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

PHASE CHART

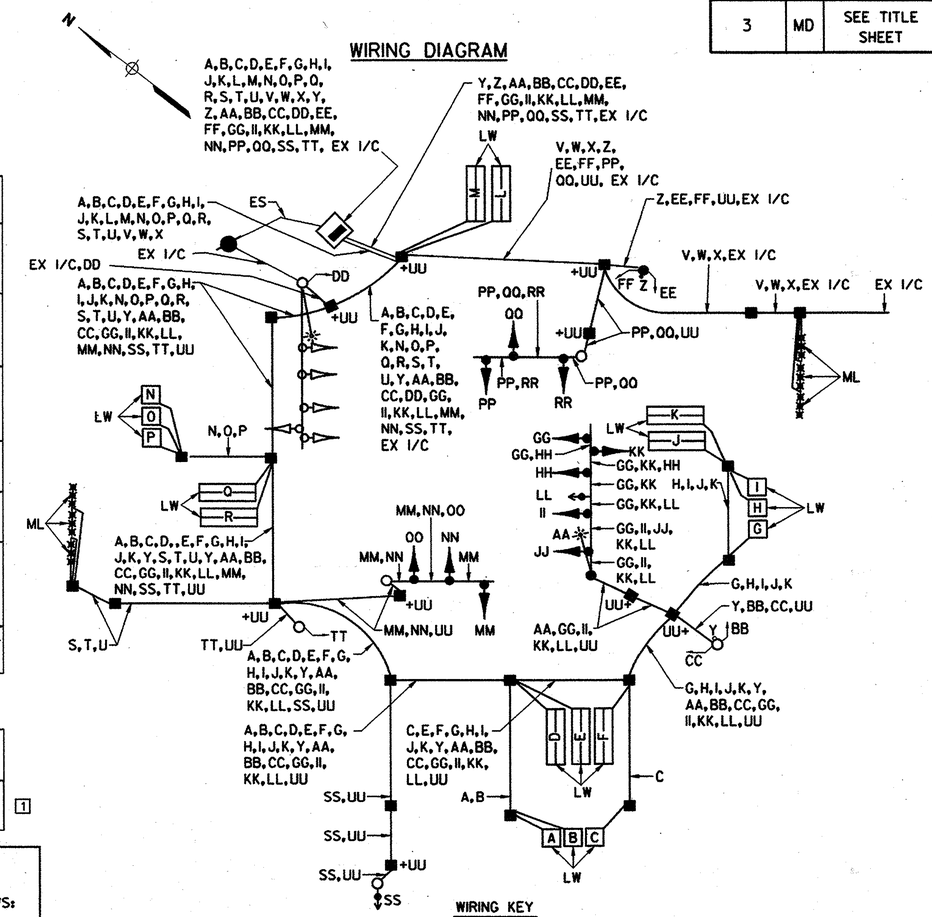
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G						
PHASE 1 + 5	←G—	←G—	←G—	R	R	←G—	←G—	←G—	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 + 5 CHANGE	TO 1+6, 2+5 OR 2+6																					
PHASE 1 + 6	←R—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

PRE-EMPTION PHASES

PE #1	←G—	←G—	←G—	~~←G~~	G	G	←R—	←R—	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PE #1 CHANGE	←Y—	←Y—	←Y—	~~←Y~~	G	G	←R—	←R—	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PE #2	←R—	←R—	←R—	R	R	R	R	R	R	R	G/←G—	G/←G—	G	R	R	R	DW	DW	DW	DW	DW	DW
PE #2 CHANGE	←R—	←R—	←R—	R	R	R	R	R	R	R	G/←Y—	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW

1

WIRING DIAGRAM



WIRING KEY

- A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R — 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
- HH,JJ,OO,RR — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- GG,II,KK,MM,NN,PP,QQ — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- UU — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- BB,CC,DD,EE,FF,TT — 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- Y,Z — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- AA — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- LL,SS — 4-CONDUCTOR OPTICOM DETECTOR CABLE (NO. 20 A.W.G.)
- S,T,U,V,W,X — MICRO-LOOP PROBE SET
- LW - LOOP WIRE (NO. 14 A.W.G.)
- ML - MICRO-LOOP PROBE SET
- EX I/C - EXISTING INTERCONNECT (12 PAIR COMMUNICATION CABLE SELF-SUPPORTING)
- ES - EXISTING SERVICE
- + - ¾IN. x 10 FT. GROUND ROD

PHASE 3 AND FINAL SIGNAL PLAN

SS-8

PROJECT DESCRIPTION

GENERAL:

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING INTERSECTION TRAFFIC SIGNAL AND STREET LIGHTING AT MD 235 AND MAPLE ROAD IN ST. MARY'S COUNTY. MD 235 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION:

1. NORMAL OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC ACTUATED MODE, WITH THE MD 235 APPROACHES RUNNING CONCURRENTLY AND MD 237-MAPLE ROAD APPROACHES OPERATING AS SPLIT PHASES. EXCLUSIVE LEFT TURN PHASING WILL BE PROVIDED FOR THE MD 235 APPROACHES.

2. SPECIAL OPERATION

THE INTERSECTION WILL OPERATE AS INDICATED ABOVE UNLESS THE OPTICOM DEVICE IS ACTIVATED WHICH WILL PRE-EMPT THE TRAFFIC SIGNAL AND STOP THE NB, EB AND WB APPROACHES.

CONTROLLER REQUIREMENTS:

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH FIVE (5) TWO-CHANNEL, TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS. INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD AND SPECIAL RELAY HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

SPECIAL NOTE:

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7631 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #5 ARE AS FOLLOWS:

MR. PAUL ARMSTRONG
DISTRICT ENGINEER
PHONE: 410-841-5450

MR. LAWRENCE E. ELLIOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 410-841-5450

MR. JOHN MAYS
UTILITY ENGINEER
PHONE: 410-841-5450

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

THE POWER COMPANY REPRESENTATIVE IS:
SOUTHERN MARYLAND ELECTRIC COOPERATIVE (SMECO)
PO BOX 1937
HUGHESVILLE, MD 20637-1937
301-274-3111

RUMMEL, KLEPPER & KAHL, LLP
CONSULTING ENGINEERS
81 MOSHER STREET
BALTIMORE, MARYLAND 21217
TELE:(410)728-2900 FAX:(410)728-3160

REVISIONS:

1 Red Line Revision

1 Nov. 1, 1998 Reconstruct Due To New Geometrics. SHA No.: SM7685270

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 MILE # 18023514.97

DRAWN BY: DED/SMH
DES. BY: DK/DLA/SMH
CHK. BY: BJH

MD 235 @ MD 237 / MAPLE RD.
SIGNAL PLAN
COUNTY: ST. MARY'S

DATE: MAY 7, 1999 F.A.P. NO. SEE TITLE SHEET
SCALE: N.T.S. S.H.A. NO. SEE TITLE SHEET

TS/STD. NO.: 912I-GI1

SHEET NO. 152 OF 241

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