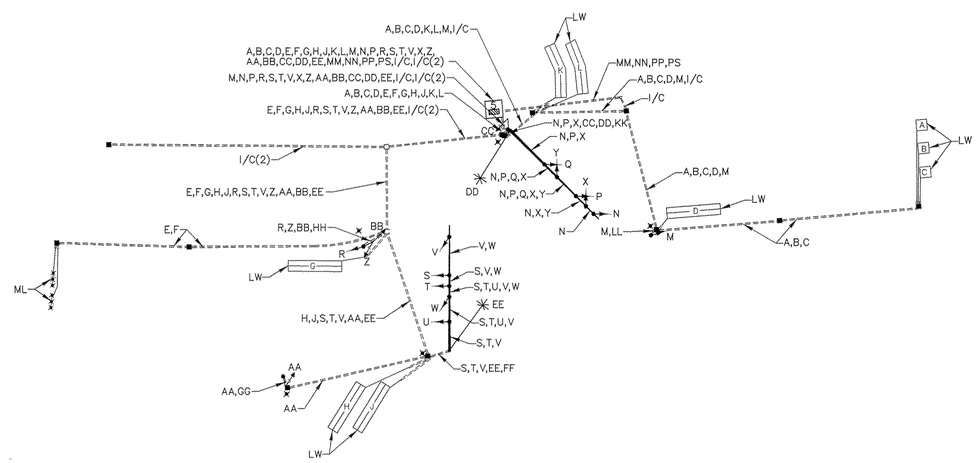
PHASING DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1+5	G	G	R	R	G	G	R	R	R	R	R	R	DW	DW	DW	DW
1+5 CHANGE	TO PHASE 1+6 OR PHASE 2+5 OR PHASE 2+6															
PHASE 1+6	R	R	R	R	G	G	G	G	R	R	R	R	DW	DW	DW	DW
1 CHANGE	R	R	R	R	Y	Y	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 2+5	G	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
5 CHANGE	Y	Y	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2+6	R	R	G	G	R	R	G	G	R	R	R	R	DW	DW	DW	DW
2+6 CHANGE	R	R	Y	Y	R	R	Y	Y	R	R	R	R	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	G G	G	R	R	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	R	R	Y	Y	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	R	G G	G	W	W	W	W
PED CLEAR	R	R	R	R	R	R	R	R	R	R	G G	G	FL DW	FL DW	FL DW	FL DW
4 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL R	FL R	FL Y	FL Y	FL R	FL R	FL Y	FL Y	FL R	FL R	FL R	FL R	OFF	OFF	OFF	OFF

WIRING DIAGRAM



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 SHILEDED)
E – MICRO–LOOP PROBE LEAD–IN
F – MICRO–LOOP PROBE LEAD–IN
G – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
H – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
J – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
K – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
L – 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
M – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
N – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
P – 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
Q – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
R – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
S – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
T – 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
U – 5 CONDCUTOR CABLE (NO. 14 A.W.G.)
V – 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
W – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
X – 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
Y – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
Z – 3 CONDUCTOR CABLE (NO. 14 A.W.G.)
AA – 3 CONDUCTOR CABLE (NO. 14 A.W.G.)
BB – 3 CONDUCTOR CABLE (NO. 14 A.W.G.)
CC – 3 CONDUCTOR CABLE (NO. 14 A.W.G.)
DD – 2 CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
EE – 2 CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
FF – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
GG – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
HH – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
KK – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
LL – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
MM – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
NN – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
PP – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
PS – PROPOSED ELECTRICAL SERVICE
✗ – 3/4"x10' GROUND ROD
LW – LOOP WIRE
ML – MICRO–LOOP PROBE
I/C – INTERCONNECT WIRE
I/C(2)– INTERCONNECT WIRE

PROJECT DESCRIPTION

I. GENERAL

THE WORK TO BE PERFORMED INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AT MD 150 (EASTERN BOULEVARD) AND SELIG AVENUE IN ESSEX, MARYLAND. IT IS ASSUMED THAT MD 150 (EASTERN BOULEVARD) RUNS IN AN EAST–WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX (6) PHASE FULLY TRAFFIC ACTUATED MODE. EASTBOUND AND WESTBOUND MD 150 (EASTERN BOULEVARD) WILL OPERATE CONCURRENTLY AND NORTHBOUND AND SOUTHBOUND SELIG AVENUE WILL OPERATE SEPERATELY.

A NEW EIGHT PHASE FULLY ACTUATED CONTROLLER WITH TELEMETRY MODULE HOUSED IN A GROUND MOUNTED CABINET WILL BE INSTALLED.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	BASE MOUNTED LOCAL CABINET (SIZE 5) WITH DETECTION EQUIPMENT WITH 8 PHASE ASC II CONTROLLER WITH TELEMETRY AND OPTICOM PRE–EMPTION MODULE
45	SF	SP	FLAT SHEET ALUMINUM SIGN–YELLOW, ORANGE OR SILVER TO CONSIST OF– 1 EACH D–3(1) "ARROW–SELIG AVE" SIGN (VAR.x16") MAST ARM MOUNTED; 1 EACH D–3(1) "SELIG AVE–ARROW" SIGN (VAR.x16") MAST ARM MOUNTED; 3 EACH R3–5(L) "LANE USE CONTROL–LEFT ONLY" SIGN (30"x36") MAST ARM MOUNTED; 2 EACH D–3(1) "EASTERN BLVD" SIGN (VAR.x16") MAST ARM MOUNTED; 1 EACH R3–5(R) "LANE USE CONTROL–RIGHT ONLY" SIGN (30"x36") MAST ARM MOUNTED

