PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal and interconnect at the intersection of MD 272 and Northeast Plaza Entrance in Cecil County, Maryland. MD 272 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA Four (4) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for the northbound movement of MD 272. The MD 272 through movements will operate concurrently. The Northeast Plaza Entrance movements will operate alone.

This intersection is to be interconnected to the existing traffic signal at US 40 and MD 272.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, video detection equipment, and interconnect in a base mounted cabinet are to be installed at this location.

An advance signal ahead warning HIB is to be installed approx. 650 ft. north of the proposed traffic signal along southbound MD 272.

III. SPECIAL NOTE:

The Contractor shall notify Mr. Robert Snyder of SHA at 410-787-7635 to arrange for the phone drop installation.

The Contractor is to provide Mr. Snyder with the nearest street number, zip code, and telephone number.

CONTACT LIST

The contact persons for District #2 are as follows:

Mr. Robert Kiel
Assistant District Engineer - Traffic
410-810-3240

Mr. Barry Clothier
Assistant District Engineer - Utility
410-778-3061

Mr. Terry O. Wright
Assistant District Engineer - Maintenance
410-778-3061

Mr. Robert Snyder
Assistant Chief - Traffic Operations
410-787-7635

Mr. Edward Rodenhizer
Assistant District Engineer - Signal Operations
410-787-7650

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

The Power Company Representative is:
Conectiv
Curtis Bowe
410-287-7140
2 Center Dr.
N.E., MD 21901
*Job No. 6027830

EQUIPMENT LIST

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

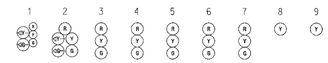
None.

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
1	EA	818	27 ft. steel mast arm pole with 60 Series mast arm.
1	EA	818	27 ft. steel mast arm pole with 50 ft. mast arms.
1	EA	818	27 ft. steel twin mast arm pole with 50 ft. mast arms.
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and one (1) four-channel loop detector amplifiers video detection [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].
5	EA	814	12 in., one-way, three section (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in., one-way, five section (R,Y,YA,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in./8 in., one-way, five section (12 in. YA, GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, one section (Y) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	---	Video Detection Camera and Cable. (2 - 300 LF.)
1	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
2	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
1	EA	813	120 in. x 60 in. W 3-3(2) sign with mast arm mounting hardware.
1	EA	813	72 in. x 24 in. M 95-1 sign with mast arm mounting hardware.
1	EA	813	48 in. x 48 in. W 3-3 sign for pole mounting.
1	EA	813	48 in. x 48 in. W 3-3 "NEW" sign for ground mounting.
2	EA	806	15 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminaire.
1	EA	---	Micro-loop probe (set of 3) with 750 ft. lead-in cable.
2	EA	---	Non-invasive probe (set of 3) with 750 ft. lead-in cable.

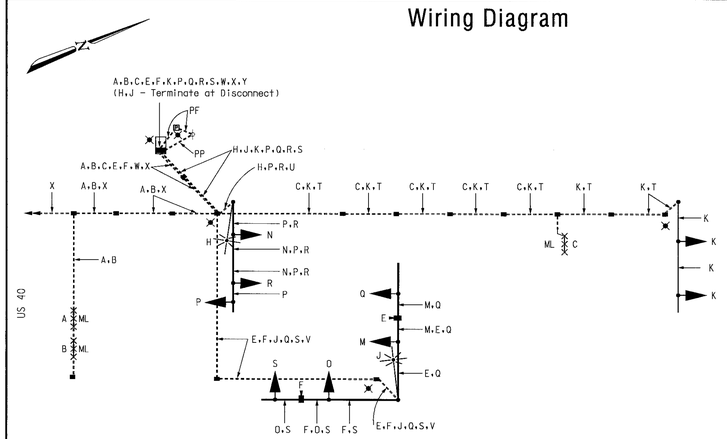
Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
4	CY	205	Test pit excavation.
15	EA	811	Handhole.
15	LF	815	Sawcut for signal loop detector.
1300	LF	810	12-pair Voice Grade Telemetry interconnect cable (No. 19 A.W.G.). (Northeast Plaza Entrance to US 40 run)
270	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
850	LF	810	5-conductor electrical cable (No. 12 A.W.G.).
120	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
650	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
25	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
900	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
20	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
1025	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
255	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
15	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
210	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
5	LF	805	1 in. liquid tight flexible non-metallic conduit for loop detector sleeve.
14	CY	801	Concrete foundation for traffic signal equipment.
5	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 a MD-SHA 807.05-01 underground electrical service.
85	LF	549	24 in. wide HAPPTPM - white for stop line.
64	LF	812	4 in. x 6 in. wood sign support.
1	EA	---	Cut, clean, and cap mast arm.
Lump Sum	LS	---	As-built for S.H.A. [on CADD].

Phase Chart



Phase 1 & 6	G / G	G / G	G	R	R	R	R	DARK	DARK
1 Change	G / Y	G / Y	G	R	R	R	R	DARK	DARK
Phase 2 & 6	G	G	G	G	G	R	R	DARK	DARK
2 & 6 Change	Y	Y	Y	Y	Y	R	R	FL/Y	FL/Y
Phase 4	R	R	R	R	R	G	G	FL/Y	FL/Y
4 Change	R	R	R	R	R	Y	Y	FL/Y	FL/Y
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK

Wiring Diagram



A, B, C — Micro-loop Detector Lead-in Cable

E, F — Video Detector Camera Cable (per manufactures specs.)

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

K — 5-Conductor Electrical Cable (No. 12 A.W.G.)

M, N, O — 5-Conductor Electrical Cable (No. 14 A.W.G.)

P, Q, R, S — 7-Conductor Electrical Cable (No. 14 A.W.G.)

T, U, V, W — Bare Copper Ground Wire (No. 6 A.W.G.)

X — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Northeast Plaza Entrance to US 40 Run)

Y — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

PF — Proposed Electrical Service By Conectiv (To be determined in the field)

Proposed Grounding Rod

ML — Micro-loop Detector

PP — Proposed Phone Service By Verizon

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 272 at Northeast Plaza Entrance

DRAWN BY:	F. Brownley	F.A.P. NO.	N/A	TS NO. XXX	SHEET NO.
CHECKED BY:		S.H.A. NO.	BW996M82		
SCALE:	N/A	COUNTY:	Cecil	T.I.M.S. NO. XXX	2 OF 4
DATE:	March 28, 2005	LOG MILE:	XXX		

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