PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal at the intersection of MD 650 and Merwood Drive in Prince George's County. The street lighting is provided on the utilitiy poles. MD 650 is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA six - phase, fully -actuated mode, with the MD 650 approaches running concurrently. Exclusive/Permissive left turn phases shall be provided for both approaches of MD 650. A pedestrian phase with pushbutton actuation shall be provided to cross the north leg of MD 650. The Merwood Drive / Hampshire Tower Apartment's Driveway approaches shall also run concurrently.

2. A full-traffic-actuated, eight-phase controller with four (4) four-channel, rack mount loop detector amplifiers, and Intersection Monitor with battery back-up for phone drop and associated harnesses housed in a NEMA size "6 " base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

1. Upon completion of this project, the Contractor shall notify Mr. Robert Snyder at (410) 787-7631 to arrange for the phone line installation. The Contractor is to provide Mr. Robert Snyder with the nearest street address, zip code and phone number.

2. The contractor shall be responsible for the patching of the existing pavement marking material, as indicated on the plan.

EQUIPMENT LISTS

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

ITEM NO.	QUANTITY	DESCRIPTION
~~NEG~~	~~1 Each~~	~~18' steel pole with twin 60' (16.5'T) x 50' (15'T) mast arms. (Note: 4 anchor bolts will be 2" x 90".)~~
~~NEG~~	~~1 Each~~	~~16.5' steel pole with twin 50' (15'T) x 50' (15'T) mast arms. (Note: 4 anchor bolts will be 1¾" x 90".).~~
9027	1 Each	12", one-way, two-section (DW.W) symbolic pedestrain signal head with adjustable bracket for pole mounting and cutaway visors. (blackface)
9035	1 Each	12", one-way, two-section (DW.W) symbolic (blackface) pedestrian signal head having propert post top adapter for pedestal mounting and cutaway visors.
9022	1 Each	8", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting. (blackface)
9014	6 Each	12", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting. (blackface)
9016	2 Each	12", one-way, five-section (R,YA,Y,GA,G) (left arrows) traffic signal head with adjustable bracket for mast arm mounting. (blackface)
9019	2 Each	Combination 8"-12", one-way, five-section (8"-R,Y,G) (12"-YA,GA) (left arrows) traffic signal head with adjustable bracket for mast arm mounting. (blackface)
9096	2 Each	Pedestrain pushbutton and R10-3C sign. (Note: Sign to read "PUSHBUTTON TO CROSS NEW HAMPSHIRE AVE.").
9000	1 Each	Eight-phase, full-traffic-actuated, solid state digital controller with four(4) 4-channel, rack mount loop detector amplifiers, Intersection Monitor with battery back-up for phone drop and associated harnesses housed in a NEMA size " 6 " base- mounted cabinet.
9089	110 SF	Sheet aluminum signs to consist of:
	2 EA	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") mast arm mounted.
	1 EA	Associated shield assembly "NORTH, MD 650, RIGHT ARROW" (30" X 51") pole mounted.
	1 EA	Associated shield assembly "SOUTH, MD 650, RIGHT ARROW" (30" X 51") pole mounted.
	1 EA	Associated shield assembly "NORTH, MD 650, LEFT ARROW" (48" X 75") pole mounted.
	1 EA	Associated shield assembly "SOUTH, MD 650, LEFT ARROW" (48" X 75") pole mounted.
9090	36 SF	Sheet aluminum signs to consist of:
	2 EA	D3-2 " Merwood DR ⇨ ⇦ Merwood DR" dual faced sign, (variable x 16") mast arm mounting.
	2 EA	D3-2 " New Hampshire AVE" dual faced sign, (variable x 16") mast arm mounting.

UTILITY LEGEND

—G—G—	GAS MAIN
—W—W—	WATER MAIN
—S—S—	SEWER MAIN
—E—E—	ELECTRIC CABLES
—A—A—	AERIAL CABLES
—T—T—	TELEPHONE CABLES

EQUIPMENT LISTS

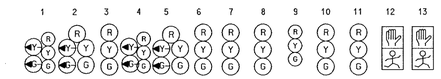
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1001	LS	Maintenance of traffic.
2001	4 C.Y.	Test pit excavation.
2004	2 C.Y.	Class 2 excavation (sidewalk removal)
5001	100 L.F.	Furnish and install 5" yellow heat applied permanent preformed thermoplastic pavement marking material.
5002	50 L.F.	Furnish and install 5" white heat applied premanent preformed thermoplastic pavement marking material.
5003	100 L.F.	Furnish and install 12" white heat applied premanent preformed thermoplastic pavement marking material.
5004	40 L.F.	Furnish and install 24" white heat applied permanent preformed thermoplastic pavement marking material.
6001	290 S.F.	Furnish and install 4" concrete sidewalk, mix No. 2.
6009	40 L.F.	Furnish and install depressed curb and gutter.
8001	10 C.Y.	Furnish and install concrete foundation.
8003	1 EA.	Furnish and install 10' break-away pedestal pole with transformer base.
8011	13 EA.	Install traffic signal head.
8018	2 EA.	Install pushbutton and sign.
8020	1 EA.	Install base-mounted cabinet and controller.
8021	235 L.F.	Furnish and install sawcut.
8023	10 L.F.	Furnish and install 1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
8027	100 L.F.	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
8030	25 L.F.	Furnish and install 4" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
8031	400 L.F.	Furnish and install 4" polyvinyl chloride electrical conduit (Schedule 80) (slotted).
8034	4 EA.	Furnish and install ground rod (3/4" dia. x 10' length.)
8033	5 EA.	Furnish and install handhole (frame and cover).
8040	930 L.F.	Furnish and install loop wire (No. 14 A.W.G.) encased in¼" flexible tubing.
8041	4600 L.F.	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded).
8042	530 L.F.	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.).
8043	555 L.F.	Furnish and install 3-conductor electrical cable (No. 14 A.W.G.).
8044	110 L.F.	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).
8045	1340 L.F.	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).
8048	370 L.F.	Furnish and install stranded bare copper ground wire (No. 6 A.W.G.).
8049	270 L.F.	Furnish and install 1-conductor electrical cable (No. 4 A.W.G.).
8053	146 S.F.	Install overhead mounted sheet aluminum sign.
8057	4 EA.	Remove and dispose of existing foundation 12" below grade.
8058	1 EA.	Removal of existing controller and cabinet.
8059	1 EA.	Delivery of removed controllor and cabinet.
8060	1 EA.	Remove and dispose of existing material and equipment per assignment.
8066	1 EA.	Furnish and install control and distribution equipment.
~~8074~~	~~2 EA.~~	~~Install mast arm and structure.~~
neg.	40 L.F.	Remove existing curb and gutter.
Neg	1 each	F/I 18' steel pole with twin 60' (16.5'T) x 50' (15'T) mast arms. (Note: 4 anchor bolts will be 2" x 90").
Neg	1 each	F/I 16.5' steel pole with twin 50' (15'T) x 50' (15'T) mast arms. (Note: 4 anchor bolts will be 1¾ x 90").

