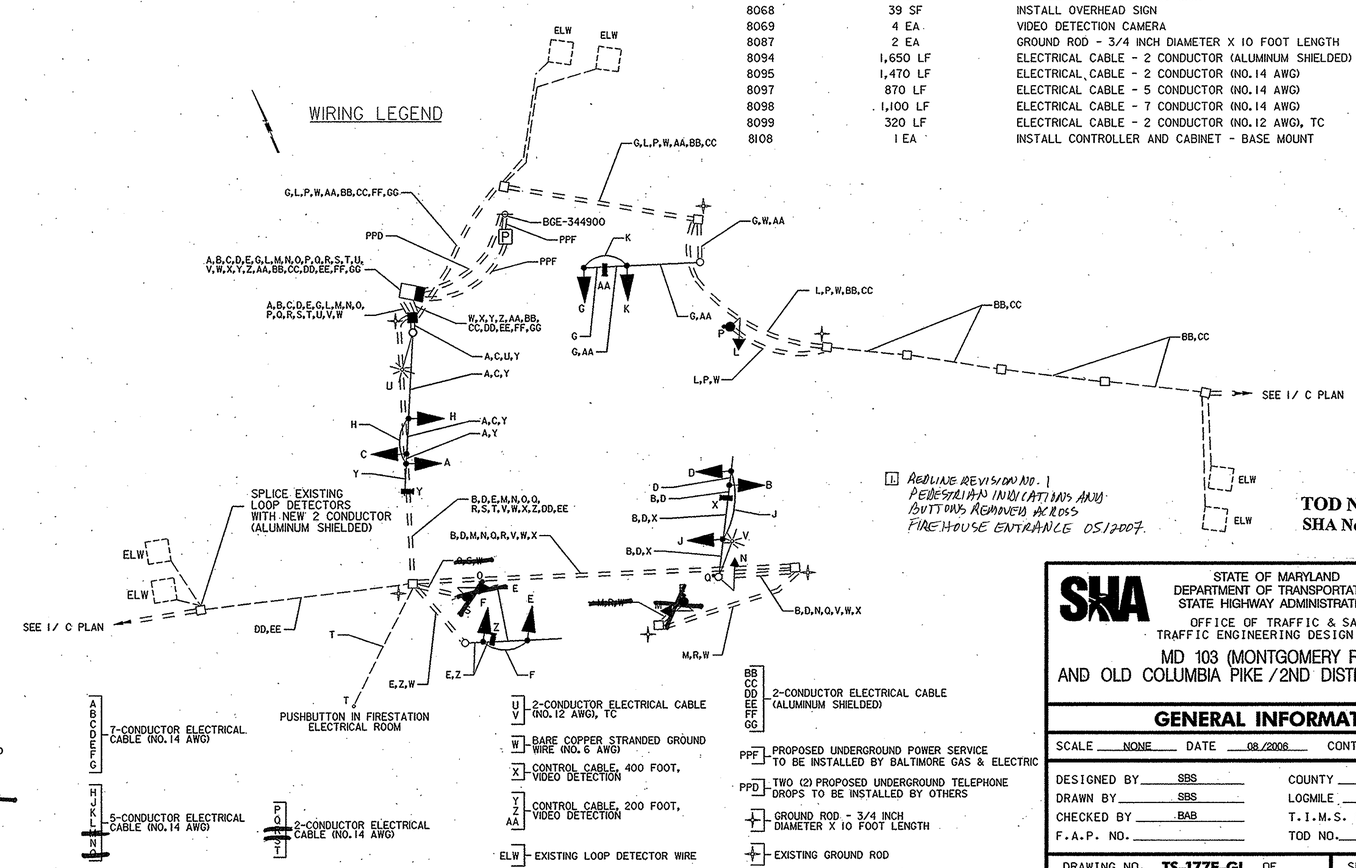
THE CONTRACTOR SHALL CONTACT THE SHA SIGNAL SHOP TO SALVAGE THE EXISTING CABINET AND CONTROLLER. ALL OTHER REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1002	3 EA	MAINTENANCE OF TRAFFIC
2002	3 CY	TEST PIT EXCAVATION
5003	70 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
5005	270 LF	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLSTIC PAVEMENT MARKINGS
5006	140 LF	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLSTIC PAVEMENT MARKINGS
6003	50 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6005	2,100 SF	4 INCH CONCRETE SIDEWALK
8000	2 ~~4~~ EA	16 INCH LED PEDESTRIAN SIGNAL HEAD
8000	4 EA	8 INCH RED OR GREEN LED SIGNAL HEAD SECTION
8000	2 EA	8 INCH YELLOW LED SIGNAL HEAD SECTION
8001	5 CY	CONCRETE FOUNDATION
8003	22 EA	12 INCH RED OR GREEN LED SIGNAL HEAD SECTION
8004	13 EA	12 INCH YELLOW LED SIGNAL HEAD SECTION
8005	1 EA	2 WIRE CENTRAL CONTROL UNIT
8007	2 EA	ADJUST HANDHOLE TO GRADE
8009	2 ~~4~~ EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON
8011	4 EA	CONDUIT BEND IN EXISTING FOUNDATION
8012	1 EA	CONTROL CABLE, 100 FOOT, VIDEO DETECTION
8013	2 EA	CONTROL CABLE, 200 FOOT, VIDEO DETECTION
8015	1 EA	CONTROL CABLE, 400 FOOT, VIDEO DETECTION
8026	1 ~~3~~ EA	PED POLE (ANY SIZE)
8037	32 SF	DETECTABLE WARNING SURFACES
8040	17 LF	WOOD SIGN SUPPORTS 4 INCH X 6 INCH
8041	600 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8050	30 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8051	320 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8052	60 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8055	250 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8057	1 EA	EMBEDDED METERED SERVICE PEDESTAL
8065	1 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8067	8 SF	INSTALL GROUND MOUNTED SIGN
8068	39 SF	INSTALL OVERHEAD SIGN
8069	4 EA	VIDEO DETECTION CAMERA
8087	2 EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
8094	1,650 LF	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8095	1,470 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.14 AWG)
8097	870 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO.14 AWG)
8098	1,100 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO.14 AWG)
8099	320 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.12 AWG), TC
8108	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

WIRING LEGEND



1. REDLINE REVISION NO. 1
PEDESTRIAN INDICATIONS AND BUTTONS REMOVED ACROSS FIREHOUSE ENTRANCE 05/2007.

TOD NO.: AT720-11
SHA No.:HO365A52/B52

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 103 (MONTGOMERY ROAD)
AND OLD COLUMBIA PIKE /2ND DISTRICT FIRE STATION

GENERAL INFORMATION

SCALE NONE DATE 08 /2006 CONTRACT NO. AT7205185

DESIGNED BY SBS COUNTY HOWARD
DRAWN BY SBS LOGMILE 13010307.24
CHECKED BY BAB T.I.M.S. NO. G823
F.A.P. NO. TOD NO.

DRAWING NO. TS-177F-GI OF SHEET NO. 4 OF 8

PLOTTED: WEDNESDAY, JULY 19, 2006 AT 01:51 PM
FILE: I:\PROJECTS\0312513\0312513_0001\DRAWINGS\TRA\OLD COL PIKE\PSG-P002_MD-103.DGN

BY: DRIBANCN