F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	SEE TITLE SHEET	374	465

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AND THE REMOVAL OF THE EXISTING SIGNAL AT MD 450 (ANNAPOLIS ROAD) AND MD 193 (GLENN DALE BLVD / ENTERPRISE ROAD) IN PRINCE GEORGES COUNTY. MD 450 IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION IS TO CONTINUE TO OPERATE IN A NEMA EIGHT PHASE, FULLY-TRAFFIC-ACTUATED MODE, THERE WILL BE EXCLUSIVE/PERMISSIVE LEFT TURNS ON ALL FOUR APPROACHES. THE THROUGH MOVEMENTS ON MD 450 WILL OPERTATE CONCURRENTLY. THE THROUGH MOVEMENTS ON MD 193 WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

INSTALL AN EIGHT PHASE FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH NINE, TWO-CHANNEL, TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR, WITH BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD, AND SPECIAL RELAY TO BE HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET.

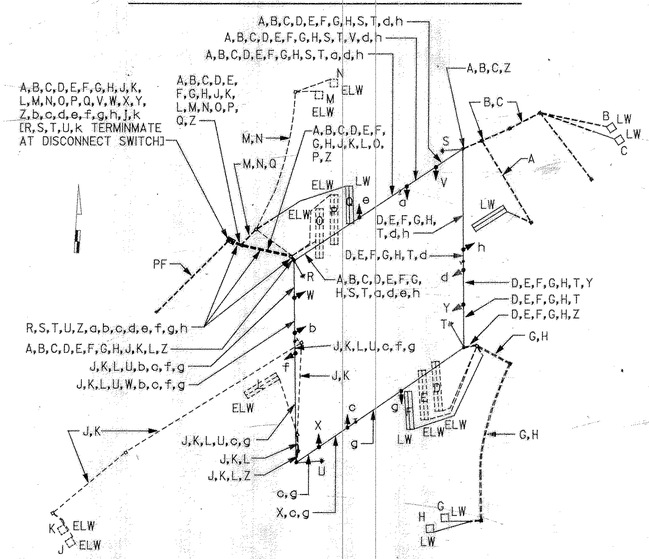
SPECIAL NOTE

ON PLAN TS-1821B MD 193 IS NOTED AS 'OLD MD556' AND 'GLENDALE RD.'

ALL UNDERGOUND AND OVERHEAD UTILITES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE BECAUSE THESE UNDERGROUND AND OVERHEAD UTILITIES MAY BE MODIFIED PRIOR TO AND DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.

72 HOURS PRIOR TO ANY WORK ON THE TRAFFIC SIGNALS, THE CONTRACTOR SHALL NOTIFY THE DISTRICT 3 TRAFFIC SECTION REPRESENTATIVE, MR. RICHARD BUETTNER (301-513-7316) AND THE SIGNAL OPERATIONS SUPERVISOR, MR. EDWARD RODENHIZER (410-787-7652).

WIRING DIAGRAM



A B C D E F G H — 2-CONDUCTOR CABLE (ALUMINUM SHIELDED)

J K L M N O P Q

R S T U — 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)

V W X Y — 5-CONDUCTOR CABLE (NO. 14 A.W.G.)

a b c d e f g h — 7-CONDUCTOR CABLE (NO. 14 A.W.G.)

Z — BARE COPPER STRANDED GROUND WIRE (NO. 6 A.W.G.)

J — 3-WIRE #4 FOR TRAFFIC SIGNAL ELECTRICAL SERVICE

k — 3-WIRE #4 FOR INTERSECTION LIGHTING ELECTRICAL SERVICE

PF — PROPOSED UNDERGROUND ELECTRICAL SERVICE BY BGE

LW — LOOP WIRE (NO. 14 A.W.G.) IN FLEXIBLE TUBING

ELW — EXISTING LOOP WIRE

NOTE: EXISTING LOOP WIRE IS TO BE SPLICED TO NEW 2-CONDUCTOR CABLE.

FILE NO. SS23S460.DGN
09-26-96 LJS

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
960015	814	4 EA.	12 IN. 1 WAY 3 SECTION (R,Y,G) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARWARE AND TUNNEL VISORS
960020	814	4 EA.	12 IN. 1 WAY 5 SECTION (R,Y,G,YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
963007	817	10 EA.	TWO CHANNEL LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)
971017	816	1 EA.	EIGHT PHASE, FULL TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR AND BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD AND SPECIAL RELAY HOUSED IN A NEMA SIZE '6' BASE-MOUNTED CABINET
973023	813	227.25 S.F.	SHEET ALUMINUM SIGNS - 4 EACH R10-12 (36" X 42") - 4 EACH ASSOCIATED SHIELD ASSEMBLY (48" X 75") - POLE MOUNTED - 2 EACH ASSOCIATED SHIELD ASSEMBLY (30" X 51") - POLE MOUNTED - 2 EACH D3-2 (VAR. X 16") - 2 EACH D3-2 (VAR. X 16")
900000	814	4 EA.	8 IN./12 IN. 1 WAY 5 SECTION (8"R,Y,G - 12"YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS

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.

