

PROJECT DESCRIPTION
GENERAL

THIS PROJECT CONSIST OF CONSTRUCTING A TEMPORARY TRAFFIC SIGNAL TO PROVIDE FOR MAINTENANCE OF TRAFFIC ON MD 173 DURING RECONSTRUCTION OF EDWIN RAYNOR BOULEVARD. EDWIN RAYNOR BLVD. WILL RUN IN THE NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA THREE PHASE, SEMI-ACTUATED MODE WITH THE NORTH-SOUTH APPROACHES RUNNING CONCURRENTLY. EXCLUSIVE/PERMISSIVE LEFT TURN PHASE SHALL BE PROVIDED FOR THE SOUTHBOUND TRAFFIC. THE WEST APPROACH WILL OPERATE IN AN EXCLUSIVE PHASE.

CONTROLLER REQUIREMENT

INSTALL A FULL TRAFFIC ACTUATED, EIGHT PHASE CONTROLLER WITH ONE(1), FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, AND ASSOCIATED HARNESS, HOUSED IN A NEMA SIZE '5' POLE MOUNTED CABINET.

PROJECT CONTACT PERSON ARE:

THE CONTACT PERSONS FOR DISTRICT #5 ARE AS FOLLOWS:
 MR. PAUL D. ARMSTRONG, ACTING DISTRICT ENGINEER, PHONE: (410) 841-5450
 MR. JOHN MAYS, ASSISTANT DISTRICT ENGINEER-UTILITY, PHONE: (410) 841-5450
 MR. ERNEST L. HODSHON, ASSISTANT DISTRICT ENGINEER-MAINTENANCE, PHONE: (410) 841-5462
 MR. LAWRENCE E. ELLIOTT, ASSISTANT DISTRICT ENGINEER-TRAFFIC, PHONE: (410) 841-5450
 MR. RICHARD L. DAFF, SR., CHIEF, TRAFFIC OPERATIONS DIVISION, PHONE: (410) 787-7630

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS APPLY ON THE TRAFFIC SIGNAL INSTALLATION.
 MD 104.37-01 MD 104.39-01 MD 104.41-01
 MD 104.38-01 MD 104.40-01 MD 104.43-01

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY THE ADMINISTRATION.

ITEM NO.	DESCRIPTION	SPECIFICATION SECTION	UNIT	QUANTITY
9001	12" ONE-WAY, THREE-SECTION (R,Y,G) SIGNAL HEAD, WITH ADJUSTABLE BRACKET FOR SPAN WIRE MOUNTING	814	EA	4
9002	12" ONE-WAY, FIVE-SECTION (R,Y,YA,G,G) TRAFFIC SIGNAL HEAD, WITH ADJUSTABLE BRACKET FOR SPAN WIRE MOUNTING	814	EA	1
9003	12" ONE-WAY, FIVE-SECTION (R,Y,YA,G,G) RIGHT-TURN TRAFFIC SIGNAL HEAD, WITH ADJUSTABLE BRACKET FOR SPAN WIRE MOUNTING	814	EA	1
9004	8"/12" ONE-WAY, FIVE-SECTION (R,Y,YA,G,G) TRAFFIC SIGNAL HEAD, WITH ADJUSTABLE BRACKET FOR SPAN WIRE MOUNTING	814	EA	1
9005	EIGHT-PHASE, FULL TRAFFIC-ACTUATED, SOLID STATE, DIGITAL CONTROLLER WITH INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, HOUSED IN A NEMA SIZE '5' POLE MOUNTED CABINET	816	EA	1
9006	SHEET ALUMINUM SIGNS	813	SF	78
	R10-12 SIGN, (30" X 36") SPAN WIRE MOUNT		EA	1
	R3-SL SIGN, (30" X 36") SPAN WIRE MOUNT		EA	1
	R3-SR SIGN, (30" X 36") SPAN WIRE MOUNT		EA	1
	R10-11A SIGN, (30" X 36") SPAN WIRE MOUNT		EA	1
	W3-3 TEMPORARY SIGN (4' X 4')		EA	3
9007	LOOP DETECTOR AMPLIFIER, FOUR-CHANNEL, TIME DELAY OUTPUT, RACK MOUNTED		EA	1

