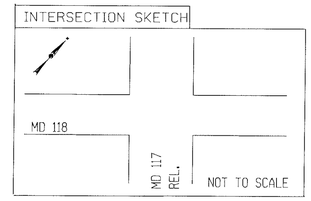
F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	MD			

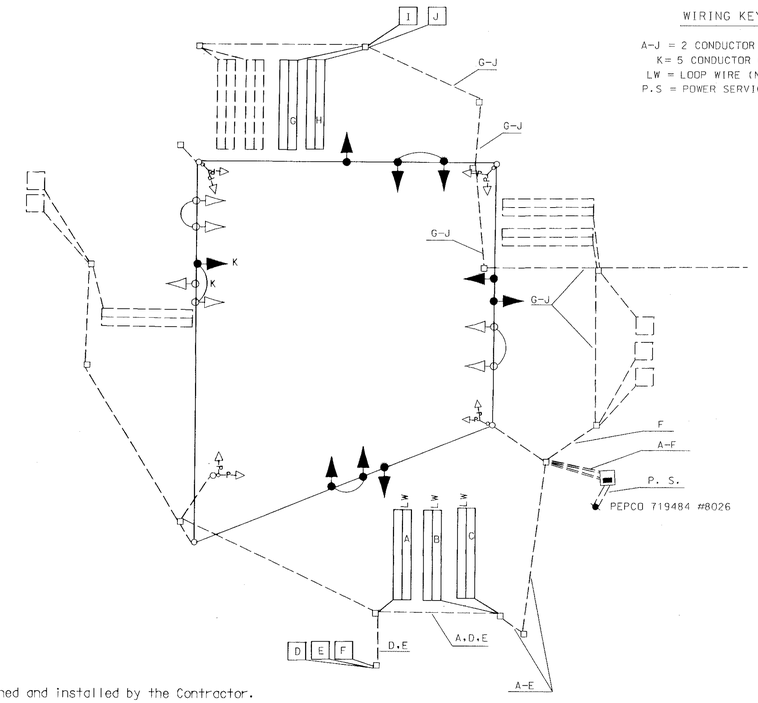
PHASE SEQUENCE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PHASES 1 & 5	G	G	R	R	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 & 5 CHANGE	CHANGE TO PHASE 1 & 6, 2 & 5 OR 2 & 6																						
PHASES 1 & 6	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	WK	DW
1 CHANGE	Y	Y	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASES 2 & 5	R	R	R	R	G	G	G	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
5 CHANGE	R	R	R	R	Y	Y	Y	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASES 2 & 6	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	WK	DW	WK	WK	DW	DW	DW	DW
PED CLEAR	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	R	R	Y	Y	R	R	R	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASES 3 & 7	R	R	R	R	R	R	R	R	R	R/G	R/G	R	R/G	R/G	R	DW	DW	DW	DW	DW	DW	DW	DW
3 & 7 CHANGE	CHANGE TO PHASE 3 & 8, 4 & 7 OR 4 & 8 OR 4 & BALT																						
PHASES 3	R	R	R	R	R	R	R	R	R	G/G	G/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	R	R	R	G/Y	G/Y	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASES 4 & 7	R	R	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	DW	DW	DW	DW	DW	DW	DW	DW
7 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	G/Y	G/Y	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASES 4 & 8	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASES 4 & 8 ALT	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	WK	DW	DW	WK	WK	DW	WK
PED CLEAR	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	FL/DW	DW	DW	FL/DW	FL/DW	DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

INTERSECTION SKETCH



WIRING DIAGRAM



WIRING KEY

A-J = 2 CONDUCTOR (AL. SHIELDED)
K = 5 CONDUCTOR (NO. 14 AWG)
LW = LOOP WIRE (NO. 14 AWG)
P.S = POWER SERVICE (NO. 4 AWG)

Intersection Operation

MD 118 (Relocated) and MD 117 (Relocated) - This intersection is to operate in a semi-traffic-actuated mode with MD 118 approaches running concurrently and the MD 117 approaches running concurrently. Exclusive left-turn phasing will be provided for northbound and southbound MD 118. Concurrent exclusive/permissive left-turn phasing will be provided for east and westbound MD 117.

