PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL TO INCLUDE LED SIGNAL HEADS, LED COUNTDOWN PEDESTRIAN SIGNAL HEADS AND APS PUSHBUTTONS AND SIGNS FOR THE INTERSECTION OF MD 124 AT EMORY GROVE ROAD.
MD 124 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH CONCURRENT PEDESTRIAN PHASES FOR THE NORTH AND SOUTH LEGS, AND ALTERNATE PEDESTRIAN PHASES FOR THE EAST AND WEST LEGS OF THE INTERSECTION. THE MD 124 EASTBOUND AND WESTBOUND LEFT TURNS WILL OPERATE WITH EXCLUSIVE PHASING.

CONTROLLER REQUIREMENTS

A FULL-TRAFFIC-ACTUATED EIGHT-PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL BE FURNISHED SHA AND INSTALLED BY MONTGOMERY COUNTY FORCES. A 2-WIRE APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY MONTGOMERY COUNTY FORCES. IP-BASED VIDEO DETECTION INTERFACE EQUIPMENT SHALL BE FURNISHED BY SHA AND INSTALLED BY MONTGOMERY COUNTY FORCES.

SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 124 (WOODFIELD ROAD):

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS WOODFIELD AT EMORY GROVE. WAIT."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS EMORY GROVE ROAD:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS EMORY GROVE AT WOODFIELD. WAIT."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

EQUIPMENT LIST "A, B & C"

A. EQUIPMENT TO BE SUPPLIED BY SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
9104	CONTROLLER CABINET, SIZE "S" W/CTRL, VIDEO INT. 1-8 CAM	EA	1
9570	SHEET ALUMINUM GROUND MOUNTED SIGN 1 - R4-7 24"x30"	SF	5
9571	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN 2 - D-3(1) 72"x16" (DUAL FACE) 2 - M1-5(6) 48"x72" 2 - D-3(1) 84"x16" (DUAL FACE) 2 - M1-5(6) 30"x48"	SF	138

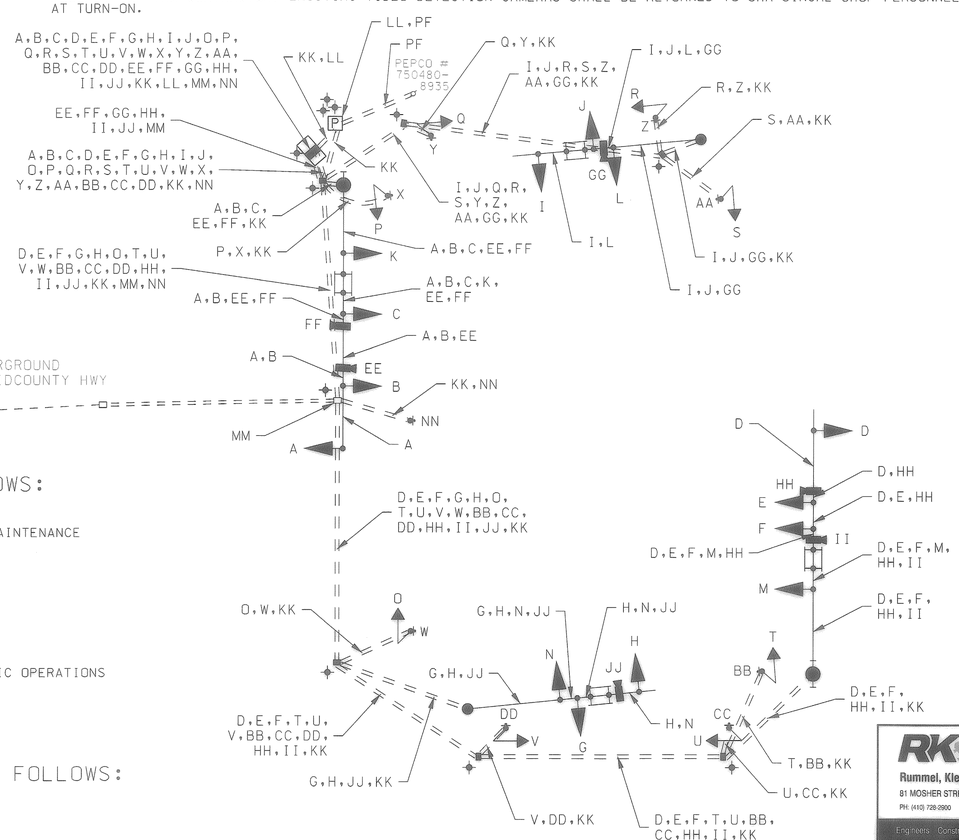
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1001	MAINTENANCE OF TRAFFIC	EA	3
2001	CLASS 2 EXCAVATION	CY	5
2002	TEST PIT EXCAVATION	CY	8
5003	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS	LF	890
5004	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	645
5005	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	100
6001	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	LF	356
6002	5 INCH CONCRETE SIDEWALK	SF	1,665
6003	DETECTABLE WARNING SURFACE FOR CURB RAMPS	SF	128
8001	12 INCH LED SIGNAL HEAD SECTION	EA	42
8002	2-WIRE CENTRAL CONTROL UNIT	EA	1
8008	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	EA	9
8009	BREAKAWAY PEDESTAL POLE (ANY SIZE)	EA	9
8012	EMBEDDED METERED SERVICE PEDESTAL	EA	1
8016	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	8
8019	MAST ARM POLE & 50' MAST ARM ANY 'T' DIMENSION	EA	2
8021	MAST ARM POLE & 70' MAST ARM ANY 'T' DIMENSION	EA	2
8024	REMOVE & DISPOSE OF EQUIPMENT (PER ASSIGNMENT)	EA	1
8028	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH	EA	6
8033	DISCONNECT, PULL-BACK & REROUTE CABLES	LF	80
8036	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED	LF	285
8038	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	LF	400
8039	WOOD SIGN SUPPORTS UP TO 4' X 6'	LF	15
8040	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)	SF	143
8042	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	685
8045	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN	LF	50
8046	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	6
8051	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	2
8053	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	1,600
8055	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	1,610
8056	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	2,470
8063	INSTALL CONTROLLER AND CABINET - BASE MOUNT	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, EXCEPT FOR VIDEO DETECTION CAMERA, SHALL BECOME THE PROPERTY OF THE CONTRACTOR. EXISTING VIDEO DETECTION CAMERAS SHALL BE RETURNED TO SHA SINGAL SHOP PERSONNEL AT TURN-ON.

