PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVLOVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL OF US 29 (GEORGIA AVE) AT MD 410 (EAST WEST HWY.). THE INTERSECTION WILL BE UPGRADED TO APS/CPS AND ALL HANDICAP RAMPS WILL BE RECONSTRUCTED TO ADA STANDARDS. INTERSECTION LIGHTING WILL ALSO BE ADDED. US 29 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA SIX PHASE, SEMI ACTUATED MODE. THERE IS AN EXCLUSIVE/PERMISSIVE LEFT TURN FOR THE NB GEORIGIA AVENUE. THE THROUGH MOVEMENTS ALONG GEORIGIA AVENUE OPERATE CONCURRENTLY ALLOWING PEDESTRIAN CROSSING OF OF MD 410 / 13TH STREET. THE THROUGH MOVEMENTS ALONG 13TH STREET/BURLINGTON AVE. WILL OPERATE CONCURRENTLY AND PROVIDE ALTERNATIVE PHASING FOR PEDESTRIAN CROSSING OF US 29 (GEORGIA AVE.) US 29 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION. THE INTERSECTION OPERATION WILL NOT CHANGE

III. SPECIAL NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE.
THE CONTRACTOR SHALL NOTIFY MR. KAMAL HAMUD AT (240) 777-8761 72 HOURS IN ADVANCE OF ALL WORK. THE APS PUSHBUTTONS SHALL BE DELIVERED TO MR. KEITH LORD (301) 674-8965 AT THE MONTGOMERY COUNTY TECHNICAL CENTER, SIX(6) WEEKS PRIOR TO INSTALLATION.

IV. INTERCONNECT:

THIS INTERSECTION WILL BE INTERCONNECTED TO THE ADJACENT INTERSECTIONS NORTH ALONG US 29. SEE INTERCONNECT PLANS FOR DETAILS.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY THE STATE HIGHWAY ADMINISTRATION

CAT. CODE	QUANTITY	UNIT	DESCRIPTION
900000	1	EA	CONTROLLER CABINET, NEMA SIZE 6 AND CONTROLLER ASC II WITH VIDEO DETECTION INTERFACE EQUIPMENT (MONTGOMERY COUNTY)
900000	163	SF	SHEET ALUMINUMN SIGN
	6	EA	D-3(1) (VAR. X 16") MAST ARM MOUNTED
	4	EA	R10-11B (30" X 30") MAST ARM MOUNTED
	10	EA	R10-3(1) (9" X 15") GROUND MOUNTED
	1	EA	R1-2 (36" X 36") GROUND MOUNTED
	2	EA	R3-1 (30" X 30") MAST ARM MOUNTED
	1	EA	R3-6 (30" X 36") MAST ARM MOUNTED
	2	EA	R4-7 (24" X 30") GROUND MOUNTED
	2	EA	SPECIAL SIGN (24" X 30") MAST ARM MOUNTED
	1	EA	SPECIAL SIGN (30" X 36") GROUND MOUNTED
	1	EA	SPECIAL SIGN (30" X 36") MAST ARM MOUNTED
	2	EA	W11-2 (36" X 36") GROUND MOUNTED
	2	EA	W16-7P (30" X 18") GROUND MOUNTED

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

CAT. CODE	QUANTITY	UNIT	DESCRIPTION
100000	1	EA	MAINTENANCE OF TRAFFIC
201032	1	CY	CLASS 2 EXCAVATION
203030	5	CY	TEST PIT EXCAVATION
585621	1081	LF	12" WHITE PREF THERMO PAV'T MARKING LINES
585625	224	LF	24" WHITE PREF THERMO PAV'T MARKING LINES
585700	880	LF	REM EXIST PAVM'T MARKING LINES, ANY WIDTH
600000	110	SF	REMOVE AND RESET DECORATIVE BRICK
634300	453	LF	STD TYPE A COMB CURB AND GUTTER 12" X 8"
655105	1284	SF	5 INCH CONCRETE SIDEWALK
655120	132	SF	DETECTABLE WARNING SURFACES
800000	1	EA	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE TO COLOR (TIGER DRYLACK GREEN RAL 6009)
800000	2	EA	FURNISH AND INSTALL 2 WIRE CENTRAL CONTROL UNIT
800000	10	EA	FURNISH AND INSTALL AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	10	EA	FURNISH AND INSTALL LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	8	EA	FURNISH AND INSTALL 10' PEDESTAL POLE w/BREAKAWAY COUPLINGS (TIGER DRYLACK GREEN RAL 6009)
800000	1	EA	FURNISH AND INSTALL STEEL POLE WITH A SINGLE 38' MAST ARM (TIGER DRYLACK GREEN RAL 6009)
800000	1	EA	FURNISH AND INSTALL STEEL POLE WITH A SINGLE 50' MAST ARM (TIGER DRYLACK GREEN RAL 6009)
800000	2	EA	FURNISH AND INSTALL STEEL POLE WITH A SINGLE 70' MAST ARM (TIGER DRYLACK GREEN RAL 6009)
800000	2	EA	FURNISH AND INSTALL 15 FOOT LIGHTING ARM FOR SIGNAL STRUCTURE (TIGER DRYLACK GREEN RAL 6009)
800000	44	EA	12 INCH (R, Y, G) LED SIGNAL HEAD SECTION
800000	163	SF	INSTALL SHEET ALUMINUMN SIGN OVERHEAD OR GROUND MOUNT
800000	5	EA	VIDEO DETECTION CAMERA AND CABLE
801130	5	EA	SQ PERF TUB ST SIGN POSTS
801135	5	EA	SQ TUB STEEL ANCHOR BASES
805135	206	LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	250	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805155	583	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807405	1	EA	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLT 100 AMP
810022	50	LF	ELECTRICAL CABLE - 1 CONDUCTOR NO.8 AWG-THHN/THWN
811001	7	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
816110	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
831010	2	EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE (TIGER DRYLACK GREEN RAL 6009)
832020	217	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
861105	1977	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.14 AWG)
861107	2249	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO.14 AWG)
861108	1861	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO.14 AWG)
861116	535	LF	ELECTRICAL CABLE - 2 CONDUCTOR (TC, NO.12 AWG)

