PROJECT DESCRIPTION FOR TEMPORARY SIGNAL

I. GENERAL

This portion of the project involves modifying two existing Traffic Control Signals to accomodate the MOT for the widening of Halfway Boulevard at the intersections of the northbound and southbound ramps to I-81 in Washington County. The intersection lighting and the interconnect cable connecting the two ramps shall be maintained. I-81 is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The southbound ramp operates as the master to the northbound ramp slave. The existing NEMA three phase operation shall be maintained through the existing 20-conductor/12 pair cables

2. A full-traffic-actuated, eight-phase controller with three (3) four-channel, rack mount loop detector amplifiers and associated equipment housed in a NEMA size "5" pole-mounted cabinet shall be installed at the southbound ramp intersection and a pole-mounted splice cabinet at the northbound ramp intersection.

III. SPECIAL NOTES

1. Signal modification shall be coordinated with the MOT Phase I.

2. The ultimate signal design shall be in place prior to Phase III.

3. The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.

4. The proposed conduit and detectors shall be installed in the roadway prior to the final surface.

5. The Contractor shall be responsible for the coordination of the installation and the maintenance of the service feed by the Allegany Power Company.

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY S.H.A.

CATEGORY CODE	ITEM NO.	QUANTITY	SPEC. SECTION	DESCRIPTION
960022	9001	6 Each	814	12", one-way, three-section (R.Y.G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visor
960015	9002	6 Each	814	12", one-way, three-section (R.Y.G) traffic signal head having proper span wire hangres, balance adjusters and tunnel visors.
971016	9003	1 Each	816	Eight-phase, full-traffic-actuated, solid state digital controller with three (3) 4-channel, rack mount loop detector amplifiers and associated harnesses housed in a NEMA size "5" pole-mounted cabinet.
900000	9004	1 Each	816	Splice cabinet, pole-mounted.
900000	9005	1 Set	815.01/ 815.02	Micro-loop Probes (Model 20002) (set of 3) with lead-ins and 1000' of Micro-loop lead-in cable (home-run cable).
900000	9006	1 Set	815.01/ 815.02	Micro-loop Probes (Model 20002) (set of 3) with lead-ins and 500' of Micro-loop lead-in cable (home-run cable).

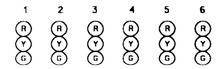
EQUIPMENT LISTS (CON'T.)

