PROJECT DESCRIPTION

THIS PROJECT INVOLVES RECONSTRUCTION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 528 & 133RD STREET INCLUDING APS PUSHBUTTONS, LED COUNTDOWN PEDESTRAIN SIGNAL HEADS, LED TRAFFIC SIGNAL HEADS AND VIDEO DETECTION. MD 528 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH ALTERNATE PEDESTRIAN PHASES 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 WITH TELEMETRY CABLE 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.

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 133RD. CROSSWALK ANGLES LEFT".

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 133RD".

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS FOR DISTRICT #1 ARE AS FOLLOWS:

MR. GENE COFIELL
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: (410) 677-4040

MR. GREG HOLSEY
ASSISTANT DISTRICT ENGINEER - CONST.
PHONE: (410) 677-4020

MR. BRUCE POOLE
DISTRICT UTILITY ENGINEER
PHONE: (410) 677-4082

MR. JAMES WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINT.
PHONE: (410) 677-4010

MR. TERRY MCGEAN
TOWN OF OCEAN CITY - CITY ENGINEER
PHONE: (410) 289-8845

CONTACT PERSONS FOR OOTS 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. JOHN GOVER
OFFICE OF HIGHWAY DESIGN
PHONE: (410) 545-8766

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
PHONE: (410)787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
PHONE: (410)787-7676

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

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 3 - D-3(1) (72"X16") 4 - R10-3(1) (9"X15")	SF	28

EQUIPMENT LIST "B"

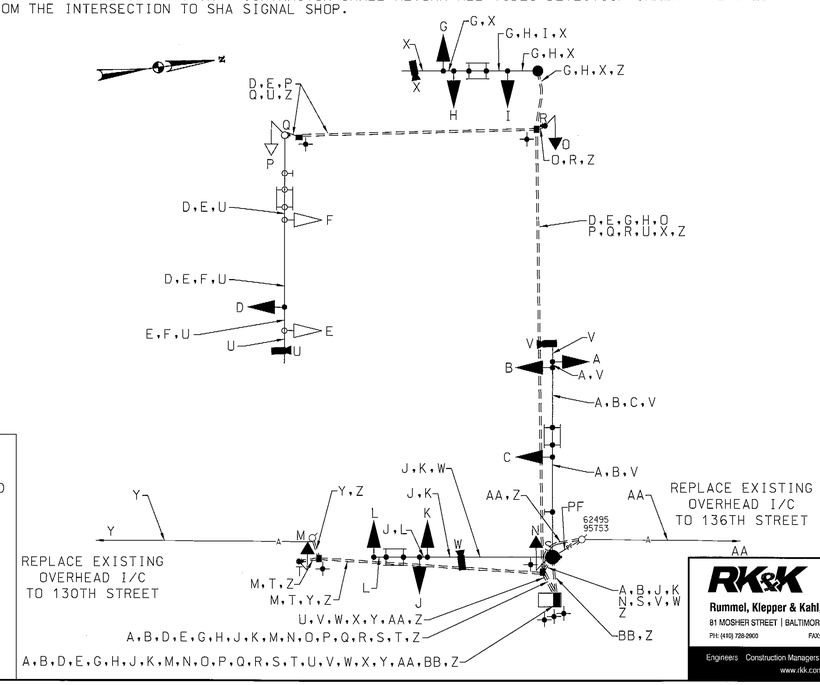
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1001	MAINTENANCE OF TRAFFIC	EA	2
2002	TEST PIT EXCAVATION	CY	5
5003	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS	LF	1085
5005	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	1000
5006	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	85
6002	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	LF	352
6003	MONOLITHIC CONCRETE MEDIAN 4 FEET O INCH WIDE TYPE A-1	LF	4
6004	5 INCH CONCRETE SIDEWALK	SF	1260
8001	12 INCH LED SIGNAL HEAD SECTION	EA	10
8002	2 WIRE CENTRAL CONTROL UNIT	EA	1
8004	8 INCH LED SIGNAL HEAD SECTION	EA	6
8005	ADJUST EXISTING HANDHOLE TO GRADE INCLUDING COLLAR	EA	1
8007	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS	EA	4
8022	MAST ARM POLE & 38 FT MAST ARM ANY 'T' DIMENSION	EA	1
8028	BREAKAWAY PEDESTAL POLE (ANY SIZE)	EA	2
8029	REMOVE & DISPOSE MATERIAL & EQUIPMENT PER ASSIGNMENT	EA	1
8031	TWIN MAST ARM POLE & 50 FT/60 FT MAST ARMS ANY 'T' DIMENSION	EA	1
8034	VIDEO DETECTION CAMERA & CABLE	EA	4
8035	12 PAIR COMMUNICATION CABLE, SELF- SUPPORTING AND/OR JELLYFILLED	LF	2800
8036	3 INCH ELECTRICAL CONDUIT-PVC RISER	LF	30
8041	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED	LF	270
8043	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED	LF	120
8045	DETECTABLE WARNING SURFACES	SF	84
8046	INSTALL GROUND MOUNT AND/OR OVERHEAD SIGN	SF	28
8048	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	440
8050	WEATHER HEAD, 3 INCH	EA	2
8052	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS	EA	1
8053	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN	LF	100
8054	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	4
8060	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	1
8062	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	580
8064	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	710
8065	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	1630
8073	INSTALL CONTROLLER AND CABINET - BASE MOUNT	EA	1
NEG	RELOCATE EXISTING SIGN	EA	1
NEG	INSTALL PROPERTY CORNER MARKER	EA	1
NEG	RELOCATE PARKING BLOCK	EA	2
NEG	6"X6" LANDSCAPE TIMBER	LF	84
NEG	8 INCH PORTLAND CEMENT CONCRETE FOR DRIVEWAY MIX 6	SY	5
NEG	RELOCATE EXISTING TRAFFIC SIGNAL (ENTIRE CLUSTER)	EA	6
NEG	RELOCATE EXISTING PED SIGNAL	EA	3

