

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting at the intersection of MD 228 (Berry Rd) and Middletown Rd / Ironwood Dr in Charles County. Countdown pedestrian heads with audible pushbuttons shall be installed across the west leg of MD 228. MD 228 (Berry Rd) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

- The intersection shall continue to operate in a NEMA five-phase, fully-actuated mode, with the MD 228 (Berry Rd) approaches running concurrently. The Exclusive left turn phase for the westbound approach of MD 228 (Berry Rd) shall remain in operation. The pedestrian phase across the west leg of MD 228 (Berry Rd) shall now be a Countdown pedestrian phase with audible pushbutton actuation. The Middletown Rd / Ironwood Dr approaches shall continue to run as a side street split phase.
- The existing full-traffic-actuated, eight-phase controller with video interface and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection.
- SHA signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the SHA Signal Shop for testing and programming.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 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.
- Pushbuttons are to be located so they can be activated by a person in a wheelchair from a 60" x 60" level landing area. A level landing area is an area with a cross slope of less than or equal to 2%.
- Location of Accessible Pedestrian signal pushbuttons must meet location requirements of MUTCD Sec. 4E.09 and Fig. 4E.2 and the NCHRP publication, Accessible Pedestrian Signals: Guide to Best Practice. If not met, the Contractor is to stop work on pushbutton locations until a design waiver is obtained, approved by the Director, Office of Traffic and Safety.
- APS will function as follows:
  - When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Berry Road at Ironwood Road. Second pushbutton in median."
  - When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.
  - Upon pushing the median pushbutton for an extended time, the messages in the median will be:
    - "Wait to cross Berry Road"
    - Rapid tick during WALK phase

The contact persons for District #5 are as follows:

Ms. Kim Tran  
Assistant District Engineer - Traffic  
Phone: (410) 841-1003

Mr. Andre Futrell  
Assistant District Engineer - Maintenance  
Phone: (410) 841-1002

Mr. John Mays  
Assistant District Engineer - Utility  
Phone: (410) 841-1005

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

Mr. Ed Rodenhizer  
Signal Shop  
410-787-7650

Mr. Sonny Bailey  
Signal Shop  
410-787-7670

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A.

ITEM NO.	DESCRIPTION	QUANTITY
9570	Sheet aluminum signs to consist of: (ground mount)	77.5 SF
	R3-8 "LEFT TURN ONLY, LEFT TURN AND THRU" sign, (30" x 30") ground mounted.	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") ground mounted.	1 EA
	M3-2 "EAST" (24"x15")	
	M1-5 "MD 228" (30"x24")	
	M6-1 "right arrow" (21"x15")	
	GUIDE SHIELD ASSEMBLY (48"x75") ground mounted.	1 EA
	M3-2 "EAST" (30"x15")	
	M1-5 "MD 228" (48"x36")	
	M6-1 "right arrow" (30"x24")	
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted.	1 EA
	M3-4 "WEST" (30"x15")	
	M1-5 "MD 228" (48"x36")	
	M6-1 "left arrow" (30"x24")	
	GUIDE SHIELD ASSEMBLY (30"x51") ground mounted.	1 EA
	M3-1 "WEST" (24"x15")	
	M1-5 "MD 228" (30"x24")	
	M6-1 "right arrow" (21"x15")	
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	11 SF
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS BERRY ROAD").	3 EA
	R3-5R "RIGHT TURN ONLY" sign, (30" x 36") mast arm mounted.	1 EA

EQUIPMENT LIST (CONT.)

