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

SIGNS

24,28,30,35 — HARFORD RD — D3(1) DUAL FACED 16" X Var.

37,39,40,42 — JOPPA RD — D3(1) DUAL FACED 16" X Var.

25 — SOUTH, MARYLAND 147 — SHIELD ASSEMBLY 30" x 51"

38,41 — LEFT TURN YIELD ON GREEN — R10-12 36" x 42"

26 — NORTH, MARYLAND 147 — SHIELD ASSEMBLY 48" x 75"

27,33,34 — ONLY — R3-5L 30" x 36"

29 — THRU, OVER 3/4 T HERE TO BELAIR RD 8PM - 7AM

31 — NORTH, MARYLAND 147 — SHIELD ASSEMBLY 30" x 51"

32 — SOUTH, MARYLAND 147 — SHIELD ASSEMBLY 48" x 75"

23,36 — ON RAMP — W11A-2 30" x 30", W13-4 24" x 36"

SIGN 28 IS EXISTING.
SIGNS 23-27 & 29-40 ARE PROPOSED.

JOPPA RD. IS ASSUMED TO RUN IN AN EAST - WEST DIRECTION.

SIGNALS

1,2,5,6 — R, Y, G — 12"

3,4,7,8,11,14 — R, Y, G — 12"

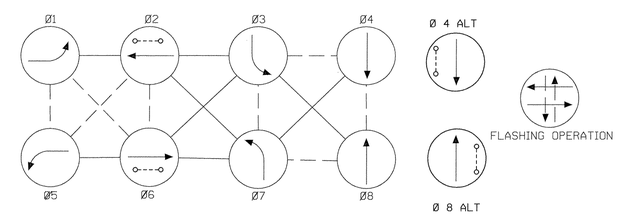
9,12 — R, Y, G — 12"/8"

10,13 — R, Y, G — 12"

