

PROJECT DESCRIPTION

I. GENERAL
THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 700 (MARTIN BLVD.) AND COMPASS RD. IN BALTIMORE COUNTY, MARYLAND. THE SIGNAL WORK CONSISTS OF THE INSTALLATION OF A METEDED SERVICE PEDESTAL, MAST ARMS, VIDEO DETECTION, LED HEADS, NON-INVASIVE MICROLOOP PROBES, APS AND CPS, AND INTERCONNECT. MD 700 IS CONSIDERED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA EIGHT (8) PHASE, FULL-TRAFFIC-ACTUATED MODE. THERE IS AN EXCLUSIVE LEFT TURN PHASE FOR BOTH THE NORTHBOUND AND SOUTHBOUND MOVEMENTS OF MD 700. THE MD 700 THROUGH MOVEMENTS OPERATE CONCURRENTLY AND AN ACTUATED AUDIBLE PEDESTRIAN SIGNAL PHASE SHALL BE INSTALLED ACROSS THE WEST LEG OF COMPASS RD. THERE IS AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE FOR BOTH THE EASTBOUND AND WESTBOUND MOVEMENTS OF COMPASS RD AND THE THROUGH MOVEMENTS OPERATE CONCURRENTLY. AN ALTERNATE PEDESTRIAN PHASE WITH COUNTDOWN PEDESTRIAN SIGNALS AND AUDIBLE PEDESTRIAN SIGNALS SHALL BE INSTALLED ON THE SOUTH LEG OF MD 700.

A FULL-TRAFFIC-ACTUATED, EIGHT PHASE CONTROLLER WITH VIDEO INTERFACE EQUIPMENT, TELEMETRY CABLE AND ALL NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET SHALL REMAIN AT THIS INTERSECTION.

III. INTERCONNECT NOTES

SEE SHEET SP-32 OF 39 FOR INTERCONNECT DETAILS AND QUANTITIES.

IV. APS NOTES

TO CROSS MD 700:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON WILL ANNOUNCE "WAIT TO CROSS MARTIN AT COMPASS."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS COMPASS ROAD:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON WILL ANNOUNCE "WAIT TO CROSS COMPASS AT MARTIN."
- 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. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

CAT CODE	QUANTITY	DESCRIPTION
900000	1 EA	[UPDATED] CONTROLLER ASC II WITH TELEMETRY
900000	75 SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN
	2 EA	R4-7 "KEEP RIGHT" SIGN (24"x30")
	2 EA	D3-2(1) "COMPASS ROAD NEXT SIGNAL SIGN (VAR.X36")
900000	170 SF	[UPDATED] SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN
	2 EA	D-3(1) "COMPASS RD" STREET SIGN - DUAL FACE (VARX16") MAST ARM MOUNTED
	2 EA	R3-5(R) "RIGHT ONLY" SIGN (30"x36") MAST ARM MOUNTED
	1 EA	M1-5(4) "MARTIN BLVD: SOUTH LEFT ARROW; NORTH RIGHT ARROW" SIGN (78"x36") MAST ARM MOUNTED
	1 EA	M1-5(4) "MARTIN BLVD: SOUTH RIGHT ARROW; NORTH LEFT ARROW" SIGN (78"x36") MAST ARM MOUNTED
	1 EA	R10-3(1) "PUSH BUTTON TO CROSS COMPASS RD" SIGN (9"x15") POLE MOUNTED
900000	1 EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS

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

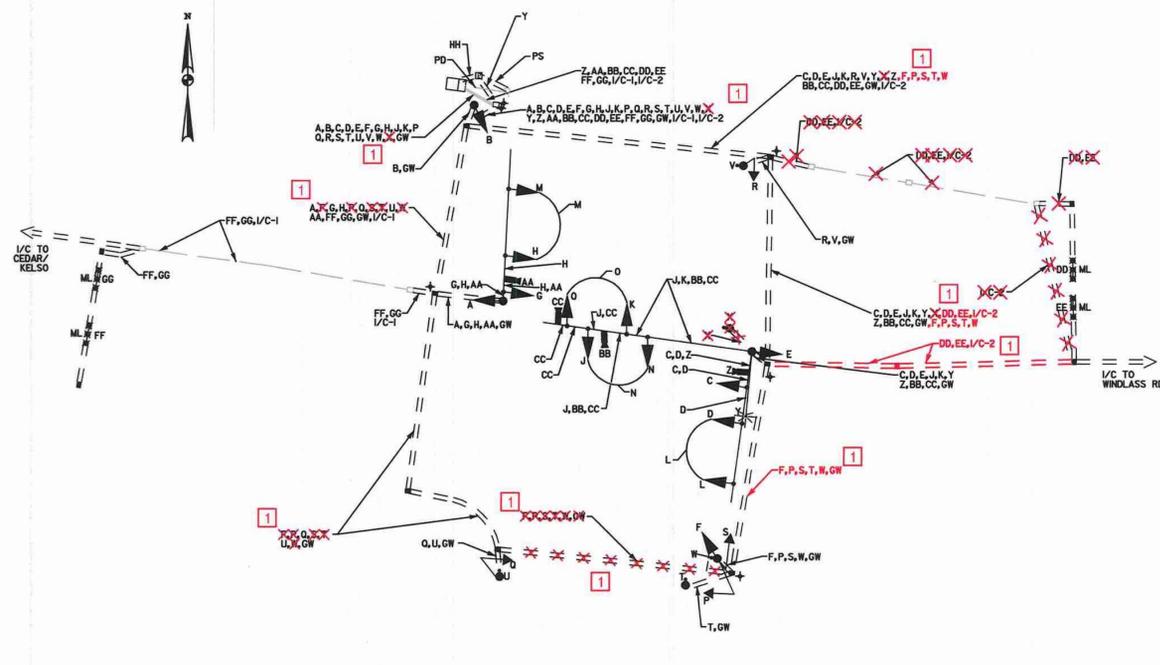
CAT CODE	QUANTITY	DESCRIPTION
201032	6 X	CY CLASS 2 EXCAVATION
203030	4.5 X	CY TEST PIT EXCAVATION
585620	940 X	LF 12 INCH HEAT APPLIED WHITE PERM.-PREF. THERMOPLASTIC PAVEMENT MARKINGS
585624	80	LF 24 INCH HEAT APPLIED WHITE PERM.-PREF. THERMOPLASTIC PAVEMENT MARKINGS
600000	56 X	SF DETECTABLE WARNING SURFACES FOR CURB RAMPS
634300	160 X	LF STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER 8 INCH DEPTH
655105	320 X	SF 5 INCH CONCRETE SIDEWALK
800000	4	EA 16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION
800000	6	EA 8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	4 X	EA AUDIBLE/TACTILE PEDESTRIAN PUSH BUTTON AND SIGN
800000	1	EA FURNISH & DELIVER 2 WIRE CENTRAL CONTROL UNIT
800000	1	EA SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCH - BORED
800000	1	EA SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCH - TRENCHED
800000	30	LF SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCH - SLOTTED
800000	4	EA NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000 FEET
800000	1	SF INSTALL OVERHEAD OR GROUND MOUNTED SIGN
800000	1	SF BREAKAWAY PEDESTAL POLE (ANY SIZE)
800000	1	EA MAST ARM POLE 2 50 FT MAST ARM ANY "T" DIMENSION
800000	1	EA TWIN MAST ARM POLE 2 50 FOOT / 70 FOOT MAST ARMS ANY "T" DIMENSION
800000	1	EA ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
800000	4	EA VIDEO DETECTION CAMERA & CABLE UP TO 500 FT
800000	5	EA REMOVE SIGNAL POLE FOUNDATION 12" BELOW GRADE
801104	29	LF WOOD SIGN SUPPORTS 4 INCH X 4 INCH
801106	60	LF WOOD SIGN SUPPORTS 4 INCH X 6 INCH
802501	545 X	LF NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
807202	1	EA METERED SERVICE PEDESTAL EMBEDDED
810010	66	LF ELECTRICAL CABLE 1-CONDUCTOR, NO. 4 AWG THHN/THWN
811001	11	EA FURNISH AND INSTALL ELECTRICAL HANDHOLE
860284	44	EA 12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	1085 X	LF ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1200	LF ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	2485	LF ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	485	LF ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
1 NEG	1	EA CONCRETE FOUNDATION FOR SIGNAL POLE (INCLUDING CONCRETE, ANCHOR BOLTS AND GROUND ROD)

