PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 943 AND BEAVER DAM ROAD IN BALTIMORE COUNTY, MARYLAND. MD 943 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION IS OPERATING IN A NEMA EIGHT-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 943 APPROACHES OPERATING CONCURRENTLY AND THE BEAVER DAM ROAD APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE LEFT-TURN PHASING EXISTS FOR EASTBOUND AND WESTBOUND MD 943 APPROACHES. EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING EXISTS ON SOUTHBOUND BEAVER DAM ROAD APPROACH AND IS PROVIDED ON NORTHBOUND BEAVER DAM ROAD.

ALTERNATE PEDESTRIAN PHASES EXIST ACROSS BOTH LEGS OF MD 943.

CONTROLLER REQUIREMENTS

THE EXISTING BASE MOUNTED CABINET AND CONTROLLER WILL BE USED. THE DETECTOR RACK SHALL BE RETRO-FITTED WITH TWO (2) FOUR-CHANNEL, TIME-DELAY OUTPUT LOOP DETECTOR AMPLIFIERS.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.04-01 (SHOULDER WORK)
STANDARD NO. MD-104.04-03 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.04-05 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.04-07 (CENTER LANE CLOSURE)
STANDARD NO. MD-104.03-03 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.03-05 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.03-09 (INTERSECTION FAR LEFT LANE CLOSURE)
STANDARD NO. MD-104.03-11 (INTERSECTION FAR RIGHT LANE CLOSURE)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 321-2781/2785

MR. STEVE MARCISZEWSKI
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 321-2761

MS. SUENETTE POPE
DISTRICT UTILITY ENGINEER
PHONE: (410) 321-2841

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

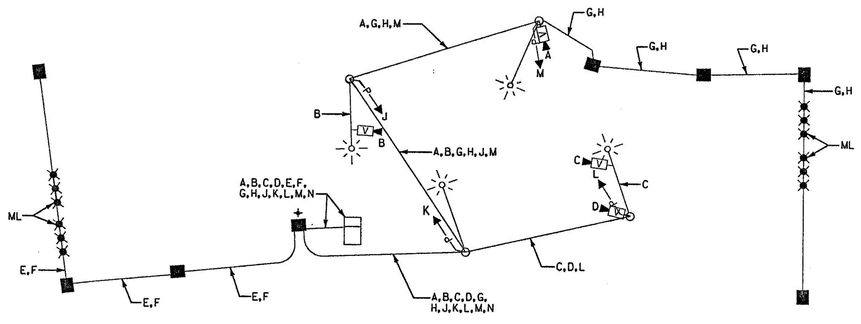
WIRING DIAGRAM

WIRING KEY

- A, B, C, D — VIDEO CAMERA DETECTION LEAD-IN CABLE
- E, F, G, H — MICROLOOP PROBE LEAD-IN
- J, K, L, M — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- N — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

ML - MICROLOOP PROBE SET

+ - 3/4 IN. X 10 FT. GROUND ROD



EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9016	2 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9046	1 EACH	DETECTOR RACK RETROFIT
9086	1 EACH	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9571	14 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
		- 1 EACH R10-12 SIGN (36 IN. x 42 IN.) - SPAN MOUNT
		- 3 EACH R10-4(1) SIGN (9 IN. x 12 IN.) - POLE MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