PHASING CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	←R→ ←Y→ ←G→	←R→ ←Y→ ←G→	R Y G	R Y G	←R→ ←Y→ ←G→	←R→ ←Y→ ←G→	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G								
PHASE 1 AND 5	←G→	←G→	R	R	←G→	←G→	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																						
PHASE 1 AND 6	←G→	←G→	G	G	←R→	←R→	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 AND 6 CHANGE	←Y→	←Y→	G	G	←R→	←R→	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 5	←R→	←R→	R	R	←G→	←G→	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
2 AND 5 CHANGE	←R→	←R→	R	R	←Y→	←Y→	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	←R→	←R→	G	G	←R→	←R→	G	G	R	R	R	R	R	R	DW	DW	WK	WK	DW	DW	WK	WK
PED CLEARANCE	←R→	←R→	G	G	←R→	←R→	G	G	R	R	R	R	R	R	DW	DW	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW
2 AND 6 CHANGE	←R→	←R→	Y	Y	←R→	←R→	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	←R→	←R→	R	R	←R→	←R→	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	←R→	←R→	R	R	←R→	←R→	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	←R→	←R→	R	R	←R→	←R→	R	R	G	G	G	G	G	G	WK	WK	DW	DW	WK	WK	DW	DW
PED CLEARANCE	←R→	←R→	R	R	←R→	←R→	R	R	G	G	G	G	G	G	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW	DW	DW
4 AND 8 ALT CHANGE	←R→	←R→	R	R	←R→	←R→	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	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	DARK	DARK	DARK	DARK



WIRING KEY

A,B,C,D,E,F,G,H,I,J	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
K,L,M,N,O,P,Q,R,S,T,U,V	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
W,X,Y,Z,AA,BB,CC,DD,NN	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
EE,FF,GG,HH,II,JJ	IP-BASED VIDEO DETECTION CAMERA CABLE
KK	NO. 6 STRANDED BARE COPPER GROUND WIRE
LL	1-CONDUCTOR ELECTRICAL CABLE (NO. 8 AWG-TYPE THHN/THWN), 3 RUNS
MM	DISCONNECT, PULLBACK & REROUTE EXISTING UNDERGROUND INTERCONNECT CABLE
PF	UNDERGROUND POWER FEED BY PEPCO
✦	PROPOSED GROUND ROD

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL CABLES, EXCLUDING INTERCONNECT, TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE. ALL DISCONNECTING AND SPLICING OF INTERCONNECT CABLE IS TO BE DONE BY MONTGOMERY COUNTY FORCES.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" 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 WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03. MD 818.01, MD 818.02,MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
6. ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
7. MONTGOMERY COUNTY SIGNAL SHOP SHALL INSTALL APS CENTRAL CONTROL UNIT INTO CONTROLLER CABINET. APS PUSHBUTTONS SHALL BE PROGRAMMED BY THE MANUFACTURER.
8. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.09 AND FIGURE 4E.2 AND THE NCHRP PUBLICATION "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
9. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
10. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON. NOT CENTER OF POLE TO CENTER OF POLE.
11. PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
12. THE CONTRACTOR SHALL CAP AND ABANDON CONDUIT THAT FEEDING SIGNAL EQUIPMENT THAT IS REMOVED.
13. DURING CONSTRUCTION, PROPOSED SIGNAL EQUIPMENT SHALL NOT BLOCK EXISTING SIGNAL EQUIPMENT.

CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

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ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
(301) 513-7336

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

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CONTACT PERSONS FOR MONTGOMERY COUNTY ARE AS FOLLOWS:

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

MD 124 (WOODFIELD ROAD) AT EMORY GROVE ROAD
GAITHERSBURG, MARYLAND

REVISIONS

GENERAL INFORMATION SHEET

SCALE NONE	DATE JUNE 2012	CONTRACT NO. XY2245185	
DESIGNED BY WFW		COUNTY MONTGOMERY	
DRAWN BY WFW		LOGMILE 15012406.15	
CHECKED BY BJG		TIMS NO. L172	
FAP NO.		TOD NO.	
TS NO. 4366B-GI	DRAWING SP-2 OF 2	SHEET NO. 2 OF 4	

BY: WFW

PLOTTED: Friday, June 15, 2012 AT 12:19 PM
FILE: \\rkm\v2008\2008\08148_tcodes\Task 90_MD 124 at Emory Grove\CADD\pSG-0002_MD124@EmoryGrove.dgn