PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL OF US 29 (GEORGIA AVE) AT BONIFANT STREET. 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 FOUR PHASE, SEMI ACTUATED MODE. THE THROUGH MOVEMENTS ALONG GEORGIA AVENUE OPERATE CONCURRENTLY AND ALLOW FOR PEDESTRIAN CROSSING OF BONIFANT STREET. THROUGH MOVEMENTS ALONG BONIFANT STREET ALLOW ALTERNATE PHASING FOR PEDESTRIAN CROSSING OF MAINLINE US 29 (GEORGIA AVENUE).

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 AND SOUTH ALONG US 29. SEE INTERCONNECT PLANS FOR DETAILS.

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

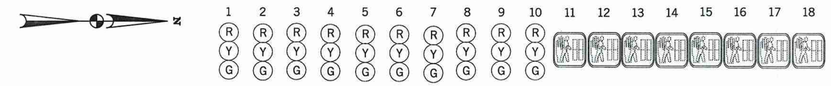
Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

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: 410-787-7676

PHASE CHART



PHASE 2 AND 6	G	G	G	G	R	R	R	R	R	R	W/K	W/K	W/K	W/K	DW	DW	DW	DW
PED CLEARANCE	G	G	G	G	R	R	R	R	R	R	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	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 AND 8 ALT CHANGE	R	R	R	R	Y	Y	Y	Y	Y	Y	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	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

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 TELEMETRY
[1] 900000	1	EA	VIDEO DETECTION INTERFACE EQUIPMENT (MONTGOMERY COUNTY)
[1] 900000	~~147~~ 126	SF	SHEET ALUMINUM SIGN
	8	EA	D-3(1) (VAR. X 16") MAST ARM MOUNTED
	2	EA	R4-7(1) (18" X 30") GROUND MOUNTED
	4	EA	R10-11B (30" X 30") MAST ARM MOUNTED
	8	EA	R10-3(1) (9" X 15") GROUND MOUNTED

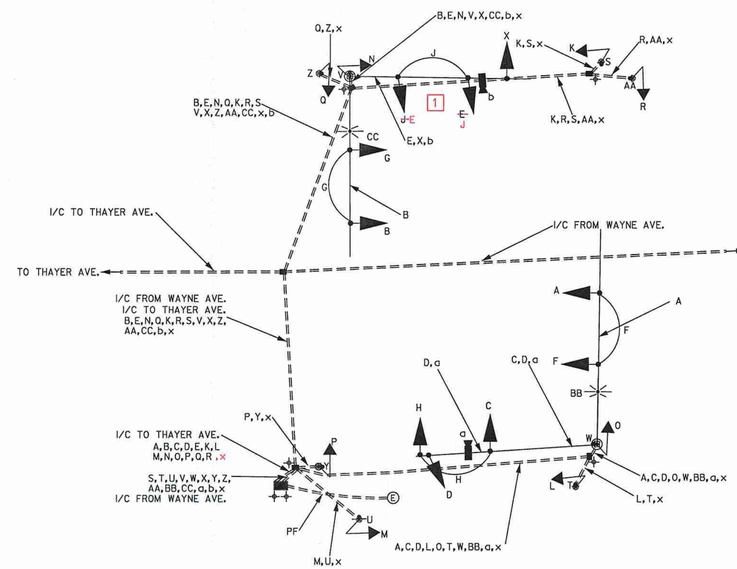
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