NOTE:

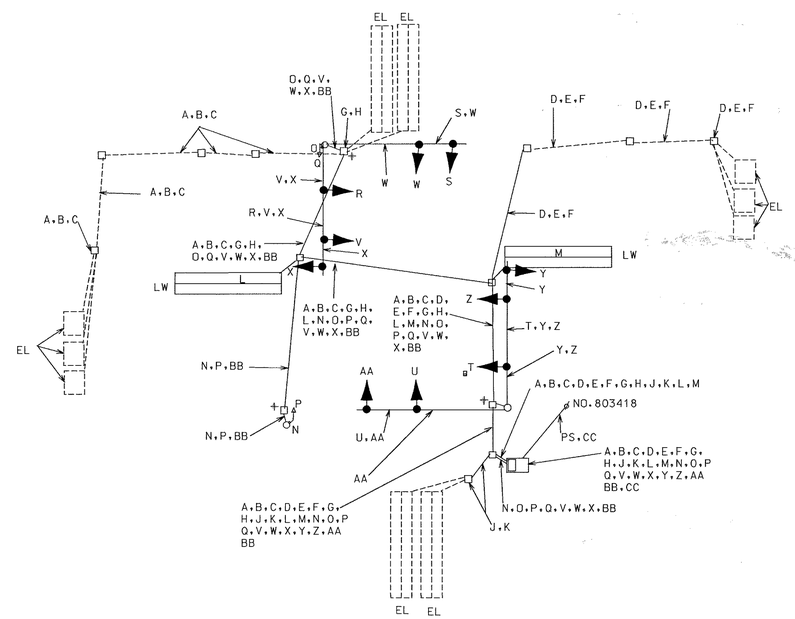
THE MAST ARM AND THE STRUCTURE SHALL BE MANUFACTURED IN ACCORDANCE TO SPECIFICATION NUMBERED 818.13-01. CONTACT NAVIN PATEL,TEDD, AT 410-787-4016.

PHASING CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13
PHASE 1 & 5	R, G	R, G	R	R, G	R, G	R	R	R	R	R	R	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6												DW	DW
PHASE 1 & 6	G, G	G, G	G	R	R	R	R	R	R	R	R	DW	DW
1& 6 CHANGE	G, Y	G, Y	G	R	R	R	R	R	R	R	R	DW	DW
PHASE 2 & 5	R	R	R	G, G	G, G	G	R	R	R	R	R	DW	DW
2 & 5 CHANGE	R	R	R	G, Y	G, Y	G	R	R	R	R	R	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW
PHASE 4 ALT.	R	R	R	R	R	R	R	R	G	G	G	WK	WK
PED CLEARANCE	R	R	R	R	R	R	R	R	G	G	G	FL/DW	FL/DW
ALT 4 CHANGE	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW
FLASHING OPERTION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A, B, C, D, E, F, G, H, J, K	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED SPLICED TO EXISTING LOOP WIRE
L, M	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED
N, O	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
P, Q	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
R, S, T, U	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
V, W, X, Y, Z, AA	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
BB -	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
CC -	1-WIRE ELECTRICAL CABLE (NO. 4 A.W.G.)
EL -	LOOP WIRE (NO. 14 A.W.G.) EXISTING
LW -	LOOP WIRE (NO. 14 A.W.G.)
PS -	PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY CONTRACTOR FOR PEPCO (NOTE: COIL 35' OF CABLE AT POLE BASE)
+ -	GROUND ROD

REVISION " I "

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REVISIONS

APPROVALS

ASST. CHIEF TEDD SECTION

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

ORIGINAL ON FILE

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

MD 650 AND MERWOOD ROAD

GENERAL INFORMATION

DRAWN BY:	MILESKY	COUNTY:	PRINCE GEORGE'S	TS NO. 292 IGI	SHEET NO.
CHECK BY:	EMM	LOG MILE:	16065001.47		
DATE:	6/4/99	F.A.P. NO.	AC-STPG-000S(588)E	T.I.M.S. NO. C-971	2 OF 2
SCALE:	N/A	S.H.A. NO.	AW-2775185		