PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD-2 (GOV. RITCHIE HIGHWAY) AND THE ENTRANCE TO MVA IN ANNE ARUNDEL COUNTY.

MD-2 (GOV. RITCHIE HWY.) IS ASSUMED TO RUN IN AN NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION:

A SYSTEM READY BASE MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT WILL BE INSTALLED AT THE INTERSECTION. THE INTERSECTION WILL OPERATE IN A FULLY ACTUATED MODE USING 5 NEMA PHASES. MAINLINE MD-2 (GOV. RITCHIE HIGHWAY) OPERATES CONCURRENTLY. A SOUTHBOUND EXCLUSIVE/PERMISSIVE LEFT TURN PHASE IS PROVIDED. THE ENTRANCE TO MVA AND THE SERVICE STATION EXIT OPERATE AS A SIDE STREET SPLIT, WITH PEDESTRIAN CROSSINGS ACCOMMODATED TO THE MVA WHEN ACTUATED. THIS INTERSECTION IS PART OF THE MD-2 INTERCONNECT SIGNAL SYSTEM.

VIDEO CAMERAS SHALL PROVIDE PRESENCE DETECTION. STREET LIGHTING AND STREET NAME SIGNS SHALL BE UPDATED TO CURRENT STANDARDS.

AUDIBLE PUSH BUTTON FUNCTION AS FOLLOWS:

1. When pedestrian locates and presses pushbutton for extended time, the pushbutton unit will be:

   "Wait to cross Ritchie Highway at MVA."

2. When walk phase begins, the message will be a rapid tick, which will last for the duration of the "WALK" phase.

PROJECT CONTACTS

1. THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MS. KIMBERLY TRAN
ASST. DISTRICT ENGINEER-TRAFFIC
PHONE: 410-841-1003

MR. RICHARD DAFF
CHIEF-TRAFFIC OPERATIONS DIV.
PHONE: 410-787-7630

MR. JAMES FOLDEN
ASST. DISTRICT ENGINEER-CONSTRUCTION
PHONE: 410-841-1031

MR. EDWARD RODENHIZER
CHIEF-SIGNAL OPERATIONS SECT.
PHONE: 410-787-7652

MR. JOHN MAYS
ASST. DISTRICT ENGINEER-MAINTENANCE
PHONE: 410-841-1013

MR. SONNY BAILEY
CHIEF-SIGN SHOP
PHONE: 410-787-7676

MR. MIKE HUBER
UTILITY ENGINEER
PHONE: 410-787-7652

POWER COMPANY REPRESENTATIVE:
BALTIMORE GAS AND ELECTRIC
7317 PARKWAY DRIVE SOUTH
HANOVER, MARYLAND 21076
PHONE: 410-850-4620

2. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104.00 OF THE STANDARDS FOR HIGHWAYS & INCIDENTAL STRUCTURES.

EQUIPMENT LIST "C"

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	DESCRIPTION	QUANTITY
900000	LOCAL CONTROLLER AND CABINET: SIZE '6' WITH ALL NECESSARY EQUIPMENT HOUSED: BASE-MOUNTED CABINET.	1 EA.
973023	FLAT SHEET ALUMINIUM SIGNS CONSISTING OF:	134 SF.

1 EA R3-5(L) "LEFT ONLY" (30"X36") MAST ARM MOUNT
1 EA R4-7 "KEEP RIGHT" (18"X24") POLE MOUNT
1 EA R3-6(L) "LEFT AND THRU" (30"X36") MAST ARM MOUNT

D-3(2) (16"X VAR.) MAST ARM MOUNT (DUAL FACED):
1 EA "Gov. Ritchie Hwy."

R3-2 "NO LEFT OR U-TURN" (24"X24")
2 EA MAST ARM MOUNT

R3-4 "NO U-TURN" (24"X24")
2 EA MAST ARM MOUNT

2 EA R10-3(1) "PUSH BUTTON TO CROSS" (9"X15") POLE MOUNT
W11-2 "ADVANCE PEDESTRIAN CROSSING" (30"X30")
3 EA GROUND MOUNT
1 EA POLE MOUNT
M6-2(R) "DIAGONAL ARROW" (21"X30")
2 EA GROUND MOUNT
M6-2(L) "DIAGONAL ARROW" (21"X30")
1 EA GROUND MOUNT
1 EA POLE MOUNT

