

**PROJECT DESCRIPTION**

**GENERAL**  
 THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 26 (LIBERTY ROAD) AND JOHNNSVILLE ROAD IN CARROLL COUNTY, MARYLAND. APS (ACCESSIBLE PEDESTRIAN SIGNALS)/CPS (COUNTDOWN PEDESTRIAN SIGNALS) AND THE SIDEWALK RAMPS ALONG THE WEST LEG TO BE INSTALLED. MD 26 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

**INTERSECTION OPERATION**  
 THE INTERSECTION OPERATES IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 26 APPROACHES OPERATING CONCURRENTLY AND THE JOHNNSVILLE ROAD APPROACHES OPERATING CONCURRENTLY.

THE EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING ON THE WESTBOUND MD 26 APPROACH IS BEING CHANGED TO FLASHING RED ARROW OPERATION. EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING WILL REMAIN ON EASTBOUND MD 26.

THE CONCURRENT OPERATIONS ON THE NORTHBOUND AND SOUTHBOUND JOHNNSVILLE ROAD APPROACHES WILL REMAIN UNCHANGED.

THE PEDESTRIAN PHASE ACROSS THE WEST LEG WILL REMAIN UNCHANGED.

**TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS**

MD 26 (LIBERTY ROAD) AND JOHNNSVILLE ROAD - WEST LEG

**STREETS AT 90 DEGREES**

WAIT: "WAIT TO CROSS LIBERTY AT JOHNNSVILLE, 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.

**PHONE DROP**  
 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 THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

**CONTROLLER REQUIREMENTS**  
 INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, VIDEO INTERFACE EQUIPMENT (1-4 CAMERAS), INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET.

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. JOHN CONCANNON  
 ASSISTANT DISTRICT ENGINEER - TRAFFIC  
 PHONE: (301) 624-8140

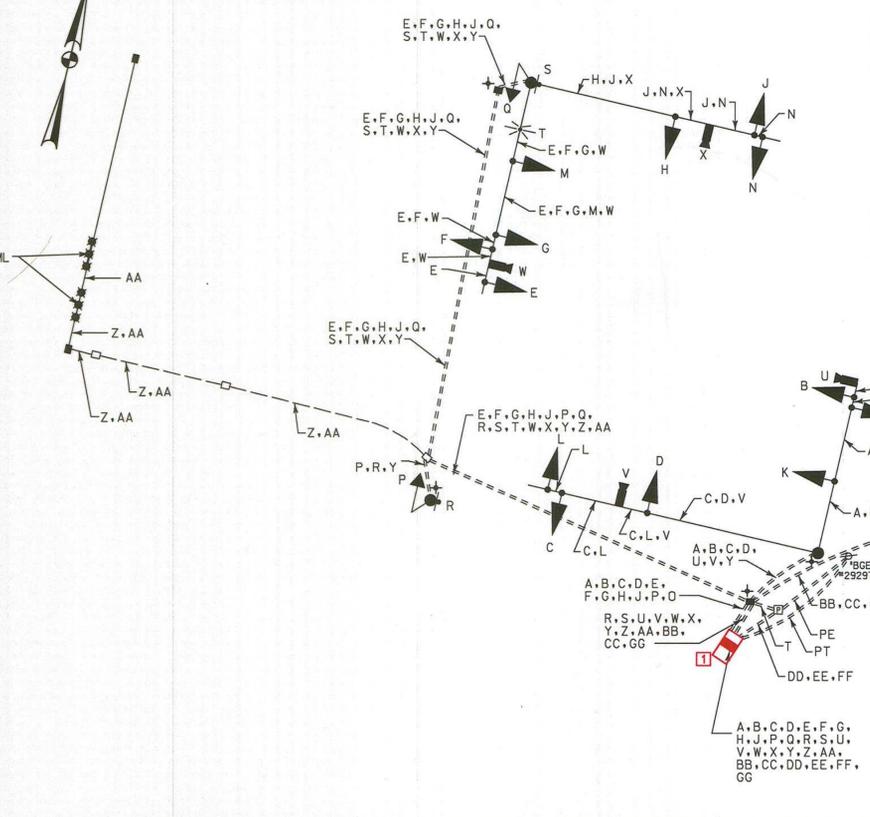
MR. ROBERT SNYDER  
 ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION  
 PHONE: (410) 787-7631

MR. RAYMOND F. JOHNSON  
 ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
 PHONE: (301) 624-8105

