

Project Description

This project involves the installation of a new traffic control signal with interconnect and street lighting at the intersection of US 29A (Old Columbia Pike) and National Drive in Montgomery County. The signal is being installed in association with modifications to the intersection from a partial movement to a full movement to accommodate a new development on the west side of Old Columbia Pike. US 29A is assumed to run in a north-south direction.

SPECIAL NOTES

1. Disconnecting and splicing of interconnect cable shall be performed by Montgomery County Forces. The contractor shall run the interconnect cable into the base of each cabinet and properly tag the cable. Contact Mr. Kamal Hamud at (301) 777-8761 seventy-two hours in advance of intended work.
2. The contractor shall be responsible for delivering the video interface equipment to the Montgomery County Signal Shop.
3. Contractor shall program APS messages and then deliver APS wave files, pushbuttons, and central control unit to Mr. Robert Ricketts at Montgomery County Technical Center at 1283 Seven Looks Road, Rockville, MD 20854 at least 3 weeks prior to beginning work.
4. Contractor shall notify Mr. Kamal Hamud and Mr. Keith Lord 72 hours prior to beginning work.
5. APS will function as follows:
To cross US 29A (Old Columbia Pike)
a. When a pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message: "WAIT to cross Old Columbia at National and Shopping Center WAIT"
b. When the walk phase begins, the pushbutton unit will provide a rapid tick which will last for the duration of the walk phase.

EQUIPMENT LIST

- A. EQUIPMENT TO BE FURNISHED BY THE STATE HIGHWAY ADMINISTRATION NONE
- B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED TO SHA FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	UNITS	DESCRIPTION
1	LS	MAINTENANCE OF TRAFFIC
4	CY	TEST PIT EXCAVATION
1	EA	STANDARD SHA TRAFFIC SIGNAL CONTROLLER ASC III AND BASE MOUNTED CABINET (NEMA SIZE "6")
1	EA	100A METERED SERVICE PEDESTAL
1	EA	27 FT. STEEL MAST ARM POLE WITH TWIN 50 FT. MAST ARM AND 60 FT. MAST ARM (POWDER COATED BROWN)
1	EA	27 FT. STEEL MAST ARM POLE WITH TWIN 50 FT. MAST ARMS (POWDER COATED BROWN)
2	EA	14 FT. STEEL PEDESTAL POLE (POWDER COATED BROWN)
1	EA	10 FT. STEEL PEDESTAL POLE (POWDER COATED BROWN)
13	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT
30	EA	12 IN. VEHICULAR SIGNAL HEAD LED SECTION, BLACK FACED
2	EA	16 IN. PEDESTRIAN SIGNAL HEAD LED SECTION, BLACK FACED
2	EA	PEDESTRIAN PUSHBUTTON ASSEMBLY
2	EA	250W-HPS LUMINAIRE WITH PHOTOCCELL and 20 FT. LIGHTING ARM (POWDER COATED BROWN)
32	LF	2 IN. POLYVINYL CHLORIDE (SCHEDULE 80) ELECTRICAL CONDUIT - TRENCHED
38	LF	3 IN. POLYVINYL CHLORIDE (SCHEDULE 80) ELECTRICAL CONDUIT - TRENCHED
50	LF	4 IN. POLYVINYL CHLORIDE (SCHEDULE 80) ELECTRICAL CONDUIT - TRENCHED
470	LF	4 IN. POLYVINYL CHLORIDE (SCHEDULE 80) ELECTRICAL CONDUIT - BORED
2	EA	VIDEO DETECTION CAMERA WITH CABLES
1	EA	VIDEO DETECTION INTERFACE
5	EA	ELECTRICAL HANDHOLE
8	EA	GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH
1200	LF	ELECTRICAL CABLE, 7 CONDUCTOR (NO. 14 AWG)
400	LF	ELECTRICAL CABLE, 5 CONDUCTOR (NO. 14 AWG)
450	LF	ELECTRICAL CABLE, 2 CONDUCTOR TRAY CABLE (NO. 12 AWG)
10	LF	ELECTRICAL CABLE, 1 CONDUCTOR (NO. 4 AWG)
1000	LF	INTERCONNECT CABLE, 12-PAIR (NO. 22 AWG) UNDERGROUND
480	LF	BARE COPPER STRANDED GROUND WIRE (NO. 6 AWG)
275	LF	ELECTRICAL CABLE, 2 CONDUCTOR (NO. 14 AWG)
2425	LF	DISCONNECT, PULLBACK, AND REROUTE INTERCONNECT CABLE
16	SF	VAR. X 16 IN. D-3(1) DUAL FACED SHEET ALUMINUM SIGN WITH MAST ARM MOUNTING HARDWARE
2	SF	9 IN. X 15 IN. R10-3(1) PEDESTRIAN EDUCATION SHEET ALUMINUM SIGN WITH POLE MOUNTING HARDWARE
64	SF	48 IN. X 48 IN. W3-3 SIGNAL AHEAD WARNING SHEET ALUMINUM SIGN WITH GROUND MOUNTING HARDWARE FOR TWO 6" X 6" WOOD POSTS
8	SF	24 IN. X 24" W16-14(1) NEW SHEET ALUMINUM PLAQUE
6	SF	36 IN. X 12 IN. R6-1R ONE WAY (RIGHT) SHEET ALUMINUM SIGN WITH GROUND MOUNTING HARDWARE FOR ONE 4" X 4" WOOD POST
6	SF	36 IN. X 12 IN. R6-1L ONE WAY (LEFT) SHEET ALUMINUM SIGN WITH GROUND MOUNTING HARDWARE FOR ONE 4" X 4" WOOD POST
10	SF	24 IN. X 30 IN. R4-7 KEEP RIGHT SHEET ALUMINUM SIGN WITH GROUND MOUNTING HARDWARE FOR ONE 4" X 4" WOOD POST
10	SF	24 IN. X 30 IN. R4-7 KEEP RIGHT SHEET ALUMINUM SIGN WITH SIGNAL POLE MOUNTING HARDWARE
370	LF	12 IN. WIDE HAPPTM - WHITE FOR CROSS WALKS
185	LF	24 IN. WIDE HAPPTM - WHITE FOR STOP LINE
8	EA	4" X 6" WOOD SIGN SUPPORTS
6	EA	4" X 4" WOOD SIGN SUPPORTS

