PROJECT DESCRIPTION

I. General

This portion of the project involves the installation of a traffic control signal with intersection street lighting at the intersection of US 40 and Turf Valley Road. US 40 is assumed to run in an east-west direction.

II. Intersection Operation

This intersection is proposed to operate in a fully actuated mode with US 40 eastbound left turn lane operating in an exclusive phase. Southbound Turf Valley Road left turns shall operate in an exclusive phase each. Eastbound and westbound US 40 shall operate concurrently.

A NEMA (8 phase) fully actuated controller housed in a base mounted cabinet with four - 4 channel track mounted loop detector amplifiers shall be installed at this location.

III. Special Notes

1. The following contact persons for District #7 are as follows:

Mr.Robert Fisher
District Engineer
(301)694-2145

Mr. John Concannon
Asst. District
Engineer - Traffic
(301)694-2592

Mr. Jim Brown
Utility Engineer
(301)694-2025

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

Mr. Leon King
Asst. District Engineer - Maintenance
(301) 694-1966

2. Maintenance of traffic will be handled by the contractor utilizing the following standard plates for traffic control: 105.00, 105.01, 105.02, 105.03, 105.03, 105.101, 105.103, 105.105, 105.107, 105.109

3. Upon completion of this project, the contractor shall contact Mr. Robert Snyder of the MD-SHA at (410)-782-7635 to arrange for the phone line installation. The contractor shall provide Mr. Snyder with the nearest street address, zip code and phone number.

EQUIPMENT LIST

A. Equipment to be supplied by the Administration.

ITEM NO.	QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
9001	4	EA	814	12 in. 1 way 3 section (R,Y,G) signal head mast arm mount.
9002	3	EA	814	12 in. 1 way 5 section (R,Y,G,YA,GA) signal head-mast arm mount.
9003	1	EA	814	Combination 12 in. / 8 in. 1 way 5 section (12" YA,GA / 8" R,Y,G)) signal head-mast arm mount.
9003	1	EA	816	Eight-phase (fully actuated) controller and cabinet - base mount.
9004	4	EA	xxx	Four-channel loop detector amplifier (delayed output)
9005	230	SF	813	Sheet aluminum signs consisting of:
	1	EA	xxx	R3-5(L) (30" X 36") mast arm mount
	1	EA	xxx	R3-5(R) (30" X 36") mast arm mount
	3	EA	xxx	D3-2 (var x 16 in.)
	4	EA	xxx	W3-3 (48" x 48") ground mount
	1	EA	xxx	W3-3 (36" x 36") ground mount
	1	EA	xxx	guide shield (24" x 51") ground mount
	1	EA	xxx	Guide shield (36" x 75") ground mount
	5	EA	xxx	R6-1 (48" x 36") ground mount
	3	EA	xxx	R5-1a (36" x 24") ground mount
	1	EA	xxx	R10-12 (36" x 42") mast arm mount
	1	EA	xxx	R3-3(2) (30" x 30") mast arm mount
	1	EA	xxx	R3-3(2) (30" x 30") ground mount
	2	EA	xxx	R4-7 (30" x 36") ground mount
	1	EA	xxx	R5-1 (30" x 30") ground mount

B. Equipment to be Furnish and/or Installed by the Contractor

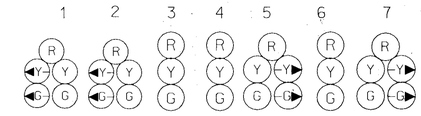
ITEM NO.	QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
1001	1	EA	104	Maintenance of Traffic per assignment
2001	3	CY	205	Test pit excavation
5010	90	LF	555	24 in. white thermoplastic pavement marking tape
8001	10.5	CY	801	Furnish and install concrete for signal foundation
8011	8	EA	814	Install signal head (ANY TYPE)

EQUIPMENT LIST (CONT.)

