PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES RECONSTRUCTING THE TRAFFIC CONTROL SIGNAL AT US 40 AND EBENEZER ROAD IN BALTIMORE COUNTY. US 40 WILL BE WIDENED TO PROVIDE AN ADDITIONAL WESTBOUND THROUGH LANE THAT WILL DROP AT THE MD 43 RAMP. THE INTERCONNECT TO THE WEST WILL BE RE-RUN BETWEEN MD 43 AND EBENEZER ROAD. LED SIGNAL HEADS WILL BE PROVIDED FOR ALL RED AND GREEN BALL INDICATIONS. ACCESSIBLE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN PEDESTRIAN SIGNALS AND WILL ALSO BE ADDED. US 40 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE LEFT-TURN PHASING FOR EAST- AND WESTBOUND TRAFFIC AND SPLIT PHASING ON EBENEZER ROAD. AN ALTERNATE PEDESTRIAN PHASE WILL BE MAINTAINED ACROSS THE WEST LEG OF US 40.

CONTROLLER REQUIREMENTS

INSTALL A FULLY ACTUATED TRAFFIC SIGNAL CONTROLLER, LOOP DETECTOR AMPLIFERS, VIDEO DETECTION INTERFACE AND ASSOCIATED HARNESSES IN A NEMA SIZE '6' BASE MOUNTED CABINET.

CONTROLLER REQUIREMENTS

PRIOR TO REMOVING THE EXISTING TRAFFIC SIGNAL, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE DROP LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

Mr. Randall Scott
Assistant District Engineer - Traffic
Phone: 410-321-2781

Ms. Suenette Pope
District Utility Engineer
Phone: 410-321-2841

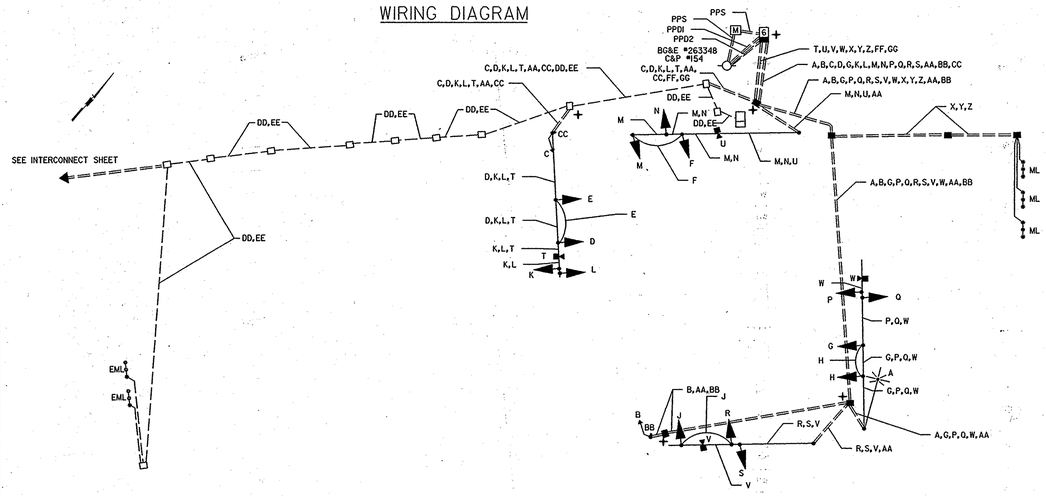
Mr. Steve Marciszewski
Assistant District Engineer - Maintenance
Phone: 410-321-2761

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

WIRING DIAGRAM



EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

CAT CODE	QUANTITY	DESCRIPTION
900000	1 EA	VIDEO INTERFACE EQUIPMENT FOR 1-4 CAMERAS
963101	2 EA	FOUR CHANNEL LOOP DETECTOR AMPLIFIER, RACK MOUNT
971017	1 EA	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET-BASE MOUNT
973023	106 SF	SHEET ALUMINUM SIGNS 2 EACH - SHIELD ASSEMBLY (24 IN. X 51 IN.) 2 EACH - SHIELD ASSEMBLY (36 IN. X 75 IN.) 2 EACH - D3-2 (60 IN. X 16 IN.) DUAL-FACED 'EBENEZER RD' 1 EACH - R3-5(L) - (36 IN X 42 IN.) 1 EACH - R3-5(R) - (36 IN X 42 IN.) 2 EACH - D3-2 (60 IN. X 16 IN.) DUAL-FACED 'PULASKI HWY'

A	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.), TC
B F C G D H E J	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
K P L Q M R N S	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
T U	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
V W	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
X Y Z	MICROLOOP PROBE, 1000 FT LEAD-IN CABLE
AA	NO. 6 AWG BARE COPPER GROUND WIRE
BB CC	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)
DD EE	EXISTING MICROLOOP PROBE LEAD-IN (EB US 40)
FF GG	PROPOSED RE-ROUTING OF EXISTING MICROLOOP PROBE LEAD-IN CABLES (EB US 40)
ML	MICROLOOP PROBE
EML	EXISTING MICROLOOP PROBE
+	¾ IN. x 10 FT. GROUND ROD
PPS	PROPOSED POWER SERVICE TO BE INSTALLED BY BGE
PPDI	PROPOSED INTERSECTION PHONE DROP TO BE INSTALLED BY VERIZON
PPD2	PROPOSED VIDEO PHONE DROP TO BE INSTALLED BY VERIZON

EQUIPMENT LIST 'B'

