PROJECT DESCRIPTION

I. GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE FULL RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL WITH STREET LIGHTING AT THE INTERSECTION OF US 40 (BALTIMORE NATIONAL PIKE) & COLERIDGE RD. THIS PROJECT IS LOCATED IN BALTIMORE COUNTY, MARYLAND. VIDEO DETECTION IS PROPOSED FOR MAINLINE LEFT TURN AND SIDE STREET PRESENCE DETECTION.
US 40 (BALTIMORE NATIONAL PIKE) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

1. THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MAINLINE (US 40) APPROACHES RUNNING CONCURRENTLY. EXCLUSIVE LEFT TURNS WILL BE PROVIDED FOR US 40 APPROACHES. PEDESTRIAN PHASING IS PROVIDED ACROSS THE NORTH, SOUTH, AND WEST LEGS OF THE INTERSECTION.

2. THE INTERSECTION WILL OPERATE AS PART OF AN INTERCONNECT SYSTEM BETWEEN INGLESIDE AVE. AND COLERIDE RD USING 12 PAIR COMMUNICATION CABLE. THE SYSTEM CABINET IS LOCATED AT JOHNNYCAKE RD.

CONTROLLER REQUIREMENTS

INSTALL A FULLY-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER WITH A VIDEO DETECTION INTERFACE, 2-WIRE CENTRAL CONTROL UNIT ISOLATION BOARD, TELEMETRY EQUIPMENT, AND ASSOCIATED HARNESS HOUSED IN A NEMA SIZE 6 BASE MOUNTED CABINET.

III. SPECIAL NOTES

UPON COMPLETION OF THIS PROJECT THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE, AND TELEPHONE NUMBER.

TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS:

US 40 (BALTIMORE NATIONAL PIKE) AND COLERIDGE RD

1) US 40 (BALTIMORE NATIONAL PIKE) AND COLERIDGE RD - WEST LEG (PUSHBUTTON #30)
INTERSECTION WITH ANGLED CROSSING
WAIT: "WAIT TO CROSS BALTIMORE NATIONAL PIKE AT COLERIDGE, CROSSWALK ANGLES LEFT, SECOND PUSHBUTTON IN MEDIAN, WAIT"**
WALK: RAPID TICK

2) US 40 (BALTIMORE NATIONAL PIKE) AND COLERIDGE RD - WEST LEG (PUSHBUTTON #31)
STREET AT 90 DEGREES
WAIT: "WAIT TO CROSS BALTIMORE NATIONAL PIKE AT COLERIDGE, SECOND PUSHBUTTON IN MEDIAN, WAIT"*
WALK: RAPID TICK

3) US 40 (BALTIMORE NATIONAL PIKE) AND COLERIDGE RD - WEST LEG (PUSHBUTTON #29)
INTERSECTION WITH ANGLED CROSSING
WAIT: "WAIT TO CROSS BALTIMORE NATIONAL PIKE AT COLERIDGE, CROSS WALK ANGLES LEFT, WAIT"**
WALK: RAPID TICK

4) US 40 (BALTIMORE NATIONAL PIKE) AND COLERIDGE RD - WEST LEG (PUSHBUTTON #32)
STREET AT 90 DEGREES
WAIT: "WAIT TO CROSS BALTIMORE NATIONAL PIKE AT CATONSVILLE PLAZA, WAIT"*
WALK: RAPID TICK

5) COLERIDGE RD AND US 40 (BALTIMORE NATIONAL PIKE) - NORTH LEG
STREET AT 90 DEGREES
WAIT: "WAIT TO CROSS COLERIDGE RD AT BALTIMORE NATIONAL PIKE, WAIT"*
WALK: RAPID TICK

6) CATONSVILLE PLAZA AND US 40 (BALTIMORE NATIONAL PIKE) - SOUTH LEG
STREET AT 90 DEGREES
WAIT: "WAIT TO CROSS CATONSVILLE PLAZA AT BALTIMORE NATIONAL PIKE, WAIT"*
WALK: RAPID TICK

* MESSAGE USED IF DISTANCE FROM THE NEAREST PUSHBUTTON FOR PERPENDICULAR CROSSING IS < 10 FT
** MESSAGE USED IF CROSSING WALK DIVERGES FROM OR CONVERGES WITH PARALLEL TRAFFIC

NOTE: MESSAGES FOR INTERSECTION CONFIGURATIONS, VARYING FROM THE ABOVE ARE TO BE APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.

