

PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL WITH MAST ARM STRUCTURES AT THE INTERSECTION OF MD 450 (ANNAPOLIS ROAD) AND ARDWICK-ARDMORE ROAD IN PRINCE GEORGE'S COUNTY.

MD 450 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION:

A SYSTEM READY BASE-MOUNTED CABINET AND CONTROLLER WITH ALL THE NECESSARY EQUIPMENT WILL BE INSTALLED AT THE INTERSECTION. THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX-PHASE, FULLY-ACTUATED MODE. MD 450 THROUGH-MOVEMENTS WILL OPERATE CONCURRENTLY OR WITH THE EXCLUSIVE/PERMISSIVE WESTBOUND LEFT-TURN AND EASTBOUND U-TURN. AN EXCLUSIVE RIGHT-TURN OVERLAP PHASE FROM ARDWICK-ARDMORE ROAD SHALL OPERATE WITH THE MD 450 WESTBOUND LEFT-TURN. THE ARDWICK-ARDMORE ROAD SIGNAL WILL OPERATE ALONE. AUDIBLE PUSHBUTTONS WILL ACTUATE THE PEDESTRIAN MOVEMENTS TO CROSS THE EAST AND SOUTH LEGS OF THE INTERSECTION.

VIDEO DETECTION CAMERAS SHALL ACTUATE PRESENCE DETECTION AND NON-INVASIVE DETECTORS SHALL PROVIDE ADVANCE PASSAGE DETECTION ON MD 450. VIDEO DETECTION CAMERAS SHALL PROVIDE SAMPLING IN BOTH DIRECTIONS ON MD 450.

THE STREET LIGHTING AND STREET NAME SIGNS SHALL BE UPDATED TO CURRENT STANDARDS. ADA-COMPLIANT INTERSECTION RAMPS SHALL BE INSTALLED.

AUDIBLE PUSHBUTTON MESSAGE FUNCTIONS AS FOLLOWS:

WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:

SOUTH LEG: "Wait to cross Ardwick-Ardmore at Annapolis, Wait"
EAST LEG: "Wait to cross Annapolis at Ardwick-Ardmore, Wait"

WHEN THE "WALK" PHASE BEGINS FOR EITHER CROSSING:

The message will be a rapid tick, which will last for the duration of the "WALK" phase.

III. SPECIAL NOTES:

1. THE CONTRACTOR SHALL PURCHASE AND DELIVER THE 2 WIRE CENTRAL CONTROL UNIT AND THE APS EQUIPMENT FOR THE CONTROLLER OPERATION TO SHA SIGNAL SHOP AT 7491 CONNELLEY ROAD, HANOVER, MD, 212076. MR. EDWARD RODENHIZER SHALL BE CONTACTED AT 410-787-7652 AT LEAST 3 DAYS PRIOR TO THE DELIVERY.
2. THE CONTRACTOR SHALL CONTACT THE ATS REPRESENTATIVE, MR. RICHARD PERKINS, REPRESENTATIVE, AT 1-202-269-4404 PRIOR TO BEGINNING CONSTRUCTION. THE TRAFFIC CAMERAS MUST BE DISABLED WITH THE CABLES PULLED BACK FROM THE CONDUIT AND HANDHOLES TO BE UTILIZED IN THE NEW SIGNAL DESIGN. MR. PERKINS WILL MAKE ARRANGEMENTS FOR THE CAMERAS.
3. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104.00 OF THE SHA BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES.

IV. PROJECT CONTACTS:

THE CONTACT PERSONNEL FOR THIS PROJECT ARE AS FOLLOWS:

MS. FELECIA MURRAY, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7358

MR. STEVEN SITES, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (443) 572-5228

MR. VERNON STINNETT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (310) 513-7304

MR. VICTOR GRAFTON, UTILITY ENGINEER
PHONE: (310) 513-7350

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

MR. EDWARD RODENHIZER, CHIEF SIGNAL SHOP
PHONE: (410) 787-7652

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

THE POWER COMPANY REPRESENTATIVE:
PEPCO

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EA	LOCAL CONTROLLER, VIDEO INTERFACE UNIT W/ ALL NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET
59 SF		FLAT SHEET ALUMINUM SIGNS CONSISTING OF:
1 EA		M1-5(4) (78"x 36") MAST ARM-MOUNTED "Annapolis RD, WEST (LEFT ARROW), MD 450, EAST (RIGHT ARROW)"
2 EA		D-3(1) (VAR x 16") MAST ARM-MOUNTED (DUAL-FACED) "Ardwick-Ardmore RD, RIGHT ARROW/ LEFT ARROW, Ardwick-Ardmore RD"
2 EA		R10-3(1) (9" x 15") POLE-MOUNTED PEDESTRIAN SIGNS "PUSH BUTTON TO CROSS Ardwick-Ardmore Rd"
2 EA		R10-3(1) (9" x 15") POLE-MOUNTED PEDESTRIAN SIGNS "PUSH BUTTON TO CROSS Annapolis Rd"

