

**PROJECT DESCRIPTION**

**GENERAL**

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF GREENSPRING DRIVE AND I-83 NORTHBOUND OFF-RAMP IN BALTIMORE COUNTY. GREENSPRING DRIVE IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE GREENSPRING DRIVE APPROACHES OPERATING CONCURRENTLY AND THE I-83 NB OFF-RAMP APPROACH OPERATING ALONE. EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING WILL BE PROVIDED FOR THE NORTHBOUND GREENSPRING DRIVE APPROACH.

**CONTROLLER REQUIREMENTS**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE AND ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

**MAINTENANCE OF TRAFFIC**

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

- STANDARD NO. MD-104.00 - 104.00-30
- STANDARD NO. MD-104.37-01 (LEFT LANE CLOSURE)
- STANDARD NO. MD-104.38-01 (RIGHT LANE CLOSURE)
- STANDARD NO. MD-104.41-01 (INTERSECTION FAR-RIGHT LANE CLOSURE)

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RANDALL SCOTT  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (410) 321-2781/2785

MRS. SUENETTE POPE  
DISTRICT UTILITY ENGINEER  
PHONE: (410) 321-2841

MR. STEVE MARCISZEWSKI  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (410) 321-2761

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

**EQUIPMENT LIST "A"**

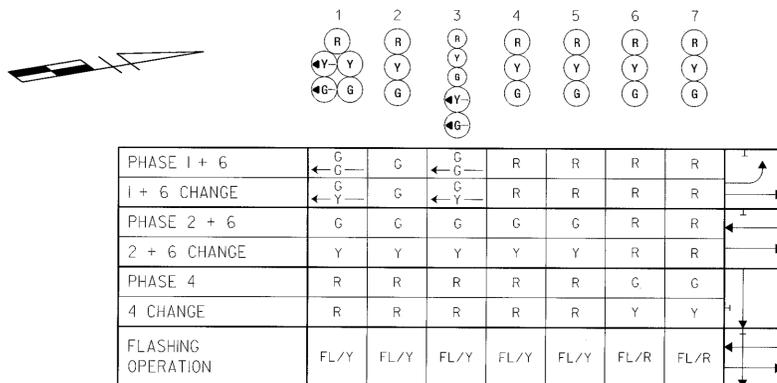
A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	15 FT. STREET LIGHTING BRACKET ARM FOR SIGNAL STRUCTURE
9000	1 EACH	27 FT. MAST ARM POLE & 70 FT. MAST ARM
9016	1 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9044	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9067	1 EACH	PEDESTAL POLE, 14 FT. WITH TRANSFORMER BASE AND ANCHOR BOLTS
9086	1 EACH	VIDEO INTERFACE
9570	48 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 3 EACH W3-3 SIGN (36 IN. x 36 IN.) AND "NEW" PANEL (30 IN. x 30 IN.) - GROUND MOUNT
9571	31 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 1 EACH R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT - 1 EACH R5-1 SIGN (36 IN. x 36 IN.) - BANDED TO STEEL POLE - 1 EACH D-3(1) SIGN (VARIABLE x 16 IN.) - MAST ARM MOUNT