PROJECT CONTACTS

THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MS. ERIN KUHN
ASSISTANT DISTRICT ENGINEER, TRAFFIC
410-229-2381

MR. DONALD SCHAFFER
ASSISTANT DISTRICT ENGINEER, CONSTRUCTION
410-229-2421

MR. ANDRE FUTRELL
ASSISTANT DISTRICT ENGINEER, MAINTENANCE
410-229-2361

MR. ROBERT SNYDER
ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION
410-787-7631

MR. MICHAEL PASQUARIELLO
DISTRICT UTILITY ENGINEER
410-229-2341

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

MR. EDWARD RODENHIZER
SUPERVISOR, SIGNAL OPERATIONS
410-787-7652

THE POWER COMPANY REPRESENTATIVE IS:

BALTIMORE GAS & ELECTRIC
1068 N. FRONT STREET, ROOM 501 PO BOX 1475
BALTIMORE, MD 21203-1475
410-637-8713

PREPARED BY
URS
HUNT VALLEY, MARYLAND

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET- BASE MOUNT	EA	1
900000	VIDEO INTERFACE EQUIPMENT	EA	1
973023	SHEET ALUMINUM SIGN MAST ARM/POLE MOUNTED	SF	86.2
	- 4 EACH M1-5(6) (24" x 48") "WEST, US 40, RIGHT ARROW"		
	M1-5(6) (24" x 48") "EAST, US 40, RIGHT ARROW"		
	M1-5(6) (36" x 72") "WEST, US 40, LEFT ARROW"		
	M1-5(6) (36" x 72") "EAST, US 40, LEFT ARROW"		
	- 4 EACH R10-3(1) (9" x 15") "PUSH BUTTON TO CROSS BALTIMORE NATIONAL PIKE"		
	- 2 EACH R10-3(1) (9" x 15") "PUSH BUTTON TO CROSS COLERIDGE RD"		
	- 2 EACH R10-3(1) (9" x 15") "PUSH BUTTON TO CROSS CATONSVILLE PLAZA"		
	- 4 EACH D-3(1) (60" x 16") "STREET NAME SIGN"		
	SHEET ALUMINUM GROUND MOUNTED SIGNS:	SF	51
	- 2 EACH S1-1 (36" x 36"), W16-7PL (30" x 18")		
	- 2 EACH S1-1 (36" x 36"), W16-7PR (30" x 18")		

B. EQUIPMENT TO BE FURNISHED BY THE CONTRACTOR

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
120500	MAINTENANCE OF TRAFFIC	LS	1
203030	TEST PIT EXCAVATION	CY	6
585621	12 IN WHITE PREFORMED THERMO PAVEMENT MARKINGS (CROSSWALK)	LF	629
585625	24 IN WHITE PREFORMED THERMO PAVEMENT MARKINGS (STOP LINE)	LF	125
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS	EA	8
800000	REMOVE AND DISPOSE OF EXISTING MATERIALS AND EQUIPMENT	LS	1
800000	LED 16" COUNTDOWN PEDSTRIAN SIGNAL HEADS	EA	6
800000	FURNISH & INSTALL 2 WIRE CENTRAL CONTROL UNIT	EA	1
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	22
801106	WOOD SING SUPPORTS 4"X6"	LF	68
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	466
805105	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED	LF	145
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	470
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	95
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	32
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	60
807202	METERED SERVICE PEDESTAL	EA	1
810010	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG THHN/THWN	LF	15
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	6
811002	REMOVE ELECTRICAL HANDHOLE	EA	3
813014	INSTALL GROUND MOUNTED SIGN	SF	51
813015	INSTALL OVERHEAD SIGN	SF	86.2
816001	VIDEO DETECTION CAMERA	SF	4
816010	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	EA	4
818004	10' BREAKAWAY PEDESTAL POLE	EA	5
818036	STEEL POLE WITH SINGLE 50 FOOT MAST ARM	EA	2
818052	STEEL POLE WITH SINGLE 70 FOOT MAST ARM	EA	2
831010	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE WITH PHOTOCELL	EA	2
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	EA	9
860284	12 INCH LED VEHICULAR SIGNAL HEAD SECTION	EA	42
860292	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	4
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)	LF	1841
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)	LF	1515
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)	LF	2953
861116	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) TYPE T/C	LF	465
866103	15 FT LIGHTING ARM ON SIGNAL STRUCTURE	EA	2
871117	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	EA	1

