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

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF PEDESTRIAN PUSHBUTTONS AND LOOP DETECTORS ON WESTBARD AVE. AND FT. SUMNER DR. IN MONTGOMERY COUNTY.

INTERSECTION OPERATION

1. NORMAL OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX PHASE, SEMI-TRAFFIC ACTUATED MODE, WITH THE MD 396 APPROACHES RUNNING CONCURRENTLY AND THE WESTBARD AVE./FT. SUMNER DR. APPROACHES RUNNING CONCURRENTLY.

EASTBOUND MD 396 WILL HAVE EXCLUSIVE/PERMISSIVE LEFT TURN PHASE AND SOUTHBOUND WESTBARD AVE. WILL HAVE EXCLUSIVE/PERMISSIVE LEFT TURN PHASE.

AN ALTERNATE PEDESTRAIN PHASE WILL BE PROVIDED ACROSS THE WEST LEG OF MD 396.

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT ~~#4~~ #3 ARE AS FOLLOWS:

MR. CHARLIE WATKINS
DISTRICT ENGINEER
PHONE: 301-513-7311

MR. AUGIE RUBISH
ASSISTANCE DISTRICT ENGINEER-UTILITY
PHONE: 301-513-7350

MR. MAJIB SHAKIB
ASSISTANCE DISTRICT ENGINEER-TRAFFIC
PHONE: 301-513-7358

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATION DIVISION
PHONE: 410-787-7630

MR. RANDY BROWN
ASSISTANCE DISTRICT ENGINEER-MAINTENANCE
PHONE: 301-513-7304

EQUIPMENT LIST

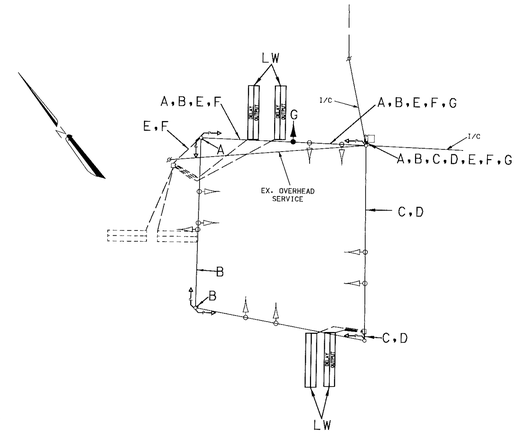
A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

ITEM	QUANTITY	DESCRIPTION
9000	1EA	DETECTOR RACK RETROFIT
9004	1EA	(CONT/CAB/ADD) DETECTOR RACK POWER SUPPLY
9096	2EA	PUSHBUTTON AND SIGN
9053	1EA	(SPAN MT) 8" & 12" 1-WAY, 5-SECTION SIGNAL

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

ITEM	QUANTITY	DESCRIPTION
1001	1 EA	MAINTENANCE OF TRAFFIC
8016	2 LF	INSTALL PUSHBUTTON WITH SIGN
8022	560 LF	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
8023	40 LF	FURNISH AND INSTALL 1 INCH ELECTRICAL CONDUIT - GALVANIZED SLEEVE
8043	1980 LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
8044	825 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8045	470 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO 14 AWG)
8025	5 LF	FURNISH AND INSTALL 2 INCH SCH 40 RIGID PVC CONDUIT - TRENCHED
8068	2 EA	INSTALL CONDUIT BEND IN EXISTING BASE
8011	1 EA	INSTALL SIGNAL HEAD (ANY TYPE)
5003	650 LF	12 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5005	135 LF	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5008	575 LF	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
8048	90 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO 14 AWG)

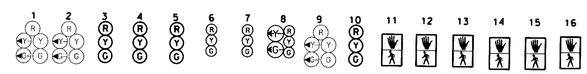
WIRING DIAGRAM



WIRING KEY

A,B	- 2 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
C,D,E,F	- 2 CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
G	- 7 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
LW	- LOOP WIRE (#14 AWG)

PHASING SEQUENCE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1 & 6	~~G~~/G	~~G~~/G	G	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 Change	~~Y~~/G	~~Y~~/G	G	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Phase 2 & 6	G	G	G	G	G	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED Clear	G	G	G	G	G	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 & 6 Change	Y	Y	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Phase 3 & 8	R	R	R	R	R	R	R	~~G~~/G	~~G~~/G	G	DW	DW	DW	DW	DW	DW
3 Change	R	R	R	R	R	R	R	~~Y~~/G	~~Y~~/G	G	DW	DW	DW	DW	DW	DW
Phase 4 & 8	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 Change	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
Alt Phase 4 & 8	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED Clear	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
Alt 4 & 8 Change	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

BAI BRUDIS & ASSOCIATES, INC.
CONSULTING ENGINEERS

9220 RUMSEY ROAD; SUITE 210
COLUMBIA, MARYLAND 21045
(410)-884-3607

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

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 396 (MASSACHUSETTS AVE.) AT
FORT SUMNER DR./WESTBARD AVE.

DATE 10/7/97

DRAWN BY: R. MILSTEAD	F.A.P. NO.	PLAN SHEET NO.:	SHEET NO.
CHECK BY: T. BRUDIS	S.H.A. NO. 23855T2507408	TS-3725A	2 OF 2
SCALE: NONE	COUNTY MONTGOMERY		