F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

I. General

This project involves the installation of a new traffic control signal and systemization for the intersection of MD 710 (East Ordnance Road) at the northbound off ramp to MD 10 in Anne Arundel County, Maryland. In addition, the intersections of MD 710 at MD 10, and MD 710 at Baymeadow Drive, will be added to the existing traffic signal system along West Ordnance Road via interconnect cable. MD 710 is assumed to run in a east-west direction

II. Intersection Operation

MD 710 at MD 10: This intersection is proposed to operate in a fully actuated mode with Eastbound and Westbound MD 710 operating concurrently. The northbound MD 10 off ramp will operate on as exclusive phase.

III. Special Notes

1. 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, 105.302, 105.304, 105.310, 105.312, 105.405.
2. The following contact persons for District #5 are as follows:

Mr. Edward Meehan
District Engineer
Phone # (410) 841-5450

Mr. Lawrence Elliott
Asst. District Engineer - Traffic
Phone # (410) 841-5450

Mr. Raymond Hutzler
Asst. District Engineer - Maint.
Phone # (410) 841-5450

Mr. John Mays
Asst. District Engineer - Utility
Phone # (410) 841-5450

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone # (410) 787-7630

EQUIPMENT LIST

A. Equipment to be supplied by the Administration.

ITEM NO.	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
	7	EA	814	12 in. one-way, 3-section (R,Y,G) signal head - mast arm mount
	1	EA	814	12 in. one-way, 3-section (R,Y,G) Optically Programmed signal head - mast arm mount
	7	EA	817	Two channel loop detector amplifier (delay output)
	1	EA	816	Eight phase (fully actuated) controller and cabinet - base mount
	95	SF	813	Sheet Aluminum signs consisting of:
	2	EA	---	R3-5(L) (30 in. x 36 in.) sign - mast arm mount
	1	EA	---	Guide assembly shield (48 in. x 75 in.) pole mount
	2	EA	---	R3-2 ground mount (30 in. x 30 in.).
	2	EA	---	R3-2 (36 in. x 36 in.).
	3	EA	---	W3-3 (36 in. x 36 in.) ground mount.
	1	EA	---	D1-1 (48"x24") ground mount.
	2	EA	---	R3-7(R) (30"x30") ground mount.
☐	~~6~~ 14	EA	---	micro loop probe with 1000ft lead in cable.
☐	1	EA	814	12in. one-way, 3-section (R,Y,G) Signal Head - Pole mount

B. Equipment to be furnished and/or installed by the contractor.

ITEM NO.	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1001	1	EA	104	Maintenance of traffic speeds or equal to 40 mph
2001	3	CY	205	Test Pit Excavation
5006	740	LF	555	Furnish and install 4 in. white permanent preformed pavement marking tape.
5009	75	LF	555	Furnish and install 24 in. white permanent preformed pavement marking tape
5010	12	EA	555	Furnish and install Permanent preformed pavement marking letters.
5011	4	EA	555	Furnish and install Permanent preformed pavement marking arrow.
5012	640	LF	555	Remove existing pavement marking - any width
8001	8	CY	801	Furnish and install concrete for signal foundation
8005	6965	LB	829	Furnish and install mast arm pole and arm(s) (Note: one-27 ft. steel pole with twin 56 & 50 ft. mast arms; and one-27 ft. pole with a single 60 ft. mast arm).
☐ 8007	1	EA	805	Furnish and install 3 in. blind coupling for traffic signal structures, welded and galvanized
☐ 8011	~~8~~ 7	EA	814	Install signal head (any type)
☐ 8015	~~6~~ 14	EA	-	Install microloop probe set.