QUANTITY	DESCRIPTION
1 EA.	BASE-MOUNTED CABINET/CONTROLLER

PHASE DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 + 5	R G	R G	R	R G	R G	R	R	R	R	R	R	R
1 + 5 CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6												
PHASE 1 + 6	G G	G G	G	R	R	R	R	R	R	R	R	R
1 CHANGE	G Y	G Y	G	R	R	R	R	R	R	R	R	R
PHASE 2 + 5	R	R	R	G G	G G	G	R	R	R	R	R	R
5 CHANGE	R	R	R	Y Y	G Y	G	R	R	R	R	R	R
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 3 + 7	R	R	R	R	R	R	R G	R G	R	R G	R G	R
3 + 7 CHANGE TO 3 + 8, PHASE 4 + 7 OR PHASE 4 + 8												
PHASE 3 + 8	R	R	R	R	R	R	G G	G G	G	R	R	R
3 CHANGE	R	R	R	R	R	R	Y Y	Y Y	G	R	R	R
PHASE 4 + 7	R	R	R	R	R	R	R	R	R	G G	G G	G
7 CHANGE	R	R	R	R	R	R	R	R	R	Y Y	Y Y	G
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G	G	G
4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y
FLASHING OPERATION	F Y	F Y	F Y	F Y	F Y	F Y	F R	F R	F R	F R	F R	F R

EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	SPEC. SECTION	QUANTTITY	DESCRIPTION
203030	205	5 C.Y.	TEST PIT EXCAVATION
801004	801	19.8 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
802501	810	148 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
805011	805	136 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED STEEL
805125	805	79 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805135	805	360 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805140	805	20 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805145	805	32 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805150	805	135 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805160	805	10 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
810010	810	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO.4 A.W.G. THHN/THWN
811001	811	6 EA.	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813010	813	6 EA.	BAND SIGN TO SIGN SUPPORT
813015	813	106 S.F.	INSTALL OVERHEAD SIGN
837001	804	5 EA.	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
838002	807	1 EA.	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (240/480V, 1 PHASE, 3 WIRE SYST)
860015	814	4 EA.	INSTALL 12 IN. 1 WAY 3 SECTION (R,Y,G) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
860020	814	4 EA.	INSTALL 12 IN. 1 WAY 5 SECTION (R,Y,G,YA,GA) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
861104	810	6808 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861107	810	144 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
861108	810	2166 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
861116	810	1112 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
862101	810	1605 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO.14 A.W.G.)
862102	815	690 L.F.	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
866104	818	2 EA.	FURNISH AND INSTALL 20 FT. LIGHTING ARM ON SIGNAL STRUCTURE
869101	819	650 L.F.	FURNISH AND INSTALL STEEL SPAN WIRE - 1/4 IN. DIAMETER
869102	819	650 L.F.	FURNISH AND INSTALL STEEL SPAN WIRE - 3/8 IN. DIAMETER
871117	816	1 EA.	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
800000	805	125 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	814	4 EA.	INSTALL 8 IN./12 IN. 1 WAY 5 SECTION (8" R,Y,G - 12" YA,GA) POLYCARBONATE SIGNAL HEAD- SPAN MOUNT
800000	806	4 EA.	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE WITH PHOTO-CELL
800000	818	4 EA.	FURNISH AND INSTALL 12 IN. X 32 FT. (2-PLY) STRAIN POLE
800000	XXX	LUMP SUM	REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

TEMPORARY SIGNAL PHASE II

DWG. NO. TS-28

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS
OWINGS MILLS, MARYLAND

REVISIONS

© AUGUST 1996 - WTB MODIFY EXISTING SIGNAL SHA NO. PG9005171
JDM

Ⓑ 10-29-86 INSTALL E/P, L/T ON ALL APPROACHES + LOOP DETS.
JJD | SR | XX | ETP | TH.

Ⓐ 10-23-86 AS BUILT
JJD

APPROVALS

ASST. DIVISION CHIEF, TEDD

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

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

MD 450 (ANNAPOLIS ROAD) AT MD 193 (GLENN DALE BLVD / ENTERPRISE ROAD)

LOG MILE NO. 16019312.85 DATE 4/21/81

DRAWN BY: SR	F.A.P. NO. RR 18(49)	PLAN SHEET NO.: TS-1821C-XI-GI	SHEET NO. 374 OF 465
CHECK BY: STEVE RENZI	S.H.A. NO. P 170-501-382		
SCALE: NONE	COUNTY PRINCE GEORGES		