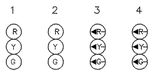
PHASING DIAGRAM

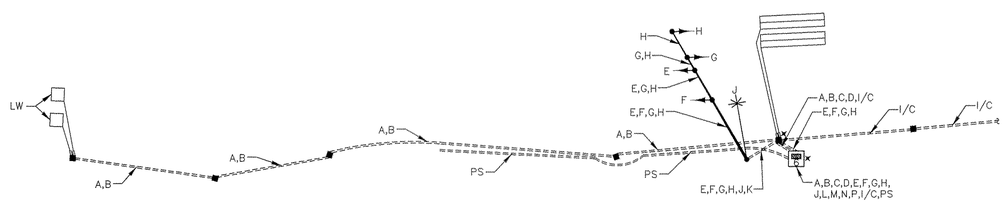


PHASE 2	G	G	R	R	H
2 CHANGE	Y	Y	R	R	
PHASE 4	R	R	G	G	
4 CHANGE	R	R	Y	Y	
FLASHING OPERATION	FL Y	FL Y	FL R	FL R	

WIRING LEGEND

A – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
B – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
C – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
D – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
E – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
F – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
G – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
H – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
J – 2 CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
K – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
L – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
M – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
N – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
P – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
× – 3/4"x10' GROUND ROD
PS – PROPOSED ELECTRICAL SERVICE
I/C – INTERCONNECT CABLE

WIRING DIAGRAM



GENERAL NOTES

1. "D.O." INDICATES DELAY OUTPUT LOOP DETECTOR
2. GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT.
3. LOOP DETECTORS AND CONDUITS SHALL BE INSTALLED PRIORTO THE INSTALLATION OF PAVEMENT MARKINGS.
4. PAVEMENT MARKING DETAILED ARE PROPOSED AND ARE TO BE INSTALLED PRIOR BY THE CONTRACTOR IN ACCORDANCE WITH S.H.A. STANDARDS ALL OTHER PAVEMENT MARKINGS WILL BE INSTALLED AS PART OF THE HIGHWAY CONTRACT.
5. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFING 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.
6. AS PART OF THIS ROAD CONSTRUCTION PROJECT SOME OVERHEAD UTILITIES WILL BE RELOCATED BY OTHERS.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	BASE MOUNTED LOCAL CABINET (SIZE 6) WITH DETECTION EQUIPMENT WITH 8 PHASE ASC II CONTROLLER WITH TELEMETRY
55	SF	SP	FLAT SHEET ALUMINUM SIGNS–YELLOW, ORANGE OR SILVER
2	EA	SP	FURNISH 12 INCH 1 WAY 3 SECTION (R, Y, G) SIGNAL HEAD HAVING PROPER ADJUSTABLE MAST ARM BRACKET, AND TUNNEL VISORS
2	EA	SP	FURNISH 12 INCH 1 WAY 3 SECTION (RA, YA, GA) SIGNAL HEAD HAVING PROPER ADJUSTABLE MAST ARM BRACKET, AND TUNNEL VISORS

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

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
3	CY	205	TEST PIT EXCAVATION
1	EA	816	INSTALL CONTROLLER AND CABINET–BASE MOUNT
35	SF	813	INSTALL OVERHEAD SIGN
6	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
6	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
15	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT–SLOTTED
10	LF	805	FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON–METALLIC CONDUIT FOR DETECTOR SLEEVE
700	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT–TRENCHED
110	LF	805	FURNISH AND INSTALL 3" SCHEDULE 80 RIGID PVC CONDUIT–TRENCHED
35	LF	805	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT–TRENCHED
1	EA	807	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
1	EA	SP	FURNISH AND INSTALL 27–FOOT STEEL POLE WITH A SINGLE 70–FOOT MAST ARM
2	EA	804	FURNISH AND INSTALL GROUND ROD–3/4 INCH DIAMETER X 10–FOOT LENGTH
35	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
30	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE–1 CONDUCTOR (NO. 4 AWG – THHN/THWN)
1145	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE–2 CONDUCTOR (ALUMINUM SHIELDED)
495	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE–5 CONDUCTOR (NO 14 AWG)
1035	LF	810	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
425	LF	815	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
40	SF	813	INSTALL GROUND MOUNTED SIGN
225	LF		FURNISH AND INSTALL 12–PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
1	EA	806	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE WITH PHOTOCELL
1	EA	806	FURNISH AND INSTALL 20–FOOT LIGHTING ARM ON SIGNAL POLE
90	LF	810	FURNISH AND INSTALL 2–CONDUCTOR TRAY CABLE (NO 12 AWG)
125	LF	805	FURNISH AND INSTALL 3" SCHEDULE 80 RIGID PVC CONDUIT–SLOTTED
4	EA		INSTALL TRAFFIC SIGNAL HEAD–ANY TYPE

SS-18

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW SEMI–TRAFFIC ACTUATED SIGNAL AND STREET LIGHTING AT MD RTE 146 (DULANEY VALLEY RD.) AND SPUR TO EASTBOUND I–695. MD RTE 146 (DULANEY VALLEY RD.) IS ASSUMED TO RUN IN A NORTH–SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA TWO (2) PHASE SEMI–TRAFFIC ACTUATED MODE WITH THE SOUTHBOUND THROUGH LANES OF MD RTE 146 (DULANEY VALLEY RD.) RUNNING UNINTERRUPTED.EXCLUSIVE/PERMISSIVE PHASING WILL BE PROVIDED FOR THE SOUTHBOUND LEFT TURN LANES.

A NEW EIGHT PHASE FULLY ACTUATED CONTROLLER WITH TELEMETRY MODULE, HOUSED IN A NEMA SIZE #6 GROUND MOUNTED CABINET WILL BE INSTALLED.

11-03-98

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21157
A/E Job No. 93–253–002

REVISIONS	APPROVALS
	CHIEF, SIGNAL DESIGN SECTION
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY

MDOT – STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION LOG MI.

DRAWN BY: M.J.G.
DES. BY: A.T.H.
CHK. BY: C.S.C

MD RTE 146 (DULANEY VALLEY RD.) AT SPUR TO EASTBOUND I-695

GENERAL INFORMATION COUNTY: BALTIMORE

DATE: 09/29/98
SCALE: 1" = 20'
F.A.P. NO.
S.H.A. NO. BA9775372

TS/STD. NO. 3774-G1

SHEET NO. 121 OF 155