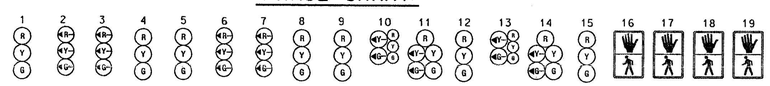
ALL EQUIPMENT TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	8 C.Y.	CLASS 2 EXCAVATION
5001	535 L.F.	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
5005	515 L.F.	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5006	20 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
6001	25 L.F.	DEPRESS CURB AND GUTTER
6004	210 SF	4 INCH CONCRETE SIDEWALK
8002	8 EACH	12 IN PEDESTRIAN SIGNAL HEAD SECTION
8005	4 EACH	ADJUST/RE-RING EXISTING SPAN WIRE
8006	3 EACH	CONDUIT BEND IN EXISTING FOUNDATION
8008	2 EACH	CONTROL CABLE, 200 FOOT, VIDEO DETECTION
8009	1 EACH	CONTROL CABLE, 300 FOOT, VIDEO DETECTION
8010	1 EACH	CONTROL CABLE, 400 FOOT, VIDEO DETECTION
8019	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8029	50 L.F.	NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8035	135 L.F.	3 INCH SCHEDULE 80, RIGID PVC CONDUIT - BORED
8038	700 L.F.	3 INCH SCHEDULE 80, RIGID PVC CONDUIT - TRENCHED
8050	2 EACH	NONINVASIVE DETECTOR, 500 FOOT LEAD-IN CABLE
8051	2 EACH	NONINVASIVE DETECTOR, 1000 FOOT LEAD-IN CABLE
8052	8 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8055	14 S.F.	INSTALL OVERHEAD SIGN
8056	4 EACH	VIDEO DETECTION CAMERA
8073	1 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
8074	6 EACH	8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8075	47 EACH	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8083	920 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8088	1 EACH	PUSHBUTTON AND SIGN

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
PHASE 1 + 5	R	←G—	←G—	R	R	←G—	←G—	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6																		
PHASE 1 + 6	R	←R—	←R—	R	R	←G—	←G—	G	G	R	R	R	R	R	R	DW	DW	DW	DW
1 + 6 CHANGE	R	←R—	←R—	R	R	←Y—	←Y—	G	G	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 + 5	G	←G—	←G—	G	G	←R—	←R—	R	R	R	R	R	R	R	R	DW	DW	DW	DW
2 + 5 CHANGE	G	←Y—	←Y—	G	G	←R—	←R—	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 + 6	G	←R—	←R—	G	G	←R—	←R—	G	G	R	R	R	R	R	R	DW	DW	DW	DW
2 + 6 CHANGE	Y	←R—	←R—	Y'	Y	←R—	←R—	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 3 + 7	R	←R—	←R—	R	R	←R—	←R—	R	R	R ←G—	R ←G—	R	R ←G—	R ←G—	R	DW	DW	DW	DW
3 + 7 CHANGE	PHASE 3 + 7 MAY CHANGE TO PHASE 3 + 8, PHASE 4 + 7 OR PHASE 4 + 8																		
PHASE 3 + 8	R	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	G ←G—	G ←G—	G	DW	DW	DW	DW
3 + 8 CHANGE	R	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	G ←Y—	G ←Y—	G	DW	DW	DW	DW
PHASE 4 + 7	R	←R—	←R—	R	R	←R—	←R—	R	R	G ←G—	G ←G—	G	R	R	R	DW	DW	DW	DW
4 + 7 CHANGE	R	←R—	←R—	R	R	←R—	←R—	R	R	G ←Y—	G ←Y—	Y	R	R	R	DW	DW	DW	DW
PHASE 4 + 8	R	←R—	←R—	R	R	←R—	←R—	R	R	G	G	G	G	G	G	DW	DW	DW	DW
4 + 8 CHANGE	R	←R—	←R—	R	R	←R—	←R—	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 + 8 ALT	R	←R—	←R—	R	R	←R—	←R—	R	R	G	G	G	G	G	G	WK	WK	WK	WK
PED CLEARANCE	R	←R—	←R—	R	R	←R—	←R—	R	R	G	G	G	G	G	G	FL/DW	FL/DW	FL/DW	FL/DW
4 + 8 ALT CHANGE	R	←R—	←R—	R	R	←R—	←R—	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	←FL/R—	←FL/R—	FL/Y	FL/Y	←FL/R—	←FL/R—	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 943 (WARREN RD) @ BEAVER DAM RD

DRAWN BY:	B. DONOWAY	F.A.P. NO.		TS NO. 3818C	SHEET NO.
CHECKED BY:	N. LEARY	S.H.A. NO.	AT3575185		
SCALE:	NONE	COUNTY:	BALTIMORE	T.I.M.S. NO. F945	2 OF 2
DATE:	11/10/2004	LOG MILE:			

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