EXISTING SIGNALS & SIGNS

2-7 8-11 12.16 13.18 15a.17b 15b.17a 19 20

MD 28 RUNS IN A EAST-WEST DIRECTION.

PROPOSED SIGNALS & SIGN

1 2 14

EQUIPMENT LISTS

A. EQUIPMENT TO BE FURNISHED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
	10.5 S.F.	1 EACH R10-12 SIGN, 36" x 42", MAST ARM MOUNTED HARDWARE
*	1 EACH	4-CHANNEL LOOP DETECTOR AMPLIFIER

* - TO BE INSTALLED BY THE SHA SIGNAL SHOP

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
8013	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8034	5 L.F.	F & I 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8043	10.5 S.F.	INSTALL OVERHEAD SIGN
8052	3 EACH	F & I 8" VECHICULAR BLACK FACED TRAFFIC SIGNAL HEAD SECTION
8053	7 EACH	F & I 12" VECHICULAR BLACK FACED TRAFFIC SIGNAL HEAD SECTION
8055	180 L.F.	F & I ELECTRICAL CABLE - 2-CONDUCTOR (ALUMINUM SHIELDED)
8059	225 L.F.	F & I ELECTRICAL CABLE - 7-CONDUCTOR (NO. 14 AWG)
8060	465 L.F.	F & I LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
8061	115 L.F.	F & I SAW CUT FOR SIGNAL (LOOP DETECTOR)

