

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW FULLY-TRAFFIC-ACTUATED SIGNAL AT THE INTERSECTION OF MD 139 (CHARLES ST.) AND BELLONA AVE./I-695 ON-RAMP IN BALTIMORE COUNTY. MD 139 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE MD 139 @ BELLONA AVE./I-695 ON-RAMP INTERSECTION WILL OPERATE IN A NEMA THREE-PHASE FULL-TRAFFIC-ACTUATED MODE WITH SPLIT PHASING FOR ALL THREE LEGS OF THE INTERSECTION AND ALTERNATE PEDESTRIAN PHASING FOR THE EAST AND SOUTH LEGS OF THE INTERSECTION.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC RESPONSIVE MASTER CONTROLLER WITH VIDEO DETECTION INTERFACE EQUIPMENT, INTERSECTION MONITOR, PHONE DROP, AND APS CENTRAL CONTROL UNIT HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET. CONTRACTOR SHALL FURNISH APS CENTRAL CONTROL UNIT AND SHA TO INSTALL. CONTRACTOR SHALL FURNISH AND INSTALL UPS SYSTEM HOUSED IN A NEMA SIZE "5" BASE MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410)787-7631 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

APS PUSHBUTTON MESSAGES

FOR CHARLES STREET CROSSING

WAIT: "WAIT TO CROSS CHARLES STREET AT BELLONA AVENUE"
WALK: RAPID TICK
WALK: "WALK SIGN ON TO CROSS CHARLES STREET"

FOR BELLONA AVE CROSSING

WAIT: "WAIT TO CROSS BELLONA AVENUE AT CHARLES STREET"
WALK: RAPID TICK
WALK: "WALK SIGN ON TO CROSS BELLONA AVENUE"

CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

MS. ERIN KUHN ASSISTANT DISTRICT ENGINEER-TRAFFIC PHONE: (410)321-2781
MR. MICHAEL PASQUARIELLO UTILITY ENGINEER PHONE: (410)321-2841

MR. STEVE MARCISZEWSKI ASSISTANT DISTRICT ENGINEER-MAINTENANCE PHONE: (410)321-2761

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 (410)787-7630

MR. ED RODENHIZER CHIEF, SIGNAL OPERATIONS (410)787-7650
MR. EUGENE BAILEY CHIEF, SIGN OPERATIONS (410)787-7676

POWER COMPANY

BGE
GAS & ELECTRIC NEW BUSINESS DEPT.
(410) 850-4620

CONSTRUCTION DETAILS (CONTINUATION)

- Q. STUB CONDUIT AT POLE BASE; BGE TO MAKE FINAL CONNECTIONS.
- R. ELECTRICAL HANDHOLE (SEE INTERCONNECT PLAN).
- S. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED (SEE INTERCONNECT PLAN).
- T. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED (SEE INTERCONNECT PLAN).
- U. STUB CONDUIT AT BASE OF POLE; VERIZON TO MAKE FINAL CONNECTION.
- V. INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED.
- W. ELECTRICAL HANDHOLE (SEE BELLONA AVE EAST AT E-B I-695 OFF RAMP SIGNAL PLAN FOR DETAILS). W.B.
- X. 3 IN. CARRIER PIPE (SEE BELLONA AVE EAST AT E-B I-695 OFF RAMP SIGNAL PLAN FOR DETAILS). W.B.
- Y. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED (BELLONA AVE EAST AT E-B I-695 OFF RAMP SIGNAL PLAN FOR DETAILS).
- Z. INSTALL 12 IN. HEAT APPLIED PERFORMED THERMOPLASTIC PAVEMENT MARKING (SEE CROSSWALK HATCHING DETAIL).
- AA. INSTALL TELEPHONE COMMUNICATION PEDESTAL (NOTE: INSTALL 2-2 IN. PVC CONDUIT BEND INTO CABINET BASE).
- BB. INSTALL BASE MOUNTED CABINET NEMA SIZE #5 WITH UPS SYSTEM NOTE: INSTALL 2-2 IN. CONDUIT BENDS INTO FOUNDATION.

