PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF US 301 (CRAIN HIGHWAY) AT CLYMER DRIVE IN PRINCE GEORGE'S COUNTY. GEOMETRIC MODIFICATIONS ARE PROPOSED TO WIDEN THE EAST LEG, CONSTRUCT A SOUTHBOUND DOUBLE LEFT-TURN LANE AND CONSTRUCT A NORTHBOUND DOUBLE LEFT-TURN LANE. VIDEO DETECTION IS PROPOSED FOR ALL PRESENCE DETECTION AND NON-INVASIVE MICROLOOP PROBES ARE ALSO PROPOSED FOR SETBACK DETECTION. ALL EXISTING TRAFFIC SIGNAL HEADS WILL BE UPGRADED TO BLACK-FACED LED. US 301 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC ACTUATED MODE. EXCLUSIVE LEFT-TURN PHASING WILL BE PROVIDED ON US 301. AN EAST- AND WESTBOUND SIDE STREET SPLIT IS ALSO PROPOSED. LEAD/LAG OPERATION IS ALSO PROPOSED FOR NORTH- AND SOUTHBOUND LEFT TURNS.

CONTROLLER REQUIREMENTS

THE EXISTING BASE MOUNTED TRAFFIC SIGNAL CONTROLLER WILL REMAIN. THE SHA SIGNAL SHOP WILL INSTALL A VIDEO DETECTION CAMERA INTERFACE FOR 1-4 CAMERAS IN THE EXISTING CABINET.

PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE INSTALLATION OF THE PHONE DROP. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

Mr. Brian Young
Assistant District Engineer - Traffic
Phone: 301-513-7358

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

Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
Phone: 301-513-7304

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

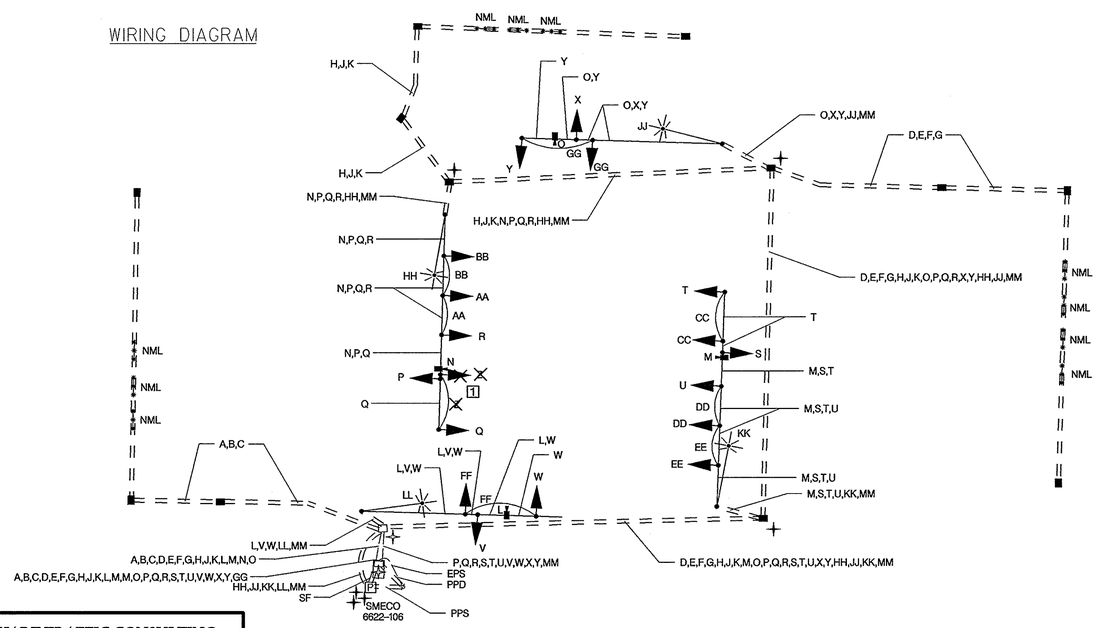
Mr. Edward Rodenhizer
Chief, SHA Traffic Signal Shop
Phone: 410-787-7652