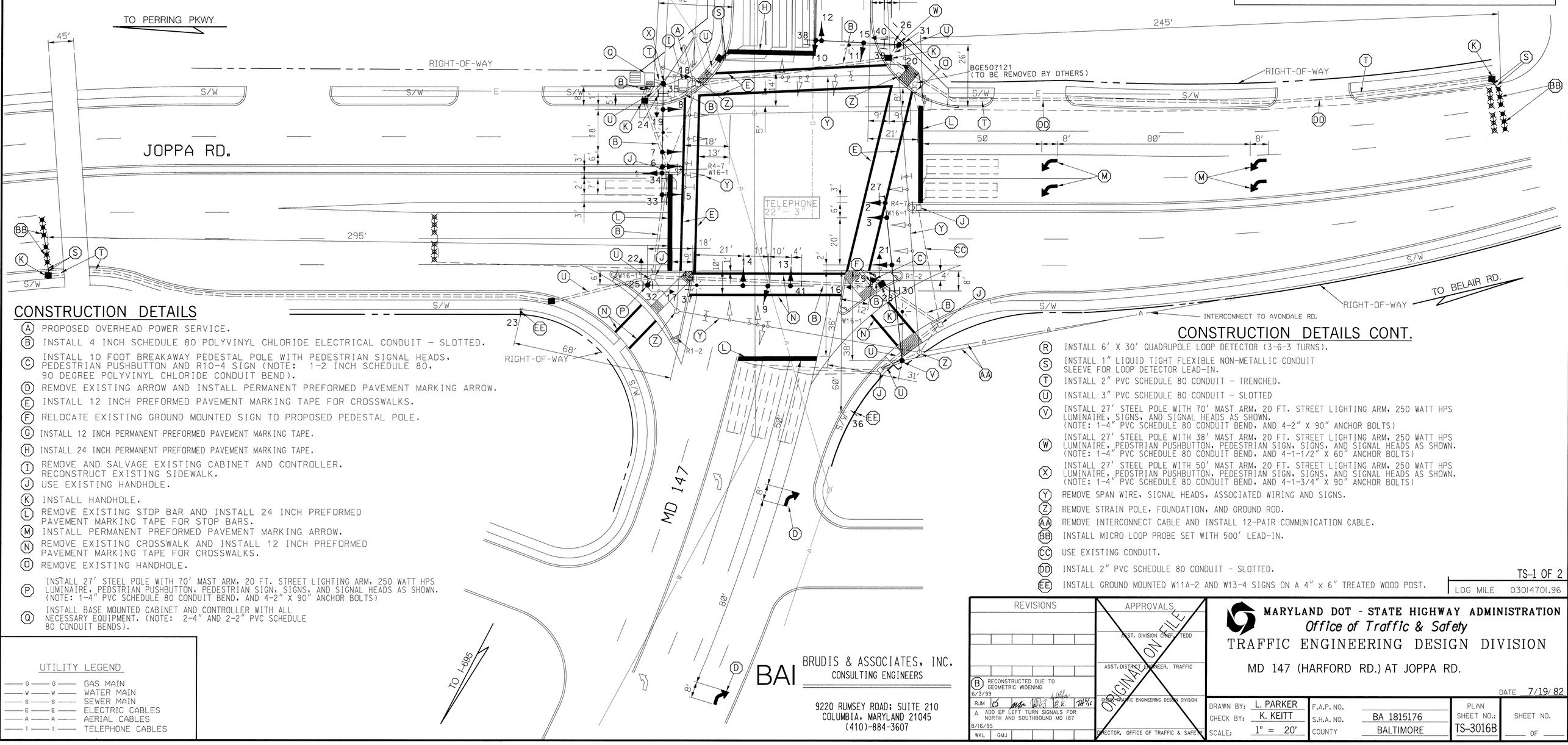
15-22

SIGNALS 1-22 ARE PROPOSED.

NEMA PHASING



NOTE:
1. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.



CONSTRUCTION DETAILS

- (A) PROPOSED OVERHEAD POWER SERVICE.
- (B) INSTALL 4 INCH SCHEDULE 80 POLYVINYL CHLORIDE ELECTRICAL CONDUIT - SLOTTED.
- (C) INSTALL 10 FOOT BREAKAWAY PEDESTAL POLE WITH PEDESTRIAN SIGNAL HEADS, PEDESTRIAN PUSHBUTTON AND R10-4 SIGN (NOTE: 1-2 INCH SCHEDULE 80, 90 DEGREE POLYVINYL CHLORIDE CONDUIT BEND).
- (D) REMOVE EXISTING ARROW AND INSTALL PERMANENT PREFORMED PAVEMENT MARKING ARROW.
- (E) INSTALL 12 INCH PREFORMED PAVEMENT MARKING TAPE FOR CROSSWALKS.
- (F) RELOCATE EXISTING GROUND MOUNTED SIGN TO PROPOSED PEDESTAL POLE.
- (G) INSTALL 12 INCH PERMANENT PREFORMED PAVEMENT MARKING TAPE.
- (H) INSTALL 24 INCH PERMANENT PREFORMED PAVEMENT MARKING TAPE.
- (I) REMOVE AND SALVAGE EXISTING CABINET AND CONTROLLER. RECONSTRUCT EXISTING SIDEWALK.
- (J) USE EXISTING HANDHOLE.
- (K) INSTALL HANDHOLE.
- (L) REMOVE EXISTING STOP BAR AND INSTALL 24 INCH PREFORMED PAVEMENT MARKING TAPE FOR STOP BARS.
- (M) INSTALL PERMANENT PREFORMED PAVEMENT MARKING ARROW.
- (N) REMOVE EXISTING CROSSWALK AND INSTALL 12 INCH PREFORMED PAVEMENT MARKING TAPE FOR CROSSWALKS.
- (O) REMOVE EXISTING HANDHOLE.
- (P) INSTALL 27' STEEL POLE WITH 70' MAST ARM, 20 FT. STREET LIGHTING ARM, 250 WATT HPS LUMINAIRE, PEDSTRIAN PUSHBUTTON, PEDESTRIAN SIGN, SIGNS, AND SIGNAL HEADS AS SHOWN. (NOTE: 1-4" PVC SCHEDULE 80 CONDUIT BEND, AND 4-2" X 90" ANCHOR BOLTS)
- (Q) INSTALL BASE MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT. (NOTE: 2-4" AND 2-2" PVC SCHEDULE 80 CONDUIT BENDS).