C. EQUIPMENT TO BE RETURNED TO MR. KEITH LORD (Phone: 301-279-1291)
AT MONTGOMERY COUNTY SIGNAL SHOP
ADDRESS- 1283, BUILDING C, SEVEN LOCKS ROAD, ROCKVILLE , MARYLAND 20854

QUANTITY	UNIT	DESCRIPTION
1	EA	BASE CABINET SIZE 6
4	EA	VIDEO DETECTION CAMERA

PROJECT CONTACTS

THE CONTACT PERSONS ARE AS FOLLOWS:

Mr. Jeffery Wentz
Assistant District Engineer - Traffic
Phone: (301 513-7358

Mr. Vernon Stinnett, Jr
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Augie Rebish
Utility Engineer
Phone: (301) 513-7350

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

Mr. Ed Rodenhizer
Supervisor, Signal Operations
Phone: 410-787-7650

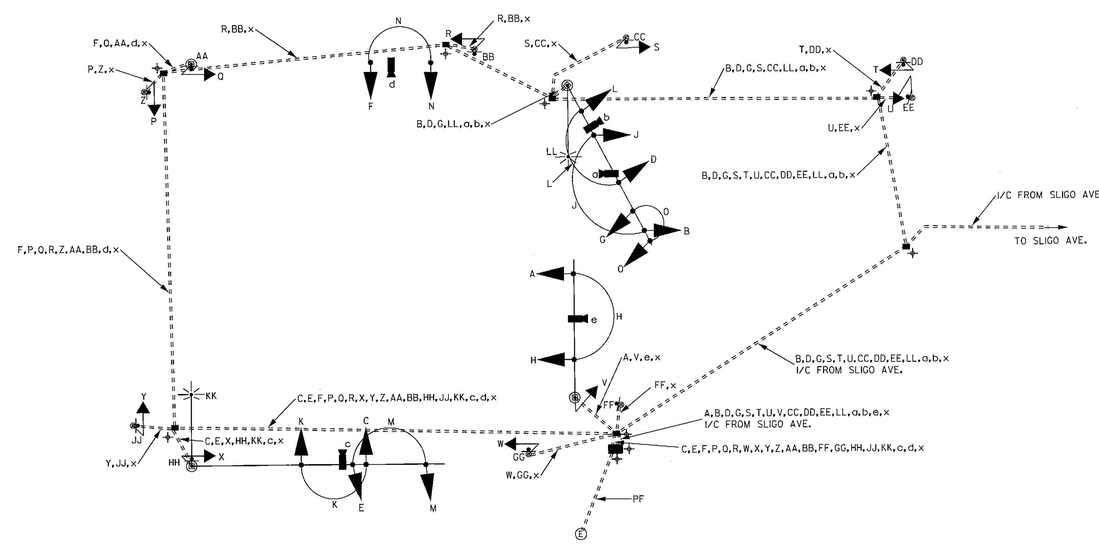
Mr. Kamal Hamud
Montgomery County
Phone: 240-777-8761

Mr Eugene Bailey
Supervisor, Sign Shop
Phone:

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G										
PHASE 1 AND 6	G/G	G	R	R	R	R	R	R	R	R↗	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
1 AND 6 CHANGE	Y/G	G	R	R	R	R	R	R	R	R↗	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	R	R	R	R	R	R↗	R	R	R	R	WK	WK	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEARANCE	G	G	G	G	R	R	R	R	R	R↗	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R↗	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 AND 8	R	R	R	R	G	G	R	R	R	G↗	R	R	G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
3 AND 8 CHANGE	R	R	R	R	Y	Y	R	R	R	Y↗	R	R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	R	R	G	G	G	G↗	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y↗	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	R	R	R	R	R	R	G	G	G	G↗	G	G	G	G	DW	DW	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G↗	G	G	G	G	DW	DW	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 AND 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y↗	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A,B,C,D E,F,G	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
H,J,K,L,M,N,O,P,Q R,S,T,U,V,W,X,Y	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
Z,AA,BB,CC,DD EE,FF,GG,HH,JJ	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
KK,LL	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TRAY CABLE
a,b,c,d,e	VIDEO DETECTION CABLE
x	1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
I/C	12 PAIR INTERCONNECT CABLE
PF	POWER FEED UNDERGROUND
+	GROUND ROD

BRUDIS & ASSOCIATES, INC.
Consulting Engineers
9240 Rumsey Road; Suite C
Columbia, Maryland 21045
Phone 410-884-3607
www.brudis.com

PLOTTED: $DATETIME$
FILE: $FILES

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

US 29 (GEORGIA AVE) AT MD 410 (BURLINGTON AVE/13TH ST)
TRAFFIC SIGNAL DESIGN
SILVER SPRING, MD

GENERAL INFORMATION PLAN SHEET

SCALE		DATE 07/2009	CONTRACT NO. MO2165168
DESIGNED BY	MS	COUNTY	MONTGOMERY
DRAWN BY	MS	LOGMILE	15041000.18
CHECKED BY	JB	TIMS NO.	J721
F.A.P. NO.		TOD NO.	

TS NO. 1713B | DRAWING -- 3 OF 3- | SHEET NO. 19 OF 26

DRILL HOLES
DRILL HOLES
DRILL HOLES
BY: $USERNAME$
BORDER REV: DATE: March 27, 2007