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. CONTRACTOR SHALL RETURN ALL VIDEO DETECTION CAMERAS REMOVED FROM THE INTERSECTION TO SHA SIGNAL SHOP.



WIRING KEY

Q,R,S,T	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	Y,AA	12-PAIR COMMUNICATION CABLE (NO. 19 AWG) SELF-SUPPORTING OVERHEAD
C,F,I,L, M,N,O,P	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	PF	RELOCATED OVERHEAD POWER SERVICE BY DELMARVA
A,B,D,E, G,H,J,K	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
BB	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG) 3 RUNS		EXISTING GROUND ROD
U,V,W,X	VIDEO DETECTION CAMERA CABLE		PROPOSED GROUND ROD

PHASING CHART

NO PHASE CHANGE

GENERAL NOTES

1. ALL EXISTING FOUNDATION TOPS WITHIN EXISTING SIDEWALK SHALL BE REMOVED 2" BELOW SIDEWALK GRADE AND NEW SIDEWALK SHALL BE INSTALLED TO BE FLUSH WITH FINAL 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
10. 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.
11. UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
12. THE CONTRACTOR SHALL VERIFY ALL POLE LOCATIONS PRIOR TO INSTALLATION.
13. VIDEO DETECTION CAMERA LOCATION/ALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.
14. THE CONTRACTOR SHALL CAP AND ABANDON CONDUIT FEEDING SIGNAL EQUIPMENT THAT IS REMOVED.
15. ADA REQUIRES THAT ANY ABRUPT CHANGE IN ELEVATION IN SIDEWALK BE LESS THAN 1/4".
16. VIDEO DETECTION CAMERAS FOR EAST AND WEST APPROACHES SHALL BE CHECKED IN THE FIELD BY THE ENGINEER PRIOR TO PERMANENT INSTALLATION TO ELIMINATE ANY POSSIBLE TELECOMMUNICATION CABLE CONFLICTS.
17. THE CONTRACTOR SHALL TRIM THE EXISTING TREE IN THE SE CORNER OF THE INTERSECTION IF THE BRANCHES THAT EXTEND INTO PUBLIC RIGHT OF WAY OBSTRUCT THE PEDESTRIAN SIGNAL HEAD OR PEDESTRIAN PUSHBUTTON.
18. OCEAN CITY DPW SHOULD BE CONTACTED A MINIMUM OF TWO WEEKS PRIOR TO STARTING WORK ON THIS INTERSECTION TO COORDINATE FIRE HYDRANT RELOCATION. REFER TO SIGNAL PLAN SHEET FOR CONTACT AND PHONE NUMBER.
19. ALL HARDWARE NECESSARY FOR THE INSTALLATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT SHALL BE INCIDENTAL TO THE PERTINANT RELOCATE PAY ITEM.

TOD No: XX224-07
SHA No: WO311A52/C2
MD 528 @ 56th Street; MD 528 @ 133rd Street

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

MD 528 (COASTAL HWY.) AT 133RD ST.
OCEAN CITY, MARYLAND

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GENERAL INFORMATION SHEET

SCALE NONE DATE NOVEMBER 2009 CONTRACT NO. XX2245I85

DESIGNED BY BJG COUNTY WORCESTER
DRAWN BY BJG LOGMILE 23052800.90
CHECKED BY BLB TIMS NO. KI85
FAP NO. TOD NO.

TS NO. 2315B-GI | DRAWING SG-4 OF 4 | SHEET NO. 5 OF 7

PLOTTED: Friday, January 15, 2010 AT 08:00 AM
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BY: BJG