PROJECT DESCRIPTION

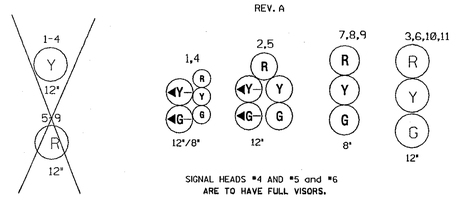
THIS PROJECT INVOLVES THE INSTALLATION OF AN INTERSECTION CONTROL BEACON AT US 1 AND LOUDON AVENUE IN HOWARD COUNTY.

CONSTRUCTION DETAILS

1. INSTALL A 27' STEEL MAST ARM POLE WITH A 50' (CUT TO 40')/70' TWIN MAST ARM, VEHICLE SIGNAL HEADS, SIGNS, LIGHTING AND LUMINAIRE. INSTALL ELECTRICAL EQUIPMENT FOR OH POWER FEED. (INSTALL 1-3" SCHEDULE 80, 90 DEGREE CONDUIT BEND). SIGNAL HEADS #3 AND #4 ARE TO HAVE FULL VISORS.
2. INSTALL HANDHOLE.
3. INSTALL 4" PVC (SCHEDULE 80) ELECTRICAL CONDUIT - TRENCHED.
4. INSTALL 3" PVC (SCHEDULE 80) ELECTRICAL CONDUIT - SLOTTED.
5. INSTALL 2" PVC (SCHEDULE 80) ELECTRICAL CONDUIT - TRENCHED.
6. INSTALL 24" WHITE PAVEMENT MARKING TAPE FOR STOP LINE.
7. INSTALL 2" PVC (SCHEDULE 80) ELECTRICAL CONDUIT - SLOTTED.
8. INSTALL BASE MOUNTED NEMA 6 CABINET/CONTROLLER, AND NECESSARY EQUIPMENT FOR AN OVERHEAD ELECTRICAL SERVICE.
9. OVERHEAD POWER FEED (TO STEEL MAST ARM)
10. INSTALL 2" PVC (SCHEDULE 80) ELECTRICAL CONDUIT - TRENCHED (FOR FUTURE PHONE DROP)
11. REMOVE EXISTING PAVEMENT MARKINGS.
12. INSTALL 6' X 30' QUADRUPOLE LOOP DETECTOR (3-6-3 TURNS)
13. INSTALL MICROLOOP TRIPLE PROBE SET.
14. INSTALL 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE.
15. INSTALL PROPOSED PAVEMENT MARKING SYMBOL.
16. INSTALL 100' OF 5" WHITE PAVEMENT MARKING (LANE LINE FOR LEFT TURN BAY).
17. INSTALL 5" YELLOW PAVEMENT MARKING AND TIE INTO EXISTING AS SHOWN ON PLAN.
18. INSTALL 14' PEDESTAL POLE AND SIGNAL HEAD AND WIRING AS SHOWN..

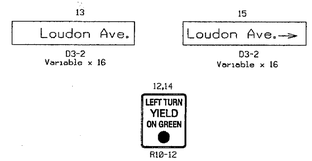
PROPOSED SIGNALS

REV. A



SIGNAL HEADS #4 AND #5 and #6 ARE TO HAVE FULL VISORS.

