PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting at the intersection of MD 704 (ML King Highway) and Columbia Park Road / Belle Haven Drive in Prince George's County. MD 704 (ML King Highway) is assumed to run an east-west direction. The existing cabinet and controller shall be replacedand the signals rewired. The MD 704 east and westbound left turns shall be changed from exclusive/ permissive to exclusive. The sidestreets shall be revised to exclusive/permissive left turns.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA eight-phase, semi-actuated mode, with the MD 704 (ML King Highway) approaches continuing to run concurrent. Exclusive left turn phases shall now be provided for both approaches of MD 704 (ML King Highway). The pedestrian phases with pushbutton actuation across both legs of MD 704 (ML King Highway) shall remain in operation. The pedestrian phases across Columbia Park Road and Belle Haven Road shall remain on recall. Exclusive/Permissive left turn phases shall now be provided for the approaches of Columbia Park Road and Belle Haven Road. The Columbia Park Road and Belle Haven Road approaches shall continue running concurrently.

2. A full-traffic-actuated, eight-phase controller with three (3) four channel, rack mount loop detector amplifiers, housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

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

2. All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.

3. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9001	Detector rack power supply (To be instaled by SHA forces)	1 EA
9016	Detector amplifier 4-channel rack mount.	3 EA
9042	Controller ASC II with telemetry	1 EA
9044	Controller cabinet, size "6"	1 EA
9571	Sheet aluminum signs to consist of:	71.5 SF
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-2 "WEST"(30"X15") M1-5 "MD 704"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-2 "EAST"(30"X15") M1-5 "MD 704"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-2 "EAST"(24"X12") M1-5 "MD 704"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-2 "WEST"(24"X12") M1-5 "MD 704"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
9572	Sheet aluminum signs to consist of:	70.5 SF
	R3-5R "RIGHT TURN ONLY" sign, (30" x 36") span wire mounted.	1 EA
	R10-10L "LEFT TURN SIGNAL" (24"X30") span wire mounted.	2 EA
	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") span wire mounted.	2 EA
	D3-2 "M.L. KING Blvd" sign, (variable x 16") span wire mounted (dual faced).	2 EA
	D3-2 "Columbia Park DR (arrow)" / "(arrow) Columbia Park DR" (variable x 16") span wire mounted (dual faced).	1 EA

EQUIPMENT LIST (CONT.)

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

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	1 EA
8002	3" blind coupling for traffic signal structures, welded and galvanized.	1 EA
8010	Furnish and install 12" pedestrian signal head section	16 EA
8011	Furnish and install 12" vehicular traffic signal head section	35 EA
8015	Furnish and install 3" weatherhead.	1 EA
8019	Furnish and install 8" vehicular traffic signal head section.	6 EA
8020	Furnish and install control and distribution equipment (120/240 V, 1 phase 3 wire system).	1 EA
8044	Furnish and install non-invasive probe set with 500' lead-in cable.	2 EA
8048	Remove and dispose of existing material and equipment per assignment.	1 EA
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - trenched.	40 L.F.
8059	Furnish and install concrete for signal foundation.	2 C.Y.
8077	Install overhead sign.	142 S.F.
8083	Furnish and install electrical cable - 2 conductor (aluminum shielded).	1455 L.F.
8084	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	710 L.F.
8086	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	1760 L.F.
8087	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	660 L.F.
8088	Furnish and install tray cable - 2 conductor (No. 12 AWG).	230 L.F.
8093	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	25 L.F.
8095	Install controller and cabinet base mount.	1 EA
Neg.	Reroute microloop cable.	40 L.F.
Neg.	Relocate existing overhead sign	2 EA

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

SHA Forces shall remove the controller and all auxiliary equipment from the controller cabinet.
The cabinet and all other materials to be removed by the contractor shall become the property of the contractor.

The contact persons for District #3 (Prince George's County) are as follows:

Mr. Majid Shakib
Assistant District Engineer - Traffic
Phone: (301 513-7358

Mr. Raleigh Medley
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Augie Rebish
Assistant District Engineer - Utility
Phone: (301) 513-7350

