PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 210 (INDIAN HEAD HIGHWAY) AND OLD FORT ROAD-SOUTH IN PRINCE GEORGE'S COUNTY.

MD 210 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION:

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

MAINLINE MD 210 OPERATES CONCURRENTLY WITH LEADING EXCLUSIVE LEFT TURN PHASES IN BOTH DIRECTIONS.
OLD FORT ROAD OPERATES IN A SIDE STREET SPLIT PHASE WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE SOUTH LEG OF THE INTERSECTION.
THIS INTERSECTION IS PART OF THE MD 210 INTERCONNECT SIGNAL SYSTEM.

A NEW NEMA "S" CABINET WILL BE INSTALLED WITH 2-WIRE CENTRAL CONTROL UNIT, OPTICOM DISCRIMINATOR MODULE, BATTERY BACKUP AND ALL NECESSARY EQUIPMENT.

AUDIBLE PUSHBUTTON FUNCTION SHALL BE AS FOLLOWS:

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

FOR SOUTH LEG, "WAIT TO CROSS INDIAN HEAD AT OLD FORT, 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

1. THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MS. FELECIA MURPHY ASST. DISTRICT ENGINEER-TRAFFIC PHONE: 301-513-7404	VACANT CHIEF-TRAFFIC OPERATIONS DIV. PHONE: 410-787-7630
MR. KEVIN NOWAK & MR.DUANNE BERNARD ASST. DISTRICT ENGINEER-CONSTRUCTION PHONE: 301-513-7385	MR. EDWARD RODENHIZER CHIEF-SIGNAL OPERATIONS SECT. PHONE: 410-787-7650
MR. MARK SHAFFER ASST. DISTRICT ENGINEER-MAINTENANCE PHONE: 301-513-7304	MR. SONNY BAILEY CHIEF-SIGN SHOP PHONE: 410-787-7670
MR. VICTOR GRAFTON UTILITY ENGINEER PHONE: 301-513-7350	POWER COMPANY REPRESENTATIVE: RICHARD CHILCOAT POTOMAC ELECTRIC POWER COMPANY 8300 OLD MARLBORO PIKE UPPER MARLBORO MARYLAND 20772 PHONE: 301-967-5805

2. 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 "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	DESCRIPTION	QUANTITY
9104	CONTROLLER CABINET, NEMA SIZE 'S' WITH CONTROLLER, VIDEO INTERFACE EQUIPMENT 1-8 CAMERAS AND ALL NECESSARY EQUIPMENT HOUSED; BASE-MOUNTED CABINET.	1 EA.
9110	UPS EQUIPMENT FOR "S" CABINET	1 EA.
9570	SHEET ALUMINUM GROUND MOUNTED SIGN CONSISTING OF: 2 EA. D-3(2) FL/YELLOW (VAR.X 20") GROUND MOUNT: "Old Fort RD" 1 EA. OM1-3 "OBJECT MARKER" (18"X 18") GROUND MOUNT 2 EA. W11-2 "PEDESTRIAN TRAFFIC" (30"X 30") GROUND MOUNT 1 EA. W16-7p(R) "DIAGONAL ARROW" (24"X 12") GROUND MOUNT 1 EA. W16-7p(L) "DIAGONAL ARROW" (24"X 12") GROUND MOUNT 2 EA. W3-3"SIGNAL AHEAD" FL/YELLOW (48"X 48") GROUND MOUNT 2 EA. R10-3(1) PUSHBUTTON SIGN (9"X 15") "TO CROSS INDIAN HEAD HIGHWAY" 2 EA. D9-2 "HOSPITAL" WHITE/BLUE (30"X 30") GROUND MOUNT 1 EA. M6-1(L) "LEFT ARROW" WHITE/BLUE (21"X 15") GROUND MOUNT 1 EA. M6-2(R) "RIGHT DIAGONAL ARROW" WHITE/BLUE (21"X 15") GROUND MOUNT	82 SF.
9571	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN CONSISTING OF: 3 EA. R3-5(L)"LEFT ONLY" (30" X 36")MAST ARM MOUNT 1 EA. R3-6(1)"LANE CONTROL 3 ARROWS"(30" X 30") MAST ARM MOUNT 2 EA. D-3(1) (20"X VAR.) MAST ARM MOUNT (DUAL FACED): "Old Fort RD" 2 EA. D-3(1) (16"X VAR.) MAST ARM MOUNT (DUAL FACED): "Indian Head HWY" M1-5(6) GUIDE SHIELD ASSEMBLY (30"X 48") POLE MOUNT: 1 EA "NORTH, MD 210, RIGHT ARROW" 1 EA "SOUTH, MD 210, RIGHT ARROW" M1-5(6) GUIDE SHIELD ASSEMBLY (48"X 72") POLE MOUNT: 1 EA "NORTH, MD 210, LEFT ARROW" 1 EA "SOUTH, MD 210, LEFT ARROW"	109 SF.