1 EA R10-6 "STOP HERE ON RED" RIGHT ARROW (36"X24") GROUND MOUNT
1 EA R10-6 "STOP HERE ON RED" LEFT ARROW (36"X24") GROUND MOUNT
1 EA M95-1 "INTERSECTION DUAL DIRECTION" (24"X78") MAST ARM MOUNT
"SOUTH, M5-1 ARROW, 2, NORTH, M6-1 ARROW
1 EA M1-5(3) "INTERSECTION DUAL DIRECTION (24"X78") MAST ARM MOUNT
"NORTH, M5-1 ARROW, 2, SOUTH, M6-1 ARROW

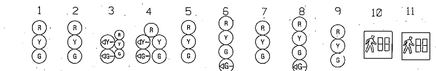
SPECIAL
2 EA "MVA" (18" x 30") MAST ARM MOUNT

EQUIPMENT LIST "B"

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

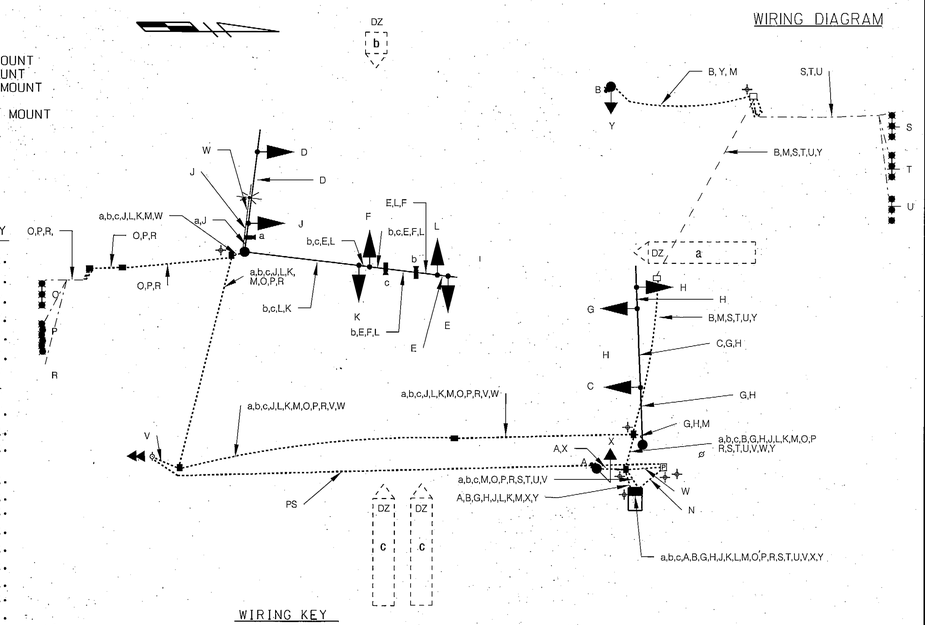
CATEGORY CODE NO.	DESCRIPTION	QUANTITY
100000	MAINTENANCE OF TRAFFIC	1 EA.
120784	TEMP ORANGE FENCE	140 LF.
201032	CLASS 2 EXCAVATION	6 CY.
203030	TEST PIT EXCAVATION	4 CY.
500000	REMOVE PAVEMENT MARKING LINES	20 LF.
585625	24" WHITE HEAT APPL. PERMANENT THERMO. PVMNT. MRKG.	20 LF.
585627	WHITE HEAT APPL. PERM. PREFORMED THERMO. PVMNT MRKG.	41 SF
648140	4' MONOLITHIC MEDIAN (A-1)	10 LF
655105	5 INCH CONCRETE SIDEWALK	560 SF.
800000	8" LED SIGNAL HEAD SECTION	3 EA.
800000	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT LUMINAIRE AND LAMP	1 EA.
800000	BREAKAWAY PEDESTAL POLE ANY SIZE	2 EA.
800000	LED 16" COUNTDOWN PEDESTRIAN SIGNAL HEAD	2 EA.
800000	MAST ARM POLE & 50 FT MAST ARM ANY "T" DIMENSION	1 EA.
800000	MICRO-LOOP PROBE SET ANY LENGTH LEAD IN	6 EA.
800000	ADJUST HAND HOLE NEW FRAME AND COVER	1 EA.
800000	REMOVE & DISPOSE OF EXISTING EQUIPMENT	1 EA.
800000	TWIN MAST ARM POLE & 50/60 MAST ARMS ANY "T" DIM.	1 EA.
800000	VIDEO CAMERA & CABLE ANY LENGTH TO CONTROLLER	3 EA.
800000	1 INCH DETECTOR SLEEVE GALVANIZED OR FLEXIBLE	40 LF.
800000	3" SCHEDULE 80 PVC CONDUIT RISER	30 LF.
800000	DISCONNECT, PULLBACK & RE-ROUTE EXISTING CABLES	300 LF.
800000	SCHEDULE 80 PVC CONDUIT UP TO 4" - SLOTTED	240 LF.
800000	SCHEDULE 80 PVC CONDUIT UP TO 4" - TRENCHED	370 LF.
800000	SCHEDULE 80 PVC CONDUIT UP TO 4" - BORED	140 LF.
800000	WOOD SIGN POST UP TO 4X6	16 LF.
800000	RELOCATE PUSH BUTTON	2 EA.
800000	DETECTABLE WARNING SURFACE	5 SF.
800000	INSTALL OVERHEAD OR GROUND MOUNTED SIGN	134 SF.
800000	RESET DECORATIVE BRICK	140 SF.
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	460 LF.
805050	WEATHER HEAD 3"	1 EA.
807202	METERED SERVICE PEDESTAL	1 EA.
810022	CABLE 1-CONDUCTOR, NO. 8 AWG-THHN/THWN	40 LF.
811001	INSTALL ELECTRICAL HAND-HOLE	8 EA.
860284	12" LED SIGNAL SECTION	30 EA.
860292	CUT/CLEAN/GALVN/CAP	1 EA.
861105	ELECTRICAL CABLE-2 CONDUCTOR (NO.14 AWG)	230 LF.
861107	ELECTRICAL CABLE-5 CONDUCTOR (NO.14 AWG)	470 LF.
861108	ELECTRICAL CABLE-7 CONDUCTOR (NO.14 AWG)	980 LF.
861116	ELECTRICAL CABLE-2 CONDUCTOR (NO.12 AWG TRAY CABLE)	260 LF.
862102	SAWCUT FOR DETECTOR	450 LF.
871202	INSTALL CONTROLLER & CABINET. BASE MOUNT	1 EA.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	
Phase 2+5	R	R	G G	G G	G	R	R	R	R	DW	DW	
5 Change	R	R	G Y	G Y	G	R	R	R	R	DW	DW	
Phase 2 + 6	G	G	G	G	G	R	R	R	R	DW	DW	
2 + 6 Change	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	
Phase 3	R	R	R	R	R	G G	G	R	R	DW	DW	
3 Change	R	R	R	R	R	Y	Y	R	R	DW	DW	
Phase 4	R	R	R	R	R	R	R	G G	G	DW	DW	
4 Change	R	R	R	R	R	R	R	Y	Y	DW	DW	
Phase 4 Alt	R	R	R	R	R	R	R	G G	G	WK	WK	
Ped Clearance	R	R	R	R	R	R	R	G G	G	FL/DW	FL/DW	
4 Alt Change	R	R	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	FL/R	FL/R	DARK	DARK	

