

**PROJECT DESCRIPTION**

THIS PROJECT INVOLVES THE REMOVAL OF THE EXISTING ICB AND INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MIDDLETOWN ROAD AND SMALLWOOD DRIVE WEST, IN CHARLES COUNTY, MARYLAND. MIDDLETOWN ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION, AND LIGHTING WILL BE PROVIDED WITH 15 FOOT LIGHTING ARMS ATTACHED TO EACH SIGNAL POLE.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL TRAFFIC ACTUATED MODE. WITH MIDDLETOWN ROAD APPROACHES OPERATING CONCURRENTLY

PEDESTRIAN PHASE CROSSING SMALLWOOD ROAD WEST WILL OPERATE CONCURRENTLY WITH PHASE 6.

**CONTROLLER REQUIREMENTS**

INSTALL A FULL TRAFFIC ACTUATED EIGHT PHASE CONTROLLER WITH TWO (2) FOUR CHANNEL LOOP DETECTOR AMPLIFIERS, VIDEO DETECTION SYSTEM, MONITOR WITH BATTERY BACK UP, AND ASSOCIATED HARNESS HOUSED IN A NEMA "6" BASE MOUNTED CABINET. INCLUDE A 2-WIRE CENTRAL CONTROL UNIT TO ACCOMMODATE THE USE OF AUDIBLE TACTICAL PEDESTRIAN PUSHBUTTONS.

THE PRESENCE AND REGIONS SHALL BE MONITORED ACTUATED WITH VIDEO DETECTION CAMERAS

THE CONTRACTOR SHALL DELIVER THE SIGNAL CABINET TO THE S.H.A. SIGNAL SHOP AT 7491 CONNELLEY DRIVE, HANOVER MARYLAND FOR WIRING AND TESTING.

**CONTACT LIST**

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ASSISTANT DISTRICT ENGINEER - TRAFFIC  
410-841-1019

MR. MARK COBLENTZ  
ASSISTANT DISTRICT ENGINEER - UTILITY  
410-841-1031

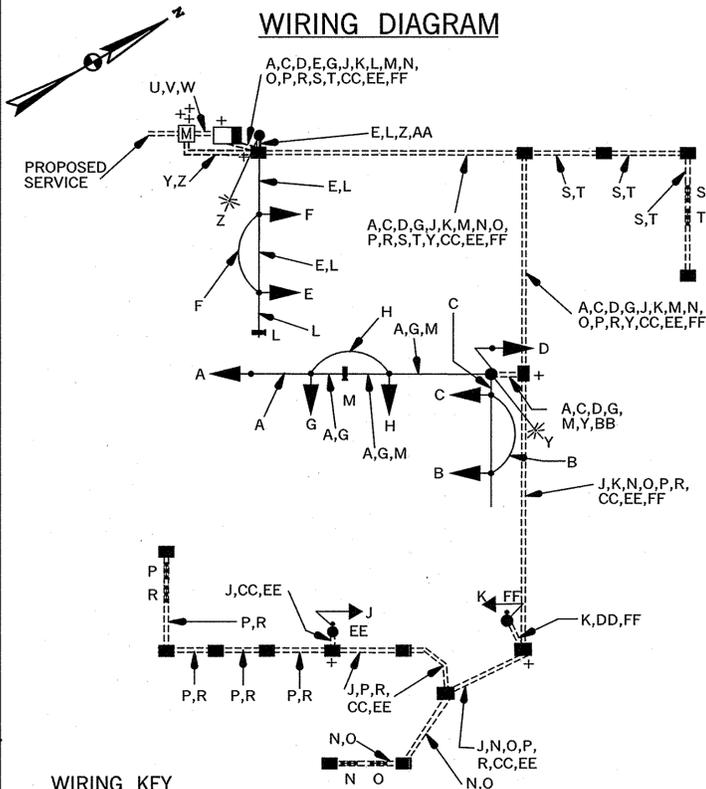
MR. CHUCK E. GEORGE  
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410-841-1013

MR. RICHARD L. DAFF  
CHIEF, TRAFFIC OPERATIONS DIVISION  
410-787-7630

MR. ROBERT SNYDER  
ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION  
410-787-7631