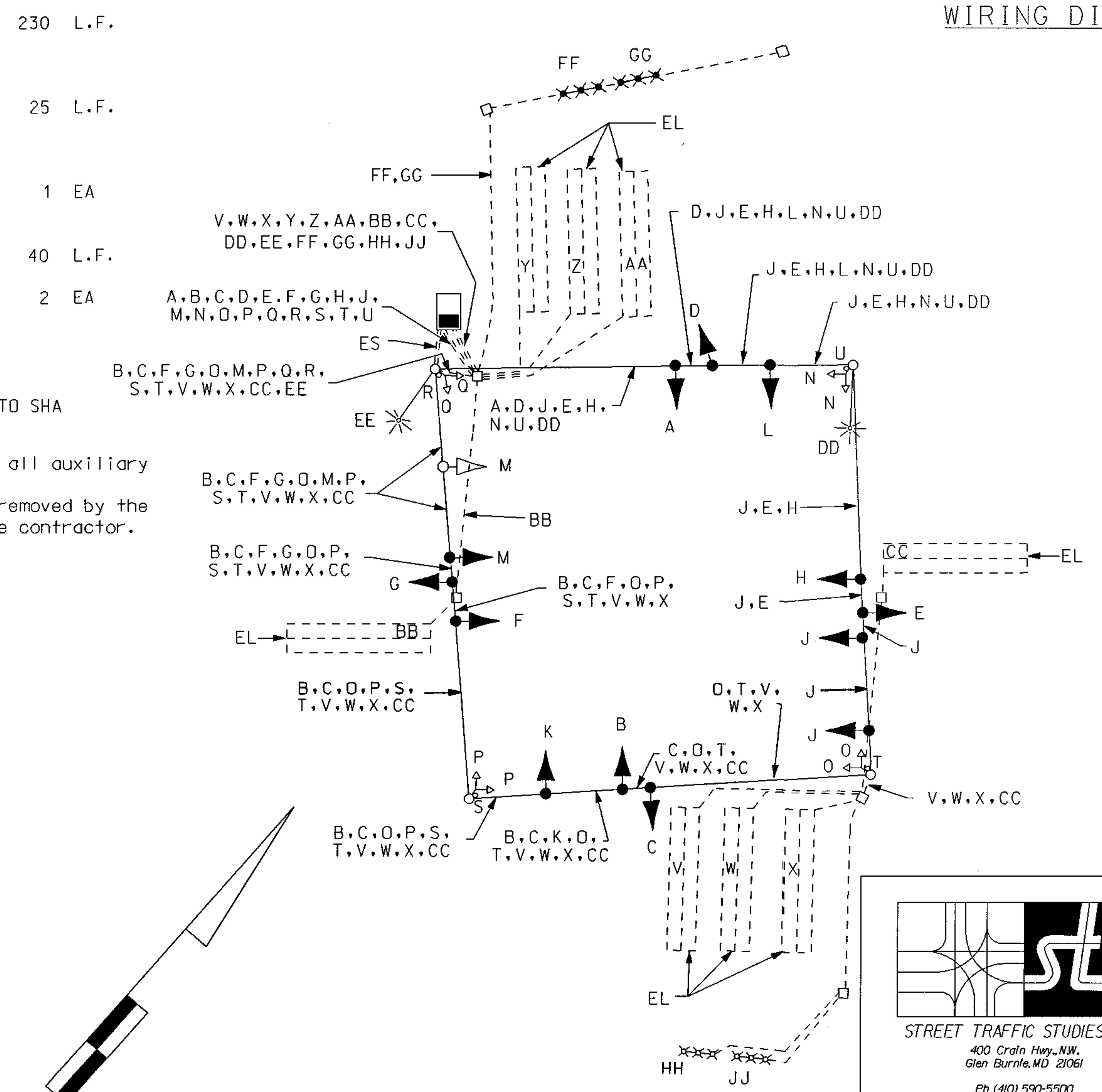
Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

The power company representative is:

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PHASE 1 & 5	◄G-	◄G-	R	R	◄G-	◄G-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																						
PHASE 1 & 6	◄G-	◄G-	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-	◄Y-	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 5	◄R-	◄R-	R	R	◄G-	◄G-	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
2 & 5 CHANGE	◄R-	◄R-	R	R	◄Y-	◄Y-	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 6	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	◄R-	◄R-	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 & 7	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 3 & 8, 4 & 7 OR 4 & 8																						
PHASE 3 & 8	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄Y-/G	◄Y-/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 8 ALT	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
3 & 8 ALT CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	◄Y-/G	◄Y-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
PHASE 4 & 7	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 7 ALT	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	WK	DW	DW	WK
4 & 7 ALT CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	WK	DW	DW	WK
PHASE 4 & 8	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/◄R-	FL/◄R-	FL/Y	FL/Y	FL/◄R-	FL/◄R-	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A, B, C, D } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

E, F, G, H, J, K, L, M, N, O, P, Q } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

R, S, T, U } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

V, W, X, Y, Z, AA, BB, CC } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED

DD, EE } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)

FF, GG } NON-INVASIVE MICROLOOP LEAD-IN CABLE (500')

HH, JJ } REROUTED MICROLOOP LEAD-IN CABLE

EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING

ES - EXISTING UNDERGROUND SERVICE TO BE RELOCATED BY THE CONTRACTOR

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy.,N.W.
Glen Burnie,MD 21061
Ph (410) 590-5500
Fax (410) 590-6637

4186GI.dgn TASK 54

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

MD 704 @ COLUMBIA PARK ROAD

DRAWN BY:	ROB CICCHINI	F.A.P. NO.		TS NO. 322D	SHEET NO. 2 OF 2
CHECKED BY:	R ZACHERL	S.H.A. NO.	PG434A5 & 1B5		
SCALE:	NONE	COUNTY:	PRINCE GEORGE'S	T.I.M.S. NO. F-178	
DATE:	6/14/02	LOG MILE:	16070402.18		