MD 404 RUNS IN A EAST-WEST DIRECTION.

EXISTING SIGNALS & SIGNS

PROPOSED SIGNALS & SIGNS

EQUIPMENT LIST (CONT.):

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2002	1 C.Y.	TEST PIT EXCAVATION
8011	26 EACH	F & I 12" BLACK FACED VECHICULAR SIGNAL HEAD SECTION
8019	6 EACH	F & I 8" BLACK FACED VECHICULAR SIGNAL HEAD SECTION
8048	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8052	60 L.F.	F & I 4" PVC SCHEDULE 80 CONDUIT - BORED
8053	25 L.F.	F & I 4" PVC SCHEDULE 80 CONDUIT - TRENCHED
8062	15 L.F.	F & I 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE
8072	2 EACH	F & I ELECTRICAL HANDHOLE
8074	71.3 S.F.	INSTALL GROUND MOUNTED SIGN
8075	10.5 S.F.	INSTALL OVERHEAD MOUNTED SIGN
8081	150 L.F.	F & I ELECTRICAL CABLE - 2-CONDUCTOR (ALUMINUM SHIELDED)
8084	60 L.F.	F & I ELECTRICAL CABLE - 5-CONDUCTOR (NO. 14 AWG)
8085	320 L.F.	F & I ELECTRICAL CABLE - 7-CONDUCTOR (NO. 14 AWG)
8087	430 L.F.	F & I LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
8088	110 L.F.	F & I SAW CUT FOR SIGNAL (LOOP DETECTOR)

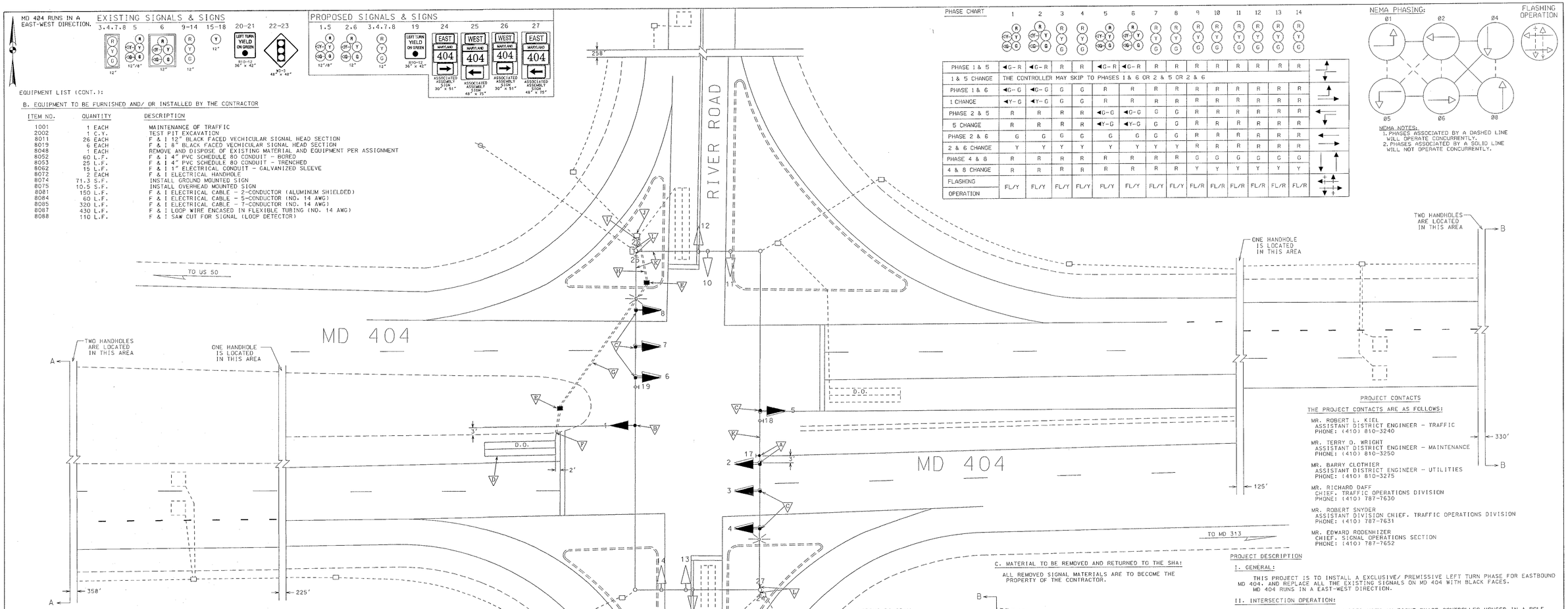
PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHASE 1 & 5	◄G-R	◄G-R	R	R	◄G-R	◄G-R	R	R	R	R	R	R	R	R
1 & 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6													
PHASE 1 & 6	◄G-G	◄G-G	G	G	R	R	R	R	R	R	R	R	R	R
1 CHANGE	◄Y-G	◄Y-G	G	G	R	R	R	R	R	R	R	R	R	R
PHASE 2 & 5	R	R	R	R	◄G-G	◄G-G	G	G	R	R	R	R	R	R
5 CHANGE	R	R	R	R	◄Y-G	◄Y-G	G	G	R	R	R	R	R	R
PHASE 2 & 6	G	G	G	G	G	G	G	G	R	R	R	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 4 & 8	R	R	R	R	R	R	R	R	G	G	G	G	G	G
4 & 8 CHANGE	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y
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

NEMA PHASING:

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

FLASHING OPERATION

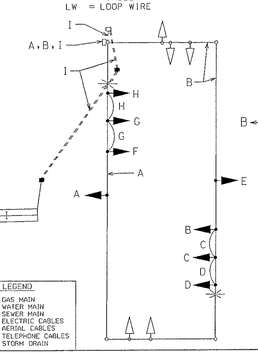


CONSTRUCTION DETAILS

A. INSTALL THE PROPOSED BLACK FACED SIGNAL HEAD, AND SIGN. REMOVE THE EXISTING SIGNAL HEAD.
B. INSTALL THE PROPOSED BLACK FACED SIGNAL HEAD.
C. INSTALL THE PROPOSED BLACK FACED SIGNAL HEAD. REMOVE THE EXISTING SIGNAL HEAD.
D. INSTALL THE PROPOSED 6' x 30' LOOP DETECTOR (3-6-3 TURNS).
E. INSTALL THE PROPOSED HANDHOLE.
F. INSTALL THE PROPOSED 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE.
G. INSTALL THE PROPOSED 4" PVC SCHEDULE 80 CONDUIT - PUSHED.
H. INSTALL THE PROPOSED 4" PVC SCHEDULE 80 CONDUIT - TRENCHED.
I. USE THE EXISTING CONDUIT.
J. USE THE EXISTING HANDHOLE.
K. USE THE EXISTING SPAN WIRE.
L. INSTALL THE PROPOSED GROUND MOUNTED SIGN.

WIRING DIAGRAM

A-B = 7-CONDUCTOR CABLE (NO. 14 AWG)
C-D = 5-CONDUCTOR CABLE (NO. 14 AWG)
E-H = USE EXISTING CABLE
I = 2-CONDUCTOR (ALUMINUM SHIELDED) CABLE
LW = LOOP WIRE



C. MATERIAL TO BE REMOVED AND RETURNED TO THE SHA:

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

PROJECT CONTACTS

THE PROJECT CONTACTS ARE AS FOLLOWS:

MR. ROBERT L. KIEL
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 810-3240

MR. TERRY D. WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 810-3250

MR. BARRY CLOTHIER
ASSISTANT DISTRICT ENGINEER - UTILITIES
PHONE: (410) 810-3275

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

PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT IS TO INSTALL A EXCLUSIVE/ PREMISSIVE LEFT TURN PHASE FOR EASTBOUND MD 404, AND REPLACE ALL THE EXISTING SIGNALS ON MD 404 WITH BLACK FACES. MD 404 RUNS IN A EAST-WEST DIRECTION.

II. INTERSECTION OPERATION:

THIS INTERSECTION IS EQUIPPED WITH AN EIGHT PHASE CONTROLLER HOUSED IN A POLE MOUNTED CABINET. IT WILL USE SIX PHASES OUT OF EIGHT WITH AN EXCLUSIVE/ PERMISSIVE LEFT TURN PHASE FOR EASTBOUND, AND WESTBOUND MD 404.

EQUIPMENT LIST:

A. EQUIPMENT TO BE FURNISHED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
	81.8 S.F.	
	1 EACH	ASSOCIATED SHIELD ASSEMBLY SIGN. "EAST, MARYLAND 404. (RIGHT ARROW)", 30" x 51", POLE MOUNTED HARDWARE
	1 EACH	ASSOCIATED SHIELD ASSEMBLY SIGN. "WEST, MARYLAND 404. (LEFT ARROW)", 48" x 75", POLE MOUNTED HARDWARE
	1 EACH	ASSOCIATED SHIELD ASSEMBLY SIGN. "WEST, MARYLAND 404. (RIGHT ARROW)", 30" x 51", POLE MOUNTED HARDWARE
	1 EACH	ASSOCIATED SHIELD ASSEMBLY SIGN. "EAST, MARYLAND 404. (LEFT ARROW)", 48" x 75", POLE MOUNTED HARDWARE
	1 EACH	R10-12 SIGN. 36" x 42". SPAN MOUNTED HARDWARE

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.

UTILITY LEGEND

—G—	GAS MAIN
—W—	WATER MAIN
—S—	SEWER MAIN
—E—	ELECTRIC CABLES
—A—	AERIAL CABLES
—T—	TELEPHONE CABLES
—D—	STORM DRAIN

REVISIONS

0. 07-15-1994 - INSTALL SIGNAL AHEAD SIGNS AND HIB'S ALONG MD 404. SHA NO. DT-142-94	R.A.P.	J.K.	D.A.J.	G.J.P.	J.K.
1. 10-27-1994 - REDLINE REV. NO. 1: ADD POLE MOUNTED AUX. CABINET SHA NO. DT-142-94	R.A.P.			G.J.P.	
2. 04/2002 - INSTALL E/P LEFT TURN FOR E/B MD 404 & REPLACE ON ALL THE EXIST. SIGNALS ON MD 404 W/ BLACK FACES: SHA NO. XX1065185					

APPROVALS

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

NOTE: A REVISION TO CO-3-2-504-270 WAS ADDED ON 10-7-96 TO THE ORIGINAL PLAN ON FILE

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

MD 404 and MD 328/ River Road

DENTON, MARYLAND

DRAWN BY: R. Patel	F.A.P. NO. 23855T2558911	T.S. NO. TS-1854 E	SHEET NO.
CHECKED BY:	S.H.A. N		
SCALE: 1" = 20'	COUNTY: CAROLINE	T.I.M.S. NO. E961	1 OF 2
DATE: JULY 12, 1994	LOG MILE: 05032806.27		