DRILL HOLES

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BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal at the intersection of MD 197 (Laurel Bowie Rd) and Old Chapel Road in Prince George's County. A new mast arm Traffic Control Signal shall replace the existing span wire structure. Video detection shall be used for all approaches. MD 197 (Laurel Bowie Rd) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA six-phase, fully-actuated mode, with the MD 197 (Laurel Bowie Rd) approaches running concurrently. Exclusive left turn phases shall be provided for both approaches of MD 197 (Laurel Bowie Rd). A pedestrian phase with pushbutton actuation shall be provided across both legs of MD 197 (Laurel Bowie Rd). The pedestrian phase across Old Chapel Road shall be on recall. The Old Chapel Road approaches shall also run concurrently.
2. A full-traffic-actuated, eight-phase controller with two (2) 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.

EQUIPMENTLIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9042	Controller ASC II with telemetry	1 EA
9044	Controller cabinet, size "6"	1 EA
9086	Video detection interface equipment: 1-4 cameras (To be installed by signal shop).	1 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	130.5 SF
	D3-2 "Old Chapel RD (arrow) / (arrow) Old Chapel RD" sign, (dual faced) (variable x 16")	2 EA
	D3-2 "Laurel-Bowie RD" sign, (variable x 16")	1 EA
	R3-5L "LEFT TURN ONLY" sign, (30" x 36")	2 EA
	R3-6 "LEFT TURN AND THRU" sign, (30" x 36")	1 EA
	R10-11L "LEFT TURN SIGNAL" sign, (24"x30").	2 EA
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-3 "SOUTH"(30"X15") M1-5 "MD 197"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-1 "NORTH(30"X15") M1-5 "MD 197"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-1 "NORTH"(24"X12") M1-5 "MD 197"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-3 "SOUTH"(24"X12") M1-5 "MD 197"(30"X24") M6-1 "right arrow "(21"X15")	1 EA

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

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	3 EA
2001	Class 2 Excavation.	14 C.Y.
2002	Test Pit Excavation	7 C.Y.
5003	Removal of existing permanent pavement line markings	270 L.F.
5005	12" white heat applied permanent preformed thermoplastic pavement marking.	450 L.F.
5006	24" white heat applied permanent preformed thermoplastic pavement marking.	130 L.F.
6002	Depress curb & gutter.	30 L.F.
6003	Standard type A combination curb and gutter 12" gutter pan 8" depth.	115 L.F.
6005	4" concrete sidewalk.	1250 S.F.

EQUIPMENTLIST (CONT.)

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

ITEM NO.	DESCRIPTION	QUANTITY
8001	Furnish and install concrete for signal foundation.	19 C.Y.
8002	Furnish and install 12" pedestrian signal head section	8 EA
8014	Pre-manufactured camera to controller (200' length) cable	2 EA
8015	Pre-manufactured camera to controller (300' length) cable	2 EA
8027	Furnish and install breakaway pedestal pole (14').	1 EA
8029	Remove and dispose of existing material and equipment per assignment.	1 EA
8038	Disconnect, pull back and reroute cable.	540 L.F.
8040	Detectable warning surface (truncated domes).	24 S.F.
8044	Furnish and install No. 6 AWG stranded bare copper ground wire.	555 L.F.
8045	1" electrical conduit - galvanized sleeve or riser.	45 L.F.
8051	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched.	30 L.F.
8052	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	135 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	100 L.F.
8056	Furnish and install 4" schedule 80 rigid polyvinyl chloride - slotted.	255 L.F.
8057	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	20 L.F.
8058	Metered pedestal service.	1 EA
8061	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	35 L.F.
8063	Furnish and install microloop probe set with 500' lead-in	7 EA
8067	Furnish and install electrical handhole.	3 EA
8070	Install overhead sign.	130.5 SF
8071	Video detector camera.	4 EA
8074	Furnish and install 3M opticom #721 detector eye	1 EA
8077	Furnish and install 21' mast arm pole and 50' mast arm.	3 EA
8078	Furnish and install 21' mast arm pole and 60' mast arm.	1 EA
8084	Furnish and install 250 watt HPS Luminaire with photocell.	1 EA
8091	Furnish and install ground rod -3/4" x 10'.	7 EA
8093	Furnish and install 12" vehicular traffic signal head section	36 EA
8095	Furnish and install 4-conductor opticom detector cable.	120 L.F.
8099	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	475 L.F.
8101	Furnish and install electrical cable -5 conductor (No. 14 AWG).	1760 L.F.
8102	Furnish and install electrical cable -7 conductor (No. 14 AWG).	445 L.F.
8103	Furnish and install tray cable - 2 conductor (No. 12 AWG).	80 L.F.
8105	Furnish and install saw cut for signal (microprobe).	170 L.F.
8106	Pedestrian pushbutton and R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS LAUREL BOWIE RD".)	4 EA
8107	Furnish and install 15' lighting arm for traffic signal structure.	1 EA
8112	Install controller and cabinet base mount.	1 EA