**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA  
ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

**PHASE CHART**



**EQUIPMENT LIST "B"**

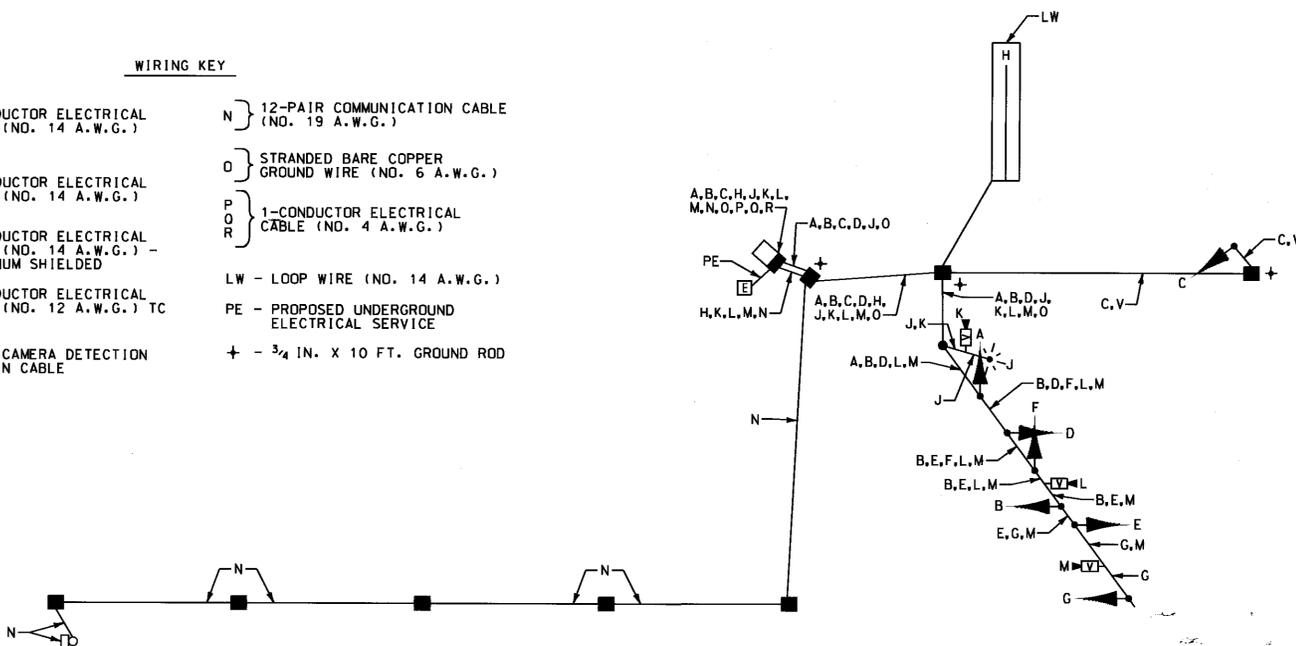
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NUMBER	QUANTITY	UNIT	DESCRIPTION
1001	1	EA	Maintenance of Traffic
2002	3	CY	Test Pit Excavation
5005	70	LF	Furnish and Install 24 Inch White Heat Applied Thermoplastic Pavement Marking
5006	210	LF	Furnish and Install 5 Inch White Heat Applied Thermoplastic Pavement Marking
5008	60	LF	Removal of Existing Pavement Line Markings - Any Width
6004	130	SF	4 Inch Concrete Sidewalk
8001	3	EA	Furnish and Install 250 Foot Video Cable to Cabinet
8011	22	EA	Furnish and Install 12 Inch Vehicular Traffic Signal Head Section
8014	1	EA	Furnish and Install 250W HPS Luminaire with Photocell
8019	3	EA	Furnish and Install 8 Inch Vehicular Traffic Signal Head Section
8020	1	EA	Furnish and Install Control and Distribution Equipment for Signal
8039	1	EA	Install Mast Arm Pole and Single Mast Arm
8042	1	EA	Install Conduit (Up to 4 Inches) Bend in Existing Foundation
8048	1	EA	Remove and Dispose of Material and Equipment per Assignment
8049	3	EA	Furnish and Install Video Detection Camera
8052	180	LF	Furnish and Install 4 Inch Schedule 80 Rigid PVC Conduit - Bored
8053	30	LF	Furnish and Install 4 Inch Schedule 80 Rigid PVC Conduit - Trenched
8057	8	CY	Furnish and Install Concrete for Signal Foundation
8059	50	LF	Furnish and Install Wood Sign Supports 4 Inches x 6 Inches
8060	120	LF	Furnish and Install No. 6 A.W.G. Stranded Bare Copper Ground Wire
8066	650	LF	Furnish and Install 3 Inch Schedule 80 Rigid PVC Conduit - Slotted
8068	10	LF	Furnish and Install 1 Inch Liquid Tight Flexible Non-Metallic Conduit for Detector Wire Sleeve
8070	45	LF	Furnish and Install Electrical Cable - 1 Conductor (No. 4 A.W.G. - THHN/THWN)
8072	8	EA	Furnish and Install Electrical Handhole
8074	48	SF	Install Ground Mounted Sign
8075	31	SF	Install Overhead Sign
8076	750	LF	Furnish and Install 12-Pair Communication Cable, Jellyfilled (Underground)
8080	3	EA	Furnish and Install Ground Rod - 3/4 Inch Diameter x 10 Foot Length
8081	80	LF	Furnish and Install Electrical Cable - 2 Conductor (Aluminum Shielded)
8084	250	LF	Furnish and Install Electrical Cable - 5 Conductor (No. 14 A.W.G.)
8085	250	LF	Furnish and Install Electrical Cable - 7 Conductor (No. 14 A.W.G.)
8086	90	LF	Furnish and Install Electrical Cable - 2 Conductor (No. 12 A.W.G.) TC
8087	450	LF	Furnish and Install Loop Wire Encased in 1/4 Inch Flexible Tubing (No. 14 A.W.G.)
8088	120	LF	Furnish and Install Saw Cut for Signal (Loop Detector)
8091	20	LF	Furnish and Install 2 Inch Schedule 80 Rigid PVC Conduit - Trenched
8093	1	EA	Install Controller and Cabinet - Base Mount
NEG	1	EA	Install Breakaway Pedestal Base
NEG	1	EA	Install Lighting Bracket

**WIRING DIAGRAM**

**WIRING KEY**

- A } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- B } 12-PAIR COMMUNICATION CABLE (NO. 19 A.W.G.)
- C } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- D } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- E } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) - ALUMINUM SHIELDED
- F } 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TC
- G } VIDEO CAMERA DETECTION LEAD-IN CABLE
- H } 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- LW - LOOP WIRE (NO. 14 A.W.G.)
- PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
- + - 3/4 IN. x 10 FT. GROUND ROD



**WR&A**  
Whitman, Reardon  
and Associates, LLP  
801 South Caroline Street  
Baltimore, Maryland 21231  
(410) 235-3450

**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
GENERAL INFORMATION SHEET  
Greenspring Dr. and I-83 (NB Ramp)

DRAWN BY: B. MARTINE	F.A.P. NO. N. LEARY	TS NO. TS-4211	SHEET NO. 3 OF 3
CHECKED BY: NONE	S.I.L.A. NO. BALTIMORE	T.I.M.S. NO. F453	
SCALE: NONE	COUNTY: BALTIMORE	LOG MILE: 030C0938.68	
DATE: 10/31/2002			