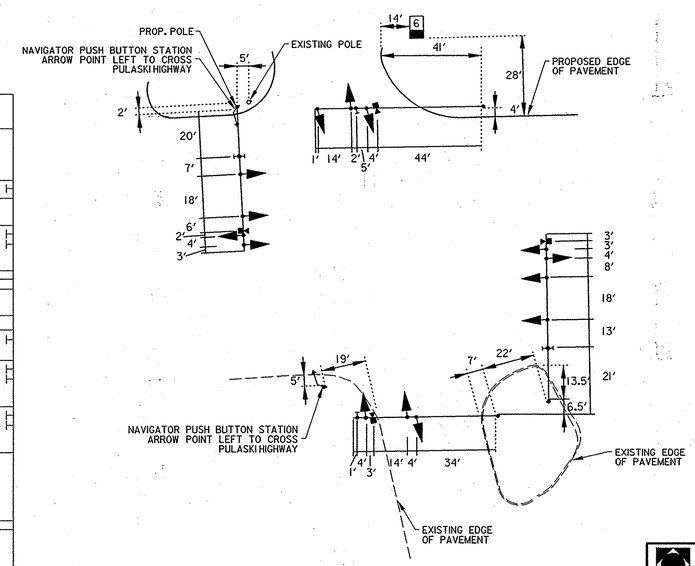
EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

CAT CODE	QUANTITY	DESCRIPTION
120500	1 LS	MAINTENANCE OF TRAFFIC
203030	5 CY	TEST PIT EXCAVATION
585462	120 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
585620	240 LF	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	100 LF	24 INCH HEAT APPLED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
800000	175 LF	PULL AND RE-ROUTE EXISTING CABLE
800000	1 LS	REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL EQUIPMENT
800000	1 EA	16 INCH LED PEDESTRIAN COUNTDOWN SIGNAL HEAD SECTION POLE MOUNT
800000	1 EA	16 INCH LED PEDESTRIAN COUNTDOWN SIGNAL HEAD SECTION PEDESTAL POLE MOUNT
800000	4 EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	4 EA	RELOCATE EXISTING VIDEO DETECTION CAMERA
800000	2 EA	FURNISH AND INSTALL 2-WIRE NAVIGATOR PUSH BUTTON STATION
800000	1 EA	FURNISH AND INSTALL 2-WIRE NAVIGATOR CENTRAL CONTROL UNIT
801004	19 CY	CONCRETE FOR SIGNAL FOUNDATION
802501	500 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805125	30 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805135	370 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805140	125 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805150	175 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805155	200 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805160	45 LF	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
807202	1 EA	METERED SERVICE PEDESTAL
810555	3 EA	MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE
811001	8 EA	ELECTRICAL HANDHOLE
813015	106 SF	INSTALL OVERHEAD SIGN
816005	2 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	2 EA	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818010	1 EA	14 FOOT BREAKAWAY PEDESTAL POLE
818041	2 EA	STEEL POLE WITH A SINGLE 60 FOOT MAST ARM
818052	2 EA	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM
831010	1 EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
837001	5 EA	GROUND ROD - ¾ INCH DIAMETER X 10 FOOT LENGTH
860270	2 EA	8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860272	24 EA	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860284	16 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	3 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861105	450 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1,025 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1,850 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	250 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
861117	75 LF	ELECTRICAL CABLE - 3 WIRE (NO. 4 AWG)
866104	1 EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 + 5	~~G~~	~~G~~	R	R	~~G~~	~~G~~	R	R	R	R	R	R	R	R	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	~~R~~	~~R~~	R	R	R	R	R	R	R	R	DW	DW
PHASE 1 + 6 CHANGE	~~Y~~	~~Y~~	G	G	~~R~~	~~R~~	R	R	R	R	R	R	R	R	DW	DW
PHASE 2 + 5	~~R~~	~~R~~	R	R	~~G~~	~~G~~	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 + 5 CHANGE	~~R~~	~~R~~	R	R	~~Y~~	~~Y~~	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 + 6	~~R~~	~~R~~	G	G	~~R~~	~~R~~	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 + 6 CHANGE	~~R~~	~~R~~	Y	Y	~~R~~	~~R~~	Y	Y	R	R	R	R	R	R	DW	DW
PHASE 3	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	R	~~G~~	~~G~~	G	R	R	R	DW	DW
PHASE 3 CHANGE	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	R	Y	Y	Y	R	R	R	DW	DW
PHASE 4	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	Y	R	R	R	~~G~~	~~G~~	G	DW	DW
PHASE 4 CHANGE	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	R	R	R	R	Y	Y	Y	DW	DW
PHASE 4 ALT	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	R	R	R	R	~~G~~	~~G~~	G	W	W
PHASE 4 PED CLEARANCE	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	R	R	R	R	~~G~~	~~G~~	G	FDW	FDW
PHASE 4 ALT CHANGE	~~R~~	~~R~~	R	R	~~R~~	~~R~~	R	R	R	R	R	Y	Y	Y	DW	DW
FLASHING OPERATION	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

POLE, SIGNAL HEAD, SIGN LOCATIONS AND NAVIGATOR PUSH BUTTON LAYOUT



EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CAT CODE	QUANTITY	DESCRIPTION

ALL REMOVED MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

SP-2

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

US 40 (PULASKI HIGHWAY) AND EBENEZER ROAD
GENERAL INFORMATION

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

DRAWN BY: R. KIPP	F.A.P. NO. SEE TITLE SHEET	TS NO. TS-605 F	SHEET NO.
CHECKED BY: B. BIDDLE	S.H.A. NO. BA7655176		
SCALE: NONE	COUNTY: BALTIMORE	T.I.M.S. NO. F470	34 OF 43
DATE: JULY 2005	LOG MILE: 03004021.50		