NOTE: CONTROLLER AND CABINET SHALL BE PURCHASED FROM ECONOLITE AND DELIVERED TO MONTGOMERY COUNTY SIGNAL SHOP FOR WIRING AND TESTING A MINIMUM OF THREE (3) WEEKS PRIOR TO INSTALLATION. CONTACT MR. ROBERT RICKETTS (301) 674-8965 AT LEAST 72 HOURS PRIOR TO DELIVERY OF THE CONTROLLER AND CABINET

- C. ALL MATERIAL TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

Intersection Operation

1. The intersection will operate in a NEMA four-phase, semi-actuated mode. The US 29A approaches operate concurrently. The National Drive/Shopping Center approaches operate concurrently. An alternate pushbutton actuated countdown audible/tactile pedestrian phase shall be provided across the south leg. The signal shall be interconnected with the signal at MD 198 and US 29A to the south and the signal at US 29A and the Shopping Center to the north.
2. A full-traffic actuated, eight-phase controller with video interface equipment, L.A.U. and L.A.U. panel, 2 wire APS central control unit, and all necessary equipment installed in a NEMA size six base mounted cabinet shall be installed at this intersection.

The contact persons for District #3 (Montgomery County) are as follows:

Ms. Anyesha Mookherjee
Assistant District Engineer - Traffic
Phone: (301) 513-7358

