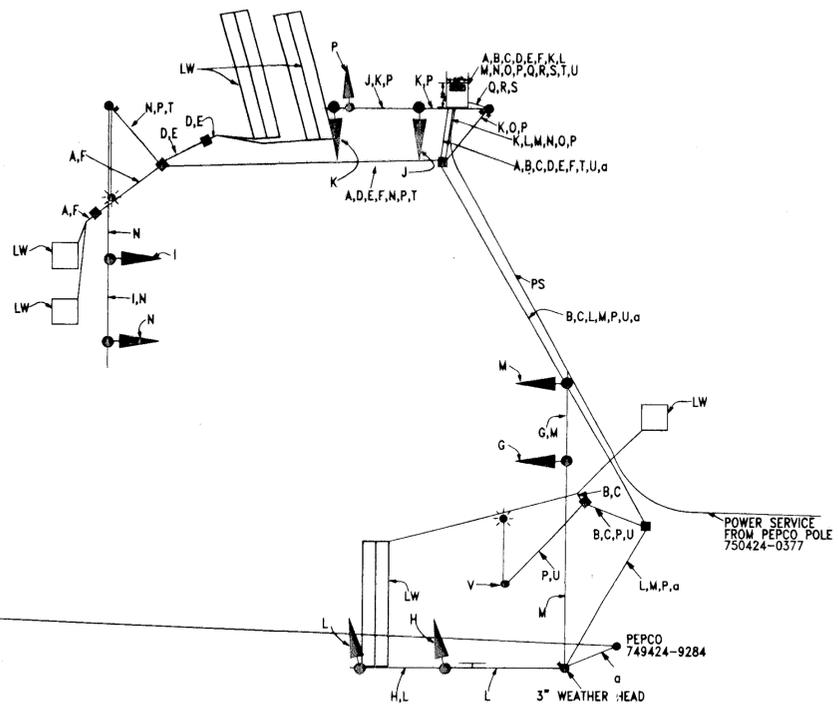


WIRING DIAGRAM



WIRING KEY

- A** 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) NO. 14 A.W.G.
- B** 5- CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- C** 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- P** STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- R** 1- CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- T** 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
- V** 2-CONDUCTOR ELECTRICAL CABLE (NO. 10 A.W.G.) TRAY CABLE
- LW** LOOP WIRE (NO. 14 A.W.G.)
- a** 12-PAIR, INTERCONNECT TO BE LASHED TO EXISTING SIGNAL AT BRADLEY BLVD. AND RUN ALONG EXISTING OVERHEAD TERMINATING AT NEW CONTROL BOX. (INCLUDE A 3" WEATHER HEAD FOR INTERCONNECT)
- PS** PROPOSED POWER SERVICE 4" - SCHEDULE 40 PVC 1- WAY BY MSHA
- ⊗** 3/4 IN. 10 FT. GROUND ROD