EQUIPMENT LIST "B"

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

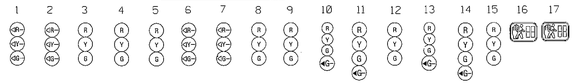
ITEM NO.	DESCRIPTION	QUANTITY
1001	MAINTENANCE OF TRAFFIC	3 EA.
2001	CLASS 2 EXCAVATION	215 CY.
2002	TEST PIT EXCAVATION	4 CY.
5004	12" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE	335 LF.
5005	24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE	122 LF.
6001	TYPE A COMBINATION CURB & GUTTER, 12" GUTTER PAN, 8" CURB	200 LF.
6002	5 INCH CONCRETE SIDEWALK	1030 SF.
6003	DETECTABLE WARNING SURFACE	110 SF.
8001	12" LED SIGNAL HEAD SECTION	43 EA.
8002	2-WIRE CENTRAL CONTROL UNIT	1 EA.
8004	8" LED SIGNAL HEAD SECTION	6 EA.
8005	ADJUST HANDHOLE, NEW FRAME AND COVER	1 EA.
NEG	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH LED LUMINAIRE AND LAMP	3 EA.
8008	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION	2 EA.
8009	BREAKAWAY PEDESTAL POLE ANY SIZE	2 EA.
8012	EMBEDDED METERED SERVICE PEDESTAL	1 EA.
8014	INSTALL CONTROLLER & CABINET. BASE MOUNT	1 EA.
8016	LED 16" COUNTDOWN PEDESTRIAN SIGNAL HEAD	2 EA.
8019	MAST ARM POLE & 50 FT MAST ARM ANY "T" DIMENSION	1 EA.
8020	MAST ARM POLE & 60 FT MAST ARM ANY "T" DIMENSION	1 EA.
8023	NON-INVASIVE MICRO-LOOP TRIPLE PROBE SET ANY LENGTH LEAD IN	6 EA.
8024	REMOVE & DISPOSE OF EXISTING EQUIPMENT	1 EA.
8027	TWIN MAST ARM POLE & 50 FT/70 FT MAST ARM ANY "T" DIMENSION	1 EA.
8029	VIDEO CAMERA & CABLE ANY LENGTH TO CONTROLLER	5 EA.
8031	ELECTRICAL CABLE-1 CONDUCTOR (NO.2/0 AWG THHN)	355 LF.
8033	OPTICOM CABLE-4 CONDUCTOR NO. 20 AWG	450 LF.
8034	DISCONNECT, PULL BACK & RE-ROUTE EXISTING CABLES	1000 LF.
8035	ELECTRICAL CABLE-2 CONDUCTOR (NO.12 AWG TRAY CABLE)	730 LF.
8038	SCHEDULE 80 PVC CONDUIT UP TO 4" - BORED	470 LF.
8039	SCHEDULE 80 PVC CONDUIT UP TO 4" - SLOTTED	30 LF.
8040	SCHEDULE 80 PVC CONDUIT UP TO 4" - TRENCHED	1000 LF.
8041	WOOD SIGN POST UP TO 4" X 6"	90 LF.
8042	INSTALL OVERHEAD OR GROUND MOUNTED SIGN	191 SF.
8044	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	550 LF.
8047	ELECTRICAL CABLE-1 CONDUCTOR (NO.8 AWG-THHN/THWN)	30 LF.
8048	FURNISH AND INSTALL ELECTRICAL HANDHOLE	14 EA.
8049	DISCRIMINATOR MODULE 4 CHANNEL NO.764	1 EA.
8051	OPTICOM 721 DETECTOR EYE	2 EA.
8055	ELECTRICAL CABLE-2 CONDUCTOR (NO.14 AWG)	480 LF.
8057	ELECTRICAL CABLE-5 CONDUCTOR (NO.14 AWG)	780 LF.
8058	ELECTRICAL CABLE-7 CONDUCTOR (NO.14 AWG)	2100 LF.

EQUIPMENT LIST "C"

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 THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

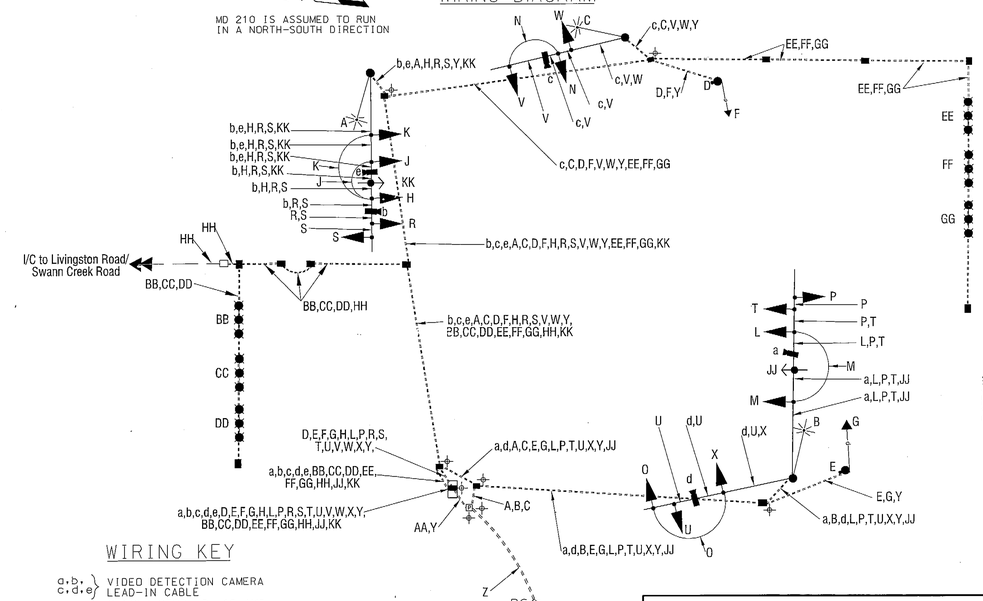
MD 210 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PHASE 1 + 5	◁G—	◁G—	R	R	R	◁G—	◁G—	R	R	R	R	R	R	R	R	DW	DW
PHASE 1 & 5 CHANGE TO PHASE 1 & 6, 2 & 5 OR 2 & 6																	
PHASE 1 + 6	◁G—	◁G—	G	G	G	◁R—	◁R—	R	R	R	R	R	R	R	R	DW	DW
PHASE 1 CHANGE	◁Y—	◁Y—	G	G	G	◁R—	◁R—	R	R	R	R	R	R	R	R	DW	DW
PHASE 2 & 5	◁R—	◁R—	R	R	R	◁G—	◁G—	G	G	R	R	R	R	R	R	DW	DW
PHASE 5 CHANGE	◁R—	◁R—	R	R	R	◁Y—	◁Y—	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 & 6	◁R—	◁R—	G	G	G	◁R	◁R—	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 & 6 CHANGE	◁R—	◁R—	Y	Y	Y	◁R—	◁R—	Y	Y	R	R	R	R	R	R	DW	DW
PHASE 3	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	G ◁G—	G ◁G—	G	R	R	R	DW	DW
PHASE 3 CHANGE	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	Y	Y	Y	R	R	R	DW	DW
PHASE 3 ALT	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	G ◁G—	G ◁G—	G	R	R	R	W	W
PED CLEAR & COUNTDOWN	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	G ◁G—	G ◁G—	G	R	R	R	FL/DW	FL/DW
PHASE 3 ALT CHANGE	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	Y	Y	Y	R	R	R	DW	DW
PHASE 4	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	R	R	R	G ◁G—	G ◁G—	G	DW	DW
PHASE 4 CHANGE	◁R—	◁R—	R	R	R	◁R—	◁R—	R	R	R	R	R	Y	Y	Y	DW	DW
PREEMPTION #1	◁G—	◁G—	G	G	G	◁R—	◁R—	R	R	R	R	R	R	R	R	DW	DW
PREEMPTION #1 CHANGE	◁Y—	◁Y—	Y	Y	Y	◁R—	◁R—	R	R	R	R	R	R	R	R	DW	DW
PREEMPTION #2	◁R—	◁R—	R	R	R	◁G—	◁G—	G	G	R	R	R	R	R	R	DW	DW
PREEMPTION #2 CHANGE	◁R—	◁R—	R	R	R	◁Y—	◁Y—	Y	Y	R	R	R	R	R	R	DW	DW
FLASHING OPERATION	FL/ ◁R—	FL/ ◁R—	FL/Y	FL/Y	FL/Y	FL/ ◁R—	FL/ ◁R—	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

WIRING DIAGRAM

MD 210 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION



WIRING KEY

- a.b. / c.d.e — VIDEO DETECTION CAMERA LEAD-IN CABLE
- A.B.C — 2-CONDUCTOR NO. 12 AWG TRAY CABLE
- D.E — 2-CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- F.G.H.J.K. / L.M.N.O — 5-CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- P.R.S.T.U. / V.W.X — 7-CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- Y — NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- Z — 1-CONDUCTOR NO. 2/0 AWG THHN ELECTRICAL CABLE (3 CABLES)
- AA — 1-CONDUCTOR NO. 8 AWG THHN/THWN ELECTRICAL CABLE (3 CABLES)
- BB.CC.DD. / EE.FF.GG — NON-INVASIVE MICRO LOOP PROBE LEAD
- HH — EXISTING INTERCONNECT TO BE PULLED BACK; RE-ROUTE TO NEW CONTROLLER (SEE NOTE ON DRAWING SG-1)
- JJ.KK — OPTICOM CABLE-4 CONDUCTOR NO. 20 AWG
- PS — PROPOSED SERVICE FEED
- ⏚ — GROUND ROD (3/4" DIA. X 10 FT. LENGTH)

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.

TOD NO: XX439-25
SHA NO: P5995A5C/C5C
MD 210 @ Old Fort Road (South)

WAE Williams Associates Engineers
Williams Associates-Engineers, P.A.
777 State Route 3 N, Suite D
Gambrills, Maryland 21054
Phone: 410-729-1004
Facsimile: 410-729-1009

BY: mhusselbee

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

MD 210 (INDIAN HEAD HWY)
AT OLD FORT ROAD - SOUTH
FORT WASHINGTON, MARYLAND

GENERAL INFORMATION PLAN

SCALE NONE ADVERTISED DATE 07/25/2012 CONTRACT NO. XX4395185

DESIGNED BY	PMH	COUNTY	PRINCE GEORGE'S
DRAWN BY	PMH	LOGMILE	160210006.81
CHECKED BY	WS MJF	TIMS NO.	K 202
F.A.P. NO.		TOD NO.	

TS NO. 1175-G | DRAWING GG-1 OF 1 | SHEET NO. 3 OF 3

PLOTTED: Wednesday, July 25, 2012 AT 03:36 PM
FILE: \\Server02\wae files\01_Project\061_TEDD-BA\01_Task Work\061_0104_Task04 - Signal Design - MD 210 at Old Fort Rd\061_010402_Analysis\CADD\pSG-P003_MD210_OldFortRd(S).dgn