

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF APS (ACCESSIBLE PEDESTRIAN SIGNALS)/CPS (COUNTDOWN PEDESTRIAN SIGNALS) AND THE UPGRADING OF SIDEWALK RAMPS AT THE INTERSECTION OF MD 924 (MAIN STREET/EMMORTON ROAD) AND E. MAC PHAIL ROAD IN HARFORD COUNTY, MARYLAND.

MD 924 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION OPERATES IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 924 APPROACHES OPERATING CONCURRENTLY AND THE E. MAC PHAIL ROAD APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE NORTHBOUND MD 924 APPROACH.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING WILL BE PROVIDED FOR THE SOUTHBOUND MD 924 APPROACH

AN ALTERNATE PEDESTRIAN PHASE WILL BE PROVIDED ACROSS THE SOUTH LEG OF MD 924.

TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS

MD 924 (EMMORTON ROAD) AND E. MAC PHAIL ROAD - SOUTH LEG

STREETS AT 90 DEGREES

WAIT: "WAIT TO CROSS EMMORTON AT EAST MAC PHAIL, 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 POLE MOUNTED CABINET AND CONTROLLER WILL BE USED. THE CONTROLLER WILL BE RETROFITTED TO OPERATE VIDEO DETECTION EQUIPMENT AND APS EQUIPMENT.

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-104.02-01 (SHOULDER WORK)

STANDARD NO. MD-104.02-13 (INTERSECTION FLAGGING OPERATION)

STANDARD NO. MD-104.04-03 (LEFT LANE CLOSURE)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

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

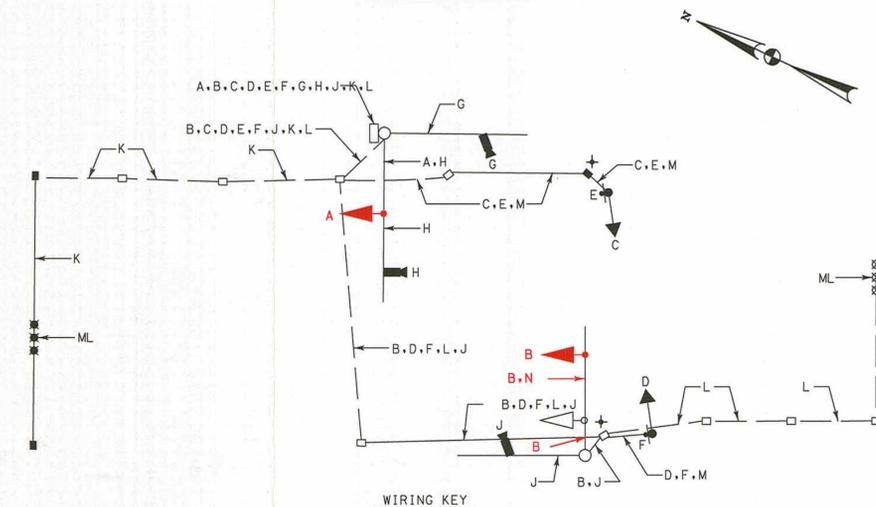
MR. ROBERT SYNDER
ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7631

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

CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

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

WIRING DIAGRAM



WIRING KEY

A } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

N } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

E } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

G } VIDEO CAMERA DETECTION LEAD-IN CABLE

K } PROPOSED MICROLOOP PROBE LEAD-IN

L } EXISTING MICROLOOP PROBE LEAD-IN

M } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

ML - MICROLOOP PROBE SET

+ - 3/4 IN. X 10 FT. GROUND ROD

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

CATEGORY CODES	QUANTITY	DESCRIPTION
900000	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-8 CAMERAS
973023	2 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF (POLE MOUNT) :
	- 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

EQUIPMENT LIST "B"

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

CATEGORY CODES	QUANTITY	DESCRIPTION
114280	25 L.F.	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
203030	2 C.Y.	TEST PIT EXCAVATION
585621	500 L.F.	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	110 L.F.	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
801004	2 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
802145	1 EACH	ADJUST EXISTING HANDHOLE
802501	100 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805115	65 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805118	135 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805135	20 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	25 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
810601	1 EACH	NONINVASIVE DETECTOR, 500 FOOT LEAD IN CABLE
811001	2 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813015	2 S.F.	INSTALL OVERHEAD SIGN
816001	3 EACH	VIDEO DETECTION CAMERA
816005	2 EACH	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	1 EACH	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	2 EACH	10 FOOT BREAKAWAY PEDESTAL POLE
837001	2 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
1 860284	7 EACH	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	385 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)
1 861107	410 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
1 861108	300 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14. AWG)
800000	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
800000	2 EACH	16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	2 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION
800000	1 EACH	2-WIRE CENTRAL CONTROL UNIT
1 800000	3 EACH	8 INCH LED SIGNAL HEAD

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 TO PHASE 1 + 6 OR PHASE 2 + 5 OR PHASE 2 + 6	G	G	G	G	G	R	R	R	R	R	DW	DW
PHASE 1 + 6	G	G	G	G	R	R	R	R	R	R	DW	DW
1 + 6 CHANGE	G	G	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 + 5	R	R	R	R	R	R	R	R	R	R	DW	DW
2 + 5 CHANGE	R	R	R	R	R	R	R	R	R	R	DW	DW
PHASE 2 + 6	G	G	G	G	G	R	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	FLDW	FLDW
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

1 REDLINE REVISION NO. 1

 TEOO APPROVAL

REDLINE REVISION NO. 1
 OOTS APPROVAL

SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 OFFICE OF TRAFFIC & SAFETY
 TRAFFIC ENGINEERING DESIGN DIVISION
 MD 924 (Main Street/Emmorton Road) and E. Mac Phail Road
 Bel Air, Maryland

GENERAL INFORMATION SHEET

SCALE	NONE	ADVERTISED DATE	3/31/2011	CONTRACT NO.	HA3875177
DESIGNED BY	S. Bloss	COUNTY	Harford		
DRAWN BY	S. Bloss	LOGMILE	12092404.81		
CHECKED BY	N. Leary	TIMS NO.	K824		
F.A.P. NO.		TOD NO.			

BY: hogallo