

**PROJECT DESCRIPTION**

THIS PROJECT INVOLVES INSTALLING APS AT THE INTERSECTION, RELOCATION OF THE TRAFFIC CONTROL CABINET, MAST ARM POLE AND RAMP RECONSTRUCTION. MD 528 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**INTERSECTION OPERATION**

THIS INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASE FOR THE NORTH AND SOUTH LEGS OF THE INTERSECTION. THE MD 528 LEFT TURNS OPERATE IN EXCLUSIVE-PERMISSIVE PHASING.

**CONTROLLER REQUIREMENTS**

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

**GENERAL NOTES (CONT.)**

- 12. THE CONTRACTOR SHALL COORDINATE WITH DISTRICT #1 TRAFFIC TO COORDINATE TRAFFIC SIGNAL TURN OFF AND TEMPORARY STOP CONTROL. CONTRACTOR SHALL VERIFY ANY EVENT OR DATE RESTRICTIONS PRIOR TO TRAFFIC SIGNAL TURN OFF.
- 13. ONCE INSTALLATION OF MAST ARM POLE IN NORTHEAST CORNER IS COMPLETED, CONTACT BRUCE POOLE AT (410) 677-4082 TO ARRANGE FOR OVERHEAD COMMUNICATION LINE ON POLE NUMBER 61962-93045 TO BE RAISED.

**CONTACT PERSONS FOR DISTRICT #1 ARE AS FOLLOWS:**

MR. GENE COFIELL, ASSISTANT DISTRICT ENGINEER-TRAFFIC, PHONE: (410) 677-4040  
 MR. RAVINDRA GANVIR, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION, PHONE: (410) 677-4020  
 MR. JAMES WRIGHT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE, PHONE: (410) 677-4010

**CONTACT PERSONS FOR DOT ARE AS FOLLOWS:**

MR. RICHARD L. DAFF, SR., CHIEF, TRAFFIC OPERATIONS DIVISION, PHONE: (410)787-7630  
 MR. ROBERT SNYDER, ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS, PHONE: (410)787-7630  
 MR. ED RODENHIZER, CHIEF, SIGNAL OPERATIONS, PHONE: (410)787-7650  
 MR. EUGENE BAILEY, CHIEF, SIGN OPERATIONS, PHONE: (410)787-7676

**EQUIPMENT LIST "A"**

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
9042	CONTROLLER ASC II WITH TELEMETRY	EA	1
9044	CONTROLLER CABINET, SIZE 6	EA	1
9086	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS	EA	1
9571	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN 2 - D-3(1) (96"x16")	SF	22

**WIRING KEY**

A,F	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	EXR	EXISTING CABLE TO BE DISCONNECTED, PULLED BACK & REROUTED
D,E	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	EX	EXISTING CABLE TO REMAIN
B,C	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	PF	RELOCATED OVERHEAD POWER SERVICE BY DELMARVA
G	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG) 3 RUNS	Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
		+	EXISTING GROUND ROD
		+	PROPOSED GROUND ROD

