FHWA REGION NO	STATE	FED. AID PROJ. NO	SHEET NO.	TOTAL SHEETS
3	MD.	SEE TITLE SHEET		

Intersection Operation

This intersection is to operate in a NEMA seven phase, semi-traffic-actuated mode. There will be exclusive left turns for both the north and southbound movements of MD 355. The through movements for MD 355 will operate concurrently and have concurrent pedestrian phases across the east and west legs of the intersection. There will be an exclusive left turn for the eastbound movement of MD 124. The MD 124/Montgomery Village Avenue through movements will operate concurrently and have actuated pedestrian phases across the south leg of the intersection.

An eight phase, full-traffic-actuated, solid state digital controller with twelve two-channel time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

Construction Details

A. Install base mounted cabinet/controller with all necessary equipment for an underground B-16 type electrical service(Note: two 4 in., 90-degree (Schedule 40) PVC bends, one 3 in. 90-degree (Schedule 40) PVC bend, and one 2 in., 90-degree (Schedule 80) PVC bend).

B. Install 12 in. x 30 ft. steel strain pole with pedestrian signal head, and pedestrian sign (Note: one 4 in., 90-degree (Schedule 40) PVC bends). [Use four 1-3/4 in. x 90 in. anchor bolts.]

C. Install 12 in. x 30 ft. steel strain pole with a 15 ft. luminaire arm, 250 watt HPS luminaire, pedestrian signal heads, pedestrian pushbutton, and pedestrian signs (Note: one 3 in., 90-degree (Schedule 40) PVC bend). [Use four 1-3/4 in. x 90 in. anchor bolts.]

D. Install 12 in. x 30 ft. steel strain pole with pedestrian signal heads, pedestrian pushbutton, and pedestrian signs (Note: one 2 in., 90-degree (Schedule 40) PVC bend). [Use four 1-3/4 in. x 90 in. anchor bolts.]

E. Install 12 in. x 30 ft. steel strain pole with a 15 ft. luminaire arm, 250 watt HPS luminaire, pedestrian signal head, and pedestrian pushbutton sign (Note: one 2 in., 90-degree (Schedule 40) PVC bend). [Use four 1-3/4 in. x 90 in. anchor bolts.]

F. Install handhole.

G. Install 1 in. liquid tight, non-metallic conduit for loop detector sleeve.

H. Install 2 in. polyvinyl chloride (Schedule 40) electrical conduit – trenched.

J. Install 3 in. polyvinyl chloride (Schedule 80) electrical conduit – slotted.

K. Install 3 in. polyvinyl chloride (Schedule 40) electrical conduit – trenched.

L. Install 4 in. polyvinyl chloride (Schedule 40) electrical conduit – trenched.

M. Install 6 ft. x 30 ft. quadrupole type vehicle loop detector (2-4-2 turns).

N. Install 6 ft. x 6 ft. vehicle loop detector (3 turns).

O. Install 1 in. galvanized steel conduit for loop detector sleeve.

P. Install 3/8 in. steel span wire, 1/4 in. tether wire, vehicle signal heads, and signs as shown.

Q. Install 24 in. preformed white pavement marking for stop line.

R. Install 12 in. preformed white pavement marking for pedestrian crossing.

S. Use existing handhole.

T. Rebuild existing handhole.

U. Use existing conduit.

V. Remove existing steel pole and all attached equipment.

W. Cap and abandon existing conduit.

X. Remove existing cabinet/controller and all attached equipment.

Y. Remove existing electrical service.

Z. Conduit for interconnect. Refer to interconnect plan.

a. Use existing cabinet.

b. Install 4 in. polyvinyl chloride (Schedule 80) electrical conduit – slotted.

Equipment List "A"

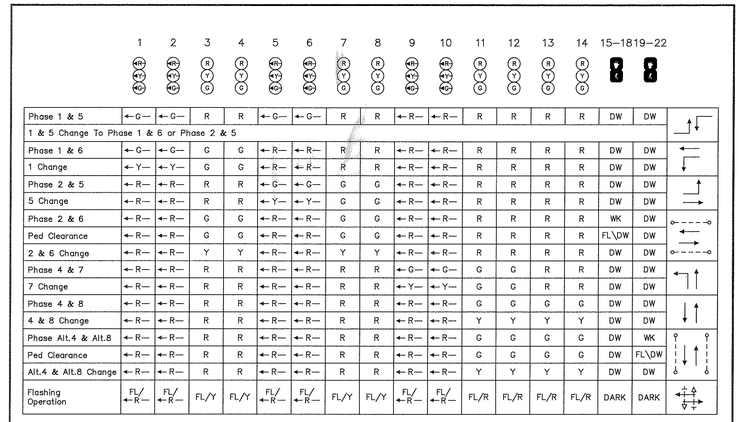
Equipment to be supplied by the SHA.