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
1003	2 EA	MAINTENANCE OF TRAFFIC
2002	4 CY	TEST PIT EXCAVATION
5004	850 LF	12" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5005	150 LF	24" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5007	850 LF	REMOVAL OF EXISTING PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
6001	300 LF	STANDARD TYPE 'A' COMBINATION CURB AND GUTTER 12" GUTTER PAN AND 8" CURB
6002	1250 SF	5 INCH CONCRETE SIDEWALK
8001	1 EA	2 WIRE CENTRAL CONTROL UNIT
8003	6 EA	8" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8004	2 EA	ADJUST EXISTING HANDHOLE TO GRADE WITH COLLAR
8006	2 EA	ANY SIZE LIGHTING ARM ON SIGNAL STRUCTURE WITH 250 WATT HPS LUMINAIRE
8007	4 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON
8008	4 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8013	4 EA	LED 16" COUNTDOWN PEDESTRIAN SIGNAL HEAD
8018	1 EA	27' MAST ARM POLE & 50' MAST ARM,
8020	6 EA	NON-INVASIVE PROBES ANY LENGTH LEAD-IN CABLE
8021	1 EA	REMOVE & DISPOSE MATERIAL AND EQUIPMENT PER JOB
8023	1 EA	24' MAST ARM POLE 15' "T" DIM. WITH STRAIGHT TWIN 50' MAST ARMS AND 3" EXTRA FOUNDATION ABOVE GRADE
8025	6 EA	VIDEO DETECTION CAMERA AND CABLE UP TO 500'
8031	843 LF	DISCONNECT, PULL BACK & RE-ROUTE EXISTING CABLES
8034	250 LF	SCHEDULE 80 PVC CONDUIT UP TO 4" - SLOTTED
8035	500 LF	SCHEDULE 80 PVC CONDUIT UP TO 4" - TRENCHED
8036	32 LF	WOOD SIGN SUPPORTS UP TO 4"x 6"
8037	60 SF	DETECTABLE WARNING SURFACE
8038	71 SF	INSTALL OVERHEAD AND GROUND-MOUNTED SIGNS INCLUDING HARDWARE
8040	500 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8042	1 EA	METERED SERVICE PEDESTAL EMBEDDED
8044	30 LF	CABLE 1-CONDUCTOR, NO. 4 AWG-THHN/THWN
8045	75 LF	CABLE 1-CONDUCTOR, NO. 8 AWG-THHN/THWN
8046	8 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8050	28 EA	12" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8054	520 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.14 AWG)
8056	500 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO.14 AWG)
8057	1300 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO.14 AWG)
8058	300 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.12 AWG)
8065	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

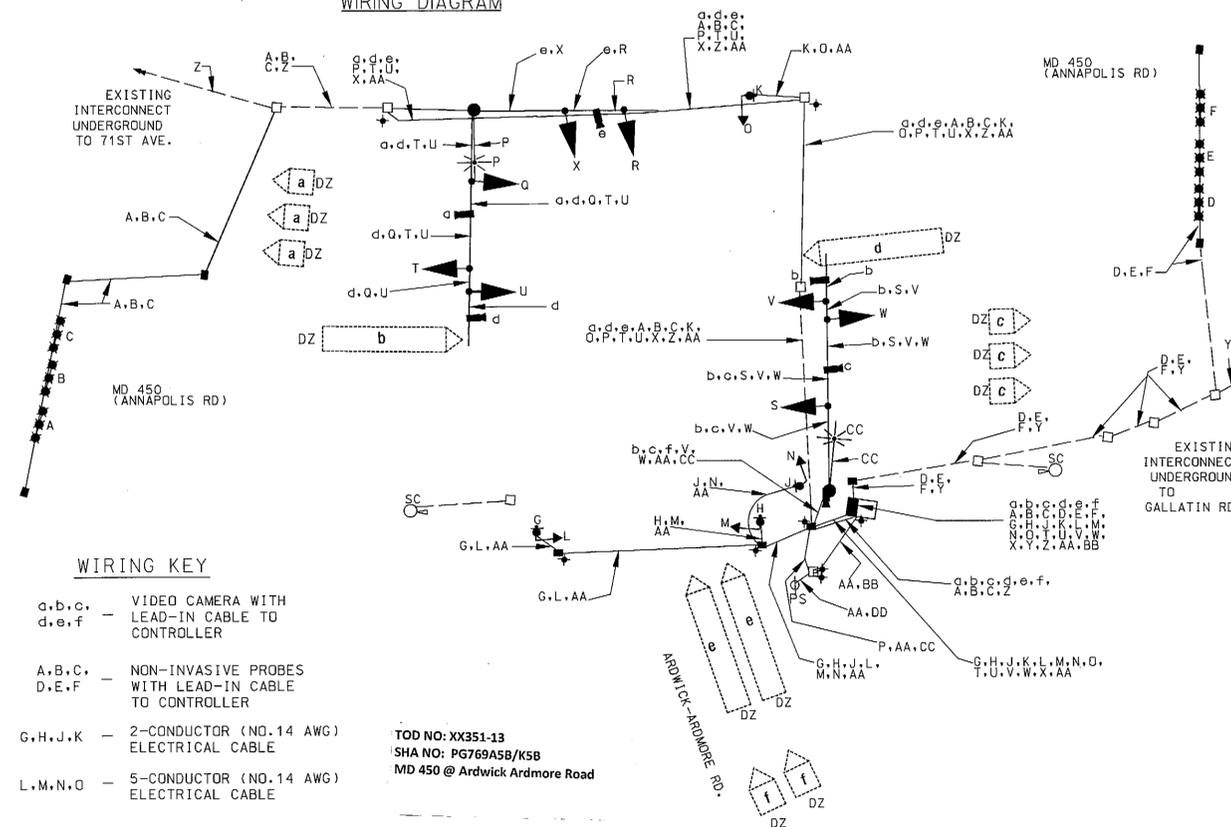
EQUIPMENT LIST "C"