**EQUIPMENT LIST "B"**

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

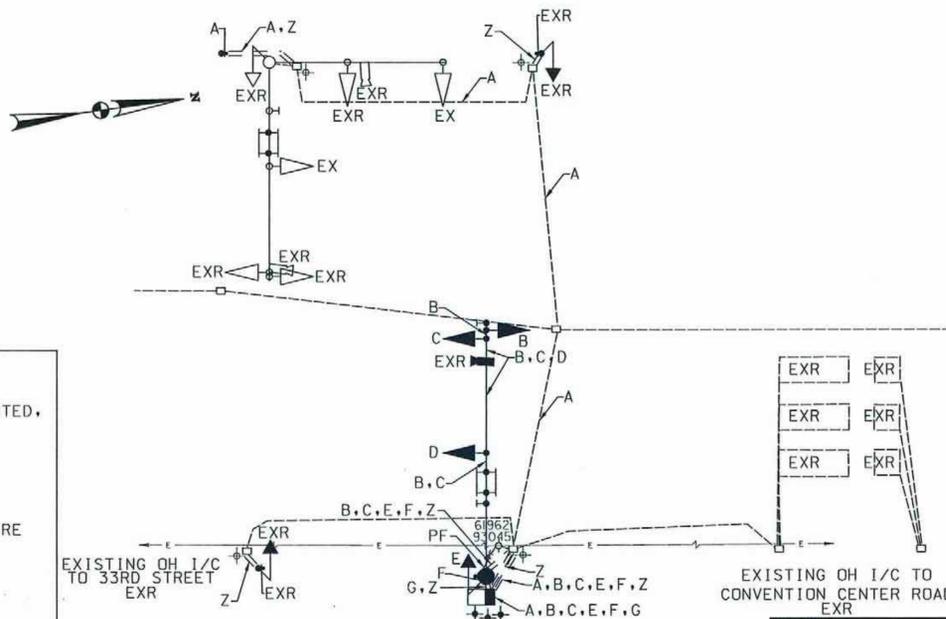
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1003	MAINTENANCE OF TRAFFIC (36TH, 94TH, MD 90 & 142ND)	EA	3
2002	TEST PIT EXCAVATION	CY	3
5004	F & I 5" HEAT APPLIED WHITE OR YELLOW PERMANENT PAVEMENT LINE MARKINGS	LF	50
5005	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS ANY WIDTH	LF	780
5006	F & I 12" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	665
5007	F & I 24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	60
6001	F & I STANDARD TYPE A COMBINATION CURB AND GUTTER 12" GUTTER PAN 8" DEPTH	LF	104-126
6002	F & I 5" CONCRETE SIDEWALK	SF	570
6003	F & I DETECTABLE WARNING SURFACE FOR CURB RAMPS	SF	50
8001	F & I 2 WIRE CENTRAL CONTROL UNIT	EA	1
8004	ADJUST EXISTING HANDHOLE TO GRADE INCLUDING COLLAR	EA	2
8007	F & I AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS	EA	4
8008	F & I BREAKAWAY PEDESTAL POLE (ANY SIZE)	EA	3
8016	F & I MAST ARM POLE & 60' MAST ARM ANY 'T' DIMENSION	EA	1
8021	REMOVE & DISPOSE MATERIAL AND EQUIPMENT PER ASSIGNMENT (36TH, 94TH, MD 90 & 142ND)	EA	1
8030	DISCONNECT, PULL-BACK & REROUTE CABLES	LF	560
8034	F & I SCHEDULE 80 RIGID PVC CONDUIT UP TO 4" - TRENCHED	LF	85
8036	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)	SF	22
8038	F & I NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	105
8040	F & I WEATHER HEAD, 3"	EA	1
8042	F & I ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS	EA	1
8043	F & I ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 AWG - THHN/THWN	LF	200
8052	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	1
8054	F & I ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	340
8056	F & I ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	95
8057	F & I ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	260
8065	INSTALL CONTROLLER AND CABINET - BASE MOUNT	EA	1
8066-A	12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING (OVERHEAD)	LF	2300*
8067-A	RELOCATE EXISTING TRAFFIC SIGNAL (ENTIRE CLUSTER)	EA	3
8068-A	RELOCATE EXISTING PED SIGNAL	EA	3
8069-A	RELOCATE EXISTING VIDEO CAMERA	EA	1
8071-A	RELOCATE EXISTING SIGNS	EA	1

\*QUANTITY TO BE USED AS REQUIRED

**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076.

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 PROPERTY OF THE CONTRACTOR.



APPROVAL: *[Signature]*  
 ASSISTANT DIVISION CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION  
 REDLINE NO. 1  
 03/25/09  
 ADD NOTE TO RAISE COMMUNICATION LINE.  
 ADD QUANTITY FOR BACKER CURB IN SW CORNER

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**PHASING CHART**

NO PHASE CHANGE

**SPECIAL NOTES**

APS WILL FUNCTION AS FOLLOWS:

- TO CROSS COASTAL HIGHWAY (NORTH LEG):
  - A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS COASTAL HIGHWAY AT 36TH. CROSSWALK ANGLES RIGHT".
  - B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
- TO CROSS COASTAL HIGHWAY (SOUTH LEG):
  - A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS COASTAL HIGHWAY AT 36TH".
  - B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

**GENERAL NOTES**

1. ALL EXISTING FOUNDATION TOPS WITHIN EXISTING SIDEWALK SHALL BE REMOVED 2" BELOW SIDEWALK GRADE.
2. ALL PROPOSED FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
3. ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
4. 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.
5. 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%.
6. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
7. PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
8. ANY HARDWARE NECESSARY FOR THE INSTALLATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT SHALL BE INCIDENTAL TO THE PERTINANT RELOCATE PAY ITEM.
9. IF EXISTING INTERCONNECT CABLE CANNOT BE REROUTED AS SPECIFIED IN PLANS, OVERHEAD INTERCONNECT CABLE SHALL BE REPLACED BETWEEN 33RD STREET AND CONVENTION CENTER ROAD. OVERHEAD INTERCONNECT QUANTITY HAS BEEN INCLUDED BUT SHALL ONLY BE USED IF RELOCATION IS NOT POSSIBLE.
10. THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO INSTALLING PROPOSED SIGNAL EQUIPMENT. IF ANY UTILITY CONFLICTS SHOULD ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
 MD 528 (COASTAL HWY.) AT 36TH ST.  
 OCEAN CITY, MARYLAND

REVISIONS	GENERAL INFORMATION SHEET		
REDLINE NO. 1 03/25/09 ADD NOTE TO RAISE COMMUNICATION LINE. ADD QUANTITY FOR BACKER CURB IN SW CORNER	SCALE 1"=20'	DATE NOVEMBER 2008	CONTRACT NO. XX4435185
	DESIGNED BY B.J.G.	COUNTY WORCESTER	
	DRAWN BY B.J.G.	LOGMILE 23052806.22	
	CHECKED BY D.A.E.	TIMS NO. J610	
	FAP NO.	TOD NO.	
	TS NO. 23148-G1	DRAWING SG-2 OF SG-13	SHEET NO. 2 OF 13