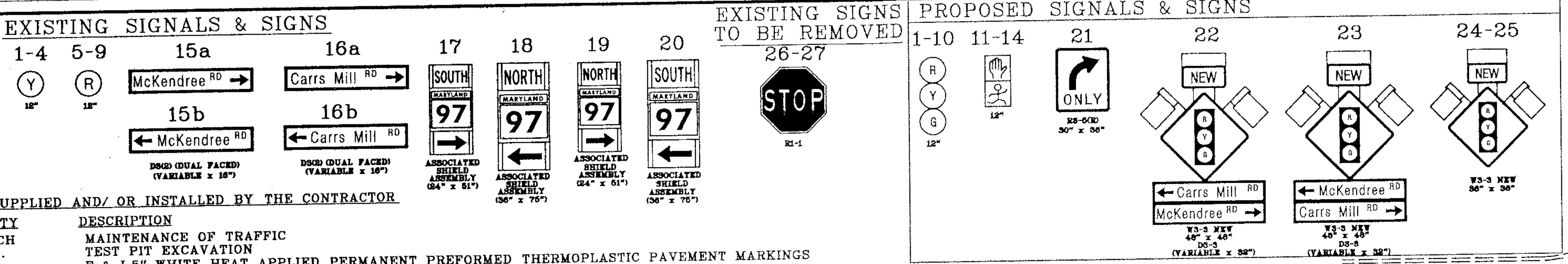
F H W A REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

MD 97 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION

EXISTING SIGNALS & SIGNS



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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	1 C.Y.	TEST PIT EXCAVATION
5002	95 L.F.	F & I 5" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5003	260 L.F.	F & I 12" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5004	130 L.F.	F & I 24" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5005	4 EACH	F & I WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LETTER
5006	1 EACH	F & I WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING ARROW
5007	80 L.F.	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
6001	300 S.F.	F & I 4" CONCRETE SIDEWALK
6002	10 L.F.	F & I STANDARD TYPE A COMBINATION CURB AND GUTTER, 12" GUTTER PAN, 8" DEPTH
6009	10 L.F.	F & I DEPRESSED CURB AND GUTTER
8001	.5 C.Y.	F & I CONCRETE FOR SIGNAL FOUNDATION
8003	1 EACH	F& I 10' BREAKAWAY PEDESTAL POLE & BASE
8016	3 EACH	F & I MICROLOOP TRIPLE PROBE SET W/ 500 FT. LEAD-IN
8017	3 EACH	F & I MICROLOOP TRIPLE PROBE SET W/ 1,000 FT. LEAD-IN
8018	2 EACH	INSTALL PUSHBUTTON AND SIGN
8021	650 L.F.	F & I SAWCUT FOR SIGNAL (LOOP DETECTOR)
8022	70 L.F.	F & I 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE
8023	80 L.F.	F & I 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	1,125 L.F.	F & I 2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8030	60 L.F.	F & I 4" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8031	150 L.F.	F & I 4" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8033	11 EACH	F & I ELECTRICAL HANDHOLE
8034	1 EACH	F & I GROUND ROD -3/4" X 10' LENGTH
8040	1,370 L.F.	F & I LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
8041	400 L.F.	F & I ELECTRICAL CABLE - 2 CONDUCTOR (ALUMMINUM SHIELDED)
8042	200 L.F.	F & I ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8043	390 L.F.	F & I ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 AWG)
8045	1,245 L.F.	F & I ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8048	20 L.F.	F & I NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8051	100 L.F.	F & I WOOD SIGN SUPPORTS - 4" x 6"
8052	92.7 S.F.	INSTALL GROUND MOUNTED SIGN
8053	7.5 S.F.	INSTALL OVERHEAD SIGN
8060	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL PER ASSIGNMENT
8084	30 EACH	F & I 12' BLACK FACED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8087	8 EACH	F & I 12' BLACK FACED PEDESTRIAN SIGNAL HEAD SECTION
NEG.	L.S.	INSTALL CONTROLLER & MISC. EQUIPMENT INTO THE EXISTING CABINET

