

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

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT IS LOCATED AT THE INTERSECTION OF MD 924 (EMMORTON RD) AND BOX HILL SOUTH PARKWAY/PORTER DRIVE IN HARFORD COUNTY, MARYLAND AND INVOLVES THE CONSTRUCTION OF A NEW TRAFFIC SIGNAL. MD 924 (EMMORTON ROAD) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE PROPOSED TRAFFIC SIGNAL WILL OPERATE IN A NEMA FOUR (4) PHASE, FULLY TRAFFIC ACTUATED MODE. THE MD 924 (EMMORTON ROAD) APPROACHES WILL OPERATE CONCURRENTLY AND THE BOX HILL SOUTH PARKWAY/PORTER DRIVE WILL OPERATE CONCURRENTLY.

A NEW EIGHT PHASE FULLY TRAFFIC ACTUATED CONTROLLER WILL BE INSTALLED WITH TWO (2) FOUR CHANNEL RACK MOUNTED LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACK UP FOR PHONE DROP AND ASSOCIATED HARNESS HOUSED IN A NEMA SIZE SIX (6) BASE MOUNTED CABINET.

III. SPECIAL NOTES

- THE SIGNAL SHOP WILL BE NOTIFIED TO PERFORM INTERNAL WIRING OF THE CABINET AT MD 924 (EMMORTON ROAD) AND BOX HILL SOUTH PARKWAY/PORTER DRIVE. 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.
- MOT PLATES FOR THIS PROJECT WILL BE AS FOLLOWS: 104.00 TO 104.00-12, 104.02-01, 104.03-01
- UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7631 TO ARRANGE FOR A PHONE LINE INSTALLATION. THE CONTRACTOR OS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR:

ITEM NO.	QUANTITY	DESCRIPTION
NEG.	6 SF	REMOVE EXISTING GROUND MOUNT SIGNS
1001	1 LS	MAINTENANCE OF TRAFFIC
2001	3 CY	TEST PIT EXCAVATION
5001	300 LF	FURNISH AND INSTALL 6" YELLOW PERMANENT PREFORMED MARKING TAPE
5002	100 LF	FURNISH AND INSTALL 6" WHITE PERMANENT PREFORMED MARKING TAPE
5004	100 LF	FURNISH AND INSTALL 24" WHITE PAVEMENT MARKING TAPE
5005	8 EA	FURNISH AND INSTALL PREFORMED PAVEMENT MARKING LETTER
5006	6 EA	FURNISH AND INSTALL PREFORMED PAVEMENT MARKING ARROW
5013	60 LF	REMOVE EXISTING PAVEMENT MARKINGS
8001	16 CY	FURNISH AND INSTALL CONCRETE FOUNDATION
8011	8 EA	INSTALL SIGNAL HEAD (ANY TYPE)
8016	4 EA	FURNISH AND INSTALL MICROLOOP PROBE SET 500 FT. LEAD IN
8020	1 EA	INSTALL NEMA 6 BASE MOUNTED CABINET AND CONTROLLER
8021	460 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8022	10 LF	FURNISH AND INSTALL 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE
8023	40 LF	FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT - FOR DETECTOR SLEEVE
8024	690 LF	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8026	140 LF	FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT - BORED
8027	180 LF	FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT - TRENCHED
8029	110 LF	FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT - BORED
8030	45 LF	FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT - TRENCHED
8033	11 EA	FURNISH AND INSTALL HANDHOLE
8034	4 EA	FURNISH AND INSTALL GROUND ROD
8040	1250 LF	FURNISH AND INSTALL LOOP WIRE
8041	1300 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR ALUMINUM SHIELDED
8044	80 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR NO. 14 AWG
8045	800 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR NO. 14 AWG
8046	165 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR NO. 12 AWG
8049	330 LF	FURNISH AND INSTALL BARE COPPER GROUND WIRE - NO. 6 AWG
8050	115 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 AWG
8051	70 LF	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4" X 4"
8052	70 LF	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4" X 6"
8053	48 SF	INSTALL GROUND MOUNTED SIGNS WOOD POST
8054	56 SF	INSTALL OVERHEAD SIGN
8056	1 EA	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCCELL
8057	1 EA	FURNISH AND INSTALL LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8064	1 EA	USE EXISTING PLAN OR DISK AND AS BUILT TRAFFIC CONTROL DEVICE.
8082	1 EA	FURNISH AND INSTALL MAST ARM POLE AND 50' MAST ARM
8083	1 EA	FURNISH AND INSTALL MAST ARM POLE AND 60' MAST ARM
8086	1 EA	FURNISH AND INSTALL MAST ARM POLE AND 70'/50 MAST ARM
8070	1 EA	FURNISH AND INSTALL CTR DIST EQPT (120/240V, 1PH, 3W)

THE FOLLOWING CONTACT PERSONS FOR DISTRICT * 4 ARE AS FOLLOWS:

Mr. David Malkowski
District Engineer
Phone: (410) 321-3461

Mr. Randall Scott
Assistant District Engineer-Traffic
Phone: (410) 321-3514

Mr. David Ramsey
Assistant District Engineer-Maintenance
Phone: (410) 363-1315

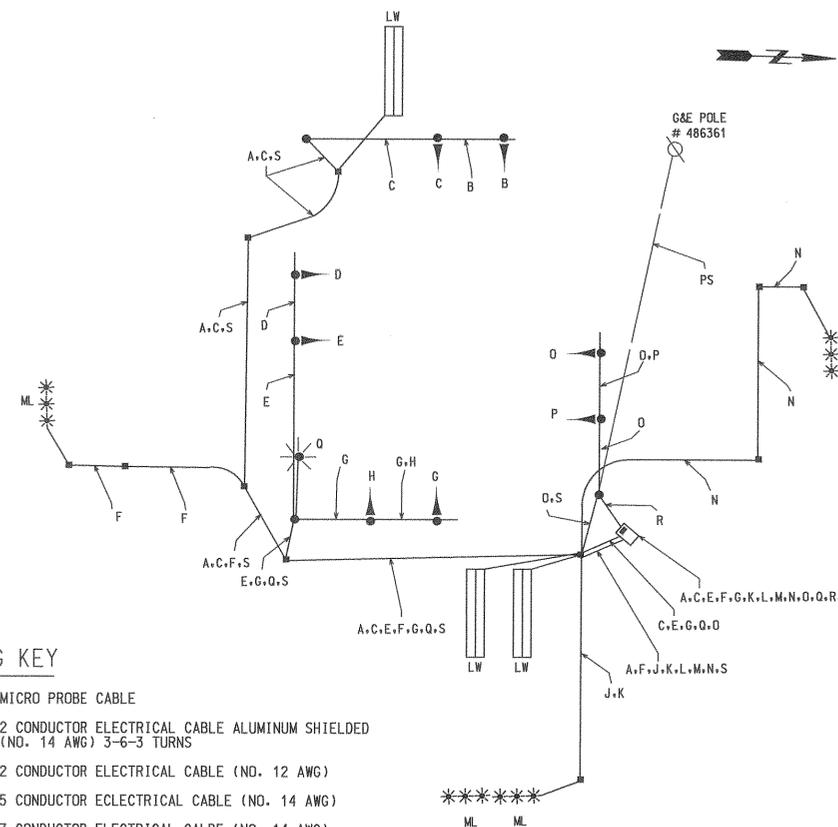
Mr. Joe McMahon
Assistant District Engineer-Utility
Phone: (410) 321-3456

Mr. Richard Daff
Chief Traffic Operations Division
Phone: (410) 787-7630

The Power Company Representative is:

BALTIMORE GAS AND ELECTRIC
Mr. Joe Weber
7317 PARKWAY DRIVE
HANOVER MARYLAND 21076
(410) 859-9026

WIRING DIAGRAM



WIRING KEY

F,N	MICRO PROBE CABLE
A,J,K,L,M	2 CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED (NO. 14 AWG) 3-6-3 TURNS
Q	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG)
B,D,H,P,I	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
C,E,G,O	7 CONDUCTOR ELECTRICAL CALBE (NO. 14 AWG)
S	STRANDED BARE COPPER GROUND WIRE NO. 6 AWG
ML	MICRO LOOP PROBES
LW	LOOP WIRE
R	1 CONDUCTOR ELECTRICAL CABLE NO. 4 AWG
PS	POWER SOURCE

PHASE CHART

	1	2	3	4	5	6	7	8	
PHASE 2 & 6	G	G	G	G	R	R	R	R	↑
PHASE 2 & 6 CHANGE	Y	Y	Y	Y	R	R	R	R	↑
PHASE 4 & 8	R	R	R	R	G	G	G	G	←
PHASE 4 & 8 CHANGE	R	R	R	R	Y	Y	Y	Y	←
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	↑

PHASING NOTES :

- PHASE 2 WILL ALWAYS BE WITH PHASE 6 NEVER ALONE
- PHASE 4 WILL ALWAYS BE WITH PHASE 8 NEVER ALONE
- PHASE 6 WILL ALWAYS BE WITH PHASE 2 NEVER ALONE
- PHASE 8 WILL ALWAYS BE WITH PHASE 4 NEVER ALONE

EQUIPMENT LIST

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

ITEM NO.	QUANTITY	DESCRIPTION
9002	2 EA	FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER RACK MOUNTED
9004	1 EA	DETECTOR RACK POWER SUPPLY
9014	8 EA	12" 1-WAY 3 SECTION SIGNAL HEAD (R, Y, G) - MAST ARM MOUNT
9086	1 EA	FURNISH NEMA 6 BASE MOUNTED CABINET & CONTROLLER
9089	135 SF	SHEET ALUMINUM SIGNS TO CONSIST OF:
2 EA	W3-3 "NEW SIGNAL AHEAD" SIGN (36"X36") GROUND MOUNTED WITH HARDWARE.	
2 EA	W3-3 "NEW SIGNAL AHEAD" SIGN (48"X48") GROUND MOUNTED WITH HARDWARE.	
4 EA	D3-2 (VARIABLE X 32") BOX HILL SOUTH PKWY/PORTER DR SIGN MAST ARM MOUNTED.	
4 EA	D3-2 (VARIABLE X 16") EMMORTON RD SIGN MAST ARM MOUNTED.	
1 EA	ASSOCIATED SHIELD ASSEMBLY "NORTH" MD 924 RIGHT ARROW (24"X51") POLE MOUNTED.	
1 EA	ASSOCIATED SHIELD ASSEMBLY "SOUTH" MD 924 RIGHT ARROW (24"X51") POLE MOUNTED.	
1 EA	ASSOCIATED SHIELD ASSEMBLY "NORTH" MD 924 LEFT ARROW (36"X75") POLE MOUNTED.	
1 EA	ASSOCIATED SHIELD ASSEMBLY "SOUTH" MD 924 LEFT ARROW (36"X75") POLE MOUNTED.	



REVISIONS	APPROVALS	MARYLAND DOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety TRAFFIC ENGINEERING DESIGN DIVISION	
	CHEF, DESIGN SECTION	MD 924 (EMMORTON RD) AND BOX HILL SOUTH PKWY/PORTER DR GENERAL INFORMATION	
	ASST. DISTRICT ENGINEER, TRAFFIC	LOG MILES: 12092400.45	
	CHEF, TRAFFIC ENGINEERING DESIGN DIVISION	DRAWN BY: T.M.S.	F.A.P. NO.
	DIRECTOR, TRAFFIC & SAFETY	CHK. BY: I" = 20'	S.H.A. NO. AW278A51/651
		SCALE: 1/98	COUNTY: HARFORD
		DATE:	TS NO. 3789 GI
			SHEET NO. 2 OF 2