

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 213 AND COURSEVALL /FREDERICK DRIVES IN QUEEN ANNES COUNTY. MD 213 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH AN EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR SOUTHBOUND MD 213

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1), FOUR-CHANNEL, TIME DELAY-OUTPUT LOOP DETECTOR AMPLIFIER AND VIDEO DETECTION INTERFACE EQUIPMENT HOUSED IN A NEMA "6" BASE MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE MSHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR MUST PROVIDE MR. SNYDER WITH THE NEAREST ADDRESS, ZIP CODE, AND PHONE NUMBER.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|-------------|
| NONE | | |

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

| QUANTITY | DESCRIPTION |
|----------|--|
| LS | MAINTENANCE OF TRAFFIC |
| 4 CY | TEST PIT EXCAVATION |
| 1200 LF | 5 INCH HEAT APPLIED WHITE OR YELLOW THERMOPLASTIC PAVEMENT MARKING |
| 720 LF | REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH |
| 1 EA | REMOVAL OF EXISTING PERMANENT PAVEMENT MARKING |
| 110 LF | 24 IN. WHITE HEAT APPLIED WHITE THERMOPLASTIC PAVEMENT MARKINGS |
| 1 EA | HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING ARROWS |
| 3 EA | 8 INCH LED SIGNAL HEAD SECTION |
| 28 EA | 12 INCH LED SIGNAL HEAD SECTION |
| 1 EA | 15 FT. LIGHTING ARM WITH 250 WATT HPSV LUMINAIRE |
| 2 EA | NONINVASIVE MICRO-LOOP PROBE (ANY LENGTH LEAD-IN) |
| 1 EA | TWIN MAST ARM POLE & 50FT/70 FT MAST ARMS |
| 3 EA | VIDEO DETECTION CAMERA AND CABLE |
| 50 LF | 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED |
| 720 LF | 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED |
| 120 LF | 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED |
| 270 LF | 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED |
| 125 LF | WOOD SIGN SUPPORTS |
| 320 LF | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE |
| 1 EA | METERED SERVICE PEDESTAL EMBEDDED |
| 50 LF | ELECTRICAL CABLE 1 - CONDUCTOR NO. 4 AWG - THHN /THWN |
| 10 EA | ELECTRICAL HANDHOLE |
| 100 LF | ELECTRICAL CABLE 5 - CONDUCTOR (NO 14 AWG) |
| 750 LF | ELECTRICAL CABLE 7 - CONDUCTOR (NO 14 AWG) |
| 100 LF | ELECTRICAL CABLE 2 - CONDUCTOR (NO 12 AWG) |
| 1 EA | CONTROLLER AND CABINET - BASE MOUNT |
| 13 CY | CONCRETE FOUNDATION FOR SIGNAL |
| 1 EA | VIDEO INTERFACE EQUIPMENT |
| 5 EA | 3/4 IN. X 10 FT. GROUND ROD |
| 2 EA | D3-2 (VAR X 16") DUAL FACE SIGN - MAST ARM MOUNT |
| 2 EA | R3-SL (30" X 36") SIGN - MAST ARM MOUNT |
| 1 EA | FOUR-CHANNEL TIME- DELAY-OUTPUT LOOP DETECTOR AMPLIFIER |
| 2 EA | 16.5 FT. MAST ARM POLE WITH A 15 FT. "T" AND A 38 FT. ARM |
| 2 EA | W3-3 SIGN (48" X 48") WITH "NEW" PANEL, (30" X30")-GROUND MOUNT |
| 1 EA | M4-6 SIGN (24" X 12") AND R3-9B SIGN (30" X36")-GROUND MOUNT |
| 2 EA | D3-2 SIGN (VAR X 16") SINGLE FACE - MAST ARM MOUNT |
| 4 EA | REMOVE EXISTING GROUND MOUNTED SIGN |
| 3 EA | RELOCATE EXISTING GROUND MOUNTED SIGN |
| 2 EA | SHIELD ASSEMBLY (30" X 51") - GROUND MOUNT |
| 2 EA | SHIELD ASSEMBLY (48" X 75") - GROUND MOUNT |

