

**PROJECT DESCRIPTION**

**GENERAL**  
 THIS PROJECT INVOLVES THE INSTALLATION OF APS (ACCESSIBLE PEDESTRIAN SIGNALS)/CPS (COUNTDOWN PEDESTRIAN SIGNALS) AND INSTALLATION OF ADA COMPLIANT CURB RAMPS AT THE INTERSECTION OF MD 924 (EMMORTON ROAD) AND HOLLY WREATH ROAD/HOLLY WREATH COURT IN HARFORD COUNTY, MARYLAND. MD 924 IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

**INTERSECTION OPERATION**  
 THE INTERSECTION OPERATION WILL REMAIN THE SAME.

**TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS**

MD 924 (EMMORTON ROAD) AND HOLLY WREATH ROAD/HOLLY WREATH COURT - SOUTH LEG

STREETS AT 90 DEGREES

WAIT: "WAIT TO CROSS EMMORTON AT HOLLY WREATH. WAIT." \*

WALK: RAPID TICK

\* MESSAGE USED IF DISTANCE FROM NEAREST PUSHBUTTON FOR PERPENDICULAR CROSSING IS < 10'  
 \*\* MESSAGE USED IF CROSSWALK 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.

**CONTROLLER REQUIREMENTS**

THE EXISTING BASE MOUNTED CABINET AND CONTROLLER WILL BE USED. THE CONTROLLER WILL BE RETROFITTED TO OPERATE APS EQUIPMENT.

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

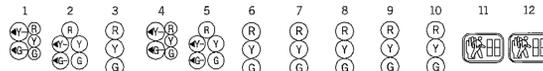
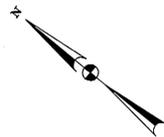
MS. ERIN KUHN  
 ASSISTANT DISTRICT ENGINEER - TRAFFIC  
 PHONE: (410) 229-2381

MR. ROBERT SNYDER  
 ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION  
 PHONE: (410) 787-7631

MR. ANDRE FUTRELL  
 ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
 PHONE: (410) 229-2361

MR. MIKE PASQUARIELLO  
 DISTRICT UTILITY ENGINEER  
 PHONE: (410) 229-2341

**PHASE CHART**



	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 + 5	R	R	R	R	R	R	R	R	R	R	DW	DW
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6											
PHASE 1 + 6	R	R	R	G	G	G	R	R	R	R	DW	DW
1 + 6 CHANGE	R	R	R	G	G	G	R	R	R	R	DW	DW
PHASE 2 + 5	G	G	G	R	R	R	R	R	R	R	DW	DW
2 + 5 CHANGE	G	G	G	R	R	R	R	R	R	R	DW	DW
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	DW	DW
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G	DW	DW
4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW
PHASE 4 + 8 ALT	R	R	R	R	R	R	G	G	G	G	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	FLOW	FLOW
4 + 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FLR	FLR	FLR	FLR	DARK	DARK

**EQUIPMENT LIST "A"**

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9571	2 SF	SHEET ALUMINUM SIGNS TO CONSIST OF : - 2 EACH R10-3(1) SIGN (9 IN. X 15 IN.) TO READ "PUSHBUTTON TO CROSS EMMORTON ROAD"

