PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new Traffic Control Signal with street lighting at the intersection of MD 173 (Fort Smallwood Road) and Elizabeth Landing Way in Anne Arundel County. MD 173 (Fort Smallwood Road) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA four-phase, fully-actuated mode, with the MD 173 (Fort Smallwood Road) approaches running concurrently. An Exclusive/Permissive lag left turn phase shall be provided for the northbound approach of MD 173 (Fort Smallwood Road). The Elizabeth Landing Way approach shall run separately.

2. A full-traffic-actuated, eight-phase controller with two (2) four channel, rack mount loop detector amplifiers, housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.

2. 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.

3. 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.

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9000	Eight-phase, full-traffic actuated, solid state digital controller with two 4-channel, rack mount loop detector amplifiers, housed in a NEMA size " 6 "- base mounted cabinet.	1 EA
9089	Sheet aluminum signs to consist of:	47.5 SF
	R4-7 "KEEP RIGHT" SYMBOLIC sign, (24"x30") ground mounted.	1 EA
	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") mast arm mounted.	1 EA
	W3-3 NEW "SIGNAL AHEAD" sign, (48" x 48") ground mounted with hardware.	2 EA
9090	Sheet aluminum signs to consist of: (Blue or Green)	12 SF
	D3-2 "Elizabeth Lndg. WAY" dual faced sign. (variable x 16") mast arm mounted.	1 EA

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

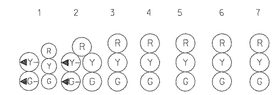
ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	2 EA
2001	Test pit excavation.	3 C.Y.
5001	5" yellow heat applied permanent preformed thermoplastic pavement marking. (centerline)	400 L.F.
5002	5" white heat applied permanent preformed thermoplastic pavement marking. (lane lines)	150 L.F.
5004	24" white heat applied permanent preformed thermoplastic pavement marking. (stoplines)	80 L.F.
5006	Heat applied permanent preformed thermoplastic pavement marking arrow. (left)	2 EA
5007	Remove existing pavement markings - any width.	330 L.F.
5008	Remove existing pavement marking letter or arrow.	2 EA
8001	Furnish and install concrete for signal foundation.	8 C.Y.

EQUIPMENT LIST (CONT.)

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

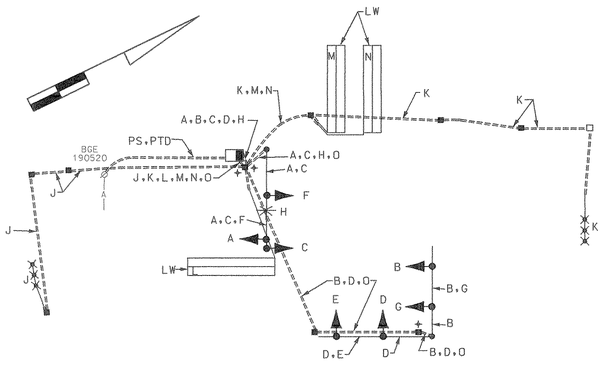
ITEM NO.	DESCRIPTION	QUANTITY
8006	Cut, clean, galvanize and cap traffic signal structure.	3 EA
8016	Furnish and install microloop probe set with 500' lead-in	1 EA
8017	Furnish and install microloop probe set with 1000' lead-in	1 EA
8020	Install controller and cabinet base mount.	1 EA
8021	Furnish and install saw cut for signal (loop detector).	400 L.F.
8022	Furnish and install 1" electrical conduit galvanized sleeve.	35 L.F.
8023	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	20 L.F.
8024	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	90 L.F.
8027	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	820 L.F.
8030	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - trenched.	110 L.F.
8032	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	240 L.F.
8033	Furnish and install electrical handhole.	9 EA
8034	Furnish and install ground rod -¾" x 10'.	2 EA
8040	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	1345 L.F.
8041	Furnish and install electrical cable - 2 conductor (aluminum shielded).	120 L.F.
8044	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	100 L.F.
8045	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	500 L.F.
8046	Furnish and install tray cable - 2 conductor (No. 12 AWG).	60 L.F.
8048	Furnish and install No. 6 AWG stranded bare copper ground wire.	160 L.F.
8051	Furnish and install wood sign supports 4" x 6".	66 L.F.
8052	Install ground mounted sign.	37 S.F.
8053	Install overhead sign.	22.5 S.F.
8055	Furnish and install 250 watt HPS Luminaire with photocell.	1 EA
8056	Furnish and install 15' lighting bracket arm for traffic signal structure.	1 EA
8066	Furnish and install control and distribution equipment (120/240 V, 1 phase 3 wire system).	1 EA
8076	Furnish and install mast arm pole and 38' mast arm.	1 EA
8080	Furnish and install mast arm pole and twin (50'(cut to 34"/ 50'(cut to 30') mast arms.	1 EA
8084	Furnish and install 12" vehicular traffic signal head section	22 EA
8085	Furnish and install 8" vehicular traffic signal head section.	3 EA

PHASING CHART



	1	2	3	4	5	6	7	
PHASE 2 & 6	G	G	G	G	G	R	R	⊥ ←
2 & 6 CHANGE	G	G	G	Y	Y	R	R	→
PHASE 1 & 6	◀G-/G	◀G-/G	G	R	R	R	R	⊥ ⊢
1 & 6 CHANGE	◀Y-/Y	◀Y-/Y	Y	R	R	R	R	↗ →
PHASE 4	R	R	R	R	R	G	G	↓ ⊢
4 CHANGE	R	R	R	R	R	Y	Y	⊣
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	↑ ← → ↓

WIRING DIAGRAM



WIRING KEY

- A, B, C, D — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- E, F, G — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- H - 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)
- J - MICROLOOP 500' LEAD-IN CABLE
- K - MICROLOOP 1000' LEAD-IN CABLE
- L, M, N — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED
- O - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- LW - LOOP WIRE (NO. 14 A.W.G.)
- PTD - PROPOSED TELEPHONE DROP
- PS - PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BGE
- ✦ - GROUND ROD

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REVISIONS	APPROVALS
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	ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 173 (FORT SMALLWOOD RD) AND ELIZABETH LANDING WAY

DRAWN BY: ROB CICCHINI	F.A.P. NO. AA/088A5D/85D	TS NO. 4094	SHEET NO.
CHECKED BY: R R ZACHERL	S.H.A. NO.	T.I.M.S. NO. E433	2 OF 2
SCALE: 1"= 20'	COUNTY: ANNE ARUNDEL		
DATE: 4-14-2001	LOG MILE:		

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