PROPOSED SIGNING



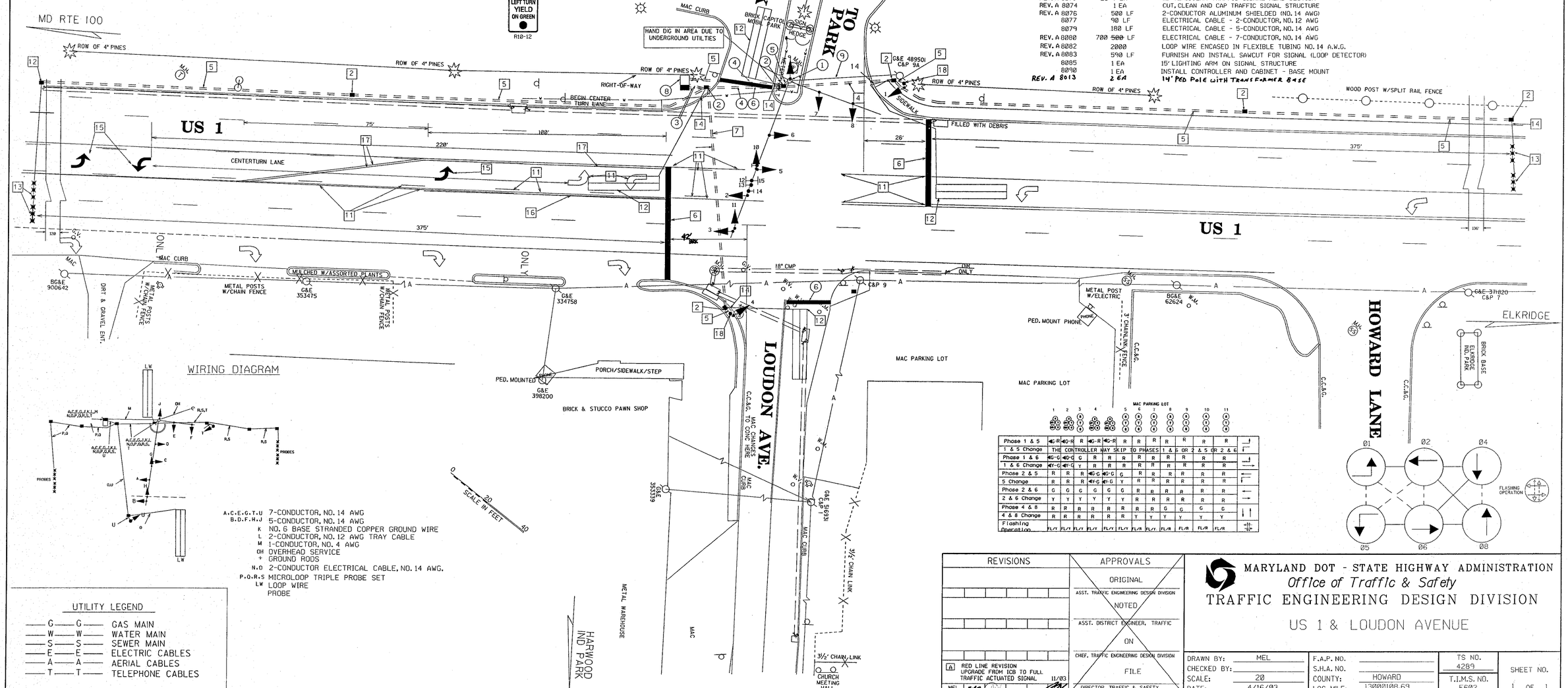
EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

	ITEM NO.	QUANTITY	ITEM DESCRIPTION
	9028	1 EACH	50'/70' MAST ARM X 27' POLE
REV. A	9040	1 EACH	EIGHT PHASE, FULL-ACTUATED CONTROLLER HOUSED IN A SIZE '6' BASE MOUNTED CABINET WITH TWO FOUR CHANNEL LOOP DETECTOR AMPLIFIERS AND ASC II W/TELEMETRY
~~REV. A~~	~~9067~~	~~2 EACH~~	~~PEDESTAL POLE 14' WITH T BASE AND ANCHOR BOLTS~~
REV. A	9571	42 ~~30~~ SF	SHEET ALUMINUM 2 EA SN-2 SIGN (LOUDON AVE.) VARIABLE X 16" 2 EA R10-12 SIGN (LEFT TURN YIELD ON GREEN BALL)

