

**PROJECT DESCRIPTION**

**GENERAL**  
 THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AND STREET LIGHTING AT THE INTERSECTION OF MD 26 (LIBERTY ROAD) AND MD 27 (RIDGE ROAD) IN CARROLL COUNTY, MARYLAND. MD 26 (LIBERTY ROAD) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

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

**CONTROLLER REQUIREMENTS**  
 INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, VIDEO INTERFACE EQUIPMENT (5-8 CAMERAS), INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET.

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

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. JOHN CONCANNON  
 ASSISTANT DISTRICT ENGINEER - TRAFFIC  
 PHONE: (301) 624-8140/8141

MS. ANDREA ABEND  
 DISTRICT UTILITY ENGINEER  
 PHONE: (301) 624-8115/8116

MS. SUSAN PALMER  
 ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
 PHONE: (301) 624-8105/8106

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

**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 WORK)      STANDARD NO. MD-104.03-07 (PARTIAL ROADWAY CLOSURE)  
 STANDARD NO. MD-104.03-03 (LEFT LANE CLOSURE)      STANDARD NO. MD-104.03-13 (INTERSECTION FAR-SIDE 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	16
PHASE 1 AND 5	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
1 AND 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6															
PHASE 1 AND 6	FLY	FLY	R	R	R	G	FLY	FLY	R	R	R	R	R	R	R	R
1 AND 6 CHANGE	PHASE 1 + 6 MAY CHANGE TO PHASE 1 + 5, PHASE 2 + 5 OR PHASE 2 + 6															
PHASE 2 AND 5	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
2 AND 5 CHANGE	PHASE 2 + 5 MAY CHANGE TO PHASE 2 + 6, PHASE 3 + 7 OR PHASE 3 + 8															
PHASE 2 AND 6	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
2 AND 6 CHANGE	PHASE 2 + 6 MAY CHANGE TO PHASE 2 + 5, PHASE 3 + 7 OR PHASE 3 + 8															
PHASE 3 AND 7	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
3 AND 7 CHANGE	PHASE 3 + 7 MAY CHANGE TO PHASE 3 + 8, PHASE 4 + 7 OR PHASE 4 + 8															
PHASE 3 AND 8	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
3 AND 8 CHANGE	PHASE 3 + 8 MAY CHANGE TO PHASE 3 + 7, PHASE 4 + 7 OR PHASE 4 + 8															
PHASE 4 AND 7	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
4 AND 7 CHANGE	PHASE 4 + 7 MAY CHANGE TO PHASE 4 + 8, PHASE 3 + 7 OR PHASE 3 + 8															
PHASE 4 AND 8	FLY	FLY	R	R	R	FLY	FLY	R	R	R	R	R	R	R	R	R
4 AND 8 CHANGE	PHASE 4 + 8 MAY CHANGE TO PHASE 4 + 7, PHASE 3 + 7 OR PHASE 3 + 8															
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY

**WIRING KEY**

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

**EQUIPMENT LIST "A"**

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9016	1 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9000	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET
9086	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-8 CAMERAS
9571	165 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 8 EACH D-3(1) SIGN (60 IN. x 16 IN.) - MAST ARM MOUNT - 1 EACH R3-5(R) (30 IN. x 36 IN.) - MAST ARM MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "SOUTH, MD 27, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "NORTH, MD 27, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "NORTH, MD 27, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "SOUTH, MD 27, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "EAST, MD 26, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "WEST, MD 26, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "WEST, MD 26, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "EAST, MD 26, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT

