

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 710 (ORDNANCE ROAD) AND CHESAPEAKE CENTER DRIVE / ARUNDEL CORPORATION ROAD IN ANNE ARUNDEL COUNTY.

MD 710 (ORDNANCE ROAD) IS ASSUMED TO RUN IN AN EAST - WEST DIRECTION.

INTERSECTION OPERATION

A SYSTEM READY BASE MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT WILL BE INSTALLED AT THE INTERSECTION. THE INTERSECTION WILL CONTINUE TO OPERATE IN A FULLY-ACTUATED MODE USING 6 NE MA PHASES. THE CHESAPEAKE CENTER DR. AND ARUNDEL CORP. RD. OPERATES AS SPLIT PHASE WITH EXCLUSIVE/PERMISSIVE RIGHT TURNS. THE E/P RIGHT TURNS WILL ALSO OPERATE WITH MD 710 EXCLUSIVE LEFT TURNS. MD 710 MAIN LINE OPERATES CONCURRENTLY. AN AUDIO COUNTDOWN PUSHBUTTON PEDESTRIAN MOVEMENT IS BEING REALIGNED TO CROSS THE EAST LEG OF MD 710.

VIDEO CAMERAS SHALL PROVIDE THE PRESENCE DETECTION, STREET LIGHTING AND STREET NAME SIGNS SHALL BE UPDATED TO CURRENT STANDARDS. THE INTERSECTION IS ADJUSTED TO BE ADA COMPLIANT.

AUDIBLE PUSHBUTTON FUNCTION AS FOLLOWS:

- When pedestrian locates and presses pushbutton for extended time, the pushbutton unit will be: "Wait to cross Ordinance at Arundel & Chesapeake"
- When WALK phase begins, the message will be a rapid tick, which will last for the duration of the "WALK" phase.

SPECIAL NOTES:

- THE DECORATIVE BRICKS IN THE NORTHEAST QUADRANT WILL REQUIRE REMOVAL AND RESETTING TO INSTALL A COMPLIANT RAMP AND LANDING. THE BRICKS WILL BE RE-INSTALLED AS INDICATED ON THE SIGNAL PLAN.
- THE CONTRACTOR SHALL PURCHASE AND DELIVER THE "AUDIO PUSHBUTTONS" AND 2-WIRE CENTRAL CONTROL UNIT FOR THE CONTROLLER CABINET TO THE SHA SIGNAL SHOP FOR INSTALLATION AND PROGRAMMING. CONTRACTOR SHALL CONTACT MR. EDWARD RODENHIZER, CHIEF SIGNAL SHOP AT 410-787-7652, THREE DAYS PRIOR TO DELIVERY.

PROJECT CONTACTS:

- THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MS. KIMBERLY TRAN, ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (410) 841-1003

MR. JAMES FOLDEN, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION  
PHONE: (410) 841-1031

MR. JOHN MAYS, ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (410) 841-1013

MR. MIKE HUBER, UTILITY ENGINEER  
PHONE: (410) 841-1039

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

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

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

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

- 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 W/ ALL NECESSARY EQUIPMENT HOUSED BASE MOUNTED CABINET	1 EA
900000	FLAT SHEET ALUMINUM SIGNS CONSISTING OF:	187.5 SF
3 EA	R3-5L "LEFT ONLY" (30"x36") MAST ARM MOUNT	
4 EA	R3-5R "RIGHT ONLY" (30"x36") MAST ARM MOUNT	
2 EA	R3-6L "LEFT & THUR" (30"x36") MAST ARM MOUNT	
	D-3(2) (16"xVAR.) MAST ARM MOUNT (DUAL FACED)	
2 EA	"Ches. Center DR. ARROW/ ARROW, Ches. Center DR"	
2 EA	"ARROW, Arundel Corp. RD/ Arundel Corp. RD. ARROW"	
2 EA	"Ordnance RD"	
2 EA	GUIDE SHIELD ASSEMBLY (30"x51") POLE MOUNTED "EAST, MD 710, RIGHT ARROW"	
	"WEST, MD 710, RIGHT ARROW"	
2 EA	GUIDE SHIELD ASSEMBLY (48"x75") POLE MOUNTED "WEST, MD 710, LEFT ARROW"	
	"EAST, MD 710, LEFT ARROW"	
2 EA	R10-3(1) PUSHBUTTON "TO CROSS "E. Ordnance Rd." (9"x15") POLE MOUNTED	

