

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 355 (Frederick Rd) and Little Seneca Pkwy in Montgomery County. A fourth leg shall be added on the east side of this intersection necessitating relocation of existing signal equipment. Additionally Countdown pedestrian signal with audible pushbuttons shall be installed at this location. MD 355 (Frederick Rd) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA six-phase, semi-actuated mode, with the MD 355 (Frederick Rd) approaches continuing to run concurrently. The Exclusive/Permissive left turn phase for the northbound approach of MD 355 (Frederick Rd) shall remain in operation. A new Exclusive/Permissive phase for the southbound approach of MD 355 (Frederick Rd) shall be provided. New Countdown pedestrian phases with audible pushbuttons on recall shall be provided across both legs of Little Seneca Pkwy. A new Countdown pedestrian phase with audible pushbutton actuation shall be provided across the north leg MD 355 (Frederick Rd). The Little Seneca Pkwy shall operate concurrently.
- The existing full-traffic-actuated, eight-phase controller with video interface and all necessary equipment housed in a Type "S" base-mounted cabinet shall be utilized at this intersection.
- Montgomery County Signal Shop shall install APS control unit into controller cabinet. The APS push buttons should be delivered to Bob Ricketts at the Montgomery County Traffic for programming at least two weeks prior to the beginning of work.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- 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. All controller cabinet wiring will be performed by Montgomery County Forces. Contact Kamal Hamud at (240) 777-8761 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
- The existing mast arm relocations must take place during the weekend.

The contacts for Montgomery County and SHA are as follows:

Mr. Venu G. Nemani, P.E.  
Assistant District Engineer - Traffic  
Phone: (301) 513-7404

Mr. Avijit Maji  
Chief, Traffic Operations Division  
Phone: (410) 787-7630

Mr. Kamal Hamud  
Mont. County TMC Center  
240-777-8761

Mr. Tom Fountain  
Assistant District Engineer - Maintenance  
Phone: (301) 513-7304

Mr. Bob Ricketts  
Signal Shop (Mont Co.)  
301-279-1291

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

Mr. Sonny Bailey  
Manager, Sign Shop Operations  
410-787-1670

EQUIPMENT LIST

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

SPEC. NUMBER	DESCRIPTION	QUANTITY
814	12", one-way, three-section (R,Y,G) LED traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	2 EA
814	12", one-way, five-section (R,Y,VA,G,GA) LED traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	2 EA
814	16", one-way, LED (DW, W) symbolic pedestrian signal head with adjustable bracket for pole mounting and cutaway visors. (Countdown Display)	6 EA
205	Test pit excavation.	8 C.Y.
206	Remove concrete sidewalk or curb	550 S.F.
610	5" concrete sidewalk.	1055 S.F.
	Standard type A combination curb and gutter 12" gutter pan 8" depth.	260 L.F.
801	Furnish and install concrete for signal foundation.	13 C.Y.
	Anchor bolts (1 1/2" X 54")	4 EA
	Anchor bolts (1 3/4" X 66")	4 EA
813	Ground mounted sheet aluminum signs to consist of:	49 S.F.
	R4-7 "KEEP RIGHT (symbolic)" sign, (24" x 30")	1 EA
	W16-7P(L) "arrow (symbolic)" diagonal sign, (12" x 24") pole mounted.	4 EA
	S1-1 "SCHOOL" sign, (36" x 36") ground mounted.	4 EA

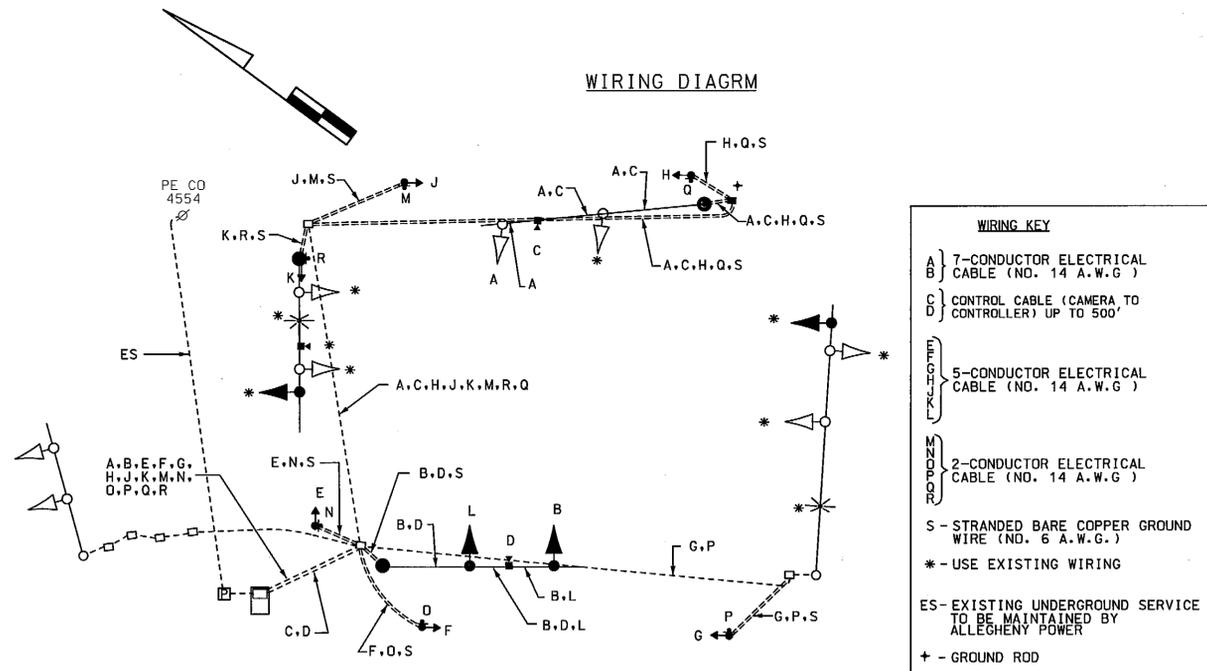
A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