B. Equipment to be Furnish and/or Installed by the Contractor

ITEM NO.	QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
8020	1	EA	816	Install controller and cabinet-base mount
8021	405	LF	815	Furnish and install saw cut for signal (loop detector)
8023	45	LF	805	Furnish and install 1 in. liquid tight flexible non-metallic conduit for detector sleeve
8024	1040	LF	805	Furnish and install 2 in. schedule 80 rigid PVC conduit-trenched
8029	160	LF	805	Furnish and install 3 in. schedule 80 rigid PVC conduit-bored
8030	20	LF	805	Furnish and install 4 in. schedule 80 rigid PVC conduit-trenched
8033	11	EA	811	Furnish and install electrical handhole
8034	3	EA	804	Furnish and install ground rod-3/4 in. diameter x 10 ft. length
8040	1955	LF	810	Furnish and install loop wire encased in flexible tubing (No. 14 AWG)
8041	2530	LF	810	Furnish and install electrical cable - 2 conductor (aluminum shielded)
8044	80	LF	810	Furnish and install electrical cable - 5 conductor (No. 14 AWG)
8045	710	LF	810	Furnish and install electrical cable - 7 conductor (No. 14 AWG)
8046	310	LF	810	Furnish and install electrical cable - 2 conductor (No. 12 AWG) type "TC"
8049	240	LF	810	Furnish and install No. 6 AWG stranded bare copper ground wire
8050	150	LF	810	Furnish and install electrical cable 1 - conductor No. 4 AWG - THHN/THWN
8051	260	LF	812	Furnish and install wood sign supports 4 in. x 4 in.
8052	240	LF	812	Furnish and install wood sign supports 4 in. x 6 in.
8053	167	SF	813	Install ground mounted sign
8054	63	SF	813	Install overhead sign
8056	2	EA	808	Furnish and install 250 watt HPS luminaire with photocell
8057	2	EA	808	Furnish and install lighting bracket arm for traffic signal structure
8070	1	EA	807	Furnish and install control and distribution equip(120/240V. 1 phase 3 wire syst)
8083	1	EA	SP	Furnish and install mast arm pole and 60 ft. mast arm
8086	1	EA	SP	Furnish and install mast arm pole and twin (50 ft./70 ft.) or (70 ft./50 ft.) mast arms

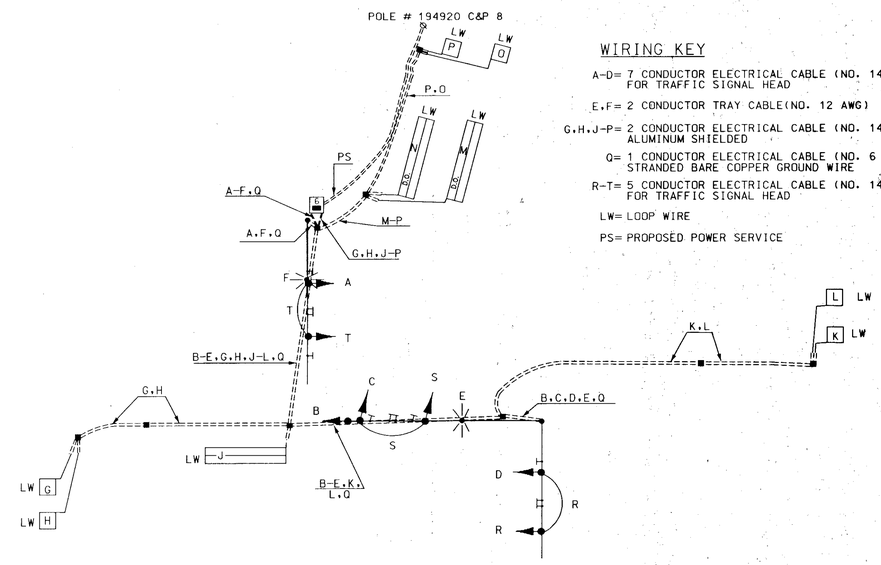
WIRING DIAGRAM



	1	2	3	4	5	6	7
PHASE 1 & 6	←G-/G	←G-/G	G	R	R	R	R/←G→
PHASE 1 & 6 CHANGE	←Y-/G	←Y-/G	G	R	R	R	R/←Y→
PHASE 2 & 6	G	G	G	G	G	R	R
PHASE 2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R
PHASE 4	R	R	R	R	R/←G→	G	G/←G→
PHASE 4 CHANGE	R	R	R	R	R/←Y→	G	Y/←Y→
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R

R= RED
Y= YELLOW
G= GREEN
→Y← = YELLOW ARROW
→G← = GREEN ARROW
FL= FLASHING

WIRING DIAGRAM



WIRING KEY

A-D= 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) FOR TRAFFIC SIGNAL HEAD

E,F= 2 CONDUCTOR TRAY CABLE(NO. 12 AWG)

G,H,J-P= 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) ALUMINUM SHIELDED

Q= 1 CONDUCTOR ELECTRICAL CABLE (NO. 6 AWG) STRANDED BARE COPPER GROUND WIRE

R-T= 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) FOR TRAFFIC SIGNAL HEAD

LW= LOOP WIRE

PS= PROPOSED POWER SERVICE

REVISIONS

APPROVALS

ASST. DIVISION CHIEF, TEDD

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

DCL
CONSULTING ENGINEERS
COLUMBIA, MARYLAND

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

U.S. 40 (BALTIMORE NATIONAL PIKE) AT TURF VALLEY ROAD
GENERAL INFORMATION SHEET

DATE 8/15/98

DRAWN BY: R. CICCHINI
CHECK BY: D. PETERS
SCALE: N.T.S.

F.A.P. NO.
S.H.A. NO. AW 280 A59/B59
COUNTY HOWARD

TS 3831

SHEET NO. 2 OF 2