PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE TRAFFIC SIGNAL, AT THE INTERSECTION OF MD189 AND MARYLAND AVENUE IN MONTGOMERY COUNTY. MD189 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION OPERATES IN A NEMA FIVE PHASE - OPERATION IN A SEMI - ACTUATED MODE. THE MD 189 AND MARYLAND AVENUE APPROACHES WILL OPERATE CONCURRENTLY. THE NORTHBOUND MD 189 LEFT TURN WILL OPERATE IN AN EXCLUSIVE/PERMISSIVE MODE WITH A RIGHT TURN OVERLAP PHASE ON EASTBOUND GREAT FALLS ROAD.THE EASTBOUND AND WESTBOUND MOVEMENTS WILL OPERATE CONCURRENTLY.

NAVIGATION OR AUDIBLE PEDESTRIAN PUSHBUTTONS TO CROSS THE NORTH LEG OF GREAT FALLS ROAD, SOUTH LEG OF POTOMAC VALLEY ROAD, AND EAST LEG OF MARYLAND AVENUE ARE TO BE PROVIDED.

APS WILL FUNCTION AS FOLLOWS:

FOR GREAT FALLS ROAD

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS GREAT FALLS AT FALLS AND MARYLAND, CROSSWALK ANGLES RIGHT".
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR MARYLAND AVENUE

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS MARYLAND AT GREAT FALLS AND POTOMAC VALLEY, CROSS WALK ANGLES RIGHT".
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR POTOMAC VALLEY ROAD

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS POTOMAC VALLEY AT FALLS AND MARYLAND".
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. CEDRIC WARD
ASSISTANT DISTRICT ENGINEER - TRAFFIC
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MR. VERNON STINNETT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. VICTOR GRAFTON
DISTRICT UTILITY ENGINEER
PHONE: (301) 513-7350

MR. DUANE BERNARD
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (301) 513-7336

MR. MIKE STOCKER
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
PHONE: (410) 787-7668

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

MR. ED RODENHIZER
MANAGER, SIGNAL OPERATIONS SECTION
PHONE: (410) 787-7652

MR. SONNY BAILEY
MANAGER, SIGN SHOP OPERATION
PHONE: (410) 787-7676

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
PHONE: (410) 787-7630

MR. BOB RICKETTS
MONTGOMERY COUNTY
PHONE: (301) 279-1291

MR. KAMAL HAMUD
MONTGOMERY COUNTY
PHONE: (240) 777-8761

MR. STEVE CUSTER
PEPCO CUSTOMER DESIGN
201 W. GUDE DR.
ROCKVILLE, MD. 20850
PHONE: (301) 548-4333

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADIMISTRATION

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
9000	QUICK CONNECT BLOCK AND HARNESS FOR TELEMETRY INTERFACE PANEL	EA	1
9000	UPS EQUIPMENT FOR "S" CABINET	EA	1
9000	CONTROLLER CABINET, SIZE "S" W/CONTROLLER AND VIDEO EQUIPMENT 1-8 CAMERAS	EA	1
9570	SHEET ALUMINUM GROUND MOUNTED SIGN	SF	22
	S1-1 36"x36" - 2 EA - 18 SF-WOOD POST MOUNTED SIGN		
	W16-7PR 24"x12" - 2 EA - 4 SF -WOOD POST MOUNTED SIGN		
9571	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN	SF	6
	R10-11(1) 24"x36" -1 EA - 6 SF-POLE MOUNTED SIGN		

