DRILL HOLES

DRILL HOLES

# PROJECT DESCRIPTION

## I. GENERAL

THIS PROJECT INVOLVES A TRAFFIC SIGNAL MODIFICATION IN CONJUNCTION WITH GEOMETRIC IMPROVEMENTS ALONG MD 85 TO PROVIDE A 3RD SOUTHBOUND THROUGH LANE AND WIDEN THE WEST LEG OF THE INTERSECTION ALLOWING FOR A 3RD DESIGNATED LEFT TURN LANE AND A SINGLE THROUGH LANE. THIS MODIFICATION INVOLVES THE REMOVAL OF TWO EXISTING POLES AND THE ADDITION OF TWO NEW POLES WITH MAST ARMS TO PROVIDE TRAFFIC SIGNAL HEADS FOR THE NEW INTERSECTION CONFIGURATION. MD 85 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL TRAFFIC ACTUATED MODE. MD 85 WILL OPERATE WITH EXCLUSIVE LEFT TURN PHASING. CRESTWOOD BLVD /SHOCKLEY DRIVE WILL OPERATE AS SPLIT PHASED.

## III. CONTROLLER REQUIREMENTS

THE CONTROLLER ASSEMBLY WILL BE AN EIGHT PHASE FULLY ACTUATED NEMA CONTROLLER COMPLETE WITH THE SYSTEM PACKAGE, VIDEO INTERFACE EQUIPMENT, AND MISCELLANEOUS AUXILIARY EQUIPMENT AS REQUIRED. A NEMA SIZE "6" BASE MOUNTED CABINET IS TO BE USED. ALL INTERNAL CONTROLLER WIRING TO BE DONE BY SHA.

## IV. SPECIAL NOTES

1. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 - 104.00-30, 104.31-01 (FLAGGING OPERATION), 104.33-01 (SHOULDER WORK), 104.35 (LANE SHIFT), 104.32-01 (INTERSECTION FLAGGING OPERATION).

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL CABLE TO THE CABINET AND SHALL PROPERLY LABEL EACH CABLE.

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.

4. CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SHA SIGNAL OPERATIONS SECTION, TO DELIVER THE APS EQUIPMENT TO MR. ED RODENHIZER FOR PROGRAMMING AT LEAST 72 HOURS IN ADVANCE AS WELL AS FOR THE REMOVAL OF THE EXISTING TRAFFIC SIGNAL CONTROLLER. ED RODENHIZER TO CONTACT THE TOD ASSISTANT DIVISION CHIEF, MR. ROBERT SNYDER, TO ARRANGE FOR THE NEW PHONE LINES.

# PHASE CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 + 5 | ← G | ← G | ← G | R | R | ← G | ← G | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| 1 + 5 CHANGE | ← Y | ← Y | ← Y | R | R | ← Y | ← Y | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| PHASE 2 + 6 | R | R | R | G | G | R | R | G | G | R | R | R | R | R | R | DW | DW | DW | DW |
| 2 + 6 CHANGE | R | R | R | Y | Y | R | R | Y | Y | R | R | R | R | R | R | DW | DW | DW | DW |
| ALT 2 + 6 | R | R | R | G | G | R | R | G | G | R | R | R | R | R | R | W | W | DW | DW |
| ALT 2 + 6 PED CLEAR | R | R | R | G | G | R | R | G | G | R | R | R | R | R | R | FLDW | FLDW | DW | DW |
| ALT 2 + 6 CHANGE | R | R | R | Y | Y | R | R | Y | Y | R | R | R | R | R | R | DW | DW | DW | DW |
| PHASE 3 | R | R | R | R | R | R | R | R | R | G | G | G | R | R | R | DW | DW | DW | DW |
| PHASE 3 CHANGE | R | R | R | R | R | R | R | R | R | Y | Y | Y | R | R | R | DW | DW | DW | DW |
| ALT PHASE 3 | R | R | R | R | R | R | R | R | R | G | G | G | R | R | R | DW | DW | W | W |
| ALT 3 PED CLEAR | R | R | R | R | R | R | R | R | R | G | G | G | R | R | R | DW | DW | FLDW | FLDW |
| ALT 3 CHANGE | R | R | R | R | R | R | R | R | R | Y | Y | Y | R | R | R | DW | DW | DW | DW |
| PHASE 4 | R | R | R | R | R | R | R | R | R | R | R | R | G | G | G | DW | DW | DW | DW |
| 4 CHANGE | R | R | R | R | R | R | R | R | R | R | R | R | Y | Y | Y | DW | DW | DW | DW |
| FLASHING OPERATION | FL/R | FL/R | FL/Y | 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 |

# EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY SHA

None

# EQUIPMENT LIST "B"

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

| QUANTITY | UNITS | SPECIFICATION SECTION | DESRCRIPTION |
|---|---|---|---|
| 1 | LS | 104 | Maintenance of Traffic. |
| 1 | LS | 108 | Mobilization. |
| 4 | CY | 205 | Test pit excavation. |
| 13 | CY | 801 | Furnish and install concrete for signal foundation. |
| 5 | EA | 804 | Ground rod -3/4 in. diameter X 10 ft. |
| 720 | LF | 804 | Stranded bare copper ground wire (#6 AWG) |
| 100 | LF | 805 | 2 in. schedule 80 rigid PVC conduit (trenched). |
| 550 | LF | 805 | 3 in. schedule 80 rigid PVC conduit (trenched). |
| 100 | LF | 805 | 3 in. schedule 80 rigid PVC conduit (bored). |
| 340 | LF | 805 | 4 in. schedule 80 rigid PVC conduit (bored). |
| 40 | LF | 805 | 4 in. schedule 80 rigid PVC conduit (trenched). |
| 1 | EA | 807 | 200 AMP Metered Service Pedestal |
| 3 | EA | 812 | 4"x4" wood post |
| 100 | LF | 549 | Furnish and install 24in. white heat applied preformed thermoplastic pavement marking tape. |
| 535 | LF | 549 | Furnish and install 12in. white heat applied preformed thermoplastic pavement marking tape. |
| 1200 | LF | 810 | 2 conductor electrical cable (NO. 14 A.W.G.) |
| 610 | LF | 810 | 2 conductor electrical cable (NO. 12 A.W.G.) (for luminaires) |
| 2800 | LF | 810 | 5 conductor electrical cable (No. 14 AWG). |
| 2100 | LF | 810 | 7 conductor electrical cable (No. 14 AWG). |
| 3 | EA | 810 | Noninvasive microloop probe set 500' lead-in. |
| 6 | EA | 811 | Electrical handhole. |

# EQUIPMENT LIST "B" (cont.)

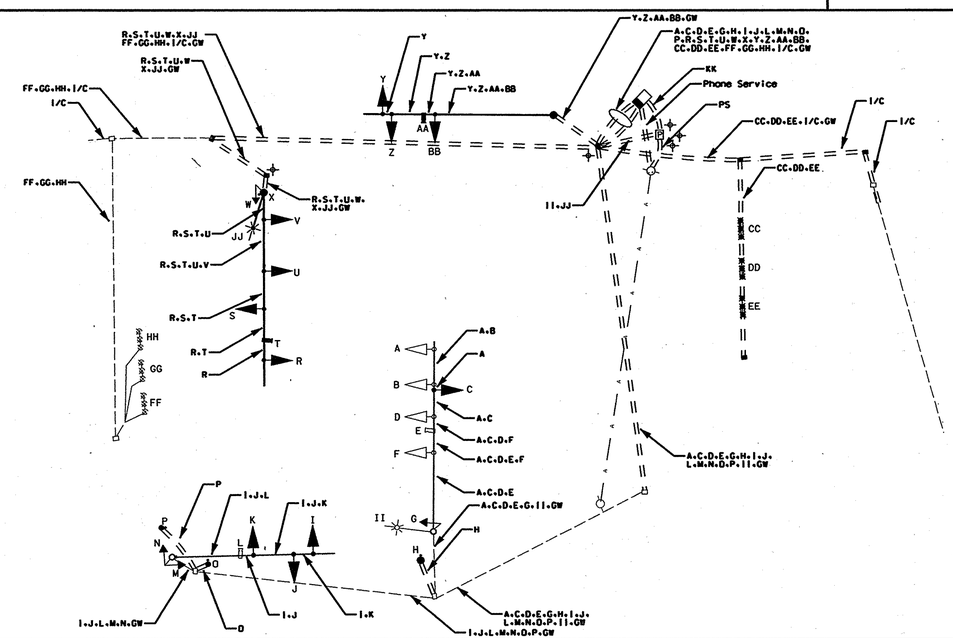
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