CONSTRUCTION DETAILS CONT.

- (R) INSTALL 6' X 30' QUADRUPOLE LOOP DETECTOR (3-6-3 TURNS).
- (S) INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT SLEEVE FOR LOOP DETECTOR LEAD-IN.
- (T) INSTALL 2" PVC SCHEDULE 80 CONDUIT - TRENCHED.
- (U) INSTALL 3" PVC SCHEDULE 80 CONDUIT - SLOTTED
- (V) INSTALL 27' STEEL POLE WITH 70' MAST ARM, 20 FT. STREET LIGHTING ARM, 250 WATT HPS LUMINAIRE, SIGNS, AND SIGNAL HEADS AS SHOWN. (NOTE: 1-4" PVC SCHEDULE 80 CONDUIT BEND, AND 4-2" X 90" ANCHOR BOLTS)
- (W) INSTALL 27' STEEL POLE WITH 38' MAST ARM, 20 FT. STREET LIGHTING ARM, 250 WATT HPS LUMINAIRE, PEDSTRIAN PUSHBUTTON, PEDESTRIAN SIGN, SIGNS, AND SIGNAL HEADS AS SHOWN. (NOTE: 1-4" PVC SCHEDULE 80 CONDUIT BEND, AND 4-1-1/2" X 60" ANCHOR BOLTS)
- (X) INSTALL 27' STEEL POLE WITH 50' MAST ARM, 20 FT. STREET LIGHTING ARM, 250 WATT HPS LUMINAIRE, PEDSTRIAN PUSHBUTTON, PEDESTRIAN SIGN, SIGNS, AND SIGNAL HEADS AS SHOWN. (NOTE: 1-4" PVC SCHEDULE 80 CONDUIT BEND, AND 4-1-3/4" X 90" ANCHOR BOLTS)
- (Y) REMOVE SPAN WIRE, SIGNAL HEADS, ASSOCIATED WIRING AND SIGNS.
- (Z) REMOVE STRAIN POLE, FOUNDATION, AND GROUND ROD.
- (AA) REMOVE INTERCONNECT CABLE AND INSTALL 12-PAIR COMMUNICATION CABLE.
- (BB) INSTALL MICRO LOOP PROBE SET WITH 500' LEAD-IN.
- (CC) USE EXISTING CONDUIT.
- (DD) INSTALL 2" PVC SCHEDULE 80 CONDUIT - SLOTTED.
- (EE) INSTALL GROUND MOUNTED W11A-2 AND W13-4 SIGNS ON A 4" x 6" TREATED WOOD POST.

TS-1 OF 2

LOG MILE 0301470I.96

UTILITY LEGEND

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

BAI BRUDIS & ASSOCIATES, INC.
CONSULTING ENGINEERS
9220 RUMSEY ROAD; SUITE 210
COLUMBIA, MARYLAND 21045
(410)-884-3607

REVISIONS		
B	RECONSTRUCTED DUE TO GEOMETRIC WIDENING	6/3/99
A	ADD EP LEFT TURN SIGNALS FOR NORTH AND SOUTHBOUND MD 187	8/16/95

RJM CS 10/23 BK 12/3/96 — WKL GMJ

APPROVALS (ORIGINAL ON FILE)
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 147 (HARFORD RD.) AT JOPPA RD.

DATE 7/19/82

DRAWN BY: L. PARKER	F.A.P. NO.	PLAN SHEET NO.:	SHEET NO.
CHECK BY: K. KEITT	S.H.A. NO. BA 1815176	TS-3016B	OF
SCALE: 1" = 20'	COUNTY BALTIMORE		