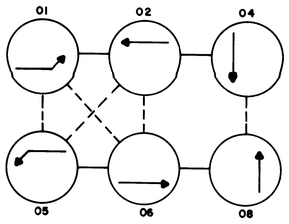
PROPOSED NEMA PHASING



FLASHING OPERATION

PHASING NOTES

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

