PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 355 AND HUBBARD DRIVE IN MONTGOMERY COUNTY.
MD 355 IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A SEMI ACTUATED MODE USING SIX NEMA PHASES. AN EXCLUSIVE LEFT TURN PHASE WILL BE PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 355. HUBBARD DRIVE AND THE SHOPPING CENTER (EAST/WEST) STREETS WILL OPERATE CONCURRENTLY.

PEDESTRIAN OPERATION

NAVIGATOR AUDIBLE PEDESTRIAN PUSH BUTTON MOVEMENTS TO CROSS THE EAST, WEST AND SOUTH LEGS OF THE INTERSECTION ARE TO BE PROVIDED. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE BUTTON FOR AN EXTENDED TIME, THE PUSH BUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:
NORTH: "WAIT TO CROSS ROCKVILLE PIKE AT HUBBARD."
EAST: "WAIT TO CROSS ENTRANCE TO MONTROSE CROSSING AT ROCKVILLE PIKE."
WEST: "WAIT TO CROSS HUBBARD AT ROCKVILLE PIKE."
PEDESTRIAN PUSH BUTTONS SHALL OPERATE IN STANDARD MODE UNTIL ALL CROSSWALKS AND ADA RAMPS ARE COMPLETE.

SPECIAL NOTES

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

   PROJECT CONTACTS:

   MR. JEFFREY WENTZ, ASSISTANT DISTRICT ENGINEER - TRAFFIC
   PHONE: (301) 513-7358
   MR. DUANE BERNDARD, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
   PHONE: (301) 513-7336
   MR. VERNON STINNETT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
   PHONE: (301) 513-7304
   MR. AUGIE REBISH, UTILITY ENGINEER
   PHONE: (301) 513-7350
   MR. ROBERT SNYDER, SR. CHIEF TRAFFIC OPERATIONS DIVISION
   PHONE: (410) 787-7630

   MR. KAMAL HAMUD
   MONTGOMERY COUNTY
   240-777-8761

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

2. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 - 30, 104.12 - 01, 104.13 - 01, 104.31 - 01, 104.32 - 01, 104.81- 02

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
816110	TRAFFIC SIGNAL CABINET NEMA SIZE 6 WITH TRAFFIC SIGNAL CONTROLLER	EA	1
900000	VIDEO DETECTION INTERFACE EQUIPMENT,(FOR 5-8 CAMERAS).	EA	1
900000	MONTGOMERY COUNTY INTERCONNECT SPLICE CABINET	EA	1
973023	FLAT SHEET ALUMINUM SIGNS CONSISTING OF:	SF	130
	R3-5(L) (30"X 36") MAST ARM MOUNT - 1 EACH		
	D-3(1) (96" X 16) MAST ARM MOUNT - 4 EACH (DUAL FACED)		
	R10-3(1)(9"X15") POLE MOUNT SIGN TO READ "PUSH BUTTON TO CROSS" - 6 EACH		
	ASSOCIATED SHIELD ASSEMBLY (30"X51") BAND TO POLE - 1 EACH		
	ASSOCIATED SHIELD ASSEMBLY (48"X75") BAND TO POLE - 2 EACH		
	M3-1 (24"X12"), M1-5 (30"X24"), M6-1 (21"X15") GROUND MOUNTED SIGNS - 1 EACH		