SPEC. NUMBER	DESCRIPTION	QUANTITY
813	Overhead mounted sheet aluminum sign consisting of:	119 S.F.
	D-3(1) "Frederick Rd" sign (var. x 16") (dual faced) mast arm mount	2 EA
	D-3(1) "Little Seneca PKWY" sign (var. x 16") (dual faced) mast arm mount	2 EA
	R3-5L "LEFT TURN ONLY" sign, (30" x 36")	2 EA
	R3-5R "RIGHT TURN ONLY" sign, (30" x 36")	4 EA
	M1-5(6) GUIDE SHIELD ASSEMBLY (48"x72") pole mounted. SOUTH / MD 355 / LEFT ARROW	1 EA
	M1-5(6) GUIDE SHIELD ASSEMBLY (30"x48") pole mounted. NORTH / MD 355 / RIGHT ARROW	1 EA
	Pedestrian education R10-3(1) sign (9"x15"). (Note: Sign to read "PUSHBUTTON TO CROSS FREDERICK ROAD.") pole mount	2 EA
	Pedestrian education R10-3(1) sign (9"x15"). (Note: Sign to read "PUSHBUTTON TO CROSS LITTLE SENECA PKWY.") pole mount	4 EA
	Class 2 Excavation	10 CY
805	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	95 L.F.
805	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	25 L.F.
805	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	130 L.F.
811	Furnish and install electrical handhole.	1 EA
810	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.).	855 L.F.
810	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).	925 L.F.
810	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).	465 L.F.
810	Furnish and install ground rod - 3/4" x 10'.	1 EA
810	Furnish and install No. 6 AWG stranded bare copper ground wire.	250 L.F.
810	Furnish and install tray cable - 2 conductor (No. 12 AWG)	170 L.F.
	Relocate existing overhead sign.	1 EA
	Relocate existing ground mounted sign & post.	1 EA
	Remove existing handhole	1 EA
812	Furnish and install wood sign supports (4"x4").	80 L.F.
822	Remove existing traffic signal head.	2 EA
	Remove existing ground or overhead mounted sign	2 EA
	Reroute signal head cable.	125 L.F.
	Reroute lighting cable.	65 L.F.
	Reroute video cable.	65 L.F.
	Relocate existing steel pole with traffic signal equipment.	2 EA
	Remove and dispose of existing foundation 12" below grade.	2 EA
	Furnish and install 27' steel pole pole and 50' mast arm.	1 EA
	Furnish and install 10' pedestal pole with breakaway coupling system.	4 EA
	Furnish video detector camera w/ coaxial cable	1 EA
	Control cable (up to 500')	1 EA
	Detectable warning system (truncated domes).	146 SF
	2-wire central control unit	1 EA
	Remove existing luminaire.	2 EA
	150W LED luminaire.	2 EA
	Audible/tactile pedestrian pushbutton station & signs.	6 EA

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1 & 5	←G-R	←G-R	R	FL/Y	FL/Y	←G-R	←G-R	R	R	R	R	R	R	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																		
PHASE 1 & 6	←G-G	←G-G	G	FL/Y	FL/Y	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW
1 & 6 CHANGE	←Y-G	←Y-G	G	FL/Y	FL/Y	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW
PHASE 2 & 5	R	R	R	DARK	DARK	←G-G	←G-G	G	R	R	R	R	R	WK	DW	DW	WK	DW
2 & 5 CHANGE	R	R	R	DARK	DARK	←Y-G	←Y-G	G	R	R	R	R	R	WK	DW	DW	WK	DW
PHASE 2 & 6	G	G	G	DARK	DARK	G	G	G	R	R	R	R	R	WK	WK	WK	WK	DW
PED CLEAR / COUNTDOWN	G	G	G	FL/Y	FL/Y	G	G	G	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW
2 & 6 CHANGE	Y	Y	Y	FL/Y	FL/Y	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	FL/Y	FL/Y	R	R	R	G	G	G	G	G	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	FL/Y	FL/Y	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	R	FL/Y	FL/Y	R	R	R	G	G	G	G	G	DW	DW	DW	DW	WK
PED CLEAR / COUNTDOWN	R	R	R	FL/Y	FL/Y	R	R	R	G	G	G	G	G	DW	DW	DW	DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	FL/Y	FL/Y	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK							

WIRING DIAGRAM



**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

**MD 355 (FREDERICK RD.) AND  
LITTLE SENECA PARKWAY  
CLARKSBURG, MARYLAND**

**GENERAL INFORMATION SHEET**

SCALE NONE DATE 12/7/12 CONTRACT NO.

DESIGNED BY R.R.Z. COUNTY MONTGOMERY  
DRAWN BY R.C. LOGMILE 15035521.81  
CHECKED BY J.A.N. per M.A.R. TIMS NO. L730  
F.A.P. NO. TOD NO.

TS NO. 4454A DRAWING NO. 3 OF 4 SHEET NO. OF

**ST**  
STREET TRAFFIC STUDIES, LTD.  
400 Crain Hwy., NW  
Glen Burnie, MD 21061  
Ph (410) 590-5520  
Fax (410) 590-6637

DRILL HOLES

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BORDER REV. DATE: JUNE 11, 2004

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