PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING TRAFFIC SIGNAL WITH A NEW FULL-TRAFFIC-ACTUATED SIGNAL AT MD 695A (BROENING HWY.) AND AVON BEACH ROAD IN BALTIMORE COUNTY. EXCLUSIVE LEFT TURN PHASING SHALL BE PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 695A. PEDESTRIAN SIGNAL HEADS AND A CROSSWALK SHALL ALSO BE INSTALLED ACROSS THE SOUTH LEG OF MD 695A. NON-INVASIVE DETECTORS SHALL BE INSTALLED ON THE MD 695A NORTH AND SOUTH APPROACHES. MD 695A IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

AS PART OF THIS PROJECT, MD 695A WILL BE RESURFACED AND REMARKED FROM 480' NORTH OF AVON BEACH ROAD TO 420' SOUTH OF AVON BEACH ROAD TO PROVIDE LEFT TURN LANES.

INTERSECTION OPERATION

1. NORMAL OPERATION

THE INTERSECTION WILL OPERATE IN A SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH THE MD 695A APPROACHES RUNNING CONCURRENTLY AND THE AVON BEACH ROAD APPROACHES RUNNING CONCURRENTLY. THE MAIN ST APPROACHES WILL OPERATE CONCURRENTLY WITH MD 695A. EXCLUSIVE LEFT TURN PHASING WILL BE PROVIDED FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES OF MD 695A (BROENING HWY). CLEARANCE PHASING WILL BE PROVIDED ON MD 695A TO CLEAR THE INTERSECTION. PEDESTRIAN PHASING WILL BE PROVIDED CROSSING THE SOUTH LEG OF MD 695A.

UPON COMPLETION OF THIS PROJECT , THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7631 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND TELEPHONE NUMBER.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED EIGHT PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

PROJECT CONTACTS

CONTACT PERSONS FOR DISTRICT FOUR:

MR. RANDALL SCOTT
ASST. DISTRICT ENGINEER - TRAFFIC
410-321-2781 OR 410-321-2885

MS. SUENETTE POPE
UTILITIES ENGINEER
410-321-2841

MR. STEVE MARCISZEWSKI
ASST. DISTRICT ENGINEER - MAINTENANCE
410-321-2764

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY:

MR. RICHARD DAFF SR.
CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ROBERT SNYDER
ASST. DIV. CHIEF, TRAFFIC OPERATIONS
410-787-7631

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
410-787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
410-787-7676

MR. MIKE STOCKER
SIGNAL SHOP WAREHOUSE
410-787-7696

CONTACT FOR MDTA:

MR. PETE CLAY
SUPERVISING ENGINEER
410-288-8482

MS. ROXANE MUKAI
TRAFFIC AND PLANNING MANAGER
410-288-8484

POWER COMPANY REPRESENTATIVE:

BGE
410-859-9064

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE STATE HIGHWAY ADMINISTRATION

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
973023	125 S.F.	SHEET ALUMINUM SIGNS
	- 2 EACH	R3-1 SIGN (30 IN. X 30 IN.) (NO RIGHT TURN (SYMBOL)) MAST ARM MOUNT
	- 1 EACH	R3-2 SIGN (30 IN. X 30 IN.) (NO LEFT TURN (SYMBOL)) MAST ARM MOUNT
	- 2 EACH	R10-6(1) (60 IN. X 36 IN.) (PROCEED ON FLASHING RED AFTER STOP) MAST ARM MOUNT
	-1 EACH	R3-2 MODIFIED (24 IN. X 36 IN.) (NO RIGHT TURN (SYMBOL) "ONTO BROENING HWY") MAST ARM MOUNT
	- 2 EACH	R10-11b SIGN (24 IN. X 24 IN.) (NO TURN ON RED) MAST ARM MOUNT
	- 1 EACH	D3-1(1) SIGN (32 IN. X 96 IN.) (OVERHEAD STREET NAME PANEL) DOUBLE FACED MAST ARM MOUNT

EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
203030	5 C.Y.	TEST PIT EXCAVATION
585620	170 L.F.	12 IN. HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	110 L.F.	24 IN. HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
801004	12 C.Y.	CONCRETE FOR SIGNAL FOUNDATION

EQUIPMENT LIST "B" (CONT'D)