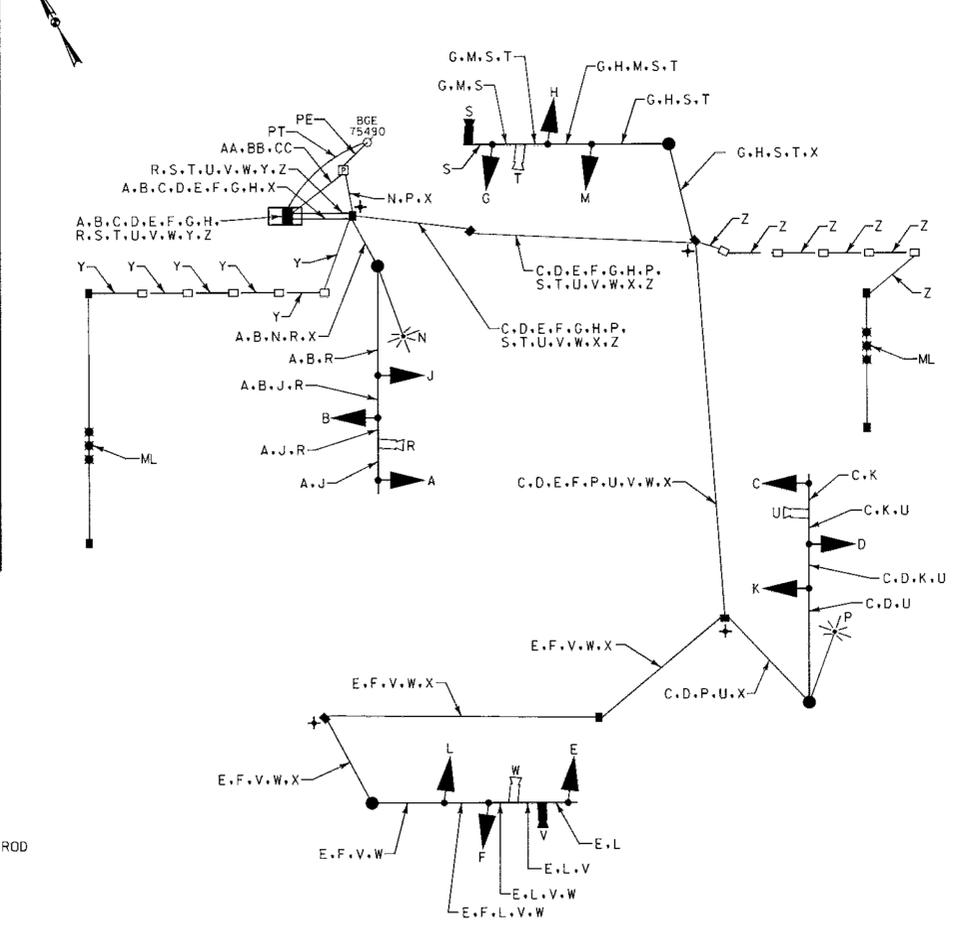
**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

SHA SIGNAL SHOP WILL BE NOTIFIED TO REMOVE CONTROLLER AND ALL AUXILIARY EQUIPMENT WITHIN CONTROL CABINET.

ALL OTHER REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR.

**WIRING DIAGRAM**



**EQUIPMENT LIST "B"**

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

ITEM NO.	QUANTITY	DESCRIPTION
1003	2 EACH	MAINTENANCE OF TRAFFIC
2002	4 C.Y.	TEST PIT EXCAVATION
8001	54 EACH	12 INCH LED SIGNAL HEAD SECTION
8002	1 EACH	2-WIRE CENTRAL CONTROL UNIT
8007	2 EACH	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
8012	1 EACH	EMBEDDED METERED SERVICE PEDESTAL
8019	4 EACH	MAST ARM POLE & 50 FOOT MAST ARM ANY 'T'
8023	2 EACH	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000'
8024	1 EACH	REMOVE & DISPOSE MAT & EQUIP PER ASSIGN
8028	6 EACH	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH
8032	360 L.F.	DISCONNECT, PULL-BACK & REROUTE CABLES
8034	350 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED
8036	295 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8038	165 S.F.	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8040	450 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8043	60 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG - THHN/THWN
8044	9 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8049	2 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8053	100 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8054	2060 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8055	375 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TC
8061	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT



**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
 MD 26 (LIBERTY ROAD) AT MD 27 (RIDGE ROAD)  
 TAYLORSVILLE, MD

REVISIONS		GENERAL INFORMATION SHEET	
SCALE	NONE	DATE	MAY 20, 2011
DESIGNED BY	J. RASMUSSEN	COUNTY	CARROLL
DRAWN BY	J. RASMUSSEN	LOGMILE	06002601.76
CHECKED BY	N. LEARY	TIMS NO.	K886
F.A.P. NO.		TOD NO.	
TS NO. 1815D	DRAWING TSP-3	OF 3	SHEET NO. 3 OF 3

BY: jrasmusse