MR. RICHARD L. DAFF, SR.  
 CHIEF, TRAFFIC OPERATIONS DIVISION  
 PHONE: (410) 787-7630

MS. ANDREA ABEND  
 DISTRICT UTILITY ENGINEER  
 PHONE: (301) 624-8115

**WIRING DIAGRAM**



**EQUIPMENT LIST "A"**

ITEM NO.	QUANTITY	DESCRIPTION
9016	1 EACH	4 CHANNEL DETECTOR AMPLIFIER
<b>1</b> 9042-9000	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR, TELEMETRY VIDEO INTERFACE EQUIPMENT 1-8 CAMERAS AND HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET
9086	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-8 CAMERAS
9571	93 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 1 EACH R10-12(2) SIGN (48 IN. x 36 IN.) - MAST ARM MOUNT - 2 EACH R3-5(L) (30 IN. x 36 IN.) - MAST ARM MOUNT - 4 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT - 2 EACH R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS LIBERTY ROAD" - 1 EACH ASSOCIATED SHIELD ASSEMBLY "EAST, MD 26, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "WEST, MD 26, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "WEST, MD 26, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "EAST, MD 26, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT

**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA  
 EXISTING CONTROLLER AND AUXILIARY EQUIPMENT FROM THE CABINET WILL BE REMOVED AND BECOME PROPERTY OF SHA. ANY ADDITIONAL SIGNAL MATERIALS REMOVED 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-104.03-01 (SHOULDER CLOSURE)      STANDARD NO. MD-104.03-09 (INTERSECTION, FAR-LEFT LANE CLOSURE)  
 STANDARD NO. MD-104.03-03 (LEFT LANE CLOSURE)      STANDARD NO. MD-104.04-15 (INTERSECTION FAR-RIGHT LANE CLOSURE)  
 STANDARD NO. MD-104.03-05 (RIGHT LANE CLOSURE)

**PHASE CHART**

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 1 + 5	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1 + 5 CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
PHASE 1 + 6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1 + 6 CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
PHASE 2 + 5	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2 + 5 CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
PHASE 2 + 6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2 + 6 CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
PHASE 4 + 8	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
4 + 8 CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
PHASE 4ALT + 8	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
PED CLEARANCE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
4 + 8 ALT CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
FLASHING OPERATION	FLY														

**WIRING KEY**

- A B C D E } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- F G H J K L M } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- N O P Q R S } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- T } 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
- U V W X } VIDEO CAMERA DETECTION LEAD-IN CABLE
- Y } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- Z AA BB CC } MICROLOOP PROBE LEAD-IN
- DD EE FF } 1-CONDUCTOR ELECTRICAL CABLE (NO. 8 A.W.G.)
- GG } EXISTING INTERCONNECT CABLE
- PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
- PT - PROPOSED UNDERGROUND TELEPHONE SERVICE
- ML - MICROLOOP PROBE SET
- + - 3/4 IN. X 10 FT. GROUND ROD

**EQUIPMENT LIST "B"**

ITEM NO.	QUANTITY	DESCRIPTION
1001	2 EACH	MAINTENANCE OF TRAFFIC
2002	3 C.Y.	TEST PIT EXCAVATION
5003	220 L.F.	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS
5004	300 L.F.	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5005	30 L.F.	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
6001	155 L.F.	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	490 S.F.	5 INCH CONCRETE SIDEWALK
6003	15 S.F.	DETECTABLE WARNING SURFACE FOR CURB RAMPS
8001	43 EACH	12 INCH LED SIGNAL HEAD SECTION
8002	1 EACH	2-WIRE CENTRAL CONTROL UNIT
8006	1 EACH	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
8008	2 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8012	1 EACH	EMBEDDED METERED SERVICE PEDESTAL
8013	1 EACH	INSTALL BREAKAWAY PEDESTAL POLE - ANY SIZE
8015	2 EACH	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
8022	4 EACH	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000'
8023	1 EACH	REMOVE & DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
8025	1 EACH	TWIN MAST ARM POLE & 50' / 60' MAST ARMS ANY "T" DIMENSION
8026	1 EACH	TWIN MAST ARM POLE & 50' / 70' MAST ARMS ANY "T" DIMENSION
8028	4 EACH	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH
8033	65 L.F.	DISCONNECT, PULL-BACK & REROUTE CABLES
8034	240 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) T/C
8036	305 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED
8038	210 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8040	93 S.F.	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8042	260 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8045	60 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG - THHN/THWN
8046	6 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8051	1 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8053	335 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8055	450 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8056	1930 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8062	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT (ANY SIZE)

**REVISION NO. 1**  
 CHANGE CABINET TO 'S' SIZE  
 1/31/2012

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
 MD 26 (Liberty Road) & Johnnsville Road  
 Eldersburg, MD

**GENERAL INFORMATION SHEET**

SCALE	NONE	ADVERTISED DATE	04/28/2011	CONTRACT NO.	XX6505185
DESIGNED BY	L.WAESCHE	COUNTY	Carroll		
DRAWN BY	L.WAESCHE	LOGMILE	06002609.48		
CHECKED BY	N.LEARY	TIMS NO.	K643		
F.A.P. NO.		TOD NO.			
TS NO.	2036	DRAWING	TSP-3	OF	3
				SHEET NO.	3 OF 3

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

BY: lwaesche