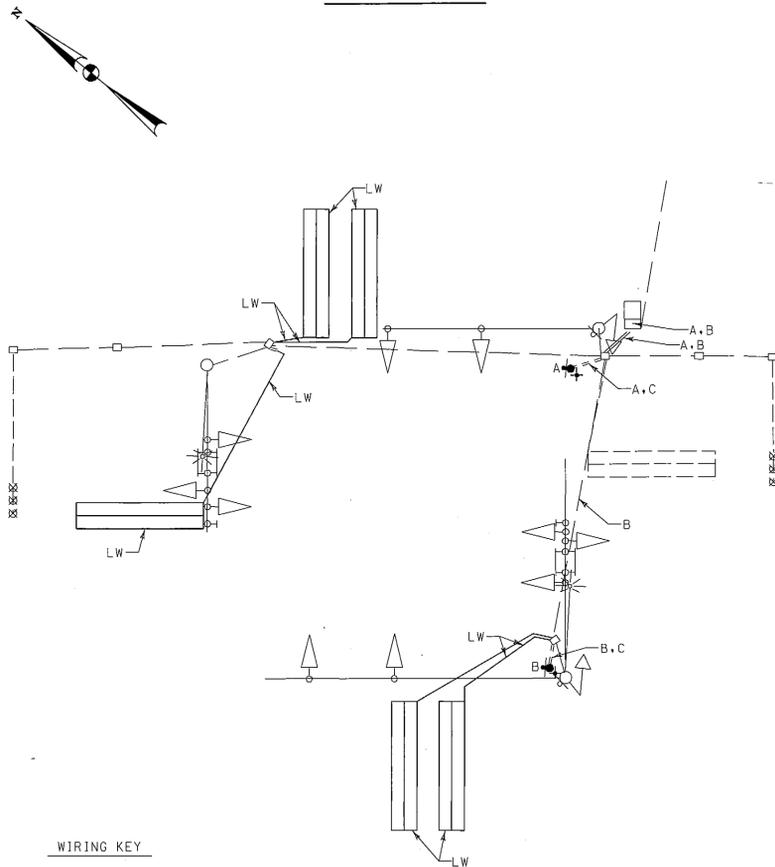
**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA  
 ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

**MAINTENANCE OF TRAFFIC**

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT. ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.  
 STANDARD NO. MD-104.02-02 (SHOULDER WORK)  
 STANDARD NO. MD-104.02-14 (INTERSECTION FLAGGING)

**WIRING DIAGRAM**



**WIRING KEY**

- A } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- B } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- C } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- LW - LOOP WIRE (NO. 14 A.W.G.)
- + - 3/4 IN. X 10 FT. GROUND ROD

**EQUIPMENT LIST "B"**

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

ITEM NO.	QUANTITY	DESCRIPTION
2001	2 CY	CLASS 2 EXCAVATION
2002	2 CY	TEST PIT EXCAVATION
5003	60 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS
5005	65 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
6001	200 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	725 SF	5 INCH CONCRETE SIDEWALK
6003	55 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS (TYPE 3 BRICK PAVERS)
8002	1 EACH	2-WIRE CENTRAL CONTROL UNIT
8005	2 EACH	ADJUST HANDHOLE TO GRADE WITH NEW FRAME AND COVER
8008	2 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8009	2 EACH	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8030	25 LF	1 INCH DETECTOR SLEEVE GALVANIZED OR FLEXIBLE LIQUID TIGHT CONDUIT
8040	20 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
8041	15 LF	WOOD SIGN SUPPORTS UP TO 4"X6"
8042	7 SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8044	20 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8055	115 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8059	2350 LF	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
8060	700 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)

TOD NO: XY125-14  
 SHA NO: HA400B56  
 US 1 Bus. @ MD 924, MD 24 @  
 Marketplace Dr./MD 924 @ Ring Factory  
 Rd/bel Air/Laurel Bush Rd/Holly Wreath

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
 MD 924 (Emmorton Road) and Holly Wreath Road/Holly Wreath Court  
 Bel Air, MD

**TRAFFIC SIGNAL PLAN**

SCALE N.T.S. DATE 10/02/2012 CONTRACT NO. XY1255185

DESIGNED BY J.D.C. COUNTY HARFORD  
 DRAWN BY S.M.D. LOGMILE 12082401.71  
 CHECKED BY N.M.L. TMS NO. L646  
 F.A.P. NO. TOD NO.

TS NO. 3946 DRAWING TSP-15 OF 15 SHEET NO. 15 OF 15

**WR&A**  
 WHITMAN, REQUARDT & ASSOCIATES, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231

PLOTTED: October 02, 2012  
 FILE: N:\31689-208\CAD\TSP-15\TSP-15\_M0924\_Holly.dgn