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

	1001	1 EACH	MAINTENANCE OF TRAFFIC
	2002	1 CY	TEST PIT EXCAVATION
REV. A	5001	300 LF	REMOVAL OF EXISTING PAVEMENT MARKINGS
REV. A	5002	2 EA	REMOVAL OF EXISTING PERMANENT PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS AND NUMBERS
REV. A	5003	120 LF.	5 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
REV. A	5004	175 LF.	5 INCH HEAT APPLIED YELLOW PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
REV. A	5006	150 ~~40~~ LF	24" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
REV. A	**5008**	**3 EA**	**HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING ARROW**
	8001	6 CY	CONCRETE FOUNDATION
	8008	1 EA	INSTALL STEEL POLE AND TWIN MAST ARM
	8022	90 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
	8023	25 LF	INSTALL ¼" GALVANIZED RIZER
REV. A	8024	30 LF	FURNISH AND INSTALL ELECTRICAL CONDUIT - GALVANIZED SLEEVE
REV. A	8030	850 LF	2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
	8031	10 LF	3" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
	8032	25 LF	4" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
REV. A	8033	140 ~~30~~ LF	2" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
REV. A	8034	150 ~~60~~ LF	3" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
	8038	1 EA	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS
	8039	120 LF	ELECTRICAL CABLE 1 CONDUCTOR NO. 4 AWG-THHN/THWN
REV. A	8041	4 EA	MICROLOOP PROBES - 500' LEAD IN
REV. A	8045	8 ~~2 EA~~	FURNISH AND INSTALL ELECTRICAL HANDHOLE
REV. A	8048	42 ~~30 SF~~	INSTALL OVERHEAD SIGN
	8064	1 EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
	8069	2 EA	GROUND ROD - ¾" INCH DIAMETER X 10' LENGTH
REV. A	8070	15 EA	8" VEHICULAR TRAFFIC SIGNAL HEAD SECTION
REV. A	8071	26 ~~9 EA~~	12" VEHICULAR TRAFFIC SIGNAL HEAD SECTION
REV. A	8074	1 EA	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE
REV. A	8076	500 LF	2-CONDUCTOR ALUMINUM SHIELDED (NO. 14 AWG)
	8077	90 LF	ELECTRICAL CABLE - 2-CONDUCTOR, NO. 12 AWG
	8079	180 LF	ELECTRICAL CABLE - 5-CONDUCTOR, NO. 14 AWG
REV. A	8080	700 ~~500~~ LF	ELECTRICAL CABLE - 7-CONDUCTOR, NO. 14 AWG
REV. A	8082	2000	LOOP WIRE ENCASED IN FLEXIBLE TUBING NO. 14 A.W.G.
REV. A	8083	590 LF	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
	8085	1 EA	15' LIGHTING ARM ON SIGNAL STRUCTURE
	8090	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
REV. A	**8013**	**2 EA**	**14' PED POLE WITH TRANSFORMER BASE**



WIRING DIAGRAM

A,C,E,G,T,U 7-CONDUCTOR, NO. 14 AWG
B,D,F,H,J 5-CONDUCTOR, NO. 14 AWG
K NO. 6 BASE STRANDED COPPER GROUND WIRE
L 2-CONDUCTOR, NO. 12 AWG TRAY CABLE
M 1-CONDUCTOR, NO. 4 AWG
OH OVERHEAD SERVICE
+ GROUND RODS
N,O 2-CONDUCTOR ELECTRICAL CABLE, NO. 14 AWG.
P,Q,R,S MICROLOOP TRIPLE PROBE SET
LW LOOP WIRE
PROBE

UTILITY LEGEND

—G—G—	GAS MAIN
—W—W—	WATER MAIN
—S—S—	SEWER MAIN
—E—E—	ELECTRIC CABLES
—A—A—	AERIAL CABLES
—T—T—	TELEPHONE CABLES

MAC PARKING LOT

	1	2	3	4	5	6	7	8	9	10	11
Phase 1 & 5	G-R	G-R	R	G-R	G-R	R	R	R	R	R	R
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6										
Phase 1 & 6	G-G	G-G	G	R	R	R	R	R	R	R	R
1 & 6 Change	Y-G	Y-G	Y	R	R	R	R	R	R	R	R
Phase 2 & 5	R	R	R	G-G	G-G	G	R	R	R	R	R
5 Change	R	R	R	Y-G	Y-G	Y	R	R	R	R	R
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	R
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	R
Phase 4 & 8	R	R	R	R	R	R	R	G	G	G	G
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	Y
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/Y	FL/R	FL/R	FL/R	FL/R

REVISIONS	APPROVALS
	ORIGINAL
	ASST. TRAFFIC ENGINEERING DESIGN DIVISION
	NOTED
	ASST. DISTRICT ENGINEER, TRAFFIC
	ON
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
A RED LINE REVISION UPGRADE FROM ICB TO FULL TRAFFIC ACTUATED SIGNAL 11/03	FILE
MEL	DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

US 1 & LOUDON AVENUE

DRAWN BY: MEL	F.A.P. NO.		TS NO. 4289	SHEET NO.
CHECKED BY:	S.H.A. NO.			
SCALE: 20	COUNTY: HOWARD		T.I.M.S. NO. F602	1 OF 1
DATE: 4/16/03	LOG MILE: 13000108.69			