

**PROJECT DESCRIPTION**

**GENERAL**

THIS PORTION OF THE PROJECT INVOLVES THE RE-CONSTRUCTION OF PORTIONS OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF US 1 (BALTIMORE AVENUE) AT MADISON STREET/CLEVELAND AVENUE IN PRINCE GEORGE'S COUNTY. GEOMETRIC MODIFICATIONS ARE PROPOSED ON THE WEST LEG TO PROVIDE AN ADDITIONAL TURN LANE. APS AND CPS ARE PROPOSED FOR ALL EXISTING PEDESTRIAN CROSSINGS. LED VEHICULAR TRAFFIC SIGNALS WILL ALSO BE INSTALLED. EXISTING VIDEO DETECTION WILL BE MAINTAINED OR RELOCATED FOR PRESENCE DETECTION. US 1 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, SEMI-ACTUATED TRAFFIC MODE. PERMISSIVE LEFT-TURN PHASING WILL BE MAINTAINED FOR ALL APPROACHES. THE EAST AND WEST LEG PEDESTRIAN CROSSINGS WILL CONTINUE TO RUN CONCURRENT WITH THE MAINLINE AND THE ALTERNATE SIDE STREET PHASE WILL BE MAINTAINED FOR THE NORTH LEG PEDESTRIAN CROSSING.

**CONTROLLER REQUIREMENTS**

INSTALL A NEW EIGHT-PHASE FULLY ACTUATED TRAFFIC SIGNAL CONTROLLER AND ASSOCIATED HARNESSES IN A NEMA SIZE "6" BASE MOUNTED CABINET. INSTALL A 2-WIRE CENTRAL CONTROL UNIT AND VIDEO DETECTION CAMERA INTERFACE FOR 1-4 CAMERAS.

**PHONE DROP**

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE INSTALLATION OF THE PHONE DROP. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

**APS WILL FUNCTION AS FOLLOWS:**

FOR US 1 (BALTIMORE AVENUE)

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

FOR MADISON STREET

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

THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

Mr. Brian Young  
Assistant District Engineer - Traffic  
Phone: 301-513-7404

Mr. Augie Reblish  
Assistant District Engineer - Utility  
Phone: 301-513-7350

Mr. Wayne Mowdy  
Assistant District Engineer - Maintenance  
Phone: 301-513-7304

Mr. Richard L. Daff Sr.  
Chief, Traffic Operations Division  
Phone: 410-787-7630

Mr. Edward Rodenhizer  
Chief, SHA Traffic Signal Shop  
Phone: 410-787-7650

The Power Company Representative is:  
Potomac Electric Power Company  
4061 Powder Mill Road, Suite 600  
Calverton, Maryland 20705  
Phone: 301-931-2880

**EQUIPMENT LIST 'A'**

APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE	QUANTITY	DESCRIPTION
800000	1 EA	EIGHT-PHASE FULLY-ACTUATED CONTROLLER HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET WITH ALL NECESSARY HARNESSES
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	6 EA	ACCESSIBLE PEDESTRIAN PUSHBUTTON AND SIGN
800000	1 EA	VIDEO DETECTION CAMERA INTERFACE (1-4 CAMERAS)
800000	6 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	1 EA	RELOCATE EXISTING VIDEO DETECTION CAMERA
800000	90 SF	FURNISH AND INSTALL SHEET ALUMINUM SIGNS - MAST ARM/GROUND MOUNT
		1 EA - SHIELD ASSEMBLY (36"x75") "NORTH, US 1, LEFT ARROW"
		1 EA SHIELD ASSEMBLY (24"x51") "NORTH, US 1, RIGHT ARROW"
		1 EA - SHIELD ASSEMBLY (36"x75") "SOUTH, US 1, LEFT ARROW"
		1 EA - SHIELD ASSEMBLY (24"x51") "SOUTH, US 1, RIGHT ARROW"
		1 EA - D-3(I) (72"x24") "MADISON ST" DUAL FACED
		1 EA - SI-1 (36"x36")
		1 EA - M6-2 (MOD) (21"x15")
		4 EA - R10-3(I) (9"x15") "PUSH BUTTON TO MADISON ST"
		2 EA - R10-3(I) (9"x15") "PUSH BUTTON TO BALTIMORE AVE"
		1 EA - R3-5(R) (30"x36")
807202	1 EA	METERED SERVICE PEDESTAL
816005	2 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	4 EA	10 FOOT BREAKAWAY PEDESTAL POLE
831010	1 EA	250 WATT HPS LAMP AND LUMINAIRE
818050	1 EA	STEEL POLE WITH TWIN 50 FOOT AND 60 FOOT MAST ARMS
860284	24 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
866104	1 EA	20 FT. LIGHTING ARM ON SIGNAL STRUCTURE

**EQUIPMENT LIST 'B'**

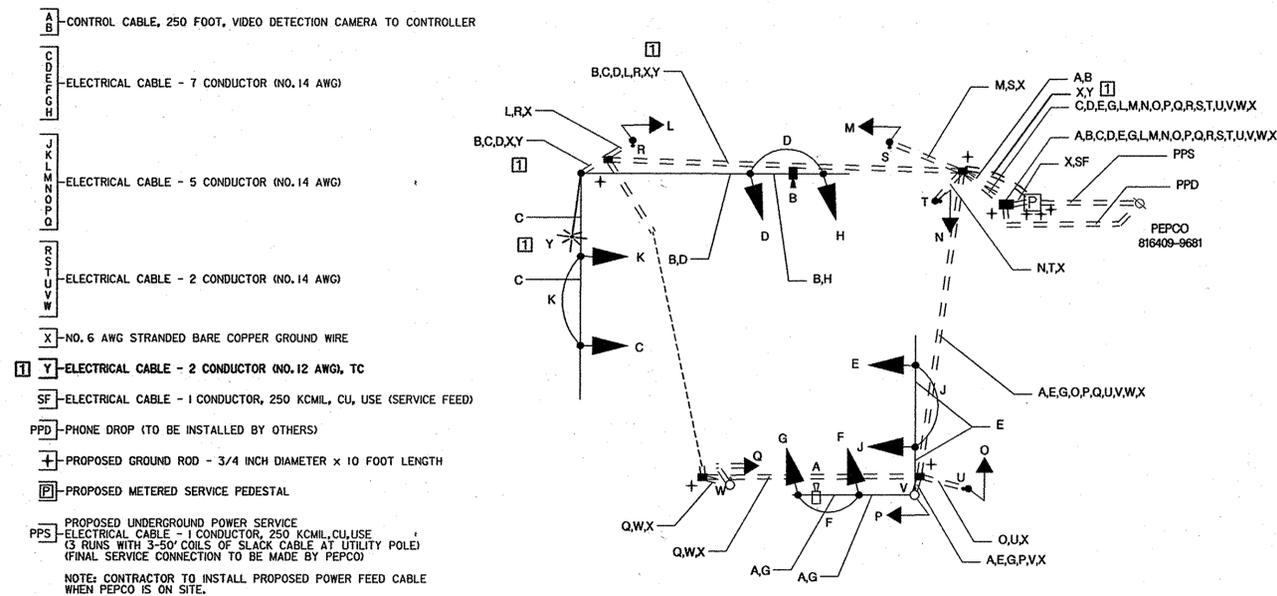
EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE	QUANTITY	DESCRIPTION
120500	1 LS	MAINTENANCE OF TRAFFIC
203030	4 CY	TEST PIT EXCAVATION
585405	150 LF	5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585407	450 LF	5 INCH YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585412	300 LF	12 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585424	60 LF	24 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585462	350 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
585627	15.5 SF	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
634300	30 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
655105	200 SF	5 INCH CONCRETE SIDEWALK
655120	24 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS
800000	1 EA	AS BUILT FOR SHA ON CADD
800000	2 EA	3 INCH BEND IN EXISTING FOUNDATION
800000	300 LF	1 CONDUCTOR, 250 KCMIL, CU, USE
800000	1 LS	REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL EQUIPMENT
801004	6 CY	CONCRETE FOR SIGNAL FOUNDATION
801130	1 EA	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS
801135	1 EA	SQUARE TUBULAR STEEL ANCHOR BASES
802501	675 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805118	200 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
805125	80 LF	2 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805135	140 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805140	60 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
811001	4 EA	ELECTRICAL HANDHOLE
833060	10 LF	3 INCH DIAMETER PVC ELECTRICAL CONDUIT, SCHEDULE 80, RISER
837001	5 EA	GROUND ROD - 3/4 INCH DIAMETER BY 10 FOOT LENGTH
861105	625 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	700 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	675 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	150 LF	ELECTRICAL CABLE - 2 CONDUCTOR NO. 12 (AWG), TC

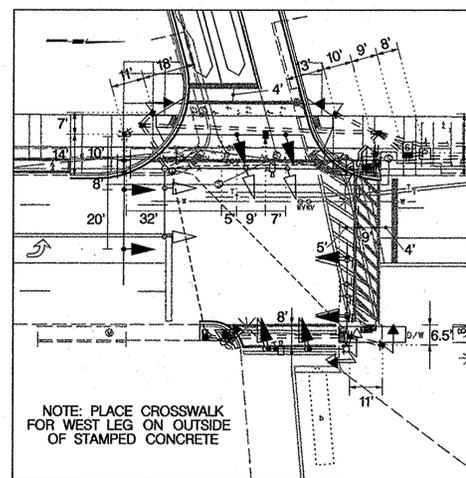
**PHASE CHART**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHASE 2 + 6	G	G	G	G	R	R	R	R	W	W	W	W	DW	DW
PEDESTRIAN CLEARANCE	G	G	G	G	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
PHASE 2 + 6 CHANGE	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 + 8	R	R	R	R	G	G	G	G	DW	DW	DW	DW	DW	DW
PHASE 4 + 8 CHANGE	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 + 8 ALT	R	R	R	R	G	G	G	G	DW	DW	DW	DW	W	W
PEDESTRIAN CLEARANCE	R	R	R	R	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
PHASE 4 + 8 ALT CHANGE	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

**WIRING DIAGRAM**



**DIMENSIONS**



APPROVAL: *[Signature]* 2/19/08  
REDLINE REVISION 02-19-2008

**LENHART TRAFFIC CONSULTING**  
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING  
331 Redwood Grove Court Millersville, Maryland 21108  
Tel: (410) 987-3888 Fax: (443) 782-2288

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

**US 1 (BALTIMORE AVENUE) AT  
MADISON STREET /CLEVELAND AVENUE**

**GENERAL INFORMATION**

SCALE NONE DATE OCTOBER 2007 CONTRACT NO. BW982M82

DESIGNED BY MML COUNTY PRINCE GEORGE'S  
DRAWN BY MML LOGMILE 16000102.1B  
CHECKED BY MML T. I. M. S. NO. 1-684  
F. A. P. NO. N/A TOD NO.

DRAWING NO. **TS-1124-D-G1** OF SHEET NO. OF

PLOTTED: \$DATE\$TIME\$  
FILE: \$FILE\$