FHWA REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersections of MD 650 at Brighton Dam Road in Montgomery, Maryland. MD 650 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in NEMA four (4) phase, full-traffic-actuated mode. The MD 650 through movements will operate as a side street split operation. The Brighton Dam Road movements will operate concurrently.

EQUIPMENT LIST

A. Equipment to be furnished by S.H.A.

Item No.	Quantity	Units	Description
9014	6	EA	(Mast arm mt.) 12 in., one-way, three section signal [aluminum].
9015	2	EA	(Mast arm mt.) 12 in., one-way, four section signal [aluminum].
9034	4	EA	(Side of pole) 12 in., one-way, one section signal [aluminum].
9068	2	EA	2 circuit flasher.
9076	2	EA	Cabinet "G" type pole mount.
9083	1	EA	Cabinet for Montgomery Co. with LAU, size 5 with three 4-channel rack mounted loop detector amplifers.
9087	1	EA	Controller ASC II with telemetry.
9089	10	SF	Flat sheet aluminun sign - R 10-6.
9089	18	SF	Flat sheet aluminum sign - W 3-3.
9089	21.5	SF	Flat sheet aluminum sign - D 3-2.

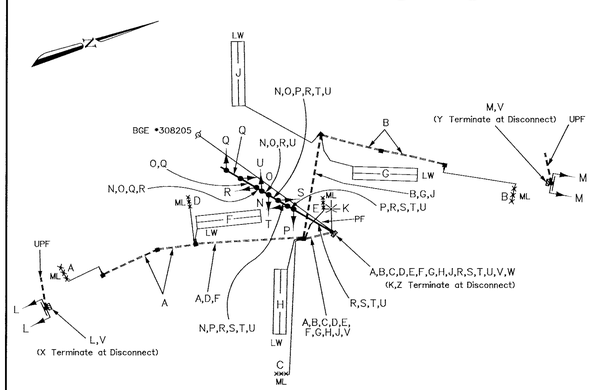
B. Equipment to be furnished and/or installed by the Contractor.

Item No.	Quantity	Units	Description
1001	1	EA	Maintenance of traffic per assignment.
2001	4	CY	Test pit excavation.
2004	6	CY	Class 2 excavation.
5002	170	LF	6 in. white permanent preformed pavement marking tape.
5004	55	LF	24 in. white permanent preformed pavement marking tape.
5013	75	LF	Remove existing pavement markings - any size.
6001	415	SF	4 in. concrete sidewalk.
6002	100	LF	Standard Type A comb. curb and gutter.
8001	6.05	CY	Concrete for signal foundation.
8003	2	EA	Break away pedestal pole (15 ft.).
8006	1	EA	Cut, clean, galvanize, and cap traffic signal structure.
8011	12	EA	Install signal head (any type).
8016	5	EA	Microloop probe set with 500 ft. lead-in.
8019	3	EA	Install controller and cabinet - pole mount.
8021	860	LF	Sawcut for signal loop detector.
8023	50	LF	1 in. liquid tight flexible non-metalic conduit - sleeve.
8024	600	LF	2 in. electrical conduit - PVC [Schedule 80] - buried (trenched).
8028	165	LF	3 in. electrical conduit - PVC [Schedule 80] - encased (slotted in roadway).
8030	15	LF	4 in. electrical conduit - PVC [Schedule 80] - buried (trenched).
8033	7	EA	Electrical handhole.
8034	3	EA	Ground rod (3/4 in. diameter x 10 ft. length).
8035	2	EA	Connector kit - type 1.
8036	2	EA	Connector kit - type 2.
8040	1900	LF	Loop detector wire encased in flexible tubing (No. 14 A.W.G.).
8041	340	LF	Electrical cable - 2-conductor (aluminum shielded).
8043	60	LF	Electrical cable - 3- conductor (No. 14 A.W.G.).
8044	120	LF	Electrical cable - 5-conductor (No. 14 A.W.G.).
8045	270	LF	Electrical cable - 7-conductor (No. 14 A.W.G.).
8046	40	LF	Electrical cable - 2-conductor (No. 12 A.W.G).
8048	40	LF	Electrical cable - 1-conductor (No. 8 A.W.G.) THHN/THWN.
8049	30	LF	Stranded bare copper ground wire (No. 6 A.W.G.).
8050	75	LF	Electrical cable - 1-conductor (No. 4 A.W.G.) THHN/THWN.
8051	28	LF	Wood sign supports - 4 in. x 4 in.
8053	49.5	SF	Install ground mounted sign.
8055	2	EA	Install breakaway base support system for signal structure.
8056	1	EA	250 watt HSP luminaire with photocell.
8057	1	EA	Light bracket arm for traffic signal structure.
8061	1	EA	Remove/dispose of existing material/equipment per assignment.
8070	3	EA	Control and distribution equipment (120/240, 1 phase, 3 wire).
8073	2	EA	Photocell.
8083	1	EA	Mast arm pole and 60 ft. mast arm.

Phase Chart

	1	2	3	4	5	6	7	8	
	R Y G ←G	R Y G	R Y G ←G	R Y G	R Y G	R Y G	R Y G	R Y G	
Phase 1	G ←G	G	R	R	R	R	R	R	
1 Change	Y	Y	R	R	R	R	R	R	
Phase 2	R	R	G ←G	G	R	R	R	R	
2 Change	R	R	Y	Y	R	R	R	R	
Phase 4 & 8	R	R	R	R	G	G	G	G	
4 & 8 Change	R	R	R	R	Y	Y	Y	Y	
Flashing Operation	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	

Wiring Diagram



A, B, C, D, E	Micro-loop Probe Lead-in Cable
F, G, H, J	2-Conductor Cable (Aluminum Shielded)
K—	2-Conductor Tray Cable (No. 12 A.W.G.)
L, M	3-Conductor Electrical Cable (No. 14 A.W.G.)
N, O, P, Q	5-Conductor Electrical Cable (No. 14 A.W.G.)
R, S, T, U	7-Conductor Electrical Cable (No. 14 A.W.G.)
V—	Bare Copper Ground Wire (No. 6 A.W.G.)
W, X, Y	3 Pcs. 1-Conductor Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service
Z—	3 Pcs. 1-Conductor Wire (No. 8 A.W.G.) for Street Lighting Electrical Service
LW—	Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing
ML—	Micro-loop probe
PF—	Proposed Overhead Electrical Service By BG&E
UPF—	Proposed Underground Electrical Service By BG&E (to be determined in the field)

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Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

DRAWN BY: Frank Hoeckel
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CHK. BY:

(General Information)

MD 650 at Brighton Dam Road

COUNTY: MONTGOMERY LOG MILE # 16065014.53

DATE: December 18, 1997 F.A.P. NO. N/A
SCALE: N/A S.H.A. NO.

TS/STD. NO. 3759-GI

SHEET NO. 2 of 2