An eight (8) phase, full-traffic-actuated, solid state digital controller with ten (10) two-channel loop detector amplifiers with time delay output and all necessary equipment for a Montgomery County signal. The controller is to operate in a Nema eight (8) phase, semi-traffic-actuated mode. MD 118 is assumed to run in a north-south orientation

This intersection will be interconnected with the Montgomery County computerized signal system.

Special Notes

1. The Contractor shall trench all conduits prior to roadway pavement unless noted otherwise on the plans or in the specifications.

2. Maintenance of traffic will be handled by the contractor utilizing the following standard plates for traffic contol: 105.00, 105.01, 105.02, 105.309, 105.311.

3. The following contact persons for SHA Office of Traffic and District 3 are as follows:

Mr. Paul Armstrong
District Engineer (Acting)
Phone# (301) 513-7311

Mr. Maj Shakib
Asst. District Engineer - Taffic
Phone# (301) 513-7359

Mr. Carter Wilson
Asst. District Engineer
Phone # (301) 513-7305

Mr. Francis Lauer
Asst. District Engineer - Utilities
Phone # (301) 513 - 7351

Mr. Richard L. Daff Sr.
Chief, Traffic Operations Division
Phone # (410) 787-7630

2. The Signal Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate signal terminals and shall properly label each cable.

3. The Signal Contractor is to route all proposed signal cables to the base of the existing cabinet and properly label each cable. MCDOT forces shall be responsible for the internal wiring of the cabinet.

Special Notes (CONT'D)

4. The Signal Contractor is to run interconnect cables to the base of each cabinet and properly tag all cables. MCDOT forces shall be responsible for performing all splicesl and connectionsof the interconnect cables.

5. Interconnect shall be maintained to all traffic signals at all times.

Construction Details

5. Install 6'x6' loop detector encased in 1/4" flexible tubing (3 turns).

6. Install 1" liquid tight, flexible conduit sleeve for detector wire.

7. Install 6' x 30' loop detector encased in 1/4" flexible tubing, (2-4-2) quadrupole type.

11. Relocate existing signal heads and signs on existing span wire as shown.

16. Use existing handhole.

17. Use existing conduit.

46. Install 24" white preformed pavement marking for stop line.

47. Install 12" white preformed pavement marking for crosswalk.

EQUIPMENT LISTS

A. Equipment to be supplied by SHA.

ITEM NO.	QUANTITY	SPECIICATION SECTION	DESCRIPTION
	1 EA	814	12 in, 1-way three section (RA, YA, GA) signal head - span mount.
	4 EA	817	Two-channel loop detector amplifer with time delay output.
	132 SF	813	Sheet aluminum signs - consisting of:
	1 EA		R3-5R (30" X 36") "Right turn only"
	1 EA		Lane Ends Merge Left (36"x60")
	4 EA		Route Marker Assembly (24"x51")
	4 EA		Route Marker Assembly (36"x 75")

B. Equipment to be furnished and installed by the Contractor.

ITEM NO.	QUANTITY	SPECIFICATION SECTION	DESCRIPTION
	100 LF	805	1" liquid tight flexible electrical conduit (detector wiresleeve).
	132 SF	813	Install overhead sign.
	8 EA	814	Relocate existing signal head.
	2050 LF	810	Loop wire encased in flexible tubing (No. 14 A.W.G.)
	2110 LF	810	electrical cable 2-conductor (aluminum shielded).
	805 LF	815	Sawcut for signal (loop detector)
	1 EA	xxx	Asbuilt traffic control signal Use existing disk.
	195 LF	555	24 in white permanent preformed pavement marking tape.
	2370 LF	555	12 in white permanent preformed pavement marking tape.
	1 EA	814	Install signal head - span mount.

DCJ
CONSULTING ENGINEERS
COLUMBIA, MARYLAND

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

ULTIMATE TRAFFIC SIGNAL PLAN

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

ORIGINAL DRAWN BY: R. CICCHINI
DES. BY: R. MILSTEAD
CHK. BY:

MD 118 REL AT MD 117 REL
(GENERAL INFORMATION SHEET)

LOG MILE # 150 (1707.64) COUNTY: MONTGOMERY

DATE: 12/95 F.A.P. NO.
SCALE: NOT TO SCALE S.H.A. NO. M 969-452-371
TS/FILE NO. 2473-GI
SHEET NO. ___ OF ___

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