

# PROJECT DESCRIPTION

## GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AND THE REMOVAL OF THE EXISTING TEMPORARY TRAFFIC CONTROL SIGNAL AT THE NEW MD 450 (ANNAPOLIS ROAD) AND MD 704 (MARTIN LUTHER KING JR. HWY) INTERSECTION IN PRINCE GEORGES COUNTY. MD 450 IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

## INTERSECTION OPERATION

THIS INTERSECTION IS TO OPERATE INITIALLY IN A NEMA FOUR PHASE, FULLY-TRAFFIC-ACTUATED MODE. THE EASTBOUND MD 450 MOVEMENT WILL OPERATE ALONE. THERE WILL BE AN EXCLUSIVE/PERMISSIVE LEFT TURN FOR THE EASTBOUND MD 704 MOVEMENT. THE EASTBOUND MD 704 AND WESTBOUND MD 450 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY.

## CONTROLLER REQUIREMENTS

INSTALL AN EIGHT PHASE FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH TEN, TWO-CHANNEL TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR, WITH BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD AND SPECIAL RELAY TO BE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

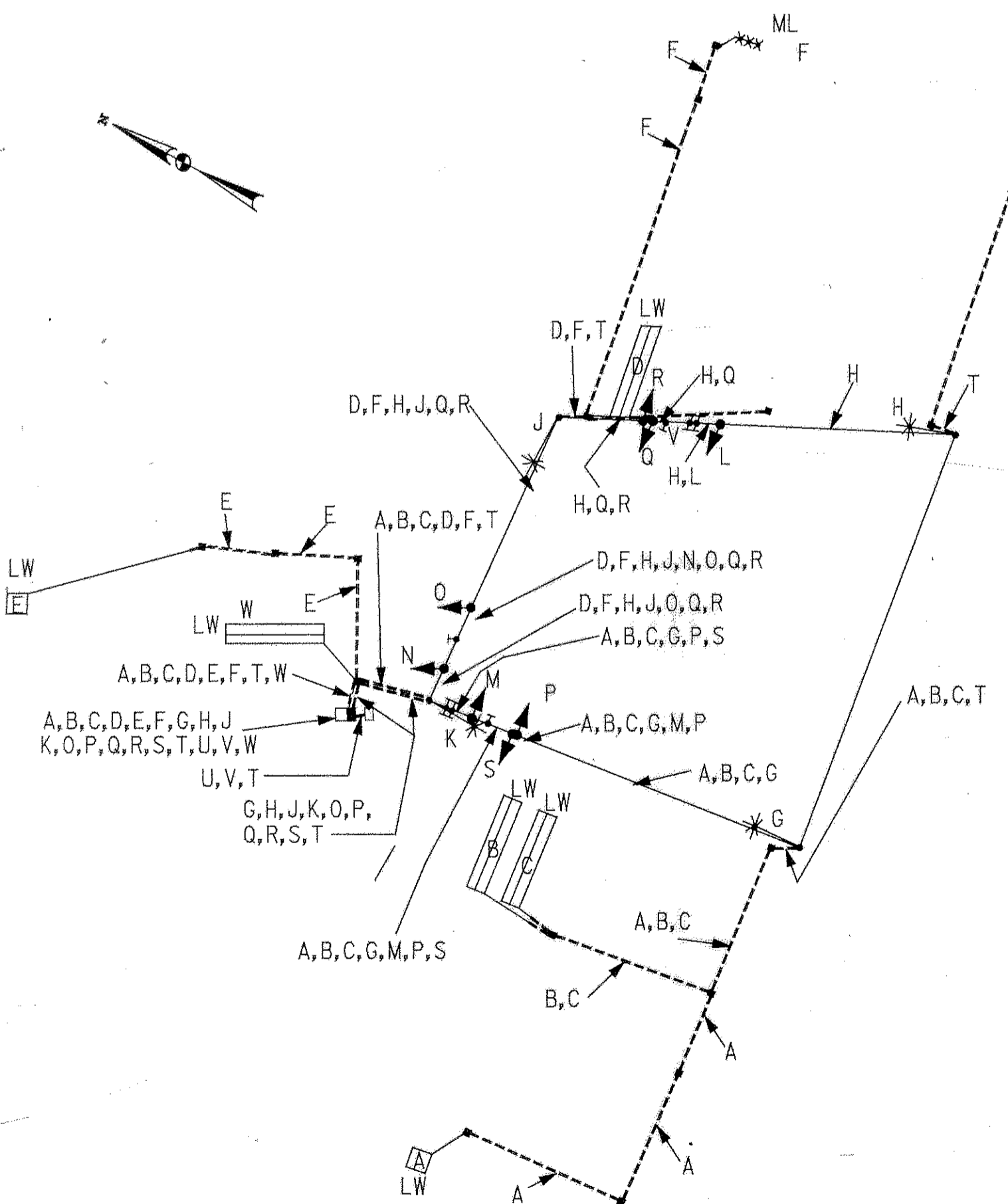
## SPECIAL NOTE

THIS NEW INTERSECTION IS APPROXIMATELY 1100 FT. EAST OF THE EXISTING INTERSECTION OF MD 450 AT MD 704.

ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE BECAUSE THESE UNDERGROUND AND OVERHEAD UTILITIES MAY BE MODIFIED PRIOR TO AND DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.

72 HOURS PRIOR TO ANY WORK ON THE TRAFFIC SIGNALS, THE CONTRACTOR SHALL NOTIFY THE DISTRICT 3 TRAFFIC SECTION REPRESENTATIVE, MR. RICHARD BUETTNER (301-513-7316) AND THE SIGNAL OPERATIONS SUPERVISOR, MR. EDWARD RODENHIZER (410-787-7652).