EQUIPMENT LIST

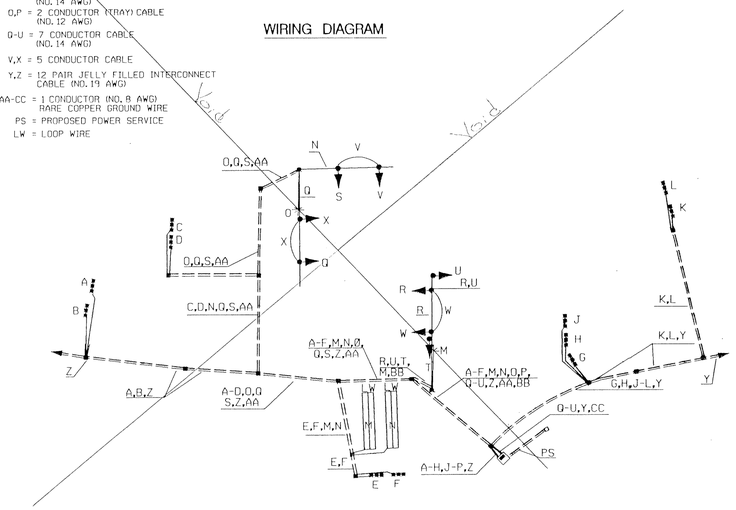
B. Equipment to be furnished and/or installed by the contractor.

ITEM NO.	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
8019	1	EA	816	Install controller and cabinet - base mount
8022	420	LF	815	Furnish and install Sawcut for signal (loop detector)
8024	100	LF	805	Furnish and install 1 in. liquid tight flexible non metallic conduit - sleeve
8025	2320	LF	805	Furnish and install 2 in. electrical conduit - P.V.C. schedule 40 - buried (trenched)
☐ proposed 8030	300	LF	805	Furnish and install 3 in. electrical conduit - P.V.C. schedule 80 - under existing paved areas ~~(pushed/bored)~~ shielded
8031	20	LF	805	Furnish and install 4 in. electrical conduit - P.V.C. schedule 40 - buried (trenched)
	60	LF	805	Furnish and install 4 in. electrical conduit - P.V.C. schedule 80 - buried (trenched)
8033	60	LF	805	Furnish and install 4 in. electrical conduit - P.V.C. schedule 80 - under existing paved areas (pushed/bored)
☐ 8035	~~4~~ 13	EA	811	Furnish and install Handhole
8036	1	EA	807	Furnish and install control and distribution equipment
8037	3	EA	804	Furnish and install ground rod (3/4" x 10')
~~8042~~	~~3200~~	~~LF~~	~~810~~	~~Furnish and install 12-pair communication cable-jelly filled (underground)~~
8043	550	LF	810	Furnish and install loop wire - No. 14 AWG - THWN
8044	200	LF	810	Furnish and install electrical cable - 2-conductor. No. 14 AWG - (Aluminum Shielded)
8047	60	LF	810	Furnish and install electrical cable - 5-conductor No. 14 AWG - IMSA 19-1
8048	1000	LF	810	Furnish and install electrical cable - 7-conductor No. 14 AWG - IMSA 19-1
8049	460	LF	810	Furnish and install electrical cable - 2-conductor No. 12 AWG - copper Type TC
8051	1485	LF	810	Furnish and install electrical cable - 1-conductor No. 8 AWG - THHN/THWN - copper ground wire
8053	50	LF	810	Furnish and install electrical cable - 1-conductor No. 4 AWG - THHN/THWN - copper
8055	160	LF	812	Furnish and install wood sign supports 4 in. x 6 in.
8056	70	SF	813	Install ground mounted sign
8057	15	SF	813	Install overhead mounted sign
8059	2	EA	806	Furnish and install 250-watt HPS luminaire with photocell
8060	2	EA	808	Furnish and install lighting bracket arm for traffic signal structures
8064	2	EA	xxx	remove and dispose of existing material and equipment consisting of two-R1-1 (stop sign)
8067	1	EA	xxx	Use existing plan or disk and as-built traffic control devices
☐ ~~NEG.~~	~~1~~	~~EA~~	~~819~~	~~Rering existing span wire~~
☐ ~~NEG.~~	~~1~~	~~EA~~	~~805~~	~~Furnish and install 2 in. P.V.C. schedule 40 conduit bend into existing concrete foundation~~
☐ ~~NEG.~~	~~300~~	~~LF~~	~~805~~	~~Furnish and install 4 in. galvanized steel conduit on bridge structure~~
NEG.	920	LF	555	Furnish and install 5 in. white permanent preformed pavement marking tape.

