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

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT IN PRINCE GEORGE'S COUNTY, MARYLAND INVOLVES ROADWAY IMPROVEMENTS, THE RECONSTRUCTION OF LOOP DETECTORS AND REALIGNMENT OF EXISTING SIGNAL HEADS FOR THE EXISTING SIGNAL THAT IS AFFECTED BY THESE IMPROVEMENTS AND PHASING MD458 WITH EXCLUSIVE LEFT TURNS AND SPLIT PHASING MD 414. MD 458 IS ASSUMED TO RUN IN AN EAST/WEST DIRECTION.

II. INTERSECTION OPERATION

THE PROPOSED TRAFFIC SIGNAL WILL OPERATE IN A NEMA SIX (6) PHASE, FULLY TRAFFIC ACTUATED MODE. THE MD 458 APPROACHES WILL OPERATE CONCURRENTLY. WITH EXCLUSIVE LEFT TURN PHASES. THE MD 414 APPROACHS WILL OPERATE SEPERATELY.

AN EXISTING EIGHT PHASE FULLY TRAFFIC ACTUATED CONTROLLER WILL BE MODIFIED WITH TWO (2) FOUR CHANNEL RACK MOUNTED LOOP DETECTOR AMPLIFIERS, TELEMETRY MODULE, AND INTERSECTION MONITOR WITH BATTERY BACK UP HOUSED IN A NEMA SIZE SIX (6) BASE MOUNTED CABINET.

III. SPECIAL NOTES

1. THE SIGNAL SHOP WILL BE NOTIFIED TO PERFORM INTERNAL WIRING OF THE CABINET AT MD 458 AND SUITLAND ROAD. ALL CABLE SHALL BE IDENTIFIED AND BROUGHT INTO THE CONTROLLER BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY MR. EDWARD RODENHIZER, SHA SIGNAL SHOP AT (410) 787-7650 SEVENTY-TWO (72) HOURS IN ADVANCE OF THIS WORK.
2. MOT PLATES FOR THIS PROJECT WILL BE AS FOLLOWS: 104.00 TO 104.00-12, 104.02-01, 104.03-01

CONSTRUCTION DETAILS

- (A) EXISTING CONTROLLER TO REMAIN
- (B) EXISTING STEEL STRAIN POLE TO REMAIN, INSTALL NEW SHIELD ASSEMBLY
- (C) REMOVE EXISTING PEDESTAL POLE
- (D) INSTALL 12" X 14' PEDESTAL POLE WITH TWO-WAY PEDESTRAIN SIGNAL HEADS
- (E) EXISTING HAND HOLE TO REMAIN
- (F) INSTALL HAND HOLE
- (G) REMOVE EXISTING HAND HOLE
- (H) EXISTING CONDUIT TO REMAIN
- (I) INSTALL 2" SCHEDULE 80 PVC CONDUIT - BORED
- (J) INSTALL 2" SCHEDULE 80 PVC CONDUIT - TRENCHED
- (K) INSTALL 6 FT. X 30 FT. LOOP DETECTOR IN 1/4 INCH FLEXIBLE TUBING (3-6-3 TURNS)
- (L) INSTALL MICROLOOP PROBE SET 500 FT. LEAD-IN
- (M) INSTALL 24" WHITE PERMANENT PREFORMED PAVEMENT MARKING (STOP BAR)
- (N) INSTALL 12" WHITE PERMANENT PREFORMED PAVEMENT MARKING (CROSS WALK)
- (O) REMOVE EXISTING SIGNAL HEAD
- (P) EXISTING SIGNAL HEAD TO BE RELOCATED
- (Q) INSTALL 1 IN. GALVANIZED CONDUIT FOR DETECTOR SLEEVE
- (R) INSTALL 1 IN. LIQUID TIGHT FLEXABLE NON-METALIC CONDUIT FOR DETECTOR SLEEVE
- (S) INSTALL MICROLOOP PROBE SET 1000 FT. LEAD-IN
- (T) FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT-TRENCHED

THE FOLLOWING CONTACT PERSONS FOR DISTRICT # 3 ARE AS FOLLOWS:

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

Mr. Majib Shakib
Asst. District Engineer - Traffic
(301) 513-7358

Mr. Augustine Rebish
Acting Engineer - Utility
(301) 513-7350

Mr. Charles Watkins
District Engineer
(301) 513-7311

Mr. Randy Brown
Asst. District Engineer - Maintenance
(301) 513-7304

The Power Company Representative is:

POTOMAC ELECTRIC POWER COMPANY

8300 OLD MARLBORO PIKE
UPPER MARLBORO MARYLAND 20772
(301) 961-5325

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY SHA AND INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
900001	2 EA	12" 1-WAY, 3-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD - SPAN MOUNT
900001	4 EA	12" 1-WAY, 3-SECTION (RA,YA,GA) TRAFFIC SIGNAL HEAD - SPAN MOUNT
900001	4 EA	12" 1-WAY, 4-SECTION (R,Y,G,GA) TRAFFIC SIGNAL HEAD - SPAN MOUNT
900001	2 EA	12" 1-WAY, 2-SECTION (DON'T WALK, WALK) PEDESTRIAN SIGNAL HEAD - POLE MOUNT
900001	2 EA	PEDESTRIAN PUSH BUTTON AND SIGN
9090	188 SF	SHEET ALUMINUM SIGNS

- 6 EA. R3-5L SIGN (30 IN. X 36 IN.) "LEFT TURN ONLY"
- 1 EA. SHIELD ASSEMBLY "EAST, MD 458, LEFT ARROW" (48 IN. X 75 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "EAST, MD 458, RIGHT ARROW" (30 IN. X 51 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "WEST, MD 458, LEFT ARROW" (48 IN. X 75 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "WEST, MD 458, RIGHT ARROW" (30 IN. X 51 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "NORTH, MD 414, RIGHT ARROW" (30 IN. X 51 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "NORTH, MD 414, LEFT ARROW" (48 IN. X 75 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "SOUTH, MD 414, RIGHT ARROW" (30 IN. X 51 IN.) - POLE MOUNT
- 1 EA. SHIELD ASSEMBLY "SOUTH, MD 414, LEFT ARROW" (48 IN. X 75 IN.) - POLE MOUNT

