



SPECIAL NOTES:

1. THE CONTRACTOR SHALL NOT BLOCK VIEW OF EXISTING SIGNAL INDICATIONS DURING INSTALLATION OF MAST ARM. IF NEW MAST ARM CANNOT BE INSTALLED DUE TO CONFLICT WITH EXISTING SIGNAL INDICATIONS OR SPAN WIRES, A SIGNAL OUTAGE SHALL OCCUR DURING NON-PEAK HOURS AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL COORDINATE WITH SHA TRAFFIC OPERATION DIVISION TO CONTACT LOCAL POWER COMPANY TO SET-UP WORK WITH TO DISCONNECT THE EXISTING ELECTRICAL SERVICE AND HAVE THE NEW SERVICE ENERGIZED.

- CONSTRUCTION DETAILS**
- INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH A TWIN 50 FT. (CUT TO 36 FT.) / 50 FT. (CUT 47 FT.) MAST ARMS, TRAFFIC SIGNAL HEADS, OPTICOM DETECTOR EYES, VIDEO DETECTION CAMERAS MOUNTED ON MAST ARMS, SIGNS AND COUNTDOWN PEDESTRIAN SIGNAL HEADS. (INSTALL 1-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN POLE BASE).
 - INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH A TWIN 50 FT. (CUT TO 33 FT.) / 50 FT. (CUT 47 FT.) MAST ARMS, TRAFFIC SIGNAL HEADS, OPTICOM DETECTOR EYES, VIDEO DETECTION CAMERAS MOUNTED ON MAST ARMS, SIGNS AND COUNTDOWN PEDESTRIAN SIGNAL HEADS. (INSTALL 1-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN POLE BASE).
 - INSTALL CONCRETE FOUNDATION WITH 10 FT. STEEL PEDESTAL POLE WITH MODIFIED BREAKAWAY BASE STANDARD NO. MD 801.01-01, COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON INSTALLED WITH VIBRATING ARROW POINTING LEFT AND R10-3(1) SIGN. (SIGN TO READ "PUSH BUTTON TO CROSS UNION AVENUE"). (INSTALL 1-2 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BEND IN PEDESTAL BASE).
 - INSTALL CONCRETE FOUNDATION WITH 5 FT. STEEL PEDESTAL POLE WITH MODIFIED BREAKAWAY BASE STANDARD NO. MD 801.01-01, AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON INSTALLED WITH VIBRATING ARROW POINTING RIGHT AND R10-3(1) SIGN. (SIGN TO READ "PUSH BUTTON TO CROSS UNION AVENUE"). (INSTALL 1-2 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BEND IN PEDESTAL BASE).
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 - INSTALL NEMA SIZE "S" BASE MOUNTED CABINET AND CONTROLLER WITH SIZE "S" FOUNDATION STANDARD NO. MD 816.07. (INSTALL 3-2 IN. AND 2-4 IN. SCHEDULE 80, 90 DEGREE PVC ELECTRICAL CONDUIT BENDS IN CABINET BASE.)
 - INSTALL EMBEDDED METERED SERVICE PEDESTAL WITH 2-2 IN. AND 1-4 IN. SCHEDULE 80, 90 DEGREE PVC CONDUIT BENDS IN PEDESTAL BASE.
 - INSTALL HANDHOLE.
 - INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
 - INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
 - INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - SLOTTED.
 - INSTALL 4 IN. SCHEDULE 80, POLYVINYL CHLORIDE ELECTRICAL CONDUIT FOR PROPOSED UNDERGROUND ELECTRICAL SERVICE AND 2 IN. SCHEDULE 80, PVC ELECTRICAL CONDUIT FOR PROPOSED UNDERGROUND TELEPHONE SERVICE IN COMMON TRENCH. CAP AND MARK CONDUITS 2 FT. ABOVE GRADE AT UTILITY POLE FOR USE BY OTHERS.
 - INSTALL 2 IN. SCHEDULE 80, PVC ELECTRICAL CONDUIT - TRENCHED FOR PROPOSED UNDERGROUND ELECTRICAL SERVICE.
 - INSTALL 2 IN. SCHEDULE 80, PVC ELECTRICAL CONDUIT - TRENCHED FOR PROPOSED UNDERGROUND TELEPHONE SERVICE.
 - CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE.
 - REMOVE EXISTING STRAIN POLE AND POLE MOUNTED CABINET AND CONTROLLER. REMOVE FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. SHA SIGNAL SHOP SHALL BE NOTIFIED TO REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CABINET.
 - RELOCATE EXISTING STREET BLADE AND SUPPORT AS SHOWN.
 - REMOVE EXISTING STRAIN POLE AND PEDESTRIAN SIGNAL HEADS. REMOVE FOUNDATION 12 IN. BELOW GRADE AND BACKFILL.
 - REMOVE EXISTING HANDHOLE.
 - REMOVE EXISTING SIDEWALK AND INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED. REPLACE 5 INCH CONCRETE SIDEWALK.
 - REMOVE EXISTING SIDEWALK AND INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED. REPLACE 5 INCH CONCRETE SIDEWALK.
 - CAP AND ABANDON EXISTING CONDUIT.
 - ABANDON EXISTING LOOP DETECTOR. DISCONNECT AND REMOVE LOOP DETECTOR CABLES FROM CONDUITS, HANDHOLES, SIGNAL STRUCTURES AND CONTROLLER.
 - REMOVE EXISTING SPAN WIRE AND ALL ASSOCIATED EQUIPMENT.
 - INSTALL 4 IN. SCHEDULE 80, POLYVINYL CHLORIDE ELECTRICAL CONDUIT - TRENCHED FOR PROPOSED UNDERGROUND ELECTRICAL SERVICE.
 - EXISTING UNDERGROUND ELECTRICAL SERVICE TO BE REMOVED BY OTHERS. (SEE SPECIAL NOTE 2)
 - REMOVE EXISTING CROSSWALK HATCHING.