WIRING KEY

A-H,J-L = MICRO LOOP PROBE HOMERUN CABLE
M,N = 2 CONDUCTOR ALUMINUM SHLD (NO. 14 AWG)
O,P = 2 CONDUCTOR (TRAY) CABLE (NO. 12 AWG)
Q-U = 7 CONDUCTOR CABLE (NO. 14 AWG)
V,X = 5 CONDUCTOR CABLE
Y,Z = 12 PAIR JELLY FILLED INTERCONNECT CABLE (NO. 19 AWG)
AA-CC = 1 CONDUCTOR (NO. 8 AWG) BARE COPPER GROUND WIRE
PS = PROPOSED POWER SERVICE
LW = LOOP WIRE

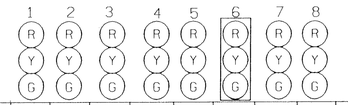
WIRING DIAGRAM



INTERCONNECT CONSTRUCTION DETAIL

C. Install handhole.
F. Install 2 in. PVC schedule to electrical conduit - trenched.
G. Install 3 in. PVC schedule 80 electrical conduit - pushed.
T. Install 3 in. blind coupling and 12 pair interconnect cable into existing controller cabinet.
U. Install proposed 12 pair interconnect cable on existing span wire and rering.
V. Install 3 in. PVC schedule 40 conduit bend into existing strain pole foundation.
W. Install 4 in. galvanized steel electrical conduit to bridge structure.
X. Use existing conduit.
Y. Use existing handhole.
Z. Install/pull proposed 12 pair traffic signal interconnect cable into existing based mounted controller and label.
AA. See traffic signal installation plan sheet for details.

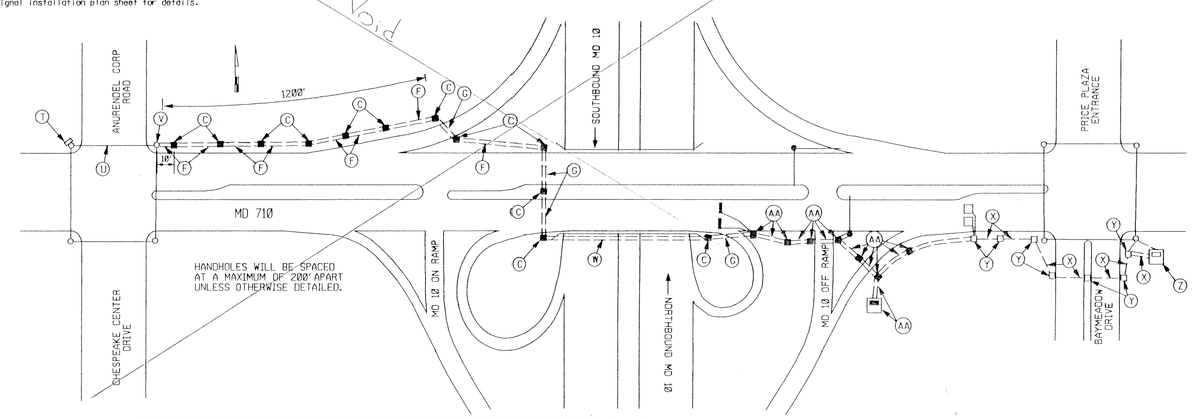
PHASE SEQUENCE CHART



	1	2	3	4	5	6	7	8
PHASES 2 & 6	G	G	G	G	G	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R
PHASE 4	R	R	R	R	R	G	G	G
4 CHANGE	R	R	R	R	R	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R

NOTE:
FL = FLASHING INDICATION
R = RED INDICATION
Y = YELLOW INDICATION
G = YELLOW INDICATION

INTERCONNECT PLAN (NOT TO SCALE)



REVISIONS	APPROVALS
	CHIEF, SIGNAL DESIGN SECTION
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
1 Redline Revision No. 1 12/95	DEPUTY CHIEF ENGINEER, OFFICE OF TRAFFIC

DGL CONSULTING ENGINEERS COLUMBIA, MARYLAND

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

ORIGINAL DRAWN BY: ROB CICCHINI
DES. BY: D. PETERS / J. ALLEN JR.
CHK. BY:

MD 710 @ MD 10 (RAMP)
GENERAL INFORMATION SHEET
LOG MILE #02071000.79 COUNTY: ANNE ARUNDEL

DATE: 9/6/95 F.A.P. NO.
SCALE: S.H.A. NO.

TS/FILE NO. 3536 G.I.

SHEET NO. 3 OF 4

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