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.

PHASE CHART

	1	2	3	4	5	6	7	8	9-10	11-12		
Phase 1 & 5	← G R	← G R	R	← G R	← G R	R	R	R	← G	DW	DW	↑
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6											
Phase 1 & 6	← G G	G	G	R	R	R	R	R	R	DW	DW	↑
1 Change	← Y G	G	G	R	R	R	R	R	R	DW	DW	↑
Phase 2 & 5	R	R	R	← G G	← G G	G	R	R	← G	DW	DW	↑
5 Change	R	R	R	← Y G	← Y G	G	R	R	← Y	DW	DW	↑
Phase 2 & 6	G	G	G	G	G	G	R	R	R	DW	WK	↑
Countdown Ped. Clearance	G	G	G	G	G	G	R	R	R	DW	FL/DW	↑
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	DW	DW	↑
Phase 4	R	R	R	R	R	R	G	G	G	DW	DW	↑
4 Change	R	R	R	R	R	R	Y	Y	Y	DW	DW	↑
Phase 4 Alt.	R	R	R	R	R	R	G	G	G	WK	DW	↑
Countdown Ped. Clearance	R	R	R	R	R	R	G	G	G	FL/DW	DW	↑
4 Alt. Change	R	R	R	R	R	R	Y	Y	Y	DW	DW	↑
Flashing	FL/RA	FL/RA	FL/Y	FL/RA	FL/RA	FL/Y	FL/R	FL/R	FL/R	DARK	DARK	↑
Operation	FL/RA	FL/RA	FL/Y	FL/RA	FL/RA	FL/Y	FL/R	FL/R	FL/R	DARK	DARK	↑

WIRING DIAGRAM



WIRING KEY

- a, b, c, d, e, f - VIDEO CAMERA WITH LEAD-IN CABLE TO CONTROLLER
- A, B, C, D, E, F - NON-INVASIVE PROBES WITH LEAD-IN CABLE TO CONTROLLER
- G, H, J, K - 2-CONDUCTOR (NO. 14 AWG) ELECTRICAL CABLE
- L, M, N, O - 5-CONDUCTOR (NO. 14 AWG) ELECTRICAL CABLE
- P, CC - 2-CONDUCTOR (NO. 12 AWG) TRAY CABLE
- Q, R, S - 5-CONDUCTOR (NO. 14 AWG) JUMPER ELEC. CABLE
- T, U, V, W, X - 7-CONDUCTOR (NO. 14 AWG) ELECTRICAL CABLE
- Y, Z - EXISTING INTERCONNECT CABLE TO BE PULLED BACK AND RE-ROUTED
- AA - NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- BB - NO. 8 AWG, THHN/THWN ELECTRICAL SERVICE CABLE
- DD - NO. 4 AWG, THHN/THWN ELECTRICAL SERVICE CABLE

TOD NO: XX351-13
SHA NO: PG769A58/K5B
MD 450 @ Ardwick Ardmore Road

MM CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031
Phone: (410) 823-8070 Fax: (410) 823-2184

REVISION 'c' 26265.21.003

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 450 (ANNAPOLIS RD) AT
ARDWICK-ARDMORE ROAD
LANDOVER HILLS, MD

GENERAL INFORMATION SHEET			
SCALE	NONE	ADVERTISED DATE	NOV. 4, 2010
CONTRACT NO.	XX3515168		
DESIGNED BY	EMM	COUNTY	PRINCE GEORGE'S
DRAWN BY	EMM	LOGMILE	16045003.18
CHECKED BY	EMMMAR	TIMS NO.	K-039
F.A.P. NO.		TOD NO.	
TS NO.	403C-GI	DRAWING	SG - 2 OF 2
SHEET NO.	2 OF 2		