- GENERAL NOTES**
1. 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.
 2. 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.
 3. VIDEO CAMERA LOCATION / ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
 4. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
 5. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE NEW SIGNAL.
 6. ALL PROPOSED LUMINAIRES SHALL BE SUPPLIED WITH A PHOTOCELL.
 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
 8. THE CONTRACTOR SHALL NOT CUT MAST ARM AS INDICATED ON PLANS UNTIL MAST ARM POLE LOCATION IS FINALIZED.
 9. 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%.
 10. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON. NOT CENTER TO CENTER OF POLE.
 11. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
 12. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 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.
 13. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING SIDEWALKS CAUSED BY THE INSTALLATION OF SIGNAL EQUIPMENT.
 14. REFER TO SHEET 2 FOR DIMENSIONS OF SIGNAL EQUIPMENT.

GEOMETRIC LEGEND

---	EXISTING
---	PROPOSED

UTILITY LEGEND

SD	STORM DRAIN
G	GAS MAIN
W	WATER MAIN
S	SEWER MAIN
E	ELECTRIC CABLES
A	AERIAL CABLES
T	TELEPHONE CABLES
F	FIBER-OPTIC

APPROVALS

TEAM LEADER	
ASST. DIR. CHIEF	
DIRECTOR CHIEF	
OFFICE DIRECTOR	

REVISIONS

①	REBUILD TRAFFIC SIGNAL AND ADD APS/OPS AND OPTICOM ON ALL APPROACHES TMS# L110 SHA CONTRACT# XY125185 08/27/2012
②	09/07/2012 - ADDED OPTICOM DETECTION ON ALL APPROACHES SHA# XY125185; TMS# L154 (NEVER COMPLETED)
A	ASBUILT AND REDRAWN. SHA CONTRACT # 623X-485 06/29/1981

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 7A (Union Ave.) and Congress Ave.
Havre De Grace, MD

TRAFFIC SIGNALIZATION PLAN

SCALE 1" = 20' ADVERTISED DATE 09/27/2012 CONTRACT NO. _____

DESIGNED BY _____ COUNTY _____ Harford

DRAWN BY M. Linaroli LOGMILE 12A00701.74

CHECKED BY _____ TMS NO. _____

F.A.P. NO. _____ TOD NO. _____

TS NO. 603C DRAWING TSP-1 OF 2 SHEET NO. 1 OF 2

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21213

TOD NO: XY125-11
SHA NO: HA400854
MD 7A @ Congress Avenue

PLOTTED: August 27, 2012
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