Project Description

This project involves the installation of a traffic signal at a four leg intersection.

Controller Operation

An eight-phase fully actuated NEMA controller will be used. the controller will operate as a four phase fully actuated controller with railroad preemption on the southbound Genstar No. 3 driveway. Reich's Ford Road will operate concurrently. Genstar No. 3 Drive and the I-70 Ramp operates with a split phase.

CONTACT PERSONS FOR DISTRICT 7 ARE AS FOLLOWS

MR. ROBERT FISHER
DISTRICT ENGINEER
PHONE NUMBER 301-624-8101

MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE NUMBER 301-624-8141

VACANT
ASSISTANT DISTRICT ENGINEER - UTILITIES
PHONE NUMBER 301-624-8115

MR. LEON KERNS
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE NUMBER 301-694-8106

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

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

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ED RODENHIZER
TEAM LEADER SIGNAL OPERATIONS
410-787-7650

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
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MR. DAVE SCHWARTZ
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

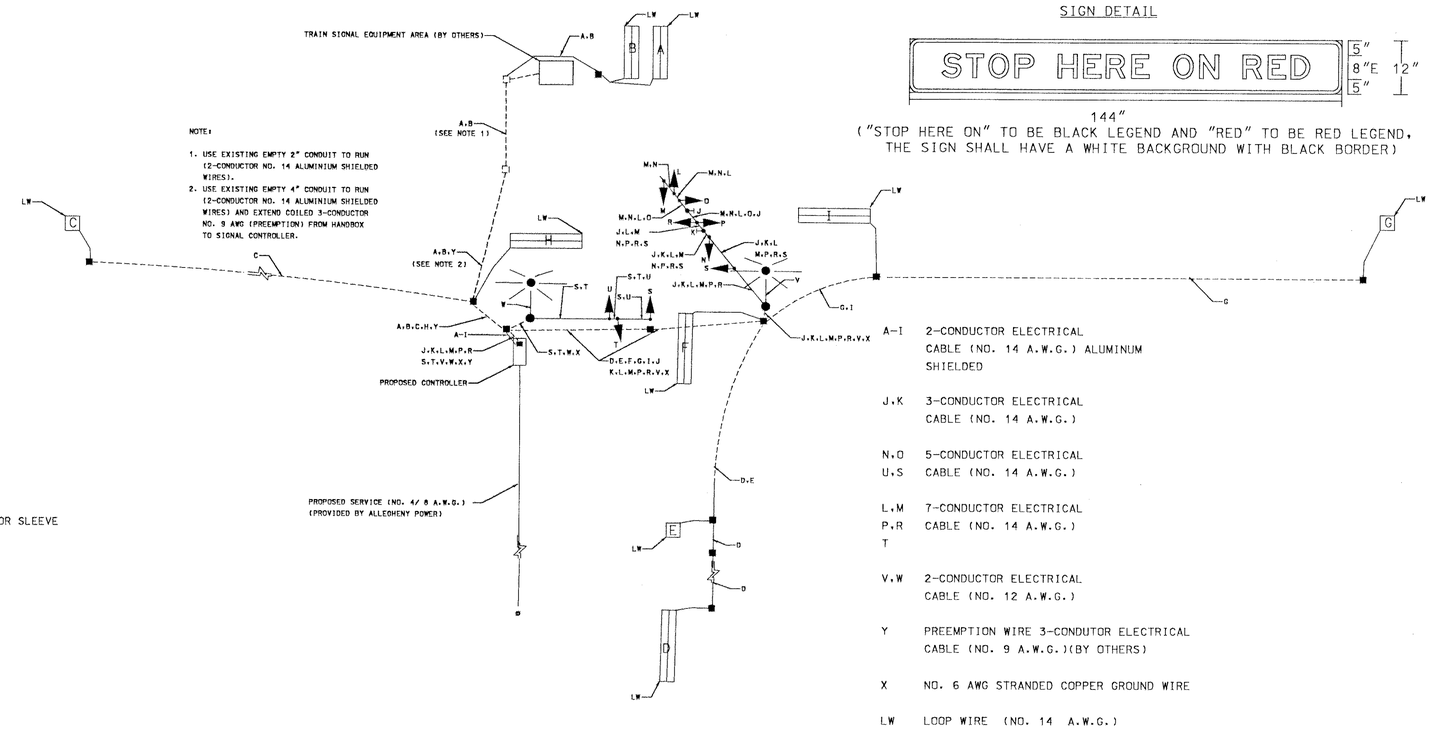
ITEM NO.	QUANTITY		DESCRIPTION
9002	2	EA	(CONT/CAB/ADD) DETECTOR AMPLIFIER 4-CH RACK MT
9004	1	EA	(CONT/CAB/ADD) DETECTOR RACK POWER SUPPLY
9086	1	EA	CABINET W/TELEMETRY (SYSTEM CAB) SIZE 6
9087	1	EA	CONTROLLER ASCII W/TELEMETRY
9999	190	SF	SIGNS