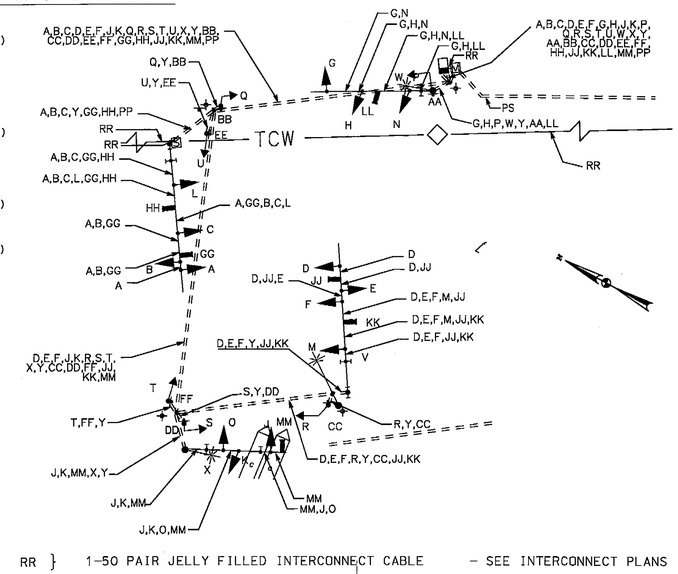
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
120500	MAINTENANCE OF TRAFFIC	LS	1
203030	TEST PIT EXCAVATION	CY	4
114035	12 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT	LF	110
114045	24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT	LF	120
800000	AUDIBLE/TACTILE PEDESTRIAN PUSH BUTTON STATION AND SIGN (5"X7" WITH BRAILLE DENOTING CROSSING STREET)	EA	6
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION POLE MOUNT	EA	6
800000	METERED SERVICE PEDESTAL	EA	1
800000	INSTALL COUNTY SPLICE CABINET	EA	1
800000	ELECTRICAL CABLE - 1 (CONDUCTOR (250 KCMIL)	LF	360
800000	BAND SIGN TO SUPPORT	EA	4
800000	15 FOOT SPECIAL "T" STEEL POLE WITH SPECIAL 60 FOOT MAST ARM	EA	2
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	19
801607	INSTALL SHEET ALUMINUM SIGN	SF	80
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	800
805155	4" SCHEDULE 80 RIGID PVC CONDUIT -SLOTTED	LF	590
805125	2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	10
805135	3" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	70
805140	4" SCHEDULE 80 RIGID PVC CONDUIT -TRENCHED	LF	85
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	4
813015	INSTALL OVERHEAD SIGNS	SF	50
818004	10 FOOT BREAKAWAY PEDESTAL POLE (MD STD 818.16-01)	EA	5
816001	VIDEO DETECTION CAMERA	EA	6
816005	VIDEO DETECTION CABLE, 250 FT	EA	3
816010	VIDEO DETECTION CABLE, 500 FT	EA	3
818030	27 FOOT SPECIAL "T" STEEL POLE WITH A SINGLE 38 FOOT MAST ARM	EA	1
818036	27 FOOT SPECIAL "T" STEEL POLE WITH A SINGLE 50 FOOT MAST ARM	EA	1
831010	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE	EA	2
832017	ELECTRICAL CABLE - 1 CONDUCTOR, NO 4 AWG, TYPE USE, 600V	LF	30
833062	4 INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER	LF	20
837001	GROUND ROD - 3/4 INCH DIAMETER X 10-FOOT LENGTH	EA	4
860284	12" VEHICULAR LED TRAFFIC SIGNAL HEAD SECTION	EA	42
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	1200
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	950
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	2780
861116	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TRAY CABLE	LF	800
866101	10 FOOT LIGHTING ARM ON SIGNAL STRUCTURE	EA	2

WIRING DIAGRAM

KEY

A,B,C,D,E,F,G,J,K,H	7 - CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
L,M,N,O,P,Q,R,S,T,U	5 - CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
W,X	2 - CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG)
AA,BB,CC,DD,EE,FF	2 - CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
GG,HH,JJ,KK,LL,MM	VIDEO DETECTION CONTROL CABLE
Y	1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
RR	POWER SERVICE UNDERGROUND 3 WIRE 1 CONDUCTOR (NO. 4 AWG)
	GROUND ROD
PS	3-1 CONDUCTOR ELECTRICAL CABLES (250KCMIL)
NN	6-PAIR COMMUNICATION CABLE
PP	1-12 PAIR JELLY FIELD INTERCONNECT CABLE
RR	1-50 PAIR JELLY FILLED INTERCONNECT CABLE - SEE INTERCONNECT PLANS



PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PHASE 1 & 5	G	G	R	R	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 & 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASES 1 AND 6, OR 2 AND 5, OR 2 AND 6																			
PHASE 1 & 6	G	G	G	G	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 1 & 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	R	G	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 5 CHANGE	R	R	R	R	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	R	R	G	G	R	R	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE	R	R	G	G	R	R	G	G	R	R	R	R	R	R	FLDW	FLDW	FLDW	FLDW	DW	DW
2 & 6 CHANGE	R	R	Y	Y	R	R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 ALT & 8	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEARANCE	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FLDW	FLDW
4 ALT & 8 CHANGE	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FR	FR	FY	FY	FR	FR	FY	FY	FR	FR	FR	FR	FR	FR	DARK	DARK	DARK	DARK	DARK	DARK

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

MD 355 AT HUBBARD DRIVE
PHASE 2, STAGES 4 & 5

GENERAL INFORMATION SHEET

SCALE NONE DATE N/A CONTRACT NO. M08305171

DESIGNED BY AMH
DRAWN BY JVB
CHECKED BY JFL 3/5
FAP NO. AC-STP-HP-1334(001)E
COUNTY MONTGOMERY
LOGMILE 15035506.86
TIMS NO. G248
TOD NO.

TS NO. 2690B | DRAWING SP-2 OF 41 | SHEET NO. 6 OF 84

PLOTTED: "03:44 PM on Friday, February 20, 2009"
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BY: Ardalan Faghri Division: 0101 Transportation