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	1 EA
2001	Class 2 Excavation.	3 C.Y.
2002	Test Pit Excavation	1 C.Y.
5001	5" white heat applied permanent preformed thermoplastic pavement marking.	40 L.F.
5002	5" yellow heat applied permanent preformed thermoplastic pavement marking.	155 L.F.
5003	12" white heat applied permanent preformed thermoplastic pavement marking.	315 L.F.
5004	24" white heat applied permanent preformed thermoplastic pavement marking.	50 L.F.
5005	Removal of existing permanent pavement line markings	365 L.F.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	80 L.F.
6002	4" concrete sidewalk.	265 S.F.
8003	2 wire Central Control unit	1 EA
8010	Audible/tactile pedestrian pushbutton station & signs.	2 EA
8011	Breakaway pedestal pole w/ base (5' & 10')	2 EA
8014	LED 16" countdown pedestrian signal head.	2 EA
8017	Remove and dispose of existing material and equipment per assignment.	1 EA
8025	Schedule 80 rigid PVC conduit up tp 4" - slotted.	90 L.F.
8026	Schedule 80 rigid PVC conduit up tp 4" - trenched.	60 L.F.
8027	Detectable warning surfaces	96 S.F.
8030	Concrete for signal foundation.	2 CY
8032	Wood sign supports 4"x6".	20 L.F.
8033	No. 6 AWG stranded bare copper ground wire.	200 L.F.
8044	Furnish and install electrical handhole.	1 EA
8045	Install ground mounted sign.	77.5 SF
8046	Install overhead sign.	11 S.F.
8053	Relocate existing signal head.	1 EA
8058	Electrical cable - 2 conductor (No. 14 AWG).	360 L.F.
8060	Electrical cable - 5 conductor (No. 14 AWG).	310 L.F.
8061	Electrical cable - 7 conductor (No. 14 AWG).	1400 L.F.