EQUIPMENT LIST 'B'

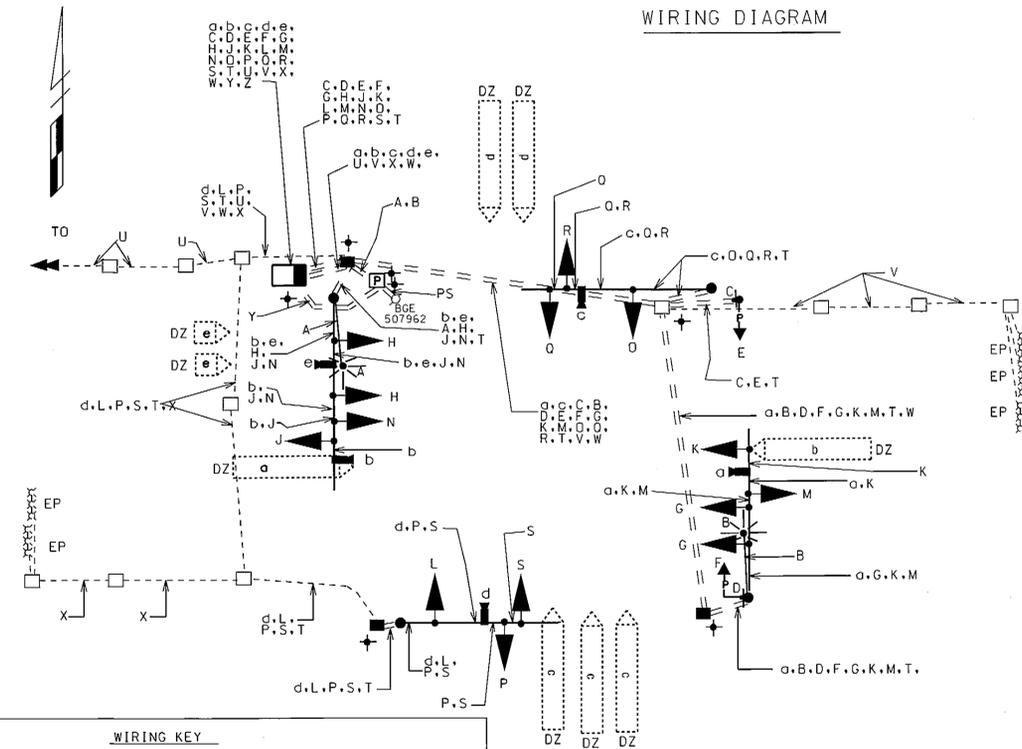
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATEGORY CODE NO.	DESCRIPTION	QUANTITY
100000	MAINTENANCE OF TRAFFIC	1 EA
120784	TEMP ORANGE FENCE	100 LF
201032	CLASS 2 EXCAVATION	5 CY
203030	TEST PIT EXCAVATION	5 CY
500000	REMOVE PAVEMENT MARKING LINES	170 LF
585621	12 INCH HEAT APPL. WHITE PERMANENT PREFORMED THERMO. PAVEMENT MARKING	170 LF
634300	TYPE A COMBINATION CURB & GUTTER, 12" GUTTER PAN, 8" CURB	90 LF
655105	5 INCH CONCRETE SIDEWALK	285 SF
800000	2-WIRE CENTRAL CONTROL UNIT	1 EA
800000	8" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	8 EA
800000	ADJUST HANDHOLE, NEW FRAME & COVER	3 EA
800000	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LUMINAIRE & LAMP	2 EA
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON	2 EA
800000	BREAKAWAY PEDESTAL POLE ANY SIZE	2 EA
800000	16" COUNTDOWN PEDESTRIAN SIGNAL HEAD	2 EA
800000	MAST ARM POLE & 38' MAST ARM ANY "T" DIMENSION	1 EA
800000	MAST ARM POLE & 50' MAST ARM ANY "T" DIMENSION	3 EA
800000	REMOVE AND DISPOSE OF EXISTING EQUIPMENT	1 EA
800000	VIDEO CAMERA & CABLE ANY LENGTH TO CONTROLLER	6 EA
800000	DISCONNECT, PULL BACK & RE-ROUTE EXISTING CABLES	1270 LF
800000	SCHEDULE 80 PVC CONDUIT UP TO 4" - SLOTTED	145 LF
800000	SCHEDULE 80 PVC CONDUIT UP TO 4" - TRENCHED	200 LF
800000	DETECTABLE WARNING SURFACE	20 SF
800000	INSTALL OVERHEAD AND UNDERGROUND SIGNS	187.5 SF
800000	REMOVE AND RESET DECORATIVE BRICK	180 SF
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	555 LF
807202	100 AMP METERED SERVICE PEDESTAL	1 EA
810022	CABLE 1-CONDUCTOR, NO. 8 AWG-THHN/THWN	60 LF
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	1 EA
860284	12" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	46 EA
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	430 LF
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	1840 LF
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	970 LF
861116	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)	425 LF
871202	INSTALL CONTROLLER AND CABINET - BASE MOUNT	1 EA