Quantity	Unit	Description
1	EA	Eight phase, full-traffic-actuated, solid state digital controller with LAU panel (to be used in a NEMA seven phase semi-traffic-actuated mode) housed in a base mounted cabinet.
12	EA	Two-channel time delay output vehicle loop detector amplifier and harness.
6	EA	12 in., one-way, three section (RA,YA,GA) adjustable traffic signal head – span wire mount.
8	EA	12 in., one-way, three section (R,Y,G) adjustable traffic signal head – span wire mount.
2	EA	12 in., two-way, two section (Symbolic WK,DW) adjustable pedestrian signal head – pole mount.
2	EA	12 in., one-way, two section (Symbolic WK,DK) adjustable pedestrian signal head – pole mount.
2	EA	Pedestrian pushbutton assembly.
147.5	SF	Sheet aluminum signing. [To consist of six 9 in. x 12 in. R10-3C, two 30 in. x 51 in. shield assembly signs for pole mounting, and four 30 in. x 36 in. R3-5(L), two 30 in. x 30 in. R3-1(L) and eight 16 in. x Var. D3-2 signs for span wire mounting.]

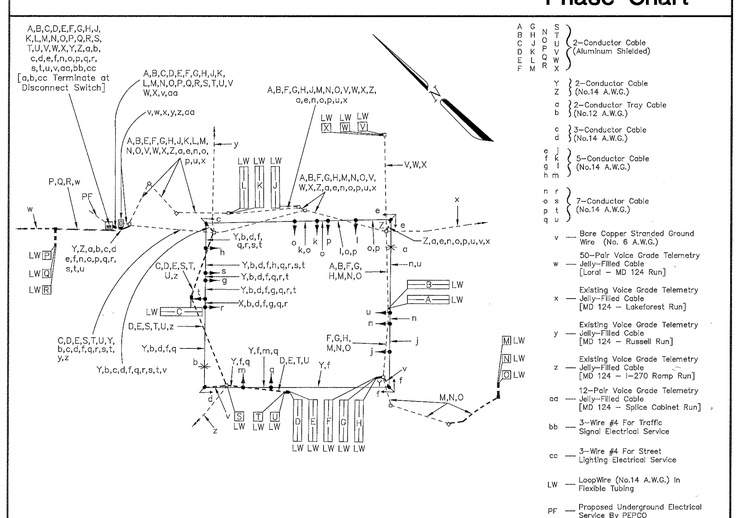
Equipment List "B"

Equipment to be furnished and/or installed by the Contractor.

Quantity	Unit	Description
5	CY	Test pit excavation.
1300	LF	12 in. preformed white pavement marking for pedestrian crossing.
200	LF	24 in. preformed white pavement marking for stop line.
4	EA	30 ft. steel strain pole.
4	EA	Handhole.
1875	LF	Sawcut for signal loop detector.
5200	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
7100	LF	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
750	LF	2-conductor electrical tray cable (No. 12 A.W.G.).
800	LF	2-conductor electrical cable (No. 14 A.W.G.).
500	LP	3-conductor electrical cable (No. 14 A.W.G.).
1600	LF	5-conductor electrical cable (No. 14 A.W.G.).
2750	LF	7-conductor electrical cable (No. 14 A.W.G.).
150	LF	Bare copper ground wire (No. 6 A.W.G.)
30	LF	3-wire electrical cable (No. 4 A.W.G.) for electrical services.
575	LF	1/4 in. tether wire.
575	LF	3/8 in. steel span wire.
100	LF	1 in. galvanized steel conduit for loop detector sleeve.
150	LF	1 in. liquid tight, flexible, non-metallic conduit for loop detector sleeve.
150	LF	2 in. polyvinyl chloride (Schedule 40) electrical conduit – trenched.
20	LF	3 in. polyvinyl chloride (Schedule 40) electrical conduit – trenched.
50	LF	3 in. polyvinyl chloride (Schedule 80) electrical conduit – slotted.
100	LF	4 in. polyvinyl chloride (Schedule 40) electrical conduit – trenched.
120	LF	4 in. polyvinyl chloride (Schedule 80) electrical conduit – slotted.
14	CY	Concrete foundation for signal equipment.
5	EA	Ground rod – 3/4 in. diameter x 10 ft. length.
1	EA	Control and distribution equipment (120/240V, one phase, three wire system).
2	EA	15 ft. Luminaire arm with 250 watt HPS luminaire.
14	EA	Install traffic signal head – span wire mount.
6	EA	Install pedestrian signal head – pole mount.
2	EA	Install pedestrian pushbutton.
30.3	SF	Install sheet aluminum signing – pole mount.
117.2	SF	Install sheet aluminum signing – overhead mount.
1	EA	Install base mounted cabinet.
LS	LS	Removal of existing traffic signal equipment.
1	EA	Rebuild existing handhole.



Phase Chart



Wiring Diagram

Ultimate Traffic Control Signal

Revision 'D'

A/E GROUP, INC.
CONSULTING ENGINEERS • PLANNERS
11409 CRONHILL DRIVE
OWINGS MILLS, MD. 21117
(410) 363-1908
A/E JOB NO: 94-264

REVISIONS	APPROVALS
D November 6, 1995 Rebuild to new geometrics. S.H.A. No.: M 611-501-371	CHIEF, SIGNAL DESIGN SECTION
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY

ORIGINAL ON FILE

MDOT – STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION SIGNAL # 15035515.55

DRAWN BY: N/A
DES. BY: B. Thompson
CHK. BY: N/A

MD 355 at MD 124/Montgomery Village Avenue

COUNTY: MONTGOMERY

DATE: N/A F.A.P. NO. N/A
SCALE: N/A S.H.A. NO. N/A

TS/STD. NO. **28D-GI**

SHEET NO. ____ OF ____

\02-264\AUTOCAD\SIGNALS\124-ILT Sat Nov 4 21:34:32 1995 By: A/E Group Inc.