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATEGORY CODE	ITEM NO.	QUANTITY	SPEC. SECTION	DESCRIPTION
585450	5001	30 L.F.	SP-555	Remove preformed pavement marking tape. (any width).
585445	5002	30 L.F.	SP-555	Furnish and install preformed pavement marking tape, white (24"width for stoplines).
860022	8001	6 Each	814	Install 12", one-way, three-section traffic signal head, mast arm mount.
860002	8002	6 Each	814	Install 12", one-way, three-section traffic signal head, span wire mount.
801004	8003	4.7 C.Y.	801	Furnish and install concrete foundation.
837001	8004	2 Each	804	Furnish and install ground rod, 3/4" diameter x 10' length.
869102	8005	250 L.F.	819	Furnish and install 3/8" steel span wire.
862102	8006	120 L.F.	815	Furnish and install sawcut.
805011	8007	50 L.F.	805	Furnish and install 1" galvanized steel electrical conduit (detector wire sleeve).
805160	8008	25 L.F.	805	Furnish and install 1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
870116	8009	25 L.F.	805	Furnish and install 2" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
800000	8010	40 L.F.	805	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (riser).
870120	8011	60 L.F.	805	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (bored).
870119	8012	140 L.F.	805	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
838003	8013	1 Each	807	Furnish and install control and distribution equipment.
811001	8014	4 Each	811	Furnish and install handhole (frame and cover).
800000	8015	1 Each	805	Furnish and install 40' wood pole with 16' and 12' down guys.
800000	8016	1 Each	818	Furnish and install 27' steel pole with a 70' mast arm. (Note: 4 anchor bolts will be 2" x 90".)
832020	8017	50 L.F.	804	Furnish and install stranded bare copper ground wire (No. 6 A.W.G.).
862101	8018	500 L.F.	810	Furnish and install loop wire (No. 14 A.W.G.) encased in 1/4" flexible tubing.
861104	8019	250 L.F.	810	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded).
861107	8020	800 L.F.	810	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).
861116	8021	400 L.F.	810	Furnish and install 2-conductor electrical cable (No. 12 A.W.G.) type THHN tray cable.
861117	8022	70 L.F.	810	Furnish and install 3-conductor electrical cable (No. 4 A.W.G.).
831010	8023	2 Each	806	Furnish and instal 250W-HPS luminaire.
866104	8024	2 Each	808	Furnish and install 20' lighting arm.
800000	8025	3142 L.F.	810	Pull back existing cables.
800000	8026	1677 L.F.	810	Rewire existing cables into the new controller.
800000	8027	Lump Sum	822	Removal and disposal of existing signal equipment.
871201	8028	2 Each	816	Install pole-mounted cabinet and controller.
800000	8029	2 Sets	815.01/ 815.02	Install probes (set of 3) with lead-ins and cable.
800000	8030	1 Each	814	Relocated existing sign, span wire mounted.
800000	8031	1 Each	870	Furnish and install 3" weatherhead.
800000	8032	1 Each	815	Relocate and rewire Opticom Detector Eye.
● 816001	8033	1 Each	822	Remove and salvage 8-phase controller and pole-mounted cabinet.
● 818004	8034	1 Each	822	Remove and salvage 27' steel pole with 70' mast arm

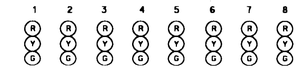
● EXISTING EQUIPMENT TO BE DELIVERED TO THE: STATE HIGHWAY ADMINISTRATION, OFFICE OF TRAFFIC AND SAFETY, SIGNAL OPERATIONS WAREHOUSE, 7941 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. CONTACT MR. DAVID SCHWARTZ @ (410) 787-7667, FORTY-EIGHT (48) HOURS IN ADVANCE OF RETURNING EQUIPMENT.

I-81 SOUTHBOUND OFF RAMP AND HALFWAY BLVD.