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15,16
Phase 1 & 5	G	G	R	R	G	G	R	R	R	R	R	R	R	R	DW
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6														
Phase 1 & 6	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
1 Change	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
Phase 2 & 5	G	G	R	R	G	G	R	R	R	R	R	R	R	R	DW
5 Change	G	G	R	R	G	G	R	R	R	R	R	R	R	R	DW
Phase 2 & 6	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
2 & 6 Change	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
Phase 3	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
3 Change	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
Phase 4	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
4 Change	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
4 Alt.	R	R	G	G	R	R	R	R	R	R	R	R	R	R	WK
Ped. Clear & Countdown	R	R	G	G	R	R	R	R	R	R	R	R	R	R	FL/DW
4 Alt. Change	R	R	G	G	R	R	R	R	R	R	R	R	R	R	DW
Flashing	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK
Operation	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK

WIRING DIAGRAM



WIRING KEY

a,b,c,d,e	- VIDEO DETECTION CAMERA WITH 3 CONDUCTOR NO 18 AWG LEAD-IN CABLE
A,B	- 2 CONDUCTOR NO 12 AWG TRAY CABLE
C,D	- 2 CONDUCTOR NO 14 AWG ELEC. CABLE
E,F,G,H	- 5 CONDUCTOR NO 14 AWG ELEC. CABLE
J,K,L,M,N,O,P,Q,R,S	- 7 CONDUCTOR NO 14 AWG ELEC. CABLE
T	- NO 6 AWG STRANDED BARE COPPER GROUND WIRE
U	- EXISTING INTERCONNECT CABLE TO BE PULLED-BACK, RE-ROUTE TO NEW CONTROLLER
V,W,X	- EXISTING PROBE CABLES TO BE PULLED-BACK, RE-ROUTE TO NEW CONTROLLER (PER DIRECTION)
Y	- 1 CONDUCTOR NO 8 AWG-THHN/THWN ELEC. CABLE
PS	- PROPOSED SERVICE FEED
EP	- EXISTING PROBE
DZ	- DETECTION ZONE
+	- GROUND ROD (3/4" DIA. x 10' LENGTH)

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

**MD 710 & CHESAPEAKE CTR. DR./ ARUNDEL CORP. RD.**

**GENERAL INFORMATION PLAN**

SCALE: NONE ADVERTISED DATE: JUNE 2, 2009 CONTRACT NO. AA2615168

DESIGNED BY: EMM COUNTY: ANNE ARUNDEL  
DRAWN BY: EMM gael 7/1/09 LOGMILE: 02071000.25  
CHECKED BY: MAR TMS NO. J661  
F.A.P. NO. TOD NO.

TS NO. 31706-G1 DRAWING 2 OF 2 SHEET NO. 21 OF 31