PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 458 (SILVER HILL ROAD) AND MD 414 (ST. BARNABAS ROAD/OLD SILVER HILL ROAD)IN PRINCE GEORGE'S COUNTY.

MD 458 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION:

THE PROPOSED TRAFFIC SIGNAL WILL OPERATE IN A FULLY ACTUATED MODE USING SIX (6) NEMA PHASES.

MAINLINE MD 458 OPERATES CONCURRENTLY WITH EXCLUSIVE LEFT TURN PHASES IN BOTH DIRECTIONS.
MD 414 OPERATES IN A SIDE STREET SPLIT PHASE MODE WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE EAST AND WEST LEGS OF THE INTERSECTION.
A NEW NEMA "S" CABINET WILL BE INSTALLED WITH 2-WIRE CENTRAL CONTROL UNIT, VIDEO INTERFACE EQUIPMENT, BATTERY BACKUP AND ALL NECESSARY EQUIPMENT.
A NEW HARDWIRED SIGNAL PREEMPTION CABLE WILL BE INSTALLED TO THE FIREHOUSE SIGNAL CONTROLLER CABINET LOCATED AT THE SILVER HILL VOLUNTEER FIRE COMPANY NO. 29.
SIGNAL INTERCONNECT WILL BE PROVIDED TO THE SIGNAL CONTROLLER LOCATED AT MD 458 AT MD 5.

AUDIBLE PUSHBUTTON FUNCTION SHALL BE AS FOLLOWS:

1. WHEN A PEDESTRIAN PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:

FOR EAST AND WEST LEG RAMPS, "WAIT TO CROSS SILVER HILL AT OLD SILVER HILL AND ST. BARNABAS, WAIT."
FOR NORTH LEG RAMP, "WAIT TO CROSS OLD SILVER HILL AT SILVER HILL, WAIT"
FOR SOUTH LEG RAMP, "WAIT TO CROSS ST. BARNABAS AT SILVER HILL, WAIT"

2. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL CONTINUE FOR THE DURATION OF THE "WALK" PHASE.

PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

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CHIEF-SIGNAL OPERATIONS SECT.
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MR. TOM FOUNTAIN
ASST. DISTRICT ENGINEER-MAINTENANCE
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MR. SONNY BAILEY
CHIEF-SIGN SHOP
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UTILITY ENGINEER
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SUPERVISOR, SIGNAL WAREHOUSE
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MR. AVIJIT MAJI
CHIEF-TRAFFIC OPERATIONS DIV.
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POWER COMPANY REPRESENTATIVE - PEPCO (PG):
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SILVER HILL VOLUNTEER FIRE DEPARTMENT
COMPANY 29

3900 SILVER HILL ROAD
SUITLAND, MD 20746-3140

PHONE: 301-883-7729

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104.00 OF THE SHA BOOK OF STANDARDS FOR HIGHWAYS & INCIDENTAL STRUCTURES.

EQUIPMENT LIST "C"

SHA FORCES SHALL REMOVE THE CONTROLLERS AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINETS. THE CABINETS AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
9104	1 EA	CONTROLLER CABINET, NEMA SIZE 'S' WITH CONTROLLER, VIDEO INTERFACE EQUIPMENT 1-8 CAMERAS AND ALL NECESSARY EQUIPMENT HOUSED; BASE-MOUNTED CABINET.
9110	1 EA	UPS EQUIPMENT FOR "S" CABINET
9118	2 EA	4 CHANNEL DETECTOR AMPLIFIER