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

ITEM NO.:	DESCRIPTION	SPECIFICATION SECTION	UNIT	QUANTITY
1001	MAINTENANCE OF TRAFFIC	104	EA	1
2001	TEST PIT EXCAVATION	204	CY	4
5001	5", WHITE THERMOPLASTIC PAVEMENT MARKING TAPE, FOR CHANNELIZATION DELINEATION	SP-555	LF	400
5002	24", WHITE THERMOPLASTIC PAVEMENT MARKING TAPE FOR STOP LINE	SP-555	LF	65
5003	FURNISH AND INSTALL THERMOPLASTIC ARROW, LEFT.	SP-555	EA	2
5004	FURNISH AND INSTALL THERMOPLASTIC "ONLY".	SP-555	EA	1
8001	FURNISH AND INSTALL 40 FT WOOD POLE WITH DOWN GUYS	805	EA	4
8002	FURNISH AND INSTALL 15 FT LIGHTING ARM FOR WOOD POLE MOUNTING	808	EA	2
8003	FURNISH AND INSTALL 250W HPS LUMINAIRE WITH PHOTOCCELL	806	EA	2
8004	FURNISH AND INSTALL 3/8" STEEL WIRE	819	LF	280
8005	INSTALL TRAFFIC SIGNAL HEAD -SPAN WIRE MOUNTED	814	EA	7
8006	INSTALL SIGNS-SPAN WIRE MOUNTED	814	EA	3
8007	INSTALL CONTROLLER AND CABINET-POLE MOUNTED	816	EA	1
8008	FURNISH AND INSTALL HANDHOLE	811	EA	2
8009	FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR	815	LF	375
8010	FURNISH AND INSTALL 1 IN. LIQUID TIGHT, FLEXIBLE, NON-METALLIC CONDUIT FOR DETECTOR SLEEVE	805	LF	20
8011	FURNISH AND INSTALL 2 IN., SCHEDULE 80, RIGID PVC CONDUIT-TRENCHED	805	LF	30
8012	FURNISH AND INSTALL 2 IN., SCHEDULE 80, RIGID PVC CONDUIT-SLOTTED	805	LF	10
8013	FURNISH AND INSTALL 2 IN., SCHEDULE 80, RIGID PVC CONDUIT-RISER	805	LF	60
8014	FURNISH AND INSTALL 3 IN., SCHEDULE 80, RIGID PVC CONDUIT-RISER	805	LF	30
8015	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT LENGTH	804	EA	2
8016	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (6 AWG)	804	LF	80
8017	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (14 AWG)	810	LF	1000
8018	FURNISH AND INSTALL ELECTRICAL CABLE, 2 - CONDUCTOR, ALUMINUM SHIELDED (14 AWG)	810	LF	300
8019	FURNISH AND INSTALL ELECTRICAL CABLE, 2 - CONDUCTOR (12 AWG)	810	LF	100
8020	FURNISH AND INSTALL ELECTRICAL CABLE, 5 - CONDUCTOR	810	LF	380
8021	FURNISH AND INSTALL ELECTRICAL CABLE, 7 - CONDUCTOR	810	LF	450
8022	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT	807	EA	1
8023	FURNISH AND INSTALL 3 IN WEATHER HEAD	870	EA	4
	PHASE 2			
8024	REMOVE AND DISPOSE TRAFFIC SIGNAL INSTALLATION	822	EA	1
8025	REMOVE AND DISPOSE 40 FT WOOD POLES	822	EA	4

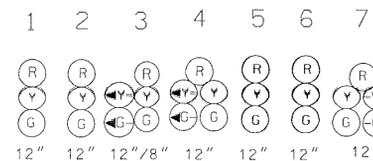
C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION AT: 7941 CONNELLEY DR, HANOVER, MD 21076

ITEM NO.	DESCRIPTION	SPECIFICATION SECTION	UNIT	QUANTITY
8027	TRAFFIC SIGNAL HEADS	822	EA	7
8028	CONTROLLER AND POLE MOUNTED CABINET	822	EA	1

NOTES:

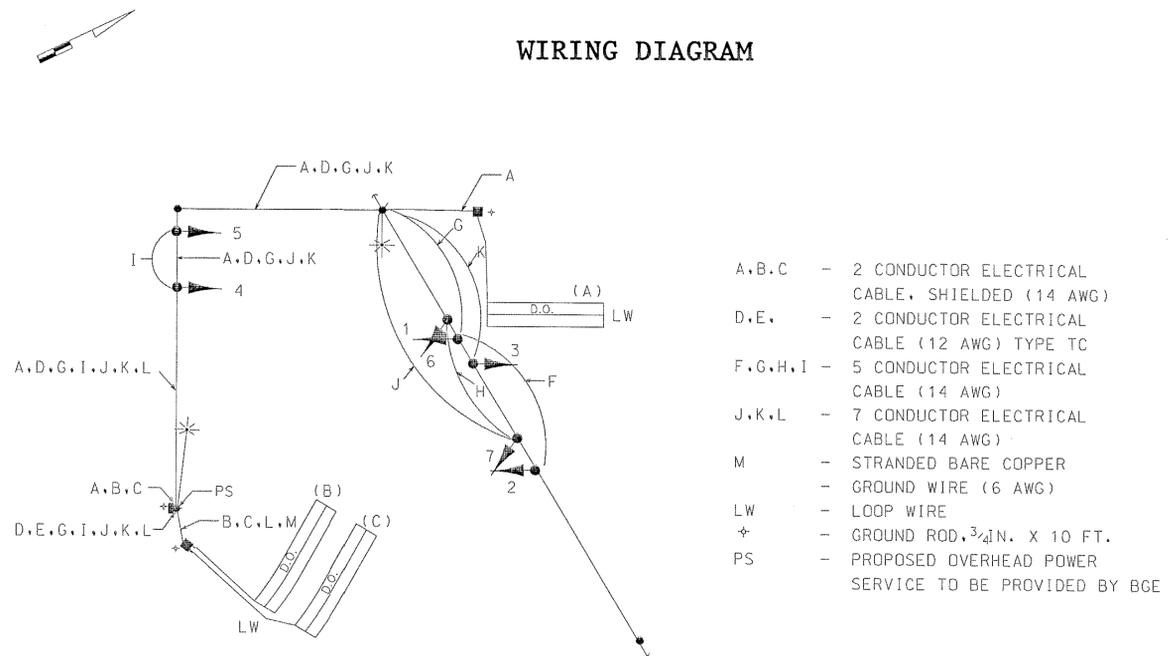
- ALL EQUIPMENT TO BE REMOVED AND NOT LISTED ABOVE SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

PHASE CHART



	1	2	3	4	5	6	7
PHASE 2 & 5	R	R	G	G	G	R	R
2 & 5 CHANGE	R	R	Y	Y	G	R	R
PHASE 2 & 6	G	G	G	G	G	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R
PHASE 3	R	R	R	R	R	G	G
3 CHANGE	R	R	R	R	R	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R

WIRING DIAGRAM



- A, B, C - 2 CONDUCTOR ELECTRICAL CABLE, SHIELDED (14 AWG)
- D, E, - 2 CONDUCTOR ELECTRICAL CABLE (12 AWG) TYPE TC
- F, G, H, I - 5 CONDUCTOR ELECTRICAL CABLE (14 AWG)
- J, K, L - 7 CONDUCTOR ELECTRICAL CABLE (14 AWG)
- M - STRANDED BARE COPPER - GROUND WIRE (6 AWG)
- LW - LOOP WIRE
- ⊕ - GROUND ROD, 3/4" IN. X 10 FT.
- PS - PROPOSED OVERHEAD POWER SERVICE TO BE PROVIDED BY BGE

LUKAS ASSOCIATES, INC.
 Transportation Planning and Engineering Consultants

10622 Great Arbor Drive Potomac, Maryland 20854
 Tel. 301-765-9533 Fax. 301-765-9534

REVISIONS	APPROVALS	MARYLAND DOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety TRAFFIC ENGINEERING DESIGN DIVISION (TRAFFIC SIGNAL PLAN) MD 173 AND EDWIN RAYNOR BLVD. TEMPORARY SIGNAL FOR M.O.T.	
	ASST. TRAFFIC ENGINEERING DESIGN DIVISION		
	ASST. DISTRICT ENGINEER, TRAFFIC		
	CHEF, TRAFFIC ENGINEERING DESIGN DIVISION	DRAWN BY: AMF	TS NO.
	DIRECTOR, TRAFFIC & SAFETY	CHECKED BY: [Signature]	S.H.A. NO.
		SCALE: 1"=20'	COUNTY: ANNE ARUNDEL
		DATE: NOVEMBER, 1998	LOG MILE:
			T.I.M.S. NO. D-091
			SHEET NO. 8 OF 10