I. GENERAL

This project involves the reconstruction of existing traffic control signal at the intersection of MD 4 and Town Center Blvd./ Dunkirk District Park Entrance in Calvert County, Maryland. MD 4 is considered to run in a north/south direction.

The east leg shall be modified to accomodate a double left turn. The west leg shall be widened to accomodate a right turn lane.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA seven (7) phase, full-traffic-actuated mode. There is an exclusive left turn for both the north and southbound movements of MD 4. The MD 4 through movements operate concurrently. There is an exclusive left turn for the westbound movement of Town Center Blvd. The Town Center Blvd./Dunkirk District Park Entrance through movements will operate concurrently.

A new cabinet is to be installed with video camera detection equipment. The existing controller is to be relocated by SHA forces.

EQUIPMENT LIST

A. S.H.A. furnished equipment material.

None.

B. Equipment to be furnished and installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
1	EA	818	27 ft. steel mast arm pole with 60 ft. mast arm.
2	EA	818	27 ft. steel mast arm pole with a 70 ft. mast arm.
1	EA	816	Standard S.H.A. traffic signal base mounted cabinet with video detection, amplifiers, and interconnect (Note cabinet shall be purchased from Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650)
8	EA	814	12 in., one-way, three section LED (RA,YA,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
10	EA	814	12 in., one-way, three section LED (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
4	EA	---	Video Detection Camera and cable. (1 - 150 LF), (2 - 300 LF), (1 - 375)
4	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
2	EA	---	Non-invasive probe (set of 3) with 750 ft. lead-in cable.
2	EA	806	20 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminaire.
4	CY	205	Test pit excavation.
9	EA	811	Handhole.
75	LF	810	1-conductor electrical cable (No. 4 A.W.G.).
440	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
1025	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
2000	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
500	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
20	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
15	LF	805	2.5 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
670	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
80	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
430	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
15	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched
15.0	CY	801	Concrete foundation for traffic signal equipment.
4	EA	804	Ground rod -3/4in. diameter x 10 ft. length.
1	EA	807	Electrical utility service equipment (120/240) V, one phase, three wire system for type 807.05-01 underground electrical service.
4	EA	---	Relocate existing signs.
4	EA	---	Remove and dispose of existing concrete foundation 12 inches below grade.
Lump Sum	LS	---	Remove and dispose of existing signal equipment.
Lump Sum	LS	---	Relocate existing cables.
Lump Sum	LS	---	As-built for S.H.A. [on CADD].

CONTACT LIST

The contact persons for District #5 are as follows:

Ms. Kim Tran
Assistant District Engineer - Traffic
410-841-1019

Mr. John Mays
Assistant District Engineer - Utility
410-841-1039

Mr. Chuck E. George
Assistant District Engineer - Maintenance
410-841-5461

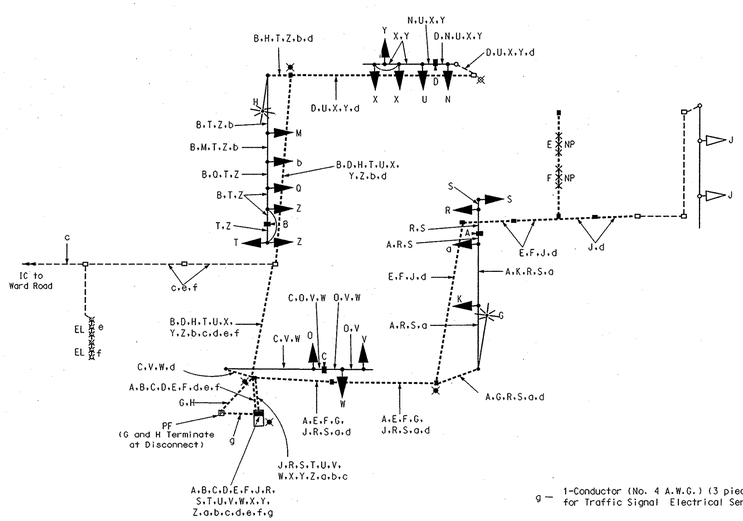
Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

