PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of the existing traffic control signal at the intersection of US 301 and Entrance to Shoppers world/Plaza Drive in Charles County, Maryland. US 301 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to remain operating in a NEMA six (6) phase, full-traffic-actuated mode. There is an exclusive left turn phase for both the east and westbound movements of US 301. The US 301 through movements will operate concurrently. The Entrance to Shoppers World/Plaza Drive through movements will operate in a side street split phase mode.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, video detection equipment, telemetry interface, and (2) four-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

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
410-841-1013

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

EQUIPMENT LIST

Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

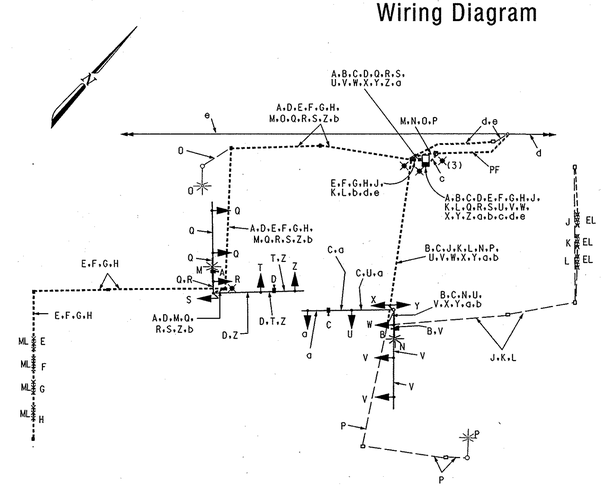
Quantity	Units	Specification Section	Description
1	EA	818	27 ft. steel twin mast arm pole with a 50 ft. and a 60 ft. mast arm. painted brown
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and two (2) four-channel loop detector amplifiers, telemetry interconnect interface equipment, and video detection equipment (Note: Controller and 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).
2	EA	814	12 in., one-way, three section (RA,YA,GA) L.E.D. adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
3	EA	814	12 in., one-way, three section (RA,YA,GA) L.E.D. adjustable black faced traffic signal head with side pole mounting hardware and tunnel visors.
6	EA	814	12 in., one-way, three section (R,Y,G) L.E.D. adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, four section (R,Y,G,GA) L.E.D. adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
4	EA	---	Video Detection Camera and cable (2- 200 LF, 2 - 300 LF)
3	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
1	EA	813	30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware.
1	EA	813	30 in. x 36 in. R 3-6(L) sign with mast arm mounting hardware.
1	EA	813	16 in. x Var D 3-(1) dual faced sign with mast arm mounting hardware.
7	EA	---	Non-Invasive Micro-loop probe (set of 3) with 1000 ft. lead-in cable.
1	EA	806	20 ft. luminaire arm.
1	EA	806	250 W H.P.S. lamp and luminarie.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
2	CY	205	Test pit excavation.
7	EA	811	Handhole.
60	LF	810	1-conductor electrical cable (No. 4 A.W.G.).
900	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
1500	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
450	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
450	LF	805	Bare copper stranded ground wire (No. 6 A.W.G.).
45	Lf	805	2 in. polyvinly chloride (Schedule 80) electrical conduit- trenched.
425	LF	805	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
85	LF	805	3 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
80	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
300	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
6.5	CY	801	Concrete foundation for traffic signal equipment.
6	EA	804	Ground rod -¾in. diameter x 10 ft. length.
1	EA	807	Electrical utility service equipment (120/240 V, one phase, three wire system) for an (overhead / underground) electrical power service as per MD-SHA Typical No. (807.04-01 / 807.05-01) (200 amp. electrical pedestral).
200	LF	549	24 in. wide HAPPTPM - white for stop line.
1	EA	---	Remove and dispose of existing concrete foundation 12 in. below grade.
Lump Sum	EA	---	Remove and dispose of existing signal equipment.
Lump Sum	LS	---	Reroute existing interconnect cable (Approx. 125 LF).
Lump Sum	LS	---	As-built for S.H.A. (on CADD).

Phase Chart

	1	2,3	4	5	6	7	8	9	10	11	12	13
Phase 1 & 5	G	G	R	R	G	G	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	R	R	R	R	R	R	R	R
1 Change	Y	Y	G	G	R	R	R	R	R	R	R	R
Phase 2 & 5	R	R	R	R	G	G	G	G	R	R	R	R
5 Change	R	R	R	R	Y	Y	G	G	R	R	R	R
Phase 2 & 6	R	R	G	G	R	R	G	G	R	R	R	R
2 & 6 Change	R	R	Y	Y	R	R	Y	Y	R	R	R	R
Phase 3	R	R	R	R	R	R	R	R	R	R	G G	G
3 Change	R	R	R	R	R	R	R	R	R	R	Y	Y
Phase 4	R	R	R	R	R	R	R	R	G G	G	R	R
4 Change	R	R	R	R	R	R	R	R	Y	Y	R	R
Flashing Operation	FL/ R	FL/ R	FL/Y	FL/Y	FL/ R	FL/ R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

Wiring Diagram



A, B, C, D — Video Detector Cable

E, F, G, H — J, K, L — Non-Invasive Micro-loop Detector Lead-in Cable

M, N, O, P — 2-Conductor Tray Cable (No. 12 A.W.G.)

O, R, S, T — U, V, W, X, Y — 5-Conductor Electrical Cable (No. 14 A.W.G.)

Z, a — 7-Conductor Electrical Cable (No. 14 A.W.G.)

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

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

d — Existing Interconnect Cable (Shopper World/Plaza Drive - MD 5/MD 228 Run)

e — Existing Interconnect Cable (Shopper World/Plaza Drive - Smallwood Road Run)

EL — Existing Micro-loop Detector (Non-Invasive)

ML — Micro-loop Detector (Non-Invasive)

Proposed Grounding Rod

PF — Proposed Underground Electrical Service By SMECO

The Traffic Group
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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)

US 301 at Entr. Shoppers World/Plaza Drive

DRAWN BY:	Frank Hoeckel	F.A.P. NO.	N/A	TS NO. GI-724-F	SHEET NO.
CHECKED BY:		S.H.A. NO.	BW996M82		
SCALE:	N/A	COUNTY:	Charles	T.I.M.S. NO. I-024	2 OF 2
DATE:	July 11, 2006	LOG MILE:	08030123.11		

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