C. EQUIPMENT TO BE REMOVED AND RETURNED TO THE SHA

ITEM NO.	QUANTITY	DESCRIPTION

ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

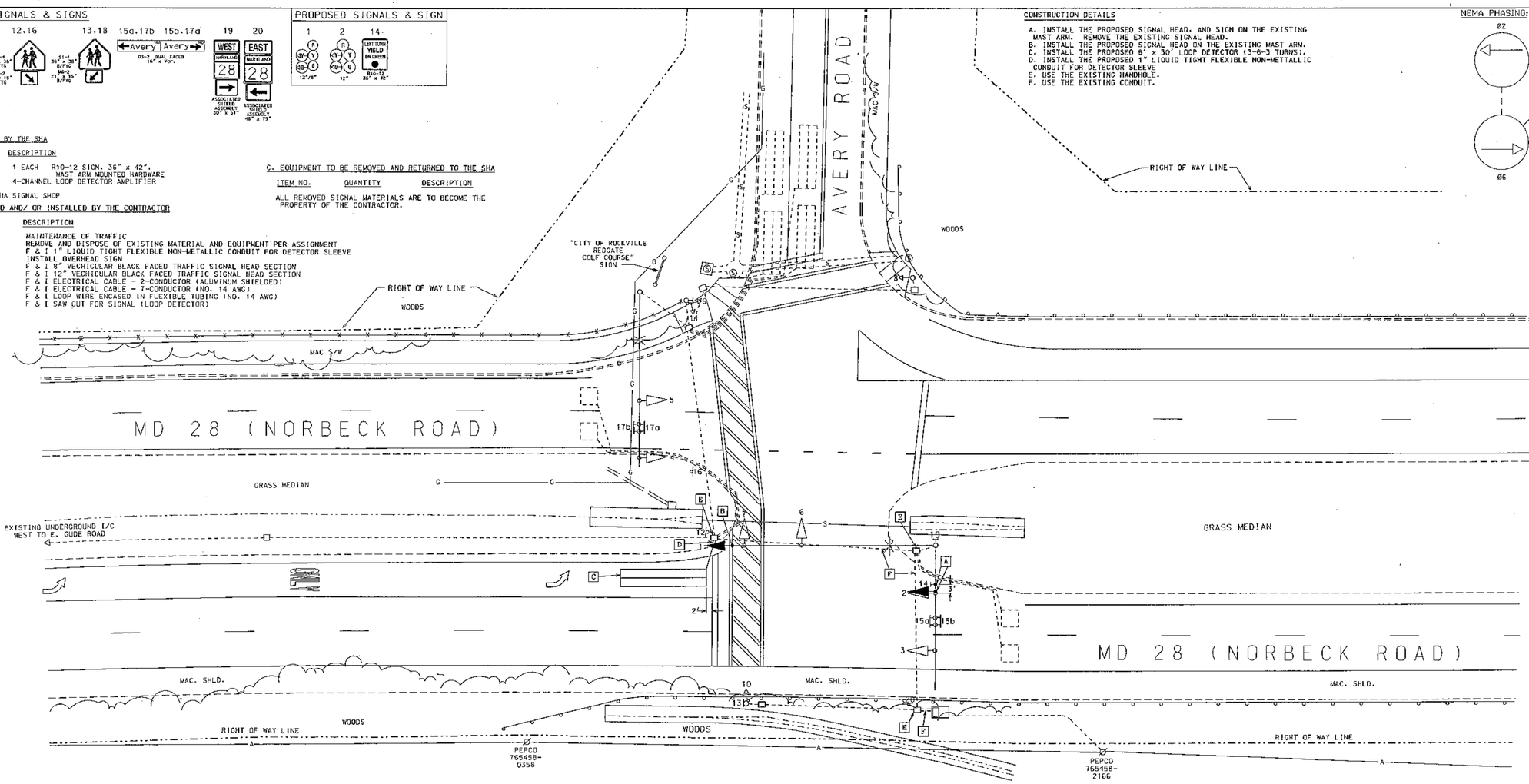
CONSTRUCTION DETAILS

A. INSTALL THE PROPOSED SIGNAL HEAD, AND SIGN ON THE EXISTING MAST ARM. REMOVE THE EXISTING SIGNAL HEAD.
B. INSTALL THE PROPOSED SIGNAL HEAD ON THE EXISTING MAST ARM.
C. INSTALL THE PROPOSED 6' x 30' LOOP DETECTOR (3-6-3 TURNS).
D. INSTALL THE PROPOSED 1" LIQUID TIGHT FLEXIBLE NON-METTALLIC CONDUIT FOR DETECTOR SLEEVE.
E. USE THE EXISTING HANDHOLE.
F. USE THE EXISTING CONDUIT.

NEMA PHASING:

Ø2 Ø1 Ø4 FLASHING OPERATION Ø6

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



NOTES TO THE CONTRACTOR:

1. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
2. CONTACT MONTGOMERY COUNTY DPWT (240-777-2100) AT LEAST 48 HOURS PRIOR TO DIGGING TO MARK EXISTING TRAFFIC SIGNAL EQUIPMENT.

PROJECT CONTACTS

THE PROJECT CONTACTS ARE AS FOLLOWS:

MR. LEE STARKLOFF
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7318

MR. RALEIGH MEDLEY
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. AUGIE REBISH
ASSISTANT DISTRICT ENGINEER - UTILITIES
PHONE: (301) 513-7350

MR. ROBERT GONZALES
MONTGOMERY COUNTY TRAFFIC
PHONE: (240) 777-8761

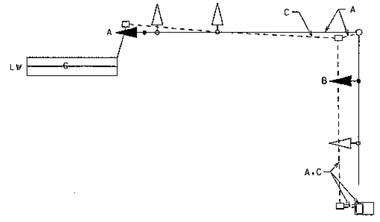
MR. RICHARD DAFF
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE (410) 787-7631

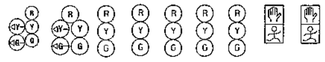
MR. EDWARD RODENHIZER
CHIEF, SIGNAL OPERATIONS SECTION
PHONE: (410) 787-7652

WIRING DIAGRAM

A = 7-CONDUCTOR CABLE (NO. 14 AWG)
B = USE THE EXISTING 7-CONDUCTOR CABLE (NO. 14 AWG)
C = 2-CONDUCTOR (ALUMINUM SHIELDED) CABLE
LW = LOOP WIRE



PHASE CHART



	1	2	3	4	5	6	7	8-9	10-11
PHASE 2 & 6	G	G	G	G	G	R	R	WK	DW
PED. CLEAR	G	G	G	G	G	R	R	FL/DW	DW
2 & 6 CHANGE	G	G	G	Y	Y	R	R	DW	DW
PHASE 1 & 6	◄G-G	◄G-G	G	R	R	R	R	DW	DW
1 CHANGE	◄Y-Y	◄Y-Y	Y	R	R	R	R	DW	DW
PHASE 4	R	R	R	R	R	G	G	DW	DW
4 CHANGE	R	R	R	R	R	Y	Y	DW	DW
4 ALT.	R	R	R	R	R	G	G	DW	WK
PED. CLEAR	R	R	R	R	R	G	G	DW	FL/DW
4 ALT. CHANGE	R	R	R	R	R	Y	Y	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK

GEOMETRIC LEGEND
PROPOSED
EXISTING

LEGEND OF UNDERGROUND AND OVERHEAD UTILITIES
AERIAL CABLE
ELECTRIC
TELEPHONE
GAS
SEWER
WATER
CABLE TV

REVISIONS	APPROVALS
B 08/2003 - INSTALL A LAG E/P LEFT TURN SIGNAL FOR E/B MD 28 SHA: AT2885185	BRANCH LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
A 3-14-03 ADD PED PHASE ACROSS WEST LEG OF MD 28 AND AVERY RD SHA: XX1065285	ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY

ORIGINAL ON FILE

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

MD 28 (NORBECK ROAD) and AVERY ROAD
ROCKVILLE, MARYLAND

DRAWN BY: W. Mahalu	F.A.P. NO.	T.S. NO.	SHEET NO.
CHECKED BY: W. Mahalu	S.H.A. NO. XX005385	TS-4036 B	
SCALE: 1" = 20'	COUNTY - MONTGOMERY	T.I.M.S. NO.	
DATE: 08/2008	LOG MILE 15002824.31	F924	1 OF 1