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

QUANTITY	STANDARD NO.	DESCRIPTION
1 EACH	-	MAINTENANCE OF TRAFFIC
3 C.Y.	-	TEST PIT EXCAVATION
490 LF	MD 104.00-10	5 IN. WHITE THERMOPLASTIC PAVEMENT MARKINGS
2,156 LF	MD 104.00-10	5 IN. YELLOW THERMOPLASTIC PAVEMENT MARKINGS
100 LF	MD 104.00-10	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKINGS
11 C.Y.	MD 801.01	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
520 LF	MD 815.01	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
100 LF	MD 805.01	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALIC CONDUIT FOR DETECTOR SLEEVE
135 LF	MD 805.01	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
100 LF	MD 805.01	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
105 LF	MD 805	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
6 EACH	MD 811.03	FURNISH AND INSTALL ELECTRICAL HANDHOLE
4 EACH	MD 804.01	FURNISH AND INSTALL GROUND ROD- 3/4 IN. DIAMETER X 10 FT. LENGTH
1,900 LF	MD 810.01	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
700 LF	MD 805.02	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
115 LF	MD 805.02	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
912 LF	MD 805.02	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
270 LF	MD 804.01	FURNISH AND INSTALL STANDARD BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
110 LF	MD 805.02	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR (NO. 4 A.W.G.) THINWALL
300 LF	MD 805.02	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) TRAY CABLE
2 EACH	MD 806.01	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCCELL
2 EACH	MD 808.01	FURNISH AND INSTALL LIGHTING BRACKETS FOR TRAFFIC SIGNAL STRUCTURE - 1 EACH - 20 FT.
1 EACH	MD 807.01	CONTROL AND DISTRIBUTION EQUIPMENT
1 EACH	MD 818.02	FURNISH AND INSTALL MAST ARM POLE AND 60 FT MAST ARM
1 EACH	MD 818.02	FURNISH AND INSTALL MAST ARM POLE AND 70 FT. AND 50 FT. TWIN MAST ARMS
1 EACH	MD 818.02	FURNISH AND INSTALL MAST ARM POLE AND 38 FT MAST ARMS (SEE NOTE)
1 EACH	MD 816.02-03	FURNISH AND INSTALL DETECTOR AMPLIFIER, 4-CHANNEL RACK MOUNT DETECTOR RACK POWER SUPPLY CABINET - INTERSECTION MONITOR, SIZE 8 CONTROLLER - ASC II WITH TELEMETRY MODULE
8 EACH	MD 814.01	FURNISH AND INSTALL 12 IN. , ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS
1 EACH	MD 814.01	FURNISH AND INSTALL 8 IN. , ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS
-	-	FURNISH AND INSTALL SHEET ALUMINUM SIGNS TO CONSISTS OF:
MD 813.01	-	- 2 EACH W3-3 SIGN (48 IN. X 48 IN.) WITH "NEW" PANEL (30" X 30") GROUND MOUNT - 90 DAY TEMPORARY
MD 812.01	-	- 1 EACH R3-5L SIGN (30 IN. X 36 IN.) - MAST ARM MOUNT
1800LF	-	12 PAIR INTERCONNECT CABLE
1 EACH	-	WITH 3" WEATHER HEAD
1 EACH	MD808.01	40 FOOT BREAK AWAY LIGHTING STRUCTURE WITH 15 FOOT BRACKET ARM.
5LF	MD 805.01	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT FOR LIGHT STRUCTURE
2 EACH	MD808.01	TYPE TWO CONNECTOR KITS, FUSE AND WIRE
110 LF	MD 805.02	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 10 A.W.G.) TRAY CABLE
115 LF	MD 805.01	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
115 LF	MD 805.01	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - SLOTTED

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL WITH STREET LIGHTING AT THE INTERSECTION OF MD 190 AND "CONGRESSIONAL" / "NORWOOD" ENTRANCES IN MONTGOMERY COUNTY. MD 190 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE AT A FOUR-PHASE, SEMI-TRAFFIC-ACTUATED MODE, WITH THE MD 190 APPROACHES OPERATING CONCURRENTLY AND THE "NORWOOD" AND "CONGRESSIONAL" ENTRANCE APPROACHES OPERATING CONCURRENTLY.

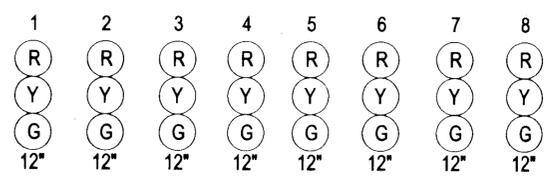
CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH THREE (3) FOUR CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS RACK MOUNT, INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, NIC MODULE, RACK DETECTOR SYSTEM, AND ASSOCIATED HARNESSES HOUSE IN A NEMA SIZE '6' BASE MOUNTED CABINET.

SPECIAL NOTES

- UPON COMPLETION OF THE PROJECT, MONTGOMERY COUNTY SHALL INSTALL I/C CONNECTION.
- CONTRACTOR WILL FURNISH AND INSTALL ALL EQUIPMENT IN ACCORDANCE TO SHA REQUIREMENTS.

PHASE CHART



PHASE 2 + 6	G	G	G	G	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	R	R	R	R
PHASE 4 + 8	R	R	R	R	G	G	G	G
4 + 8 CHANGE	R	R	R	R	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R



1140 Connecticut Avenue, N. W., Suite 700, Washington, D. C. 20036

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
 TRAFFIC ENGINEERING DESIGN DIVISION
 RIVER ROAD (MD 190) AND NORWOOD SCHOOL & CONGRESSIONAL COUNTRY CLUB ENTRANCES