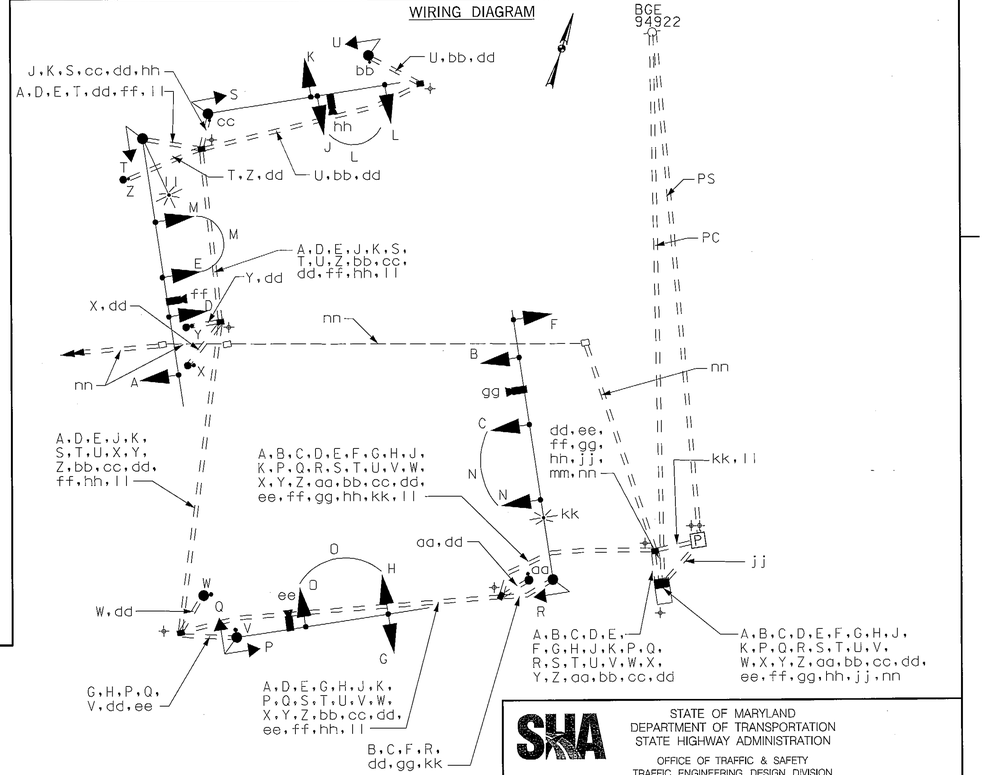
C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076

SHA FORCES SHALL REMOVE THE CONTROLLER AND AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	←R ←Y ←G	←R ←Y ←G	R Y G	R Y G	←R ←Y ←G	←R ←Y ←G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G						
PHASE 1 AND 5	←G–	←G–	R	R	←G–	←G–	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 AND 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6																			
PHASE 1 AND 6	←G–	←G–	G	G	←R–	←R–	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 AND 6 CHANGE	←Y–	←Y–	G	G	←R–	←R–	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 AND 5	←R–	←R–	R	R	←G–	←G–	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
2 AND 5 CHANGE	←R–	←R–	R	R	←Y–	←Y–	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	←R–	←R–	G	G	←R–	←R–	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE	←R–	←R–	G	G	←R–	←R–	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 AND 6 CHANGE	←R–	←R–	Y	Y	←R–	←R–	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	←R–	←R–	R	R	←R–	←R–	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	←R–	←R–	R	R	←R–	←R–	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	←R–	←R–	R	R	←R–	←R–	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEARANCE	←R–	←R–	R	R	←R–	←R–	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
4 AND 8 ALT CHANGE	←R–	←R–	R	R	←R–	←R–	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/←R	FL/←R	FL/Y	FL/Y	FL/←R	FL/←R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



KEY

A,B,C,D,E,F,G,H,J,K — 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

L,M,N,O,P,Q,R,S,T,U — 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

V,W,X,Y,Z,aa,bb,cc — 2 CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED (NO. 14 A.W.G.)

kk,ll — 2 CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TC

ee,ff,gg,hh — VIDEO DETECTION CABLE

dd — 1 CONDUCTOR (NO. 6 A.W.G.) STRANDED COPPER GROUND WIRE

nn — 12 PAIR INTERCONNECT CABLE (REFER TO INTERCONNECT PLANS FOR DETAILS AND INSTALLATION.)

jj — 3 WIRE 1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.THHN/THWN)

~~PS — PROPOSED UNDERGROUND POWER SERVICE~~

PC — PROPOSED COMMUNICATION SERVICE

+ — GROUND ROD

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

US 40 (BALTIMORE NATIONAL PIKE) AND COLERIDGE ROAD
CATONSVILLE, MARYLAND

GENERAL INFORMATION PLAN

SCALE NONE ADVERTISED DATE 9/2011 CONTRACT NO. BA8775177

DESIGNED BY K.J.S. COUNTY BALTIMORE
DRAWN BY H.W.C. LOGMILE 03004003.69
CHECKED BY T.A.R. TIMS NO. K132
F.A.P. NO. SEE TITLE SHEET TOD NO.

TS NO. 674A | DRAWING SP-2 OF SP-2 | SHEET NO. 31 OF 36

PLOTTED: Oct 25, 2011
FILE: o:\20833006\CAD\Traffic\31-pSG-N002_US40.dgn

BY: ken_swann