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
805011	30 L.F.	1 IN. ELECTRICAL CONDUIT - GALVANIZED SLEEVE
805015	30 L.F.	2 IN ELECTRICAL CONDUIT - GALVANIZED RISER
805118	115 L.F.	4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
805125	215 L.F.	2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805135	15 L.F.	3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805140	40 L.F.	4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805155	170 L.F.	4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805160	10 L.F.	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
807400	1 EACH	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS
810601	1 EACH	NON-INVASIVE DETECTOR, 500 FOOT LEAD IN CABLE
810605	1 EACH	NON-INVASIVE DETECTOR, 1000 FOOT LEAD IN CABLE
810610	150 L.F.	NON-INVASIVE DETECTOR CARRIER PIPE
811001	6 EACH	ELECTRICAL HANDHOLE
813015	125 S.F.	INSTALL OVERHEAD SIGN
818004	2 EACH	10 FOOT BREAKAWAY PEDESTAL POLE
818008	1 EACH	STEEL POLE WITH TRIPLE MAST ARM (50 FT, 70 FT, 50 FT)
818021	1 EACH	STEEL POLE WITH TWIN 50 FT MAST ARM
831010	2 EACH	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE WITH PHOTOCELL
837001	5 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860272	48 EACH	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860282	4 EACH	12 IN. PEDESTRIAN SIGNAL HEAD SECTION PEDESTAL POLE MOUNT
860292	4 EACH	CUT, CLEAN, GALVANIZE & CAP TRAFFIC SIGNAL STRUCTURE
861104	520 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861105	125 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1+5	◁G-	◁G-	R	R	R1	R1	◁G-	R1	R1	◁G-	R	R	R	R	R	R	DW	DW
1+5 CHANGE	◁Y-	◁Y-	R	R	R1	R1	◁Y-	R1	R1	◁Y-	R	R	R	R	R	R	DW	DW
PHASE 2+6	◁R-	◁R-	G	G	FL/R2	FL/R2	◁R-	FL/R2	FL/R2	◁R-	G	G	R	R	R	R	DW	DW
2+6 CHANGE	◁R-	◁R-	Y	Y	R1	R1	◁R-	R1	R1	◁R-	Y	Y	R	R	R	R	DW	DW
PHASE 4+8	◁R-	◁R-	R	R	R1	R1	◁R-	R1	R1	◁R-	R	R	G	G	G	G	DW	DW
4+8 CHANGE	◁R-	◁R-	R	R	R1	R1	◁R-	R1	R1	◁R-	R	R	Y	Y	Y	Y	DW	DW
PHASE 4 ALT	◁R-	◁R-	R	R	R1	R1	◁R-	R1	R1	◁R-	R	R	G	G	G	G	WK	WK
PED CLEAR	◁R-	◁R-	R	R	R1	R1	◁R-	R1	R1	◁R-	R	R	G	G	G	G	FL/DW	FL/DW
4 ALT.CHANGE	◁R-	◁R-	R	R	R1	R1	◁R-	R1	R1	◁R-	R	R	Y	Y	Y	Y	DW	DW
FLASHING OPERATION	FL/◁R-	FL/◁R-	FL/Y	FL/Y	FL/R2	FL/R2	FL/◁R-	FL/R2	FL/R2	FL/◁R-	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK

WIRING KEY

A,B,C, D,O — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED

E,F — NON-INVASIVE DETECTOR LEAD-IN CABLE

G,H — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

I,J — 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

K,L,M,N, P,Q,R,S, T,U,V,W, X,Y,Z,AA — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

BB,CC — 2-CONDUCTOR ELECTRICAL CABLE TYPE T/C (NO. 12 A.W.G.)

DD — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

ML — NON-INVASIVE DETECTOR

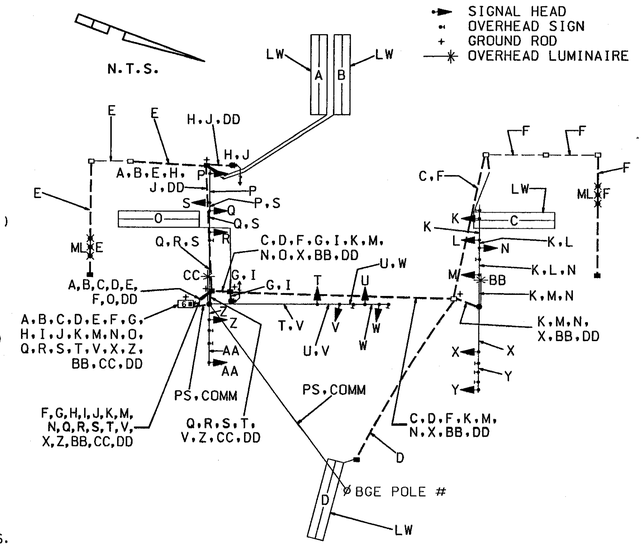
LW — LOOP WIRE, 1-CONDUCTOR IN 1/4" FLEXIBLE PVC CONDUIT (NO. 14 A.W.G.)

PS — PROPOSED ELECTRIC SERVICE

COMM — TELEPHONE DROP

SYMBOL LEGEND

- SIGNAL HEAD
- OVERHEAD SIGN
- GROUND ROD
- OVERHEAD LUMINAIRE



EQUIPMENT LIST "B" (CONT'D)

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
861106	125 L.F.	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 A.W.G.)
861107	1,275 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
861116	225 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
802501	200 L.F.	NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
862101	2,125 L.F.	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
862102	675 L.F.	SAW CUT FOR SIGNAL (LOOP DETECTOR)
865001	2 EACH	PUSHBUTTON AND SIGN
866103	2 EACH	15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871117	1 EACH	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
873001	1 L.S.	REMOVE AND SALVAGE EXISTING EQUIPMENT
800000	1 L.S.	REMOVE AND DISPOSE OF EXISTING MATERIALS AND EQUIPMENT
800000	1 EACH	2 INCH WEATHER HEAD

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076.

QUANTITY	DESCRIPTION
ALL REMOVED SIGNAL MATERIALS, EXCEPT THE CONTROLLER AND CABINET, ARE TO BECOME THE PROPERTY OF THE CONTRACTOR. SIGNAL CONTROLLER AND CABINET SHALL BE REMOVED AND DELIVERED TO SHA.	

SG - 2 OF SG - 2

RUMMEL, KLEPPER & KAHL, LLP
CONSULTING ENGINEERS
81 MOSHER STREET
BALTIMORE, MARYLAND 21217
TELE:(410)728-2900 FAX:(410)728-3160

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 695A (BROENING HIGHWAY) &
AVON BEACH ROAD/MARYLAND AVENUE
TURNER STATION, MARYLAND

DRAWN BY: J. PARKER	F.A.P. NO. N/A	TS NO. 1516B	SHEET NO.
CHECKED BY: B. BRANDT	S.H.A. NO. N/A		
SCALE: N/A	COUNTY: BALTIMORE	T.I.M.S. NO. F-790	57 OF 66
DATE: 12/16/03	LOG MILE: 03A69500.88		

12/16/2003
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