# WIRING DIAGRAM



T- BARE COPPER STRANDED GROUND WIRE (NO. 6 A.W.G.)  
 U- 3-WIRE #4 FOR TRAFFIC SIGNAL ELECTRICAL SERVICE  
 V- 3-WIRE #4 FOR INTERSECTION LIGHTING ELECTRICAL SERVICE  
 PF- PROPOSED OVERHEAD ELECTRICAL SERVICE BY BGE  
 ML- MICRO-LOOP PROBE  
 LW- LOOP WIRE (NO. 14 A.W.G.) IN FLEXIBLE TUBING

# EQUIPMENT LIST "A"

## A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION

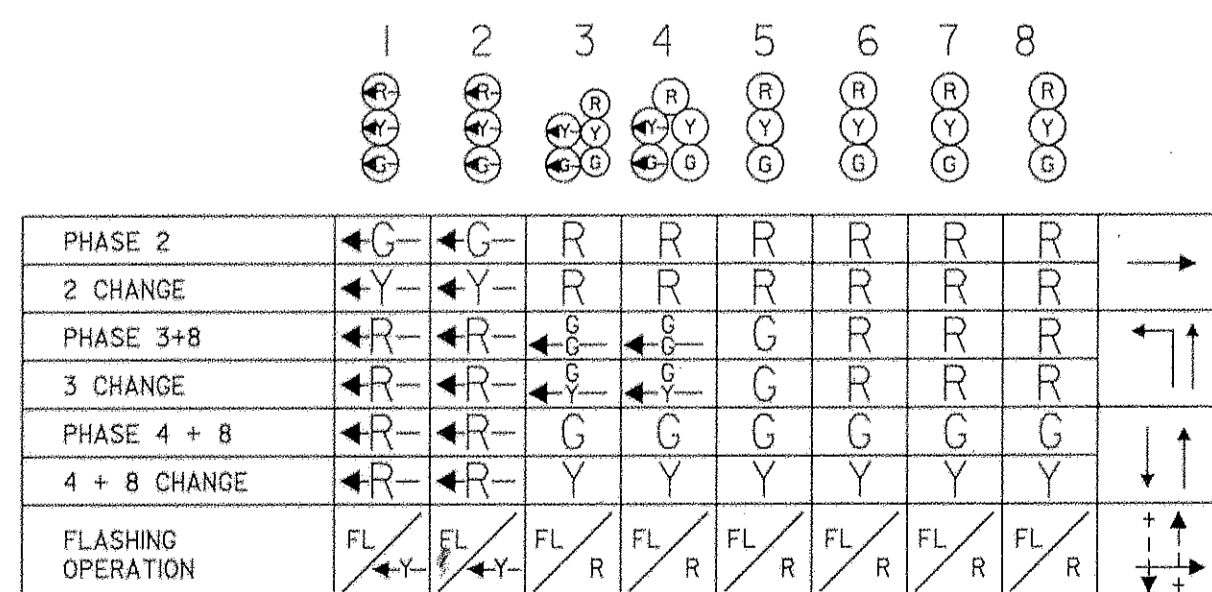
CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
960015	814	4 EA.	12 IN. 1 WAY 3 SECTION (R,Y,G) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
960017	814	2 EA.	12 IN. 1 WAY 3 SECTION (RA,YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
960020	814	1 EA.	12 IN. 1 WAY 5 SECTION (R,Y,G,YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
963007	817	11 EA.	TWO-CHANNEL LOOP DETECTOR AMPLIFIERS (DELAY OUTPUT)
971017	816	1 EA.	EIGHT PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR AND BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD AND SPECIAL RELAY HOUSED IN A NEMA SIZE "6" BASE-MOUNTED CABINET
973023	813	45.58 S.F.	SHEET ALUMINUM SIGNS - 1 EACH R3-5 (30" X 36") - 1 EACH R10-12 (36" X 42") - 1 EACH R3-1 (30" X 30") - 2 EACH D3-2-DUAL FACED (VAR. X 16")
900000	814	1 EA.	8 IN./12 IN. 1 WAY 5 SECTION (8" R,Y,G - 12" YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
900000	810	1 EA.	MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN

# EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

QUANTITY	DESCRIPTION
1 EA.	POLE MOUNTED CABINET/CONTROLLER

# PHASE DIAGRAM



# EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
114245	104	61 L.F.	24 IN. WHITE REMOVABLE PREFORMED PAVEMENT MARKING TAPE
203030	205	5 C.Y.	TEST PIT EXCAVATION
801004	801	11.68 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
802501	810	75 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
805011	805	30 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED STEEL
805125	805	1065 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805135	805	43 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805140	805	17 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805160	805	25 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
810010	810	135 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE 1 CONDUCTOR (NO. 4 A.W.G. THHN/THWN)
811001	811	16 EA.	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813015	813	45.58 S.F.	INSTALL OVERHEAD SIGN
837001	804	5 EA.	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
838002	807	1 EA.	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (240/480V, 1 PHASE, 3 WIRE SYSTEM)
860015	814	4 EA.	INSTALL 12 IN. 1 WAY 3 SECTION (R,Y,G) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
860017	814	2 EA.	INSTALL 12 IN. 1 WAY 3 SECTION (RA,YA,GA) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
860020	814	1 EA.	INSTALL 12 IN. 1 WAY 5 SECTION (R,Y,G,YA,GA) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
861104	810	2085 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861107	810	38 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
861108	810	758 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
861116	810	826 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
862101	810	1925 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
862102	815	575 L.F.	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
866103	818	4 EA.	FURNISH AND INSTALL 15 FT. LIGHTING ARM ON SIGNAL STRUCTURE
867103	818	4 EA.	FURNISH AND INSTALL 12 IN. X 30 FT. STRAIN POLE
869101	819	350 L.F.	FURNISH AND INSTALL STEEL SPAN WIRE - 1/4 IN. DIAMETER
869102	819	443 L.F.	FURNISH AND INSTALL STEEL SPAN WIRE - 3/8 IN. DIAMETER
871117	816	1 EA.	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
800000	805	201 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	805	110 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	814	1 EA.	INSTALL 8 IN./12 IN. 1 WAY, 5 SECTION (8" R,Y,G - 12" YA,GA) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
800000	806	4 EA.	FURNISH AND INSTALL 250-WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE WITH PHOTO-CELL
800000	810	1 EA.	INSTALL MICRO-LOOP PROBE SET
800000	XXX	LUMP SUM	REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

TEMPORARY SIGNAL PHASE III STAGE 2+3 DWG. NO. TS-14

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
 Office of Traffic & Safety  
 TRAFFIC ENGINEERING DESIGN DIVISION

MD 450 (ANNAPOLIS ROAD) AT MD 704 (MARTIN LUTHER KING JR. HWY)  
 LOG MILE NO. 16045007.35 DATE 2/6/91

DRAWN BY: D. A. NIES  
 CHECKED BY: E. MILESKY  
 SEE TITLE SHEET P-981-451-385  
 PRINCE GEORGES  
 PLAN SHEET NO.: TS-3167A-X3-G  
 SHEET NO.: 360 OF 465

THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

REVISIONS	APPROVALS
AUGUST 1996 - WTB MODIFY EXISTING SIGNAL SHA NO. PG9005171	ASST. DIVISION CHIEF, TEBB ASST. DISTRICT ENGINEER, TRAFFIC CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION DIRECTOR, OFFICE OF TRAFFIC & SAFETY

FILE NO. SS335460.DGN  
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