The Power Company Representative is:
SMECO
901 Dares Beach Road
P.O. Box 37
Prince Frederick, MD 20678
410-535-4400
WMIS# 46174

Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	DR DY DG	DR DY DG	R Y G	R Y G	Y	Y	DR DY DG	DR DY DG	DR DY DG	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	DR DY DG	DR DY DG	DR DY DG	R Y G	R Y G
Phase 1 & 5	G	G	R	R	Dark	Dark	G	G	G	R	R	R	R	R	R	R	R	R	R	R
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6																				
Phase 1 & 6	G	G	G	G	Dark	Dark	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1 Change	Y	Y	G	G	Dark	Dark	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Phase 2 & 5	R	R	R	R	Dark	Dark	G	G	G	G	G	G	R	R	R	R	R	R	R	R
5 Change	R	R	R	R	Dark	Dark	Y	Y	Y	G	G	G	R	R	R	R	R	R	R	R
Phase 2 & 6	R	R	G	G	Dark	Dark	R	R	R	G	G	G	R	R	R	R	R	R	R	R
2 & 6 Change	R	R	Y	Y	FL/Y	FL/Y	R	R	R	Y	Y	Y	R	R	R	R	R	R	R	R
Phase 3	R	R	R	R	FL/Y	FL/Y	R	R	R	R	R	R	R	R	R	G	G	G	R	R
3 Change to phase 3 & 8 or Phase 4 & 8																				
Phase 3 & 8	R	R	R	R	FL/Y	FL/Y	R	R	R	R	R	R	R	R	R	G	G	G	G	G
3 Change	R	R	R	R	FL/Y	FL/Y	R	R	R	R	R	R	R	R	R	Y	Y	Y	G	G
Phase 4 & 8	R	R	R	R	FL/Y	FL/Y	R	R	R	R	R	R	G	G	G	R	R	R	G	G
4 & 8 Change	R	R	R	R	FL/Y	FL/Y	R	R	R	R	R	R	Y	Y	Y	R	R	R	Y	Y
Flashing Operation	FL/R	FL/R	FL/Y	FL/Y	Dark	Dark	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

Wiring Diagram



A, B, C, D } Video Detector Cable

E, F } Non-Invasive Probe Lead-in Cable

G, H } 2-Conductor Tray Cable (No. 12 A.W.G.)

J — Existing 5-Conductor Electrical Cable (No. 14 A.W.G.)

K, O, M, R, N, Z, O, X } 5-Conductor Electrical Cable (No. 14 A.W.G.)

V, S, W, T, Y, U, a, b } 7-Conductor Electrical Cable (No. 14 A.W.G.)

c — Existing Interconnect Cable (Town Center Boulevard to Ward Road) Run

d — Bare Copper Ground Wire (No. 6 A.W.G.)

e, f } Existing Loop Detector Wire

NP — Non-Invasive Probe

EL — Existing Micro-Loop Detector

— Proposed Grounding Rod

— Existing Grounding Rod

PF — Proposed Underground Electrical Service By SMECO.

g — 1-Conductor (No. 4 A.W.G.) (3 pieces) for Traffic Signal Electrical Service

Revision "A"

The Traffic Group
The Traffic Group, Inc.
410-931-6600
Fax 410-931-6601

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)
MD 4 at Town Center Boulevard/Dunkirk District Park

DRAWN BY:	F. Hoeckel	F.A.P. NO.	AC STPG 000S(686)E	TS NO. GI-4074A	SHEET NO.
CHECKED BY:		S.H.A. NO.	XX1005585		
SCALE:	N/A	COUNTY:	CALVERT	T.I.M.S. NO. G921	2 OF 2
DATE:	November 2, 2005	LOG MILE:	02000433.66		

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