C. IF THE CABINET IS TO BE REMOVED 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	13	14	15	16	17	18
Phase 1 & 5	←G	←G	R	R	←G	←G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6	←G	←G	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
Phase 1 & 6	←G	←G	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 Change	←Y	←Y	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
Phase 2 & 5	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	WK	WK	DW	DW
5 Change	←R	←R	R	R	←Y	←Y	G	G	R	R	R	R	R	R	WK	WK	DW	DW
Phase 2 & 6	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	WK	WK	DW	DW
Ped Clearance	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 Change	←R	←R	Y	Y	←R	←R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
Phase 3 & 7	←R	←R	R	R	←R	←R	R	R	←G	←G	R	R	R	R	DW	DW	DW	DW
3 & 7 Change to Phase 3 & 8 or Phase 4 & 7 or Phase 4 & 8	←R	←R	R	R	←R	←R	R	R	←G	←G	R	R	R	R	DW	DW	DW	DW
Phase 3 & 8	←R	←R	R	R	←R	←R	R	R	←G	←G	R	R	R	R	DW	DW	DW	DW
3 Change	←R	←R	R	R	←R	←R	R	R	←Y	←Y	G	G	G	G	DW	DW	DW	DW
Phase 4 & 7	←R	←R	R	R	←R	←R	R	R	←G	←G	R	R	R	R	DW	DW	DW	DW
7 Change	←R	←R	R	R	←R	←R	R	R	←Y	←Y	G	G	G	G	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
4 & 8 Change	←R	←R	R	R	←R	←R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
Phase 4 & 8 Alt	←R	←R	R	R	←R	←R	R	R	G	G	G	G	G	G	DW	DW	WK	WK
Ped Clearance	←R	←R	R	R	←R	←R	R	R	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW
4 & 8 Alt Change	←R	←R	R	R	←R	←R	R	R	Y	Y	Y	Y	Y	Y	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

WIRING DIAGRAM



WIRING KEY

A,B,C,D,E F,G,H,I,K	7-CONDUCTOR CABLE (NO. 14 AWG)
L,M,N,O P,Q,R,S	5-CONDUCTOR CABLE (NO. 14 AWG)
T,U,V,W,X	2-CONDUCTOR CABLE (NO. 14 AWG)
Y	2-CONDUCTOR TRAY CABLE (NO. 12 AWG)
Z,AA,BB,CC	VIDEO DETECTION LEAD-IN CABLE
DD,EE,FF,GG	NON-INVASIVE DETECTOR LEAD-IN CABLE
HH	3-1 CONDUCTOR CABLES (NO. 4 AWG THHN/THWN)
GW	GROUND WIRE
PS	PROPOSED SERVICE
PD	EXISTING PHONE DROP
ML	MICROLOOP PROBE
+	GROUND ROD
I/C-1	12 PAR INTERCONNECT TO CEDAR DR/KELSO DR
I/C-2	12 PAR INTERCONNECT TO WINDLASS RD

CONTACTS

DISTRICT	OFFICE OF TRAFFIC AND SAFETY
MS. ERIN KUHN ASSISTANT DISTRICT ENGINEER - TRAFFIC 410-321-2781	MR. RICHARD DAFF SR. CHIEF, TRAFFIC OPERATIONS 410-787-7630
MR. MICHAEL PASQUARIELLO ASSISTANT DISTRICT ENGINEER - UTILITIES 410-321-2841	MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS 410-787-7630
MR. DONALD SCHAEFER ASSISTANT DISTRICT ENGINEER - CONSTRUCTION 410-321-2821	MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS 410-787-7650
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	MS. DARLENE EIDE SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE) 410-787-7668

REDLINE #1 - FEB 23, 2016

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

MD 700 (MARTIN BLVD) AT COMPASS ROAD
MIDDLE RIVER, MARYLAND

GENERAL INFORMATION PLAN

SCALE 1" = 20' DATE 6/1/09 CONTRACT NO. BA1195168

DESIGNED BY K. PERMISSOHN COUNTY BALTIMORE
DRAWN BY M. ESKINAZI LOGMILE 03070001.21
CHECKED BY D. MACLEAN TMS NO. J639
FAP NO. TOD NO.

TS NO. 501D GI DRAWING SP-24 OF 37 SHEET NO. 2 OF 2