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

Mr. Victor Grafton
District Engineer - Utility
Phone: (301) 513-7350

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

Dr. Kamal Hamud
Engineer, Montgomery County DOT
Phone: (240) 777-8761

Mr. Robert Ricketts
Engineer, Montgomery County DOT
Phone: (301) 279-1291

Mr. Ed Rodenhizer
SHA Signal Shop
Phone: (410) 787-7650

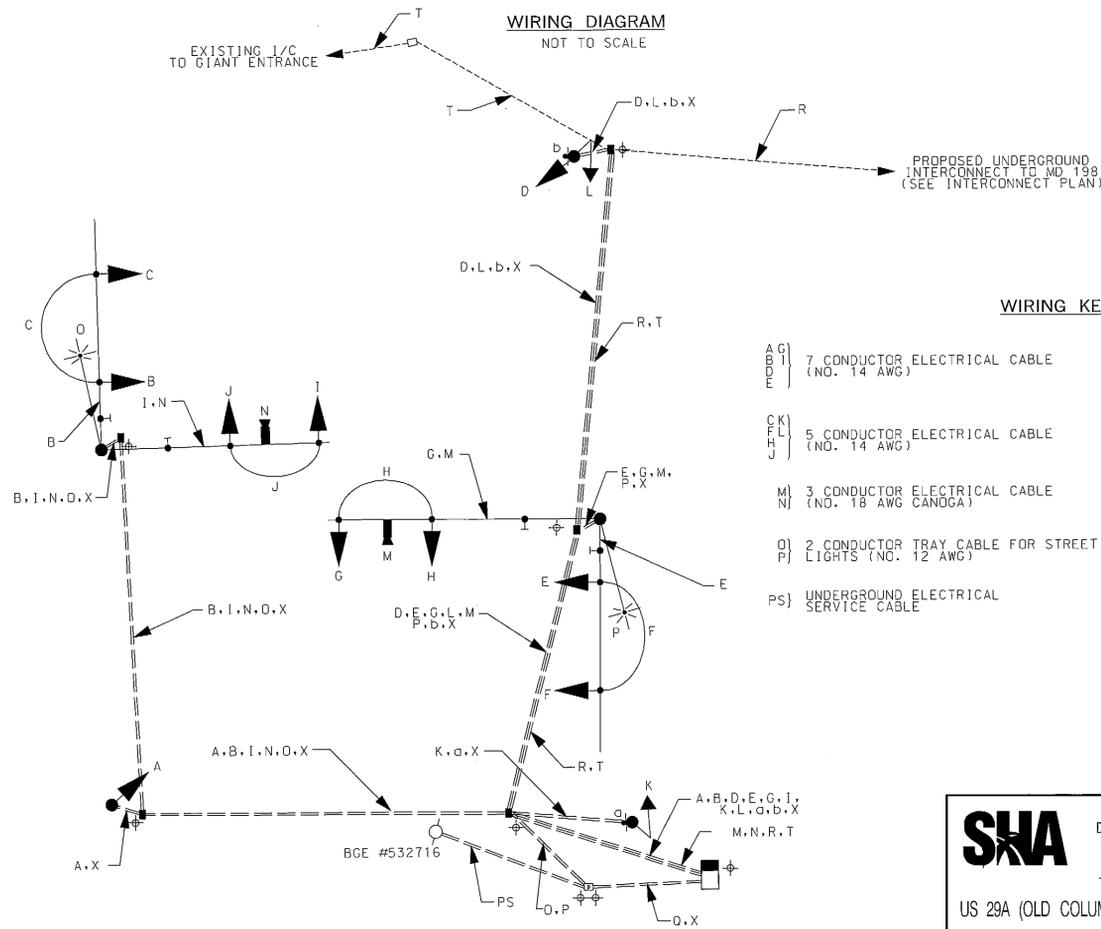
The Power Company Representative is:

Mr. Doug Shenton
Baltimore Gas & Electric
Phone: (410) 470-8446
WMS #1882588

PHASING CHART

	1	2	3	4	5	6	7	8	9	10	11	12	
	(R) (Y) (G)												
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	DW	DW	
PHASE 2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	
PHASE 4 AND 8	R	R	R	R	R	R	G	G	G	G	DW	DW	
PHASE 4 AND 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
ALT. 4 AND 8	R	R	R	R	R	R	G	G	G	G	W	W	
PEDESTRIAN CLEARANCE	R	R	R	R	R	R	G	G	G	G	FL/DW	FL/DW	
ALT. 4 AND 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	

WIRING DIAGRAM
NOT TO SCALE



SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
US 29A (OLD COLUMBIA PIKE) AND NATIONAL DRIVE /SHOPPING CENTER
BURTONSVILLE, MD

GENERAL INFORMATION SHEET

SCALE	N.T.S.	DATE	AUGUST 12, 2010	CONTRACT NO.	BW996M82
DESIGNED BY	GDG	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE	15029A00.11		
CHECKED BY	KWF, MF	TIMS NO.	K076		
F.A.P. NO.	SEE TITLE SHEET	TOD NO.			
TS NO.	4738	SHEET NO.	2	OF	3

Kimley-Horn and Associates, Inc.
© 2010 KIMLEY-HORN AND ASSOCIATES, INC.
13221 WOODLAND PARK ROAD
SUITE 400
HERNDON, VA
20171
PHONE: (703) 674-1300
FAX: (703) 674-1350
Engineering, Planning, and Environmental Consultants

BY: mtukuj