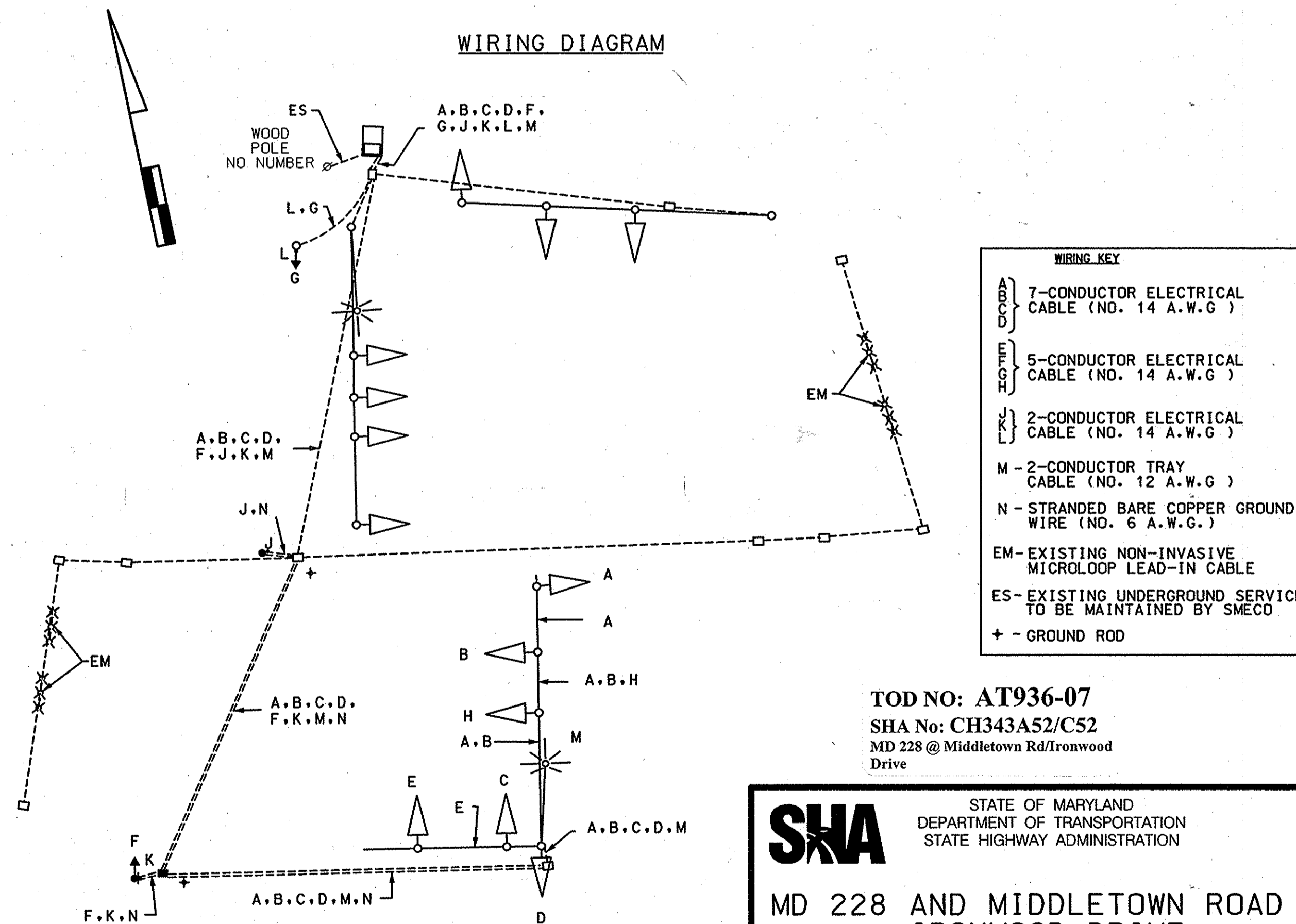
C. EQUIPMENT TO BE REMOVED

All removed signal materials are to become property of the contractor.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 2 & 5	R	R	←G	←G	←G	G	G	R	R	R	R	R	R	DW	DW
2 & 5 CHANGE	R	R	←Y	←Y	←Y	G	G	R	R	R	R	R	R	DW	DW
PHASE 2 & 6	G	G	←R	←R	←R	G	G	R	R	R	R	R	R	DW	DW
2 & 6 CHANGE	Y	Y	←R	←R	←R	Y	Y	R	R	R	R	R	R	DW	DW
PHASE 3	R	R	←R	←R	←R	R	R	←G	←G	G	R	R	R	DW	DW
3 CHANGE	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	←G	←G	G	DW	DW
4 CHANGE	R	R	←R	←R	←R	R	R	R	R	R	Y	Y	Y	DW	DW
PHASE 4 ALT	R	R	←R	←R	←R	R	R	R	R	R	←G	←G	G	WK	WK
PED CLEAR / COUNTDOWN	R	R	←R	←R	←R	R	R	R	R	R	←G	←G	G	FL/DW	FL/DW
4 ALT CHANGE	R	R	←R	←R	←R	R	R	R	R	R	Y	Y	Y	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/←R	FL/←R	FL/←R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
B	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
C	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
D	2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
E	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
F	EXISTING NON-INVASIVE MICROLOOP LEAD-IN CABLE
G	EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY SMECO
H	GROUND ROD

TOD NO: AT936-07

SHA No: CH343A52/C52  
MD 228 @ Middletown Rd/Ironwood Drive

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

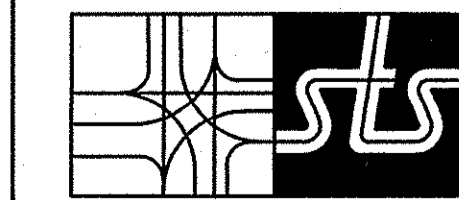
MD 228 AND MIDDLETOWN ROAD / IRONWOOD DRIVE  
WALDORF, MD

GENERAL INFORMATION SHEET

SCALE NONE DATE 3/26/07 CONTRACT NO. AT936185

DESIGNED BY J.W.A. COUNTY Charles  
DRAWN BY R.C. LOGMILE 08228007.57  
CHECKED BY TMS NO. 1036  
F.A.P. NO. TOD NO.

TS NO. 3786C DRAWING NO. 2 OF 2 SHEET NO. OF



STREET TRAFFIC STUDIES, LTD.  
400 Crain Hwy., NW  
Glen Burnie, MD 21061  
Ph (410) 550-5500  
Fax (410) 550-6537

519161.dgn T-57

PLOTTED: 04/26/07  
FILE: 4FILES

DRILL HOLES

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BORDER REV. DATE: June 1, 2004

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