C. EQUIPMENT TO BE REMOVED

SHA Forces shall relocate the existing discriminator module from the existing cabinet, install it into the proposed cabinet and also remove the controller and all other auxiliary equipment from the existing cabinet. All other materials to be removed shall become 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. Wayne Mowdy
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

Mr. Ed Rodenhizer
Signal Shop
410-787-7652

Mr. Sonny Bailey
Sign Shop
410-787-7670

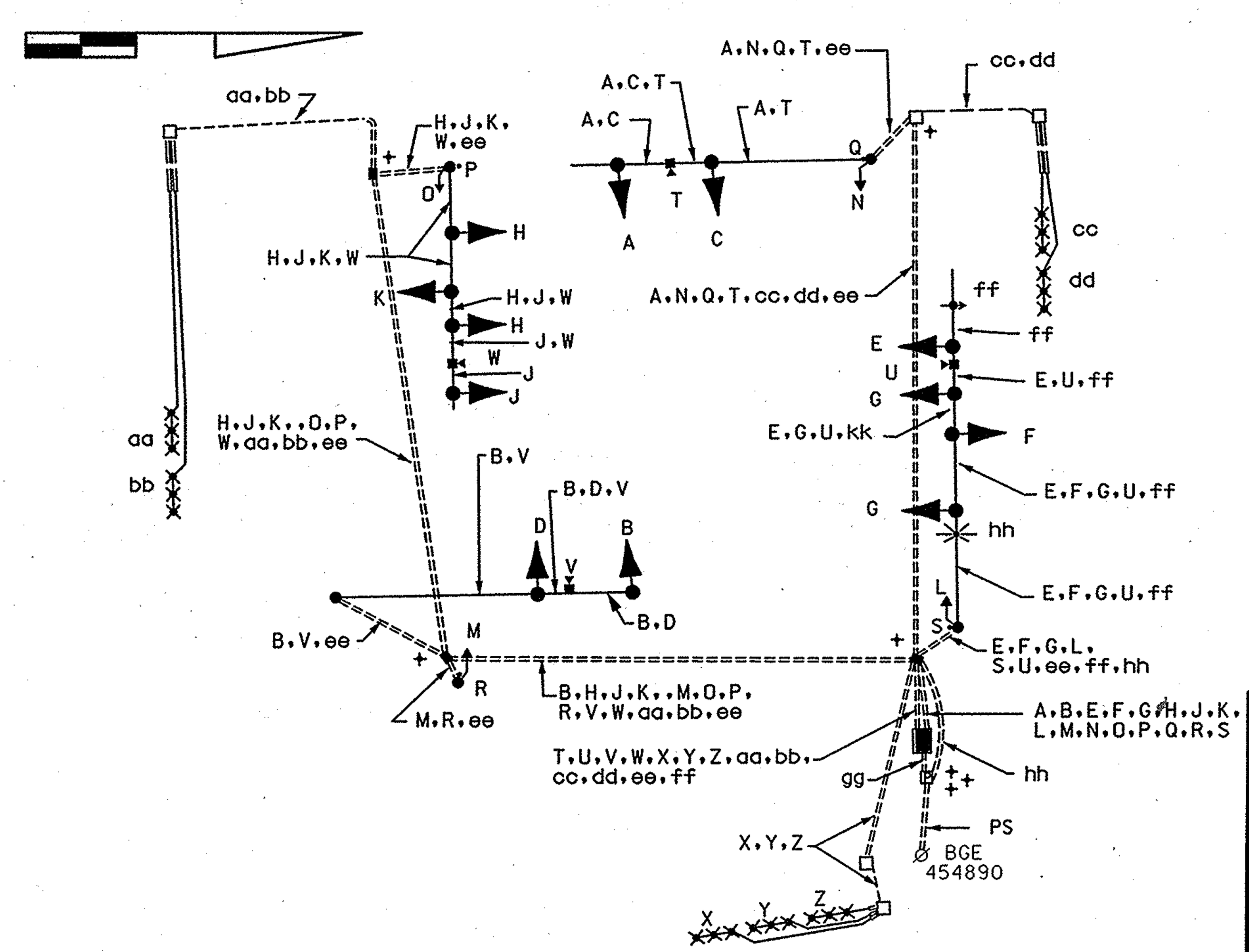
The power company representative is:

Mr. Steve Schneider
Baltimore Gas and Electric
7317 Parkway Drive South
Hanover, MD 21076
410-859-9310

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	◄R ◄Y ◄G	◄R ◄Y ◄G	R Y G	R Y G	◄R ◄Y ◄G	◄R ◄Y ◄G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	(ped)	(ped)	(ped)	(ped)
PHASE 1 & 5	←G-	←G-	R	R	←G-	←G-	R	R	R	R	R	R	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	DW	DW	DW	DW
1 & 6 CHANGE	←Y-	←Y-	G	G	←R-	←R-	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 5	←R-	←R-	R	R	←G-	←G-	G	G	R	R	R	R	DW	DW	DW	DW
2 & 5 CHANGE	←R-	←R-	R	R	←Y-	←Y-	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 6	←R-	←R-	G	G	←R-	←R-	G	G	R	R	R	R	DW	DW	DW	DW
2 & 6 CHANGE	←R-	←R-	Y	Y	←R-	←R-	Y	Y	R	R	R	R	DW	DW	DW	DW
PHASE 4 & 8	←R-	←R-	R	R	←R-	←R-	R	R	G	G	G	G	DW	DW	DW	DW
4 & 8 CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 & 8 ALT	←R-	←R-	R	R	←R-	←R-	R	R	G	G	G	G	WK	WK	WK	WK
PED CLEAR	←R-	←R-	R	R	←R-	←R-	R	R	Y	Y	Y	Y	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 CHANGE ALT	←R-	←R-	R	R	←R-	←R-	R	R	Y	Y	Y	Y	DW	DW	DW	DW
FH PRE EMPT	←R-	←R-	R	R	←G-	←G-	G	G	R	R	R	R	DW	DW	DW	DW
FH PRE-EMPT CHANGE	←R-	←R-	R	R	←Y-	←Y-	G	G	R	R	R	R	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	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

- A, B } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- C, D, E, F, G, H, J, K, L, M, N, O } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- P, Q, R, S } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- T, U, V } PRE-MANUFACTURED CAMERA TO CONTROLLER CABLE (200')
- W - PRE-MANUFACTURED CAMERA TO CONTROLLER CABLE (300')
- X, Y, Z, aa, bb, cc, dd } MICROLOOP LEAD-IN CABLE (500')
- ee - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- ff - 4 CONDUCTOR OPTICOM CABLE
- gg - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- hh - 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)
- PS - PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BGE
- + - GROUND ROD

Revision 3 Approval [signature] 9-27-05

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400 Crain Hwy. N.W.
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WT-48

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SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 197 AND OLD CHAPEL ROAD

BOWIE, MARYLAND

SCALE NONE DATE 9/26/05 CONTRACT NO. AT7185185

DESIGNED BY JIMMY ALLEN COUNTY PRINCE GEORGE'S
DRAWN BY ROB CICCHINI LOGMILE 08021005.77
CHECKED BY ______ TIMS NO. F950
F.A.P. NO. ______ TOD NO. ______

TS NO. 1784 C DRAWING NO. OF- SHEET NO. 2 OF 2

PLOTTED: $DATETIME$
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