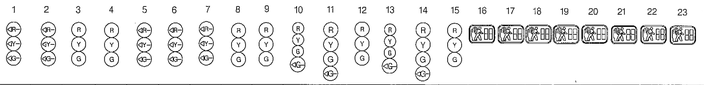
EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
201032	77 CY	CLASS 2 EXCAVATION
203030	3 CY	TEST PIT EXCAVATION
585408	110 LF	10 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585621	850 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	150 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
634300	730 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
648150	15 LF	MONOLITHIC CONCRETE MEDIAN 4 FEET 0 INCH WIDE TYPE A-3
655105	4100 SF	5 INCH CONCRETE SIDEWALK
655120	188 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS (RED)
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	6 EA	8 INCH LED SIGNAL HEAD SECTION
800000	8 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION
800000	8 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS
800000	3 EA	LED LUMINAIRE
800000	1 EA	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
800000	6 EA	VIDEO DETECTION CAMERA AND CABLE, ANY LENGTH
801004	13.5 CY	CONCRETE FOR SIGNAL FOUNDATION
801104	48 LF	WOOD SIGN SUPPORTS 4 INCH X 4 INCH
801106	192 LF	WOOD SIGN SUPPORTS 4 INCH X 6 INCH
801605	230 SF	SHEET ALUMINUM SIGNS CONSISTING OF:
	7 EA	W11-2 PEDESTRIAN TRAFFIC (30" X 30") GROUND MOUNT
	3 EA	W16-7p(R) RIGHT DIAGONAL ARROW (24" X 12") GROUND MOUNT
	1 EA	W16-7p(L) LEFT DIAGONAL ARROW (24" X 12") GROUND MOUNT
	2 EA	OM1-3 OBJECT MARKER (18" X 18") GROUND MOUNT
	1 EA	W11-2 "ACROSS RAMP" (36" X 24") GROUND MOUNT
	2 EA	R4-7 KEEP RIGHT (18" X 24") GROUND MOUNT
	2 EA	M6-2(R) RIGHT DIAGONAL ARROW (21" X 15") GROUND MOUNT
	1 EA	M3-4 "WEST" (24" X 12") GROUND MOUNT
	1 EA	M3-2 "EAST" (24" X 12") GROUND MOUNT
	2 EA	M1-5 MD 458 (30" X 24") GROUND MOUNT
	1 EA	M1-5(3) "EAST" LEFT ARROW, "414", "WEST", RIGHT ARROW, (78" X 24") MAST ARM MOUNT
	1 EA	M1-5(3) "WEST" LEFT ARROW, "414", "EAST", RIGHT ARROW, (78" X 24") MAST ARM MOUNT
	1 EA	D-3(1) (VAR X 16") "Silver Hill RD" DUAL SIDED MAST ARM MOUNT:
	1 EA	D-3(1) (VAR X 16") LEFT ARROW "Old Silver Hill RD" "Old Silver Hill RD" RIGHT ARROW, DUAL SIDED MAST ARM MOUNT
	1 EA	D-3(1) (VAR X 16") LEFT ARROW "St. Barnabas RD" "St. Barnabas RD" RIGHT ARROW, DUAL SIDED MAST ARM MOUNT
	4 EA	R3-5(L) LEFT ONLY (30" X 36") MAST ARM MOUNT
	1 EA	R3-6L LEFT AND THROUGH (30" X 36") MAST ARM MOUNT
	1 EA	M1-5(6) GUIDE SHIELD ASSEMBLY (48"X 72") POLE MOUNT: "EAST", "MARYLAND 458", LEFT ARROW
	1 EA	M1-5(6) GUIDE SHIELD ASSEMBLY (48"X 72") POLE MOUNT "WEST", "MARYLAND 458", LEFT ARROW
	2 EA	R10-3(1) PUSHBUTTON SIGN (9"X 15") "TO CROSS OLD SILVER HILL RD" POLE MOUNT
	2 EA	R10-3(1) PUSHBUTTON SIGN (9"X 15") "TO CROSS ST. BARNABAS RD" POLE MOUNT
	2 EA	R10-3(1) PUSHBUTTON SIGN (9"X 15") "TO CROSS SILVER HILL ROAD" POLE MOUNT
802501	1200 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
802570	300 LF	1 CONDUCTOR #20 AWG CABLE (THHN/THWN)
805115	450 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805118	300 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805125	110 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805135	580 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	60 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805155	170 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807500	1 EA	EMBEDDED METERED SERVICE PEDESTAL
810022	60 LF	ELECTRICAL CABLE-1 CONDUCTOR NO.8 AWG-THHN/THWN
810601	4 EA	NON INVASIVE DETECTOR, 500 FOOT LEAD IN CABLE
811001	13 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
811004	16 EA	REMOVE ELECTRICAL HANDHOLE
813022	33 SF	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS
818004	7 EA	10 FOOT BREAKAWAY PEDESTAL POLE
818036	1 EA	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM
818051	1 EA	STEEL POLE WITH TWIN 50 FOOT AND 70 FOOT MAST ARMS
818052	1 EA	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM
822002	2000 LF	12-PAIR COMMUNICATION CABLE, JELLY FILLED (UNDERGROUND)
837001	8 EA	GROUND ROD- 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	43 EA	12 INCH LED SIGNAL HEAD SECTION
861105	1200 LF	ELECTRICAL CABLE- 2 CONDUCTOR (NO. 14 AWG)
861107	2600 LF	ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 AWG)
861108	1700 LF	ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 AWG)
861116	550 LF	ELECTRICAL CABLE- 2 CONDUCTOR (NO. 12 AWG) (TRAY)
866103	1 EA	15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
866104	2 EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871202	1 EA	INSTALL CONTROLLER & CABINET - BASE MOUNT

PHASE CHART

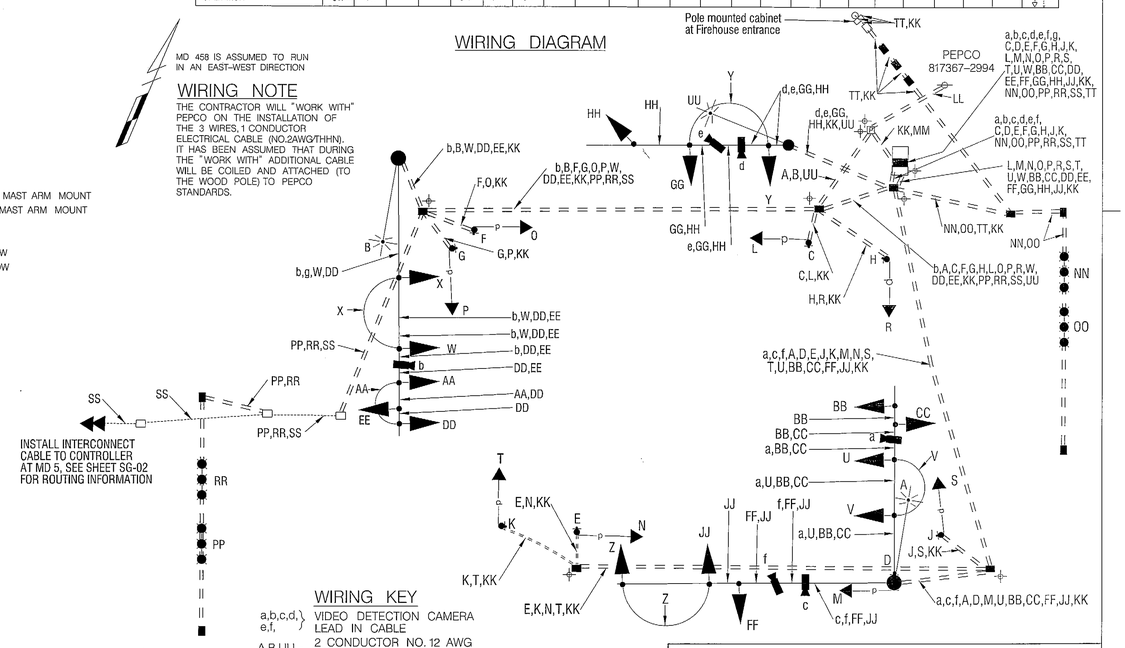
MD 458 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PHASE 1 + 5	G	G	R	R	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 1 & 5 CHANGE TO PHASE 1 & 6, 2 & 5 OR 2 & 6																							
PHASE 1 + 6	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 1+6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	R	G	G	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2+5 CHANGE	R	R	R	R	Y	Y	Y	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	DW	DW	DW	WK	WK	WK	WK	WK
PED CLEAR & COUNTDOWN	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	DW	DW	DW	DW	FLOW	FLOW	FLOW	FLOW
PHASE 2 & 6 CHANGE	R	R	Y	Y	R	R	R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	R	G G	G G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 ALT	R	R	R	R	R	R	R	R	R	G G	G G	G	R	R	R	WK	WK	DW	DW	DW	DW	DW	DW
PED CLEAR & COUNTDOWN	R	R	R	R	R	R	R	R	R	G G	G G	G	R	R	R	FLOW	FLOW	DW	DW	DW	DW	DW	DW
PHASE 3 ALT CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	R	R	R	G G	G G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	R	R	R	G G	G G	G	DW	DW	WK	WK	DW	DW	DW	DW
PED CLEAR & COUNTDOWN	R	R	R	R	R	R	R	R	R	R	R	R	G G	G G	G	DW	DW	FLOW	FLOW	DW	DW	DW	DW
PHASE 4 ALT CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FIREHOUSE PREEMPTION	R	R	R	R	R	R	R	R	R	R	R	R	G G	G G	G	DW	DW	DW	DW	DW	DW	DW	DW
PREEMPTION CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FU R	FU R	FLR	FLR	FU R	FU R	FU R	FLR	FLR	FLR	FLR	FLR	FLR	FLR	FLR	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM

MD 458 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION



WIRING NOTE

THE CONTRACTOR WILL "WORK WITH" PEPCO ON THE INSTALLATION OF THE 3 WIRES, 1 CONDUCTOR ELECTRICAL CABLE (NO.2AWG/THHN). IT HAS BEEN ASSUMED THAT DURING THE "WORK WITH" ADDITIONAL CABLE WILL BE COILED AND ATTACHED (TO THE WOOD POLE) TO PEPCO STANDARDS.

WIRING KEY

- a,b,c,d,e,f, — VIDEO DETECTION CAMERA LEAD IN CABLE
- A,B,UU — 2 CONDUCTOR NO. 12 AWG TRAY CABLE
- C,D,E,F,G,H,J,K, — 2 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- L,M,N,O,P,R,S,T,U,V,W,X,Y,Z,AA, — 5 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- BB,CC,DD,EE,FF,GG,HH,JJ — 7 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- KK — NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- LL — 1 CONDUCTOR #20 AWG CABLE THHN/THWN (3 CABLES)
- MM — 1 CONDUCTOR NO. 8 AWG THHN/THWN ELECTRICAL CABLE (3 CABLES)
- NN,OO,PP,RR — NON INVASIVE DETECTOR LEAD-IN CABLE
- SS — 12 PAIR INTERCONNECT CABLE, JELLY FILLED (UNDERGROUND)
- TT — FIREHOUSE PREEMPTION CABLE (5-CONDUCTOR NO. 14 AWG)
- ⏚ — GROUND ROD (3/4" DIA. X 10 FT. LENGTH)

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

MD 458 (SILVER HILL ROAD)
AT MD 414 (OLD SILVER HILL ROAD/ST. BARNABAS ROAD)
GREENBELT, MD

GENERAL INFORMATION PLAN

SCALE NONE ADVERTISED DATE 01-2013 CONTRACT NO. PG7865777

DESIGNED BY PMH — COUNTY PRINCE GEORGE'S
DRAWN BY PMH — LOGMILE 16041405.15
CHECKED BY WS — TIMS NO. K099
F.A.P. NO. — TOD NO.

TS NO. 264-C | DRAWING SG-04 OF 23 | SHEET NO. OF

PLOTTED: Thursday, January 17, 2013 AT 03:50 PM
FILE: \\Server02\wae files\01_Project\061_TEDD-SA\01_Task Work\061_0106_Task06 - MD 458 at MD 414\061_010602_Analysis\CADD\sSG-F004_MD458_MD414.dgn