EQUIPMENT LIST "A"

B. EQUIPMENT TO BE FURNISHED BY SHA AND INSTALLED BY CONTRACTOR.

CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
900000	VIDEO DETECTION INTERFACE EQUIPMENT	EA	1
971020	TRAFFIC RESPONSIVE MASTER CONTROLLER AND CABINET - BASE MOUNT	EA	1
973023	SHEET ALUMINUM SIGNS	SF	112
	3 - R3-5(L) (30"x36") - MAST ARM MOUNT		
	1 - R3-6(1) (30"x36") - MAST ARM MOUNT		
	2 - R3-5(R) (30"x36") - MAST ARM MOUNT		
	1 - R10-7 (24"x30") - MAST ARM MOUNT		
	2 - R10-11b (24"x24") - MAST ARM MOUNT		
	1 - D-3(1) (VAR. X 16") "BELLONA AVE" RIGHT ARROW - MAST ARM MOUNT		
	1 - D-3(1) (VAR. X16") "BELLONA AVE" LEFT ARROW - MAST ARM MOUNT		
	1 - D-3(1) (VAR. X16") "CHARLES ST" - MAST ARM MOUNT		
	1 - M3-3 (30"x15"), M1-5(1) (48"x36"), M6-1 (30"x24") - POLE MOUNT		

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. 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 PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
6. 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.
7. LOCATION OF ACCESSIBLE PEDESTRIAN PUSHBUTTONS MUST MEET THE LOCATION REQUIREMENTS OF THE MUTCD, SECTION 4E-09 AND FIGURE 4E-2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNAL: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL THE CONFLICT HAS BEEN RESOLVED. IF NEEDED, A DESIGN WAIVER SHALL BE OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
8. FOR ADDITIONAL PAVEMENT MARKING INFORMATION SEE PAVEMENT MARKING PLANS.
9. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR FROM 60"x60" LEVEL LANDING AREA. A LEVEL LANDING AREA IS AN AREA WITH A CROSS SLOPE OF LESS THAN 2%.
10. PUSHBUTTON IS TO BE LOCATED SO THAT A PEDESTRIAN IN A WHEELCHAIR LOCATED ON THE LEVEL LANDING AREA, DOES NOT HAVE TO REACH MORE THAN 18"
11. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
12. VIDEO CAMERA LOCATION/ALIGNMENT SHALL BE COORDINATED WITH THE SHA ENGINEER.
13. FOR LOCATION AND MD STANDARD OF SIDEWALK RAMPS AND DETECTABLE WARNING SURFACES INSTALLATION REFER TO THE ROADWAY PLANS.
14. ALL SIGNAL WORK SHALL BE COORDINATED WITH ROADWAY PLANS. SIGNAL EQUIPMENT SHALL BE INSTALLED PRIOR TO SIDEWALK/RAMP INSTALLATION.

EQUIPMENT LIST "B"

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

CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
203030	TEST PIT EXCAVATION	CY	5
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	155
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	515
800000	METERED SERVICE PEDESTAL - BASE MOUNTED	EA	1
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	15
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	425
805105	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	165
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	375
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	30
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	90
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	30
810010	ELECTRICAL CABLE 1-CONDUCTOR NO 4 AWG THHN/THWN	LF	30
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	4
813015	INSTALL OVERHEAD SIGN	SF	112
816005	CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	4
816010	CONTROL CABLE, 500 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	2
818004	10 FT. BREAKAWAY PEDESTAL POLE	EA	2
818010	14 FT. BREAKAWAY PEDESTAL POLE	EA	1
818036	STEEL POLE WITH A SINGLE 50 FT. MAST ARM	EA	2
818041	STEEL POLE WITH A SINGLE 60 FT. MAST ARM	EA	1
831010	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINIAIRE	EA	3
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FT. LENGTH	EA	9
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	33
860292	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	1
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	595
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	1300
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	505
861116	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)	LF	475
866103	15 FT. LIGHTING ARM ON SIGNAL STRUCTURE	EA	3
871117	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	EA	1
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	4
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON	EA	4
800000	PEDESTRIAN EDUCATION SIGN (R10-3(1) 9"x15"	EA	4
816001	VIDEO DETECTION CAMERA	EA	6
800000	TELEPHONE COMMUNICATION PEDESTAL	EA	1
800000	5-PAIR NO. 22 AWG SHIELDED COPPER CABLE	LF	15
800000	APS CONTROL UNIT	EA	1
800000	UPS SYSTEM WITH BASE MOUNTED CABINET SIZE #5	EA	1

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO SHA.

ALL MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



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

MD 139 (CHARLES ST.) AND BELLONA AVE (EAST) / WB I-695 ON RAMP
TOWSON, MARYLAND

GENERAL INFORMATION SHEET I

SCALE NONE DATE MAY 2008 CONTRACT NO. BA9775A72

DESIGNED BY MLH COUNTY BALTIMORE
DRAWN BY MLH LOGMILE 03013903.56
CHECKED BY DAE TMS NO. I-572
FAP NO. SEE TITLE SHEET TOD NO.

TS NO. 4668 GI DRAWING SP-12 OF 15 SHEET NO. 373 OF 443

Rummel, Klepper & Kahl, LLP
Consulting Engineers Since 1923
81 Mosher Street
Baltimore, Maryland 21217
www.rkk.com
Ph: 410.728.2900 Fax: 410.728.3160