THE POWER COMPANY REPRESENTATIVE IS:  
SMECO  
MR. CHUCK STONE  
301-705-8686

**WIRING DIAGRAM**



**WIRING KEY**

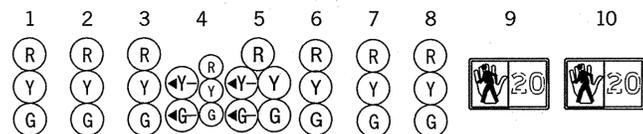
- A,B,F,H,J,K 5-CONDUCTOR ELECTRIC CABLE (NO. 14 AWG)
- C,D,E,G 7-CONDUCTOR ELECTRIC CABLE (NO. 14 AWG)
- EE,FF 2-CONDUCTOR ELECTRIC CABLE (NO. 14 AWG)
- L,M VIDEO DETECTION LEAD IN CABLE
- AA,BB,CC,DD NO. 6 STRANDED BARE COPPER GROUND WIRE
- U,V,W 1-CONDUCTOR ELECTRIC CABLE (NO. 4 AWG)
- N,O,P,R,S,T NON-INVASIVE LOOP DETECTION LEAD IN
- Y,Z 2-CONDUCTOR ELECTRIC CABLE (NO. 12 AWG) TRAY CABLE
- PS PROPOSED ELECTRICAL SERVICE
- + 3/4" X 10' GROUND ROD

**EQUIPMENT LIST 'B'**

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

ITEM NO.	QUANTITY	UNITS	DESCRIPTION
1001	1	LS	MAINTENANCE OF TRAFFIC
2001	2	CY	TEST PIT EXCAVATION
5001	550	LF	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5002	125	LF	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
8001	3	EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8002	1	EA	EIGHT PHASE FULLY ACTUATED CONTROLLER AND CABINET - BASE MOUNTED
8003	2	EA	16 INCH LED PEDESTRIAN COUNTDOWN SIGNAL HEAD
8004	2	EA	AUDIBLE TACTICAL PEDESTRIAN PUSHBUTTON AND SIGN ASSEMBLY
8005	150	LF	3 INCH NON-INVASIVE DETECTOR CARRIER PIPE - BORED
8006	1	LS	REMOVE AND DISPOSE OF EXISTING MATERIALS AND EQUIPMENT
8007	10	CY	CONCRETE FOR SIGNAL FOUNDATION
8008	81	SF	SHEET ALUMINUM SIGNS
8009	850	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8010	270	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8011	50	LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8012	970	LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8013	40	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8014	1	EA	METERED SERVICE PEDESTAL
8015	30	LF	ELECTRICAL CABLE - 1 - CONDUCTOR, 14 AWG
8016	2	EA	MICROLOOP PROBE, 500 FOOT LEAD IN CABLE
8017	4	EA	MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE
8018	16	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8019	2	EA	VIDEO DETECTION CAMERA
8021	2	EA	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
8022	1	EA	VIDEO INTERFACE EQUIPMENT
8023	2	EA	10 FOOT BREAKAWAY PEDESTRIAN POLE
8024	1	EA	STEEL POLE WITH SINGLE 50 MAST ARM
8026	1	EA	STEEL POLE WITH TWIN 50 FOOT AND 70 FOOT MAST ARMS
8027	2	EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
8028	8	EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
8029	25	EA	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8030	680	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8031	1020	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8032	580	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8033	230	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
8034	2	EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
8035	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNTED

**PHASE CHART**



	1	2	3	4	5	6	7	8	9	10	
PHASE 2 AND 5	R	R	R	G-G	G-G	G	R	R	DW	DW	←
2 AND 5 CHANGE	R	R	R	Y-G	Y-G	G	R	R	DW	DW	↓
PHASE 2 AND 6	G	G	G	G	G	G	R	R	WK	WK	←
PED CLEARANCE /COUNTDOWN	G	G	G	G	G	G	R	R	FL/DW	FL/DW	→
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	DW	DW	→
PHASE 8	R	R	R	R	R	R	G	G	DW	DW	↑
8 CHANGE	R	R	R	R	R	R	Y	Y	DW	DW	↓
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FL/R	FL/R	DARK	DARK	↑

**EQUIPMENT LIST 'C'**

C. ALL OTHER REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

**WALLACE, MONTGOMERY & ASSOCIATES, LLP**  
CIVIL AND STRUCTURAL ENGINEERS  
110 West Road  
Suite 300  
Towson, Maryland 21204

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

**MIDDLETOWN ROAD AT SMALLWOOD DRIVE WEST WALDORF, MARYLAND**

**GENERAL NOTES AND INFORMATION**

SCALE: N.T.S. DATE: 11-26-1991 CONTRACT NO. \_\_\_\_\_

DESIGNED BY: J. DIRNDORFER COUNTY: CHARLES  
DRAWN BY: P. DORR LOGMILE: 08CMID02.34  
CHECKED BY: S. RENZI T.I.M.S. NO.: H251  
F.A.P. NO.: \_\_\_\_\_ TOD NO.: \_\_\_\_\_

DRAWING NO. **3198A-GI** SHEET NO. **SG 03** OF **15**