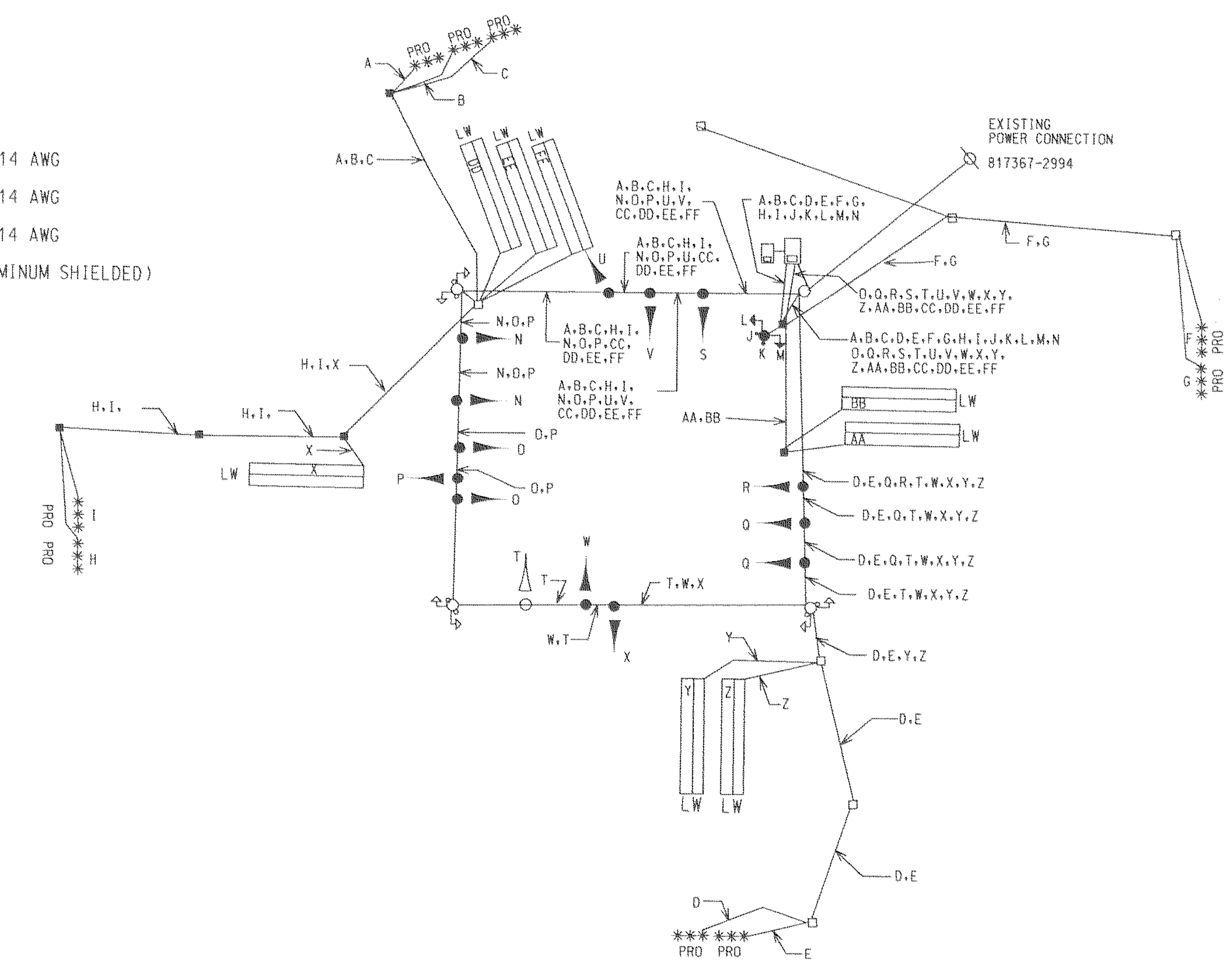
B. EQUIPMENT TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
585443	1600 LF	FURNISH AND INSTALL 12" WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE (CROSSWALK)
585445	190 LF	FURINSH AND INSTALL 24 " WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE (STOP BAR)
801004	1 CY	FURNISH AND INSTALL CONCRETE SIGNAL FOUNDATION
805011	100 LF	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED SLEEVE
805105	160 LF	FURNISH AND INSTALL 2 IN. SCHEDULE 80 PVC CONDUIT - BORED
805125	400 LF	FURNISH AND INSTALL 2 IN. SCHEDULE 80 PVC CONDUIT - TRENCHED
805160	40 LF	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT SLEEVE
811001	6 EA	FURNISH AND INSTALL HANDHOLE
813010	8 EA	BAND SIGN TO SIGN SUPPORT
818007	1 EA	REMOVE AND SALVAGE PEDESTAL POLE
860200	10 EA	INSTALL SIGNAL HEAD (ANY TYPE)- SPAN MOUNT
860068	1 EA	INSTALL 12 IN. 2-WAY 2-SECTION PEDESTRIAN SIGNAL HEAD - POLE MOUNT
860265	3 EA	RELOCATE EXISTNG SIGNAL HEAD
861104	1350 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR ALUMINUM SHIELDED
861105	100 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO 14 AWG
861106	90 LF	FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO 14 AWG
861107	1200 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO 14 AWG
861108	700 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO 14 AWG
862101	3500 LF	FURNISH AND INSTALL LOOP WIRE IN FLEXIBLE TUBING
862102	1100 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
865201	2 EA	INSTALL PUSHBUTTON AND SIGN
800000	5 EA	FURNISH AND INSTALL MICROLOOP PROBE SET 500 FT. LEAD IN
814004	4 EA	REMOVE AND SALVAGE EXISTING SIGNAL HEAD
813015	45 SF	INSTALL OVERHEAD SIGN
818010	1 EA	FURNISH AND INSTALL 14 FT. BREAKAWAY PEDESTAL POLE
800000	4 EA	FURNISH AND INSTALL MICROLOOP PROBE SET 1000 F. LEAD-IN.
800000	60 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 PVC CONDUIT - TRENCHED

WIRING KEY

- A-I MICROLOOP LEAD IN
- J,K 2 CONDUCTOR ELECTRICAL CABLE NO. 14 AWG
- L-T 5 CONDUCTOR ELECTRICAL CABLE NO. 14 AWG
- U-X 7 CONDUCTOR ELECTRICAL CABLE NO. 14 AWG
- Y-FF 2 CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
- PRO MICRO LOOP PROBES
- LW LOOP WIRE

WIRING DIAGRAM



PHASE CHART

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

REVISIONS	APPROVALS
A PG21TA2I 9/98 C. MUNZ — LOOP REPLACEMENT, SIGNAL HEAD ADDITIONS, REPHASING DUE TO GEOMETRIC IMPROVEMENTS	DESIGN SECTION
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future

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

MD 458 (SILVER HILL ROAD) AT MD 414

LOG MILE: 16041404.67

DRAWN BY:	F.A.P. NO.	US-9692 (1)	GI NO.	SHEET NO.
CHK. BY:	S.H.A. NO.	P332-001-385	264-A	71 OF 125
SCALE:				
DATE:	COUNTY	PRINCE GEORGE'S		

FILE: m:\metro_hw\m414_gen.dgn
DATE: 3-Oct-98 14:47