WIRING DIAGRAM



WIRING KEY

a,b – VIDEO DETECTION CAMERA LEAD-IN CABLE 3 CONDUCTOR NO. 18 AWG

W – 2-CONDUCTOR NO. 12 AWG TRAY CABLE

A,B – 2-CONDUCTOR NO. 14 AWG ELECTRIC CABLE

C,D, E,F, X,Y } 5-CONDUCTOR NO. 14 AWG ELECTRICAL CABLE

G,H,J, K,L } 7-CONDUCTOR NO. 14 AWG ELECTRICAL CABLE

M – NO. 6 AWG STRANDED BARE COPPER GROUND WIRE

N – 1-CONDUCTOR NO. 8 AWG THHN/THWN ELECTRICAL CABLE

O,P,R, S,T,U } MICRO LOOP PROBE LEADS

V – EXISTING INTERCONNECT CABLE TO BE PULLED BACK, RE-ROUTE TO NEW CONTROLLER

PS – PROPOSED SERVICE FEED

DZ – DETECTION ZONE

+ – GROUND ROD (3/4" DIA. X 10 FT. LENGTH)

WAE Williams Associates-Engineers, P.A.
251 Najoles Road, Suite E
Millersville, Maryland 21108
Phone: 410-729-1004
Facsimile: 410-729-1009

CENTURY ENGINEERING
CONSULTING ENGINEERS – PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 2 (GOVENOR RITCHIE HWY.) AT ENTRANCE TO MVA

GENERAL INFORMATION PLAN

SCALE NONE DATE CONTRACT NO. AA 2615618

DESIGNED BY WAE COUNTY ANNE ARUNDEL
DRAWN BY WAE LOGMILE 02000239.10
CHECKED BY JAM 7/1/09 TIMS NO. J661
FAP NO. TOD NO.

TS NO. 530E-GI DRAWING 2 OF 2 SHEET NO. 5 OF 31

BY: $USERNAME$

PLOTTED: $DATETIME$
FILE: $FILE$