CAT. CODE	QUANTITY	UNIT	DESCRIPTION
[1] 120510	1	~~UD~~ EA	MAINTENANCE OF TRAFFIC
[1] 201032	1	CY	CLASS 2 EXCAVATION
[1] 203030	2	CY	TEST PIT EXCAVATION
504322	5	SY	HMA SUPPAV 19.0mm FDP PG 64-22 LEV 4
585617	10	LF	5" WHITE PREF THERMO PAV'T MARKING LINES
585619	10	LF	5" YELLOW PREF THERMO PAV'T MARKING LINES
[1] 585621	~~590~~ 600	LF	12" WHITE PREF THERMO PAV'T MARKING LINES
[1] 585625	~~135~~ 145	LF	24" WHITE PREF THERMO PAV'T MARKING LINES
[1] 585700	~~680~~ 755	LF	REM EXIST PAVM'T MARKING LINES, ANY WIDTH
600000	135	SF	REMOVE AND RESET DECORATIVE BRICK
[1] 634300	~~180~~ 240	LF	STD TYPE A COMB CURB AND GUTTER 12" X 8"
[1] 655105	~~622~~ 1200	SF	5 INCH CONCRETE SIDEWALK
655120	88	SF	DETECTABLE WARNING SURFACES
800000	1	EA	FURNISH AND INSTALL 2 WIRE CENTRAL CONTROL UNIT
800000	8	EA	FURNISH AND INSTALL AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	8	EA	FURNISH AND INSTALL LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
[1] 800000	~~116~~ 125	LF	FURNISH AND INSTALL 2 - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED IN ONE TRENCH
800000	6	EA	FURNISH AND INSTALL 10' PEDESTAL POLE w/BREAKAWAY COUPLINGS (TIGER DRYLACK GREEN RAL 6009)
800000	1	EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50' MAST ARM (TIGER DRYLACK GREEN RAL 6009)
800000	1	EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50' AND 60' MAST ARMS (TIGER DRYLACK GREEN RAL 6009)
800000	2	EA	FURNISH AND INSTALL 15 FOOT LIGHTING ARM FOR SIGNAL STRUCTURE (TIGER DRYLACK GREEN RAL 6009)
800000	30	EA	12 INCH (R, Y, G) LED SIGNAL HEAD SECTION
[1] 800000	~~147~~ 126	SF	INSTALL SHEET ALUMINUM SIGN OVERHEAD OR GROUND MOUNT
800000	2	EA	VIDEO DETECTION CAMERA AND CABLE
801130	2	EA	SQ PERF TUB ST SIGN POSTS
801135	2	EA	SQ TUB STEEL ANCHOR BASES
[1] 805135	~~83~~ 130	LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	52	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805155	175	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807405	1	EA	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 100 AMP
810022	50	LF	ELECTRICAL CABLE - 1 CONDUCTOR NO.8 AWG-THHN/THWN
811001	5	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
[1] ~~816010~~	~~2~~	~~EA~~	~~CONT CAB 500' VID DET CAMERA CNTRLLR~~
816110	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
831010	2	EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
[1] 832020	~~395~~ 430	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
[1] 861105	~~1032~~ 1055	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1215	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
[1] 861108	~~953~~ 1260	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
[1] 861116	~~347~~ 365	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
20	SF	SHEET ALUMINUMN SIGN
1	EA	SPECIAL SIGN (24" X 48")
1	EA	SPECIAL SIGN (36" X 48")

WIRING DIAGRAM



WIRING KEY

A,B,C,D,E,X	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
F,G,H,J,K,L M,N,O,P,Q,R	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
S,T,U,V W,Y,Z,AA	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
BB,CC	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TRAY CABLE
a,b	VIDEO DETECTION CABLE
x	1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
I/C FROM WAYNE AVE. I/C TO THAYER AVE.	12 PAIR INTERCONNECT CABLE
PF	POWER SERVICE UNDERGROUND 3 WIRE 1 CONDUCTOR ~~(NO. 4 AWG)~~ (NO. 8 AWG) [1]
+	GROUND ROD

[1] RK&K
Rummel, Klepper & Kahl, LLP
81 MOSHER STREET | BALTIMORE, MD 21217
PH: (410) 728-2900 FAX: (410) 728-2160

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

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

US 29 (GEORGIA AVE) AT BONIFANT ST
TRAFFIC SIGNAL DESIGN
SILVER SPRING, MD

REVISIONS
[1] REDLINE NO. 1 07/20/2010 UPDATE QUANTITIES

GENERAL INFORMATION PLAN SHEET

SCALE NTS DATE 07/2009 CONTRACT NO. MO2165168

DESIGNED BY DT COUNTY MONTGOMERY
DRAWN BY DT LOGMILE 15002900.61
CHECKED BY JB TIMS NO. J721
F.A.P. NO. TOD NO.

TS NO. 4572A GI | DRAWING 3 OF 3 | SHEET NO. 7 OF 26

PLOTTED: Tuesday, July 20, 2010 AT 02:46 PM
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BY: BJG