The Power Company Representative is:
Southern Maryland Electrical Cooperative
4061 Powder Mill Road, Suite 600
Calverton, Maryland 20705
Phone: 301-931-2880

PHASE CHART

	1	2	3 [1]	4	5	6	7	8	9	10	11	12	13	14	15	16	16	17
PHASE 1 + 6	~~G~~	~~G~~	~~G~~	G	G	G	~~R~~	~~R~~	~~R~~	R	R	R	R	R	R	R	R	R
PHASE 1 CHANGE	~~Y~~	~~Y~~	~~Y~~	G	G	G	~~R~~	~~R~~	~~R~~	R	R	R	R	R	R	R	R	R
PHASE 2 + 6	~~R~~	~~R~~	~~R~~	G	G	G	~~R~~	~~R~~	~~R~~	G	G	G	R	R	R	R	R	R
PHASE 6 CHANGE	~~R~~	~~R~~	~~R~~	Y	Y	Y	~~R~~	~~R~~	~~R~~	G	G	G	R	R	R	R	R	R
PHASE 2 + 5	~~R~~	~~R~~	~~R~~	R	R	R	~~G~~	~~G~~	~~G~~	G	G	G	R	R	R	R	R	R
PHASE 2 + 5 CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~Y~~	~~Y~~	~~Y~~	Y	Y	Y	R	R	R	R	R	R
PHASE 3	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	~~R~~	R	R	R	G ~~G~~	G ~~G~~	G	R	R	R
PHASE 3 CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	~~R~~	R	R	R	Y	Y	Y	R	R	R
PHASE 4	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	~~R~~	R	R	R	R	R	R	G ~~G~~	G	G
PHASE 4 CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	~~R~~	R	R	R	R	R	R	Y	Y	Y
FLASHING OPERATION	FL/RA	FL/RA	FL/RA	FL/Y	FL/Y	FL/Y	FL/RA	FL/RA	FL/RA	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

WIRING DIAGRAM



LENHART TRAFFIC CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

331 Redwood Grove Court Millersville, Maryland 21108
Tel: (410) 987-3888 Fax: (443) 782-2288

EQUIPMENT LIST 'A'

APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE	QUANTITY	DESCRIPTION
800000	1 EA	VIDEO DETECTION CAMERA INTERFACE (1-4 CAMERAS)
800000	6 EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	~~176 SF~~ [1] 169 SF	FURNISH AND INSTALL SHEET ALUMINUM SIGNS - MAST ARM/GROUND MOUNT
		1 EA - SHIELD ASSEMBLY (48"x75") "NORTH, US 301, LEFT ARROW"
		1 EA SHIELD ASSEMBLY (30"x51") "NORTH, US 301, RIGHT ARROW"
		1 EA - SHIELD ASSEMBLY (48"x75") "SOUTH,US 301, LEFT ARROW"
		1 EA - SHIELD ASSEMBLY (30"x51") "SOUTH, US 301, RIGHT ARROW"
		1 EA - D-3(1) (VARx16") DUAL FACED "CLYMER DR"
		1 EA - D-3(1) (VARx16") DUAL FACED "MATAPEAKE BUS DR"
		2 EA - D-3(1) (VARx16") DUAL FACED "ROBERT S CRAIN HWY"
		1 EA - W9-2(4) (30"x42") "LANE ENDS, MERGE LEFT"
		6 EA - R3-5L (30"x36")
		[1] ~~1 EA R3-5 (MOD) (30"x36")~~
		1 EA - R3-6L (30"x36")
		2 EA - W3-3 (48"x48")
[2] 818052 ~~800000~~	2 EA	27 FOOT STEEL POLE WITH 70 FOOT MAST ARM ~~27 FOOT STEEL POLE WITH 75 FOOT MAST ARM~~
807202	1 EA	METERED SERVICE PEDESTAL
810601	3 EA	NON-INVASIVE MICROLOOP PROBE, 500 FOOT LEAD-IN CABLE
810605	7 EA	NON-INVASIVE MICROLOOP PROBE, 1000 FOOT LEAD-IN CABLE
816001	4 EA	VIDEO DETECTION CAMERA
816005	2 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	2 EA	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818052	2 EA	27 FOOT STEEL POLE WITH 70 FOOT MAST ARM
831010	4 EA	250 WATT HPS LAMP AND LUMINAIRE
860284	~~52 EA~~ [1] 49 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
866104	4 EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE

EQUIPMENT LIST 'B'

EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE	QUANTITY	DESCRIPTION
120500	1 LS	MAINTENANCE OF TRAFFIC
203030	2 CY	TEST PIT EXCAVATION
585424	200 LF	24 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
800000	1 LS	REMOVE AND DISPOSE OF TRAFFIC SIGNAL EQUIPMENT
801101	21 CY	CONCRETE FOR SIGNAL FOUNDATION
801106	20 LF	WOOD SIGN SUPPORTS, 4 INCH X 6 INCH
802501	600 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805115	270 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
805118	415 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
805125	35 LF	2 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805135	600 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
811011	12 EA	ELECTRICAL HANDHOLE
822500	1 EA	AS BUILT FOR SHA ON CADD
832017	150 LF	1 CONDUCTOR, NO. 4 AWG, TYPE USE, 600V
837001	4 EA	GROUND ROD - 3/4 INCH DIAMETER BY 10 FOOT LENGTH
861107	220 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	3750 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	1300 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC

EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CAT CODE	QUANTITY	DESCRIPTION
NONE - ALL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR		

A B C — MICROLOOP PROBE, 500 FOOT LEAD-IN CABLE

D E F G H J K — MICROLOOP PROBE, 1000 FOOT LEAD-IN CABLE

L M — CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER

N O — CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER

P Q R S T U V W X Y — ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

Z AA BB CC DD EE FF GG [1] — ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

HH JJ KK LL — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC

MM — NO. 6 AWG STRANDED BARE COPPER GROUND WIRE

+ — PROPOSED GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH

+ — EXISTING GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH

NML — PROPOSED NON-INVASIVE MICROLOOP PROBE SET

PPD — PROPOSED PHONE DROP

EPF — EXISTING POWER FEED

SF — ELECTRICAL CABLE - 1 CONDUCTOR, NO. 4 AWG, TYPE USE, 600V

P — PROPOSED METERED SERVICE PEDESTAL

PPS — PROPOSED UNDERGROUND POWER SERVICE ELECTRICAL CABLE - 1 CONDUCTOR, NO. 4 AWG, TYPE USE, 600V (3 RUNS WITH 3-30' COILS OF SLACK CABLE AT UTILITY POLE) (FINAL SERVICE CONNECTION TO BE MADE BY SMECO)

APPROVAL: *ON FILE*
[1] REDLINE REVISION NO. 1 02-15-2008

APPROVAL: *Joseph W. Pikdo*
[2] REDLINE REVISION NO. 2 04-21-2008

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

US 301 (CRAIN HIGHWAY) AT CLYMER DRIVE/MATAPEAKE BUSINESS DRIVE

GENERAL INFORMATION

SCALE NONE DATE NOVEMBER 2007 CONTRACT NO. BW936M82

DESIGNED BY MML
DRAWN BY MML
CHECKED BY MML
F.A.P. NO. N/A
COUNTY PRINCE GEORGE'S
LOGMILE 16030100.77
T.I.M.S. NO. I-666
TOD NO.

DRAWING NO. **TS-4065-B-GI** OF SHEET NO. OF