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

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
10	CY		TEST PIT EXCAVATION
3	LF		SAWCUTTING
305	LF		12 INCH WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE
190	LF		24 INCH WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE
45	LF		REMOVE EXISTING PAVEMENT MARKINGS–ANY WIDTH
2	EA		FURNISH AND INSTALL STEEL POLE WITH A SINGLE 70' MAST ARM
2	EA		FURNISH AND INSTALL MICRO–LOOP TRIPLE PROBE SET (1000')
1	LS		REMOVE AND DISPOSE OF EXISTING MATERIAL
1	LS		DELIVERY OF SALVAGED CONTROLLER AND CABINET
1	LS		REMOVAL AND SALVAGE OF CONTROLLER AND CABINET
6	EA		FURNISH AND INSTALL 12", 1 WAY 3 SECTION POLYCARBONATE SIGNAL HEAD–MAST ARM MOUNTED
4	EA		FURNISH AND INSTALL 12", 1 WAY 4 SECTION OPTICALLY PROGRAMMED SIGNAL HEAD–MAST ARM MOUNTED
1	EA		FURNISH AND INSTALL 9", 1 WAY 2 SECTION POLYCARBONATE PEDESTRIAN SIGNAL HEAD–SIDE POLE MOUNTED
1	EA		FURNISH AND INSTALL 9", 2 WAY 2 SECTION POLYCARBONATE PEDESTRIAN SIGNAL HEAD–SIDE POLE MOUNTED
1	EA		FURNISH AND INSTALL 9", 1 WAY 2 SECTION POLYCARBONATE PEDESTRIAN SIGNAL HEAD–PEDESTAL POLE MOUNTED
2	EA		FURNISH AND INSTALL 12", 1 WAY 3 SECTION POLYCARBONATE SIGNAL HEAD–PEDESTAL POLE MOUNTED
20	CY		FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
70	LF		FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
45	LF		FURNISH AND INSTALL 2" (SCHEDULE 80) RIGID P.V.C. CONDUIT (RISER)
925	LF		FURNISH AND INSTALL 2" (SCHEDULE 80) RIGID P.V.C. CONDUIT (TRENCHED)
90	LF		FURNISH AND INSTALL 4" (SCHEDULE 80) RIGID P.V.C. CONDUIT (TRENCHED)
45	LF		FURNISH AND INSTALL 3" (SCHEDULE 80) RIGID P.V.C. CONDUIT (SLOTTED)
420	LF		FURNISH AND INSTALL 3" (SCHEDULE 80) RIGID P.V.C. CONDUIT (SLOTTED)
90	LF		FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON–METALLIC CONDUIT FOR DETECTOR SLEEVE
315	LF		FURNISH AND INSTALL ELECTRICAL CABLE–1 CONDUCTOR NO. 4 (THHN/THWN)
11	EA		FURNISH AND INSTALL ELECTRICAL HANDHOLE
45	SF		INSTALL OVERHEAD SIGN
2	EA		FURNISH AND INSTALL 14' BREAKAWAY PEDESTAL POLE
710	LF		FURNISH AND INSTALL 12–PAIR COMMUNICATION CABLE–SELF SUPPORTING (OVERHEAD)
490	LF		FURNISH AND INSTALL 12–PAIR COMMUNICATION CABLE–JELLYFILLED (UNDERGROUND)
2	EA		FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
4	EA		FURNISH AND INSTALL GROUND ROD 3/4" DIAMETERx10' LENGTH
1	EA		FURNISH AND INSTALL CONTROL AND DISTIBUTION EQUIPMENT (120v/240v, 1 PHASE 3 WIRE SYSTEM)
2435	LF		FURNISH AND INSTALL ELECTRICAL CABLE 2 CONDUCTOR (ALUMINUM SHIELDED
795	LF		FURNISH AND INSTALL ELECTRICAL CABLE 3 CONDUCTOR (NO. 14 A.W.G.)
985	LF		FURNISH AND INSTALL ELECTRICAL CABLE 5 CONDUCTOR (NO. 14 A.W.G.)
920	LF		FURNISH AND INSTALL ELECTRICAL CABLE 7 CONDUCTOR (NO. 14 A.W.G.)
425	LF		FURNISH AND INSTALL ELECTRICAL CABLE 2 CONDUCTOR (NO. 12 A.W.G.) TRAY CABLE
2450	LF		FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
985	LF		FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
2	EA		FURNISH AND INSTALL 20' LIGHTING ARM ON SIGNAL POLE
1	EA		FURNISH AND INSTALL 10' BREAKAWAY PEDESTAL POLE
1	EA		INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET–BASE MOUNT

BOARD OF PROFESSIONAL ENGINEERS 22678 STATE OF MARYLAND
2-11-1999

REVISIONS	
⑥ REBUILD EXISTING TRAFFIC SIGNAL AND INTERCONNECT.	01/19/96

APPROVALS
CHIEF, DESIGN SECTION
ASST. DISTRICT ENGINEER, TRAFFIC
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, TRAFFIC & SAFETY

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21157
A/E Job No. 98–367–002

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

MD 150 (EASTERN BOULEVARD) AND SELIG AVENUE

LOG MI. 03015004.09 — DATE: JANUARY 19,1999

DRAWN BY:	F.A.P. NO.	PLAN	SHEET NO.
CHECK BY: RT 3-11-99	S.H.A. NO.	TS NO.: 3305E	33 OF 42
SCALE: 1"=20'	COUNTY: BALTIMORE		