| QUANTITY | UNITS | SPECIFICATION SECTION | DESRCRIPTION |
|---|---|---|---|
| 136 | SF | 813 | Sheet aluminum signs consisting of: |
| | | | 1 ea. D-3(l) 12"x78" (MAST ARM MOUNT) |
| | | | 1 ea. D-3(l)(dual faced) 16"xVar" (MAST ARM MOUNT) |
| | | | 1 ea. M95-1 24"x78" (GROUND MOUNT) |
| | | | 1 ea. OH3 48"x72" (MAST ARM MOUNT) |
| | | | 1 ea. R1-2 36"X30" (MAST ARM MOUNT) |
| | | | 1 ea. R3-5(R) 30"x36" (GROUND MOUNT) |
| | | | 1 ea. R3-5(L) 30"x36" (GROUND MOUNT) |
| | | | 1 ea. R4-7 24"x30" (GROUND MOUNT) |
| | | | 4 ea. R10-1(l) 9"x15" (SIGNAL POLE MOUNT) |
| | | | 1 ea. R3-8(7) (mod) 120"x30" (GROUND MOUNT) |
| | | | 1 ea. W11-2 30"X30" (POLE MOUNT) |
| | | | 1 ea. M6-2 21"X15" (POLE MOUNT) |
| | | | 4 ea. R10-3(l) 9"X15" (POLE MOUNT) |
| 4 | EA | 814 | 16 in., one way, one section (LED symbolic WALK/DON'T WALK & countdown) black-faced aluminum signal head, pole mount |
| 28 | EA | 814 | 12 in. vehicular signal head section |
| 6 | EA | 814 | 8 in. vehicular signal head section |
| 1 | EA | 816 | Video detection interface equipment. |
| 2 | EA | 816 | 250' video cable for detection unit |
| 2 | EA | 816 | Video detection camera with arm and clamp. |
| 1 | EA | 816 | Econolite eight-phase, full-traffic-actuated controller with system package housed in a NEMA size "6" base mounted cabinet per MSHA specifications. Cabinet to be delivered to SHA Signal Shop for wiring and testing prior to installation. Contact Ed Rodenhizer 72 hours prior to delivery. |
| 4 | EA | 817 | Pedestrian push button |
| 1 | EA | 800 | Central Control Unit (APS). |
| 3 | EA | 818 | 4' pedestal pole. |
| 2 | EA | 818 | 27' steel pole with 70'mast arm. |

# EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

THE SHA SIGNAL SHOP WILL REMOVE THE CONTROLLER AND ALL OTHER INTERNAL CABINET EQUIPMENT. ALL OTHER MATERIAL REMOVED IN ACCORDANCE WITH THESE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.




WIRING LEGEND

| | |
|---|---|
| KK | 1 CONDUCTOR ELECTRICAL CABLE (#4 AWG) - 3 RUNS |
| II.JJ | 2 CONDUCTOR ELECTRICAL TRAY CABLE (#12 AWG) (LUMINAIRE) |
| H.O.P.X | 2 CONDUCTOR ELECTRICAL CABLE (#14 AWG) (PUSH BUTTON) |
| B.D.F.G.K.M. N.U.V.W.BB | 5 CONDUCTOR ELECTRICAL CABLE (#14 AWG) |
| A.C.I.J. R.S.Y.Z | 7 CONDUCTOR ELECTRICAL CABLE (#14 AWG) |
| E.L.T.AA | VIDEO DETECTOR LEAD-IN |
| CC-HH | NON- INVASIVE MICROLOOP LEAD -IN CABLE |
| GW | STRANDED BARE COPPER GROUND WIRE (#6 AWG) |
| FF-HH.I/C | TO BE PULLED BACK AND REROUTED AS SHOWN ON PLANS. |
| ⊕ | GROUND ROD (IN HANDHOLE) |
| PS | POWER SOURCE |
| I/C | INTERCONNECT |

# PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 624-8140

MR. RAY JOHNSON
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 624-8106

THE POWER COMPANY REPRESENTITIVE IS:
ALLEGHENY POWER
FREDERICK SERVICE CENTER
421 EAST PATRICK STREET
FREDERICK, MD 21701
PHONE: (301) 694-4480

MS. ANDREA ABEND
DISTRICT UTILITIES ENGINEER
PHONE: (301) 624-8116

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. ED RODENHIZER
SIGNAL OPERATIONS SUPERVISOR
PHONE: (410) 787-7650

SHA

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

Traffic Signal Modification Plan
MD Route 85 (Buckeystown Pike)
at Crestwood Blvd/ Shockley Drive


WELLS & ASSOCIATES, LLC
TRANSPORTATION, TRAFFIC, AND PARKING CONSULTANTS
1420 Spring Hill Road
McLean, VA 22102
Phone: (703) 917-6620 Fax: (703)917-0739
5 Wirt Street
Leesburg, VA 20175
Phone: (703) 443-1442 Fax: (703)443-1225


SCALE 1"=20' DATE 12/5/97 CONTRACT NO.

DESIGNED BY DN
DRAWN BY DN/LV
CHECKED BY DN
F.A.P. NO. N/A

COUNTY Frederick
LOGMILE 10008508.62
T.I.M.S. NO. H318
TOD NO.

DRAWING NO. 2619F-GI

SHEET NO. 2 OF 2

PLOTTED: $DATETIME$
FILE: $FILE$