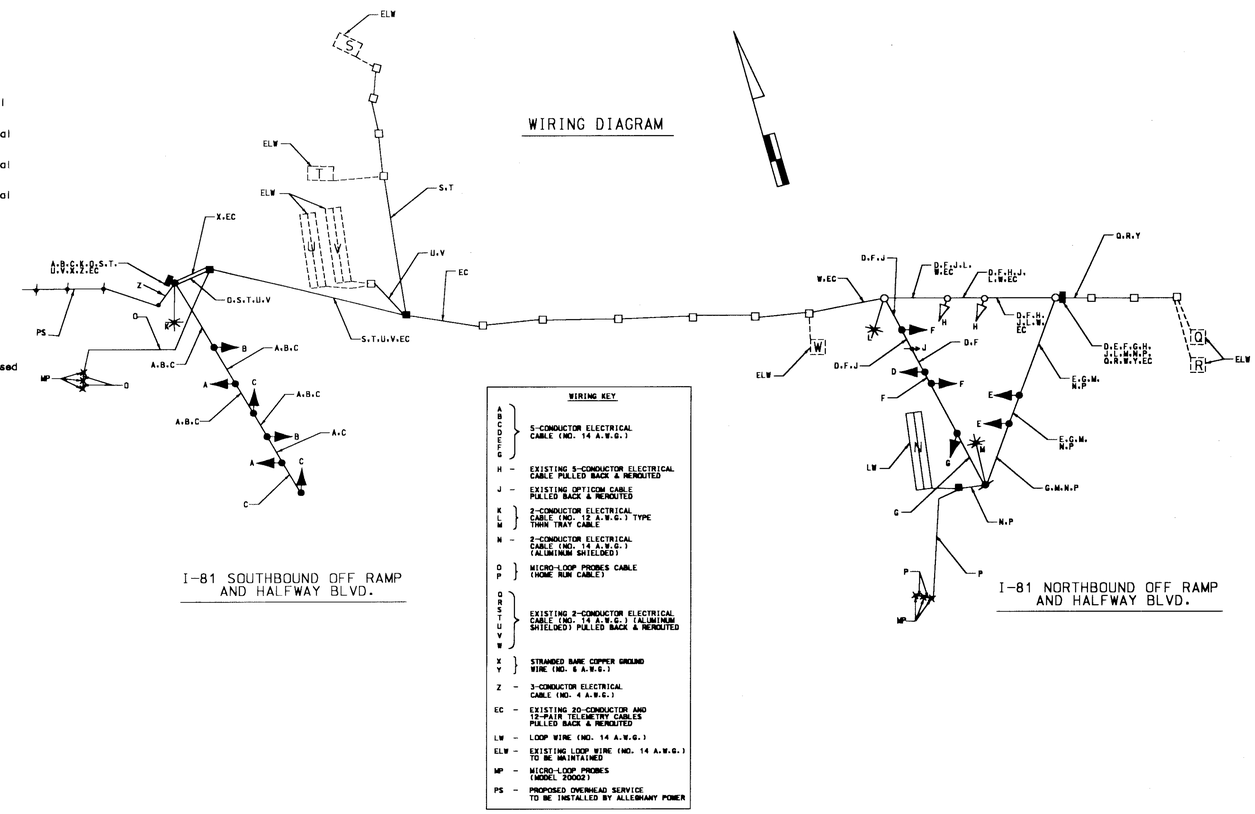
	1	2	3	4	5	6
PHASE 2 & 6	G	G	G	G	R	R
2 & 6 CHANGE	Y	Y	Y	Y	R	R
PHASE 4	R	R	R	R	G	G
4 CHANGE	R	R	R	R	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R

I-81 NORTHBOUND OFF RAMP AND HALFWAY BLVD.



	1	2	3	4	5	6	7	8
PHASE 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

WIRING DIAGRAM



I-81 SOUTHBOUND OFF RAMP AND HALFWAY BLVD.

I-81 NORTHBOUND OFF RAMP AND HALFWAY BLVD.

WIRING KEY

A B C D E F G	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H –	EXISTING 5-CONDUCTOR ELECTRICAL CABLE PULLED BACK & REROUTED
J –	EXISTING OPTICOM CABLE PULLED BACK & REROUTED
K L M	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TYPE THHN TRAY CABLE
N –	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED)
O P	MICRO-LOOP PROBES CABLE (HOME RUN CABLE)
Q R S T U V W	EXISTING 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED) PULLED BACK & REROUTED
X Y	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
Z –	3-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
EC –	EXISTING 20-CONDUCTOR AND 12-PAIR TELEMETRY CABLES PULLED BACK & REROUTED
LW –	LOOP WIRE (NO. 14 A.W.G.)
ELW –	EXISTING LOOP WIRE (NO. 14 A.W.G.) TO BE MAINTAINED
MP –	MICRO-LOOP PROBES (MODEL 20002)
PS –	PROPOSED OVERHEAD SERVICE TO BE INSTALLED BY ALLEGHANY POWER

STREET TRAFFIC STUDIES, LTD.
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REVISIONS	APPROVALS
	ASST. CHIEF TSDD SECTION
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
TEMPORARY SIGNAL FOR MOT
I-81 SOUTHBOUND & NORTHBOUND RAMPS AND HALEWAY BLVD.

DRAWN BY: THACKER	COUNTY: WASHINGTON	TS NO. GI 158D GI 152D	SHEET NO. 3 OF 7
CHECK BY: E.M. MILESKY	LOG MILE:		
DATE: 9-3-98	F.A.P. NO.	T.I.M.S. NO.	
SCALE: NONE	S.H.A. NO.		

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