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

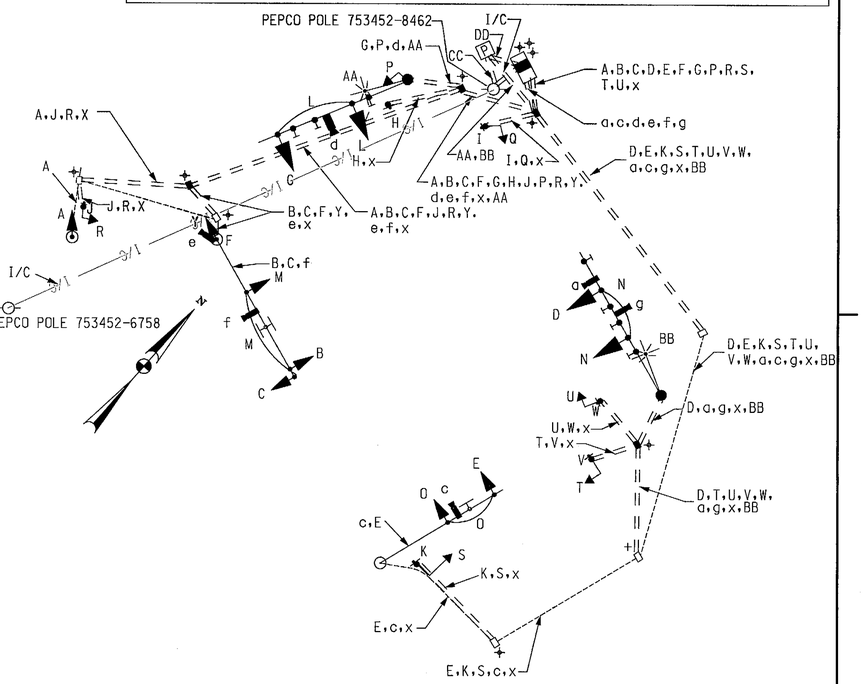
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1001	MAINTENANCE OF TRAFFIC	EA	3
2001	CLASS 2 EXCAVATION	CY	88
2002	TEST PIT EXCAVATION	CY	4
5003	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS ANY WIDTH	LF	1100
5004	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	1200
5005	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	120
6001	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	LF	490
6002	5 INCH CONCRETE SIDEWALK	SF	1740
6003	DETECTABLE WARNING SURFACE FOR CURB RAMP	SF	115
8001	12 INCH LED SIGNAL HEAD SECTION	EA	37
8002	2-WIRE CENTRAL CONTROL UNIT (APS PANEL TO BE SUPPLIED BY CONTRACTOR)	EA	1
8005	ADJUST HANDHOLE TO GRADE WITH NEW FRAME AND COVER	EA	1
8007	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP AND LUMINAIRE	EA	2
8008	AUDIBLE/TACTILE PEDESTRIAN PUSH BUTTON STATION AND SIGNS	EA	6
8009	BREAKAWAY PEDESTAL POLE (ANY SIZE)	EA	6
8012	EMBEDDED METERED SERVICE PEDESTAL WITH BYPASS SWITCH	EA	1
8015	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	6
8018	MAST ARM POLE AND 50 FOOT MAST ARM ANY 'T' DIMENSION	EA	2
8023	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)	EA	1
8028	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH	EA	6
8030	1- CONDUCTOR ELECTRICAL CABLE, NO. 2 AWG/THHN	LF	330
8031	12-PAIR COMMUNICATION CABLE, SELF SUPPORTING, JELLY FILLED/UNDERGROUND	LF	300
8033	DISCONNECT, PULL BACK AND REROUTE CABLES	LF	100
8034	ELECTRICAL CABLE - 2 CONDUCTOR (NO.12 AWG) TYPE T/C	LF	500
8037	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	160
8039	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	277
8041	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)	SF	200
8043	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	590
8046	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN	LF	100
8047	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	4
8051	3 INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER	LF	15
8054	ELECTRICAL CABLE-2 CONDUCTOR (NO. 14 AWG)	LF	1000
8056	ELECTRICAL CABLE-5 CONDUCTOR (NO. 14 AWG)	LF	1150
8057	ELECTRICAL CABLE-7 CONDUCTOR (NO. 14 AWG)	LF	1500
8063	INSTALL CONTROLLER AND CABINET-BASE MOUNT (ANY SIZE)	EA	1

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.

WIRING DIAGRAM

WIRING KEY

A,B,C,D,E,F,G:	7 - CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L,M,N,O,P,Q,R,S,T,U:	5 - CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H,I,J,K,V,W:	2 - CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
a,c,d,e,f,g:	VIDEO DETECTION CABLE
x:	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
⏚:	GROUND ROD
PF:	POWER FEED CABLE
I/C:	12 PAIR INTERCONNECT CABLE
AA,BB:	ELECTRICAL CABLE 2 CONDUCTOR (NO. 12 A.W.G.)
CC:	1-CONDUCTOR ELECTRICAL CABLE, NO.2 AWG/THHN
DD:	ELECTRICAL CABLE 1 - CONDUCTOR NO. 8 A.W.G. - THHN/THWN



TOD NO: XX655-19
SHA NO: MO972B5D
MD 189; Great Falls Rd/MD Ave/Potomac Valley Rd

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PHASE 1 & 6	G	G	G	R	R	R	R	R	R	G	G	DW	DW	WK	WK	DW	DW
1 CHANGE	Y	Y	G	R	R	R	R	R	R	Y	Y	DW	DW	WK	WK	DW	DW
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	FL	FL	DW	DW	WK	WK	DW	DW
PED. CLEAR	G	G	G	G	G	R	R	R	R	FL	FL	DW	DW	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	FL	FL	DW	DW	DW	DW	DW	DW
PHASE 2 ALT & 6	G	G	G	G	G	R	R	R	R	FL	FL	WK	WK	WK	WK	DW	DW
PED. CLEAR	G	G	G	G	G	R	R	R	R	FL	FL	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 ALT & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	FL	FL	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	G	G	G	G	FL	FL	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	R	R	R	G	G	G	G	FL	FL	DW	DW	DW	DW	WK	WK
PED. CLEAR	R	R	R	R	R	G	G	G	G	FL	FL	DW	DW	DW	DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	Y	Y	Y	Y	R	R	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL R	FL R	DARK	DARK	DARK	DARK	DARK	DARK

R = RED
Y = YELLOW
G = GREEN
FL = FLASHING
DW = DON'T WALK
W = WALK

MAINTENANCE OF TRAFFIC

THE FOLLOWING WORK ZONE TRAFFIC CONTROL STANDARDS SHALL BE USED FOR THE PROJECT:

STANDARD NO. MD-104.06-02
(RIGHT LANE CLOSURE)

STANDARD NO. MD-104.02-01
(FLAGGING OPERATION)

STANDARD NO. MD-104.03-01
(INTERSECTION FLAGGING)

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

MD 189 FALLS RD/MARYLAND AVE @ GREAT FALLS RD/POTOMAC VALLEY RD

GENERAL INFORMATION SHEET

SCALE 1" = 20' ADVERTISED DATE 22012 CONTRACT NO. XX6555185

DESIGNED BY A.M.H. COUNTY MONTGOMERY
DRAWN BY R.L.B. LOGMILE 15018905.05
CHECKED BY J.F.L. TIMS NO. K523
F.A.P. NO. TOD NO.

TS NO. 2143D | DRAWING SG - 2 OF 2 | SHEET NO. 2 OF 3

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BY: Aaron Hottenstein Division: P068 Highway TrafficGMA Emp