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

ITEM NO.	QUANTITY		DESCRIPTION
1001	1	EA	MAINTENANCE OF TRAFFIC
1002	195	LF	FURNISH AND INSTALL STANDARD SHA TYPE A CONCRETE CURB & GUTTER
1003	1	EA	FURNISH AND INSTALL STANDARD SHA CURB CUT
1004	217	SY	REPLACE 2" TOPSOIL ON DISTURBED AREAS NOT PAVED
1005	217	SY	TRACKSIDE SEED
1006	1	LS	REMOVE AND DISPOSE OF EXISTING MATERIAL
1007	3	TO	2" HOT MIX ASPHALT SURFACE FINE (SF)
1008	6	TO	5" HOT MIX ASPHALT BASE COURSE (BC)
1009	50	SY	6" GRADED AGREGATE BASE COURSE
1010	100	TON	FURNISH AND INSTALL CLASS 1 RIPRAP WITH CLASS "C" FILTER CLOTH
5001	50	LF	5 INCH YELLOW HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5002	90	LF	5 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5003	80	LF	24 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
8001	22	CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL AND SIGN FOUNDATIONS
8002	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNTED
8003	1	EA	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
8004	910	LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8005	75	LF	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8006	25	LF	FURNISH AND INSTALL 1 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8007	60	LF	FURNISH AND INSTALL 2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8008	1375	LF	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8009	145	LF	FURNISH AND INSTALL 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8010	11	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8011	2190	LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
8012	2400	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8013	275	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
8014	520	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 AWG)
8015	180	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO 14 AWG)
8016	1030	LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO 14 AWG)
8017	280	LF	FURNISH AND INSTALL NO. 6 AWG STRANDED COPPER GROUND WIRE
8018	90	LF	FURNISH AND INSTALL WOOD SIGN SUPPORT (4"X4")
8019	110	SF	INSTALL GROUND MOUNTED SIGNS
8020	80	SF	INSTALL OVERHEAD SIGN
~~8021~~	~~2~~	~~EA~~	~~INSTALL BREAKAWAY BASE SUPPORT SYSTEM FOR SIGNAL STRUCTURE~~
8022	15	LF	FURNISH AND INSTALL 3 INCH ELECTRICAL CONDUIT SCHEDULE 80 PVC RISER
8023	1	EA	FURNISH AND INSTALL METER SOCKET AND CONNECT LOAD SIDE CONDUCTORS.
8024	1	EA	FURNISH AND INSTALL MAST ARM POLE AND 50 FOOT MAST ARM
8025	1	EA	FURNISH AND INSTALL MAST ARM POLE AND 70 FOOT MAST ARM
8026	2	EA	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8027	2	EA	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8028	28	EA	FURNISH AND INSTALL 12 INCH TRAFFIC SIGNAL SECTION (MAST ARM MT)
8029	6	EA	FURNISH AND INSTALL 8 INCH TRAFFIC SIGNAL SECTION (MAST ARM MT)
8030	2	EA	FURNISH AND INSTALL FIBEROPTICS BLANKOUT SIGNS (ONE R3-1 AND ONE R3-2)
8031	3	EA	FURNISH AND INSTALL GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH

Phase Chart

	1	2	3	4	5	6	7	8	9	10	14	15	
Phase 2 & 6	G	G	G	G	R	R	R	R	R	R	DARK	DARK	◁— —▷
2 & 6 Change	Y	Y	Y	Y	R	R	R	R	R	R	DARK	DARK	
Phase 3	R	R	R	R	◁G-G	◁G-G	G	R	R	R	DARK	DARK	↑
3 Change	R	R	R	R	Y	Y	Y	R	R	R	DARK	DARK	
Phase 4	R	R	R	R	R	R	R	◁G-G	G	◁G-G	DARK	DARK	↓
4 Change	R	R	R	R	R	R	R	Y	Y	Y	DARK	DARK	
Preemption	G	G	G	G	R	R	R	R	R	R			◁— —▷
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	↑↓



NOTE:

1. USE EXISTING EMPTY 2" CONDUIT TO RUN (2-CONDUCTOR NO. 14 ALUMINIUM SHIELDED WIRES).
2. USE EXISTING EMPTY 4" CONDUIT TO RUN (2-CONDUCTOR NO. 14 ALUMINIUM SHIELDED WIRES) AND EXTEND COILED 3-CONDUCTOR NO. 9 AWG (PREEMPTION) FROM HANDBOX TO SIGNAL CONTROLLER.

SIGN DETAIL

STOP HERE ON RED

5" 8"E 12" 5"

144"

("STOP HERE ON" TO BE BLACK LEGEND AND "RED" TO BE RED LEGEND, THE SIGN SHALL HAVE A WHITE BACKGROUND WITH BLACK BORDER)

A-I	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED
J,K	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N,O U,S	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L,M P,R T	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
V,W	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
Y	PREEMPTION WIRE 3-CONDUTOR ELECTRICAL CABLE (NO. 9 A.W.G.)(BY OTHERS)
X	NO. 6 AWG STRANDED COPPER GROUND WIRE
LW	LOOP WIRE (NO. 14 A.W.G.)

REVISIONS	APPROVALS
	TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
	ASST. TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION REICH'S FORD ROAD, GENSTAR NO. 3 DRIVEWAY AND I-70 RAMPS

BW332M83

DRAWN BY: RAMI SHAKRA	F.A.P. NO. N/A	TS NO. 4085	SHEET NO.
CHECKED BY: MAUREEN DECKER	MTA NO. T-0200-0140		
SCALE: NOT TO SCALE	COUNTY: FREDERICK	T.I.M.S. NO. E424	02 OF 02
DATE: 4-24-01	LOG MILE: MU1405@I-70,0.40		