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|-------------|
| NONE | | |

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 2 ARE AS FOLLOWS:

MR. ROBERT KIEL
ASSISTANT DISTRICT ENGINEER - TRAFFIC
(410) 778-3061

MR. TERRY WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
(410) 778-3061

MR. BARRY CLOTHIER
ASSISTANT DISTRICT ENGINEER - UTILITIES
(410) 778-3061

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
(410) 787-7630

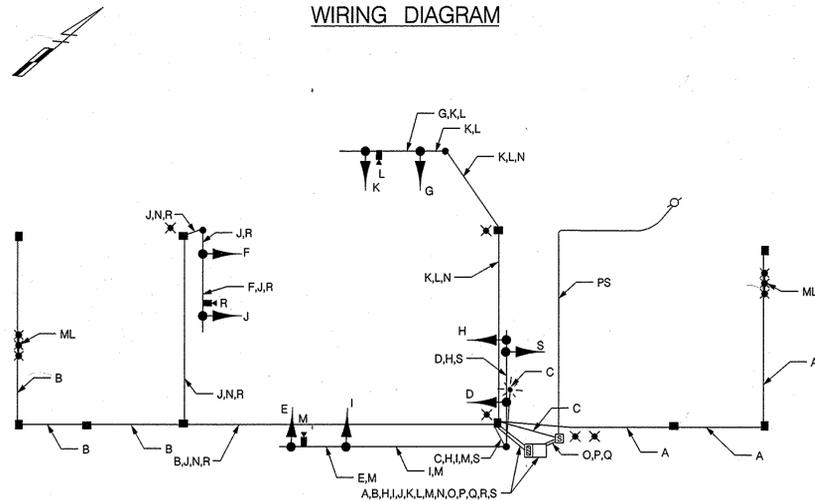
MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
(410) 787-7676

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787-7631

MS. DARLENE EIDE
SUPPLY OFFICE
SIGNAL SHOP WAREHOUSE
(410) 787-7688

MR. ED RODENHIZER
CHIEF - SIGNAL OPERATIONS SECTION
(410) 787-7652

WIRING DIAGRAM



WIRING KEY

| | |
|-----|---|
| A-B | MICRO-LOOP PROBE LEAD-IN |
| C | 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE |
| D-G | 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| H-K | 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| L-M | VIDEO DETECTION CABLE |
| N | STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.) |
| O-Q | 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.) |
| R | VIDEO DETECTION CAMERA |
| S | 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| ML | MICRO-LOOP PROBE |
| PS | PROPOSED ELECTRIC SERVICE |
| X | GROUND ROD |

PHASING CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PHASE 1 & 5 | R | R | G | G | G | R | R | R | R |
| 1 & 5 CHANGE | R | R | G | G | G | R | R | R | R |
| PHASE 2 & 6 | G | G | G | G | G | R | R | R | R |
| 2 & 6 CHANGE | Y | Y | Y | Y | Y | R | R | R | R |
| PHASE 4 & 8 | R | R | R | R | R | G | G | G | G |
| 4 & 8 CHANGE | R | R | R | R | R | Y | Y | Y | Y |
| FLASHING OPERATION | FLY | FLY | FLY | FLY | FLY | FLR | FLR | FLR | FLR |

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SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION PLAN
MD 213 AND
COURSEVALL /FREDERICK DRIVES
CENTREVILLE, MD.

| | | | | | |
|-------------|------------|--------------|-------------|--------------|----------|
| SCALE | NONE | DATE | 1-3-08 | CONTRACT NO. | BW996M82 |
| DESIGNED BY | T. ZAYDEL | COUNTY | QUEEN ANNES | | |
| DRAWN BY | T. ZAYDEL | LOGMILE | 170213 | | SC |
| CHECKED BY | K. SCHMID | T.I.M.S. NO. | 1- 523 | | |
| F.A.P. NO. | NA | TOD NO. | | | |
| DRAWING NO. | TS-4633 GI | SHEET NO. | 2 | OF | 2 |