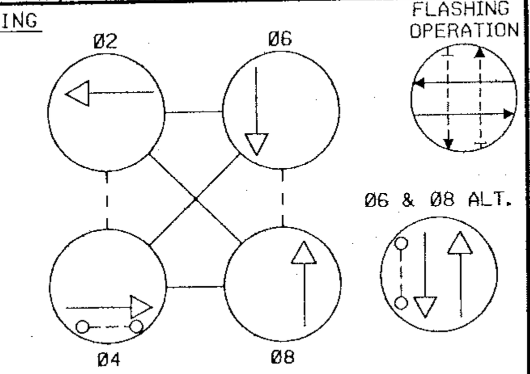
A. EQUIPMENT TO BE SUPPLIED BY SHA

ITEM NO.	QUANTITY	DESCRIPTION
	1 EACH	CONTROLLER, LOAD SWITCHES (4), CONFLICT MONITOR, 4 CHANNEL LOOP DETECTOR AMPLIFIER (3) W/ RACK
	100.2 S.F.	1 EACH W3-3 & "NEW" SIGN W/ FLAGS, 48" x 48", D3-3 SIGN, "(LEFT ARROW) Carrs Mill Rd., McKendree Rd. (RIGHT ARROW)", 32" x Var., POLE MOUNTED HARDWARE 1 EACH W3-3 & "NEW" SIGN W/ FLAGS, 48" x 48", D3-3 SIGN, "(LEFT ARROW) McKendree Rd., Carrs Mill Rd. (RIGHT ARROW)", 32" x Var., POLE MOUNTED HARDWARE 2 EACH W3-3 & "NEW" SIGN W/ FLAGS, 36" x 36", POLE MOUNTED HARDWARE 1 EACH R3-5(R) SIGN, "(RIGHT TURN ARROW), ONLY", 30" x 36", MAST ARM MOUNTED HARDWARE
	2 EACH	PUSHBUTTON AND R10-4(1) SIGN, "PUSH BUTTON TO CROSS "ROXBURY MILLS ROAD", 9" x 12"

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11,12	13,14	
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	R	WK	DW	←
PED. CLEAR	G	G	G	G	G	R	R	R	R	R	FL/DW	DW	→
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	R	DW	DW	O---O
PHASE 4 & 8	R	R	R	R	R	G	G	G	G	G	DW	DW	↓↑
4 & 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	
4 & 8 ALT.	R	R	R	R	R	G	G	G	G	G	DW	WK	
PED. CLEAR	R	R	R	R	R	G	G	G	G	G	DW	FL/DW	
4 & 8 ALT. CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	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	

NEMA PHASING



NEMA NOTES:

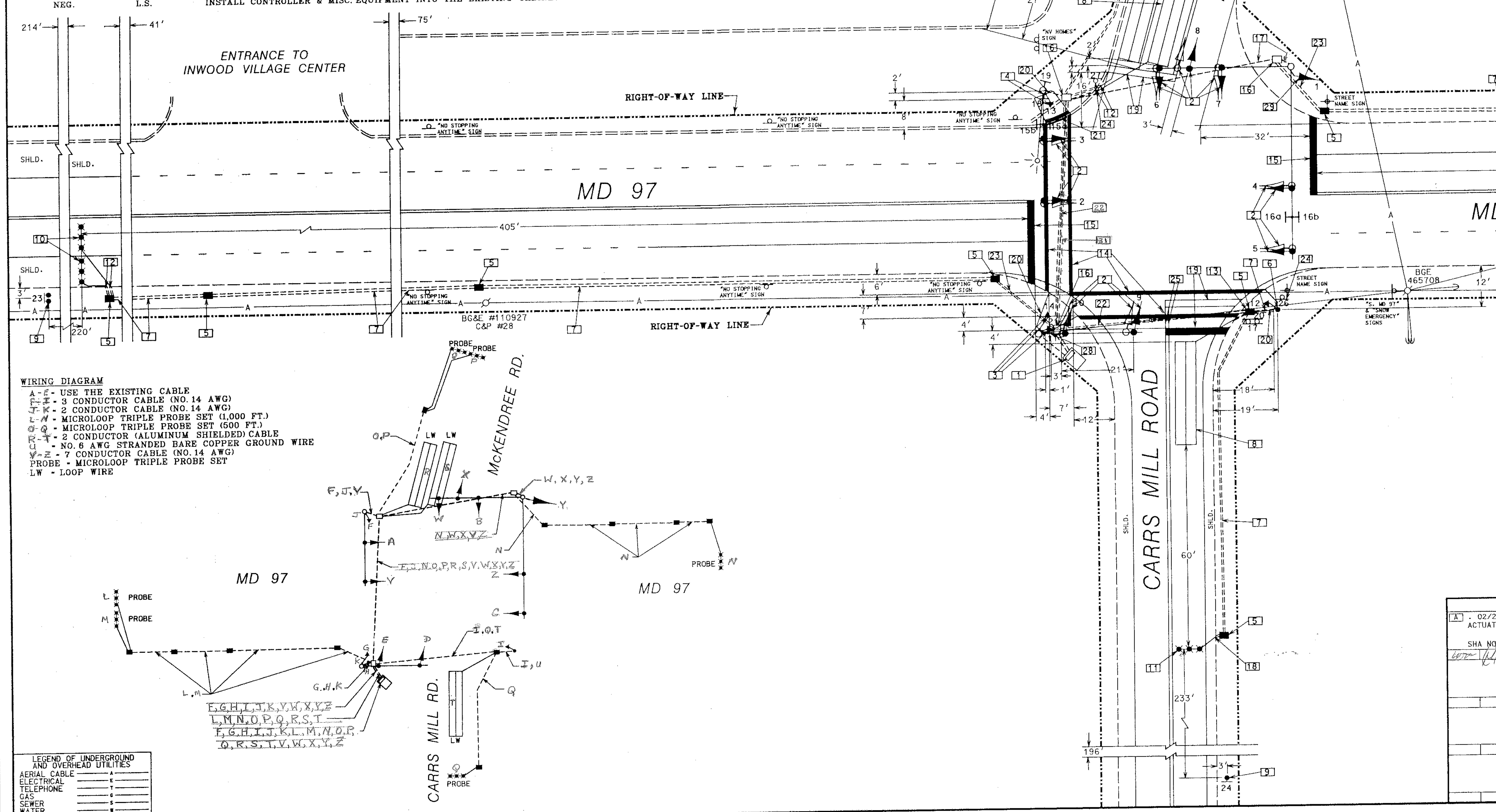
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

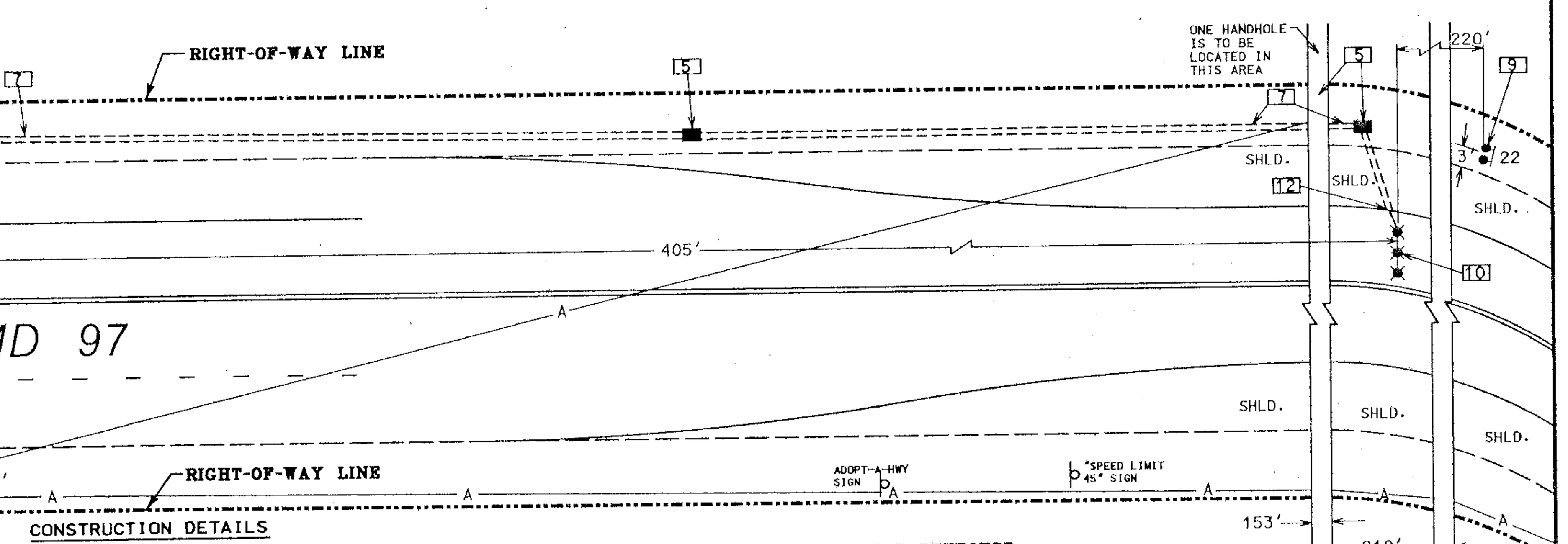
GENERAL NOTES:

1. REVISION "A" IS A MODIFICATION TO WORK COMPLETED UNDER CONTRACT NO. AW-280-5185, DATED 10-01-1997.
2. THE ORIGINAL HAS BEEN FILED.

NOTES TO THE CONTRACTOR:

1. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE CONTROLLER AND THEIR ACCESSORIES INTO THE EXISTING BASE MOUNTED CABINET, BUT THE RESPONSIBILITIES FOR WIRING THE CABINET SHALL BE CONDUCTED BY THE SHA SIGNAL SHOP. THE CONTRACTOR SHALL NOTIFY MR. ED RODENHIZER (410-787-7652) WHEN THIS IS READY TO BE COMPLETED.





CONSTRUCTION DETAILS

1. INSTALL THE CONTROLLER, LOAD SWITCH, CONFLICT MONITOR, 4 CHANNEL LOOP DETECTOR AMPIFIER W/ RACK, DISCONNECT SWITCH, AND METER SOCKET IN THE EXISTING CABINET (WIRING TO BE COMPLETED BY THE SHA SIGNAL SHOP).
2. REMOVE THE EXISTING SIGNAL HEAD. INSTALL THE PROPOSED SIGNAL HEAD.
3. INSTALL THE PROPOSED PEDESTRIAN SIGNALS, PUSHBUTTON, AND SIGN ON THE EXISTING MAST ARM POLE.
4. INSTALL THE PROPOSED PEDESTRIAN SIGNAL, PUSHBUTTON, AND SIGN ON THE EXISTING MAST ARM POLE.
5. INSTALL THE PROPOSED HANDHOLE.
6. INSTALL THE PROPOSED 10' BREAKAWAY PEDESTAL POLE AND BASE WITH PEDESTRIAN SIGNAL, FOUNDATION, AND 2" PVC SCHEDULE 80 CONDUIT BEND.
7. INSTALL 2" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (TRENCHED).
8. INSTALL 6' x 30' LOOP DETECTOR (3-6-3- TURNS).
9. INSTALL THE PROPOSED "W3-3" GROUND MOUNTED SIGN W/ WOOD POSTS.
10. INSTALL THE MICROLOOP TRIPLE PROBE SET (1,000 FT.).
11. INSTALL THE MICROLOOP TRIPLE PROBE SET (500 FT.).
12. INSTALL 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE.
13. INSTALL THE PROPOSED GROUND ROD.
14. INSTALL THE 12" PREFORMED PAVEMENT MARKING.
15. INSTALL THE 24" PREFORMED PAVEMENT MARKING.
16. USE THE EXISTING HANDHOLE.
17. USE THE EXISTING CONDUIT.
18. INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE.
19. REMOVE THE EXISTING STOPLINE. INSTALL 24" WHITE PAVEMENT MARKING (STOPLINE).
20. INSTALL 4" CONCRETE SIDEWALK.
21. INSTALL ADA RAMP.
22. INSTALL 4" PVC SCHEDULE 80 CONDUIT - SLOTTED.
23. INSTALL 4" PVC SCHEDULE 80 CONDUIT - TRENCHED
24. REMOVE THE EXISTING STOP SIGN, AND WOOD POST.
25. REMOVE THE EXISTING PAVEMENT MARKING.
26. INSTALL 5" WHITE PAVEMENT MARKING.
27. INSTALL PAVEMENT MARKING ARROW.
28. INSTALL THE PROPOSED SIGN.
29. INSTALL THE PROPOSED SIGNAL ON THE EXISTING POLE.
30. INSTALL THE PAVEMENT MARKING - "ONLY".
31. CAP AND ABANDON CONDUIT.

REVISIONS

A . 02/2000 - UPGRADE ICB TO FULLY ACTUATED SIGNAL

SHA NO. XX1005785

APPROVALS

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION — ORIGINAL

ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION — ON

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION — FILE

DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

MD 97 AND McKENDREE ROAD/ CARRS MILL ROAD

GLENWOOD, MARYLAND

HO830A53/B53

DRAWN BY: S.BLOSS/ N. LEARY	F.A.P. NO.: AC-STPG-000S(591)E	TS NO. TS-3744 A	SHEET NO.
CHECKED BY: T.HANNAN	S.H.A. NO.: AW-280-5185	T.I.M.S. NO.	
SCALE: 1" = 20'	COUNTY: HOWARD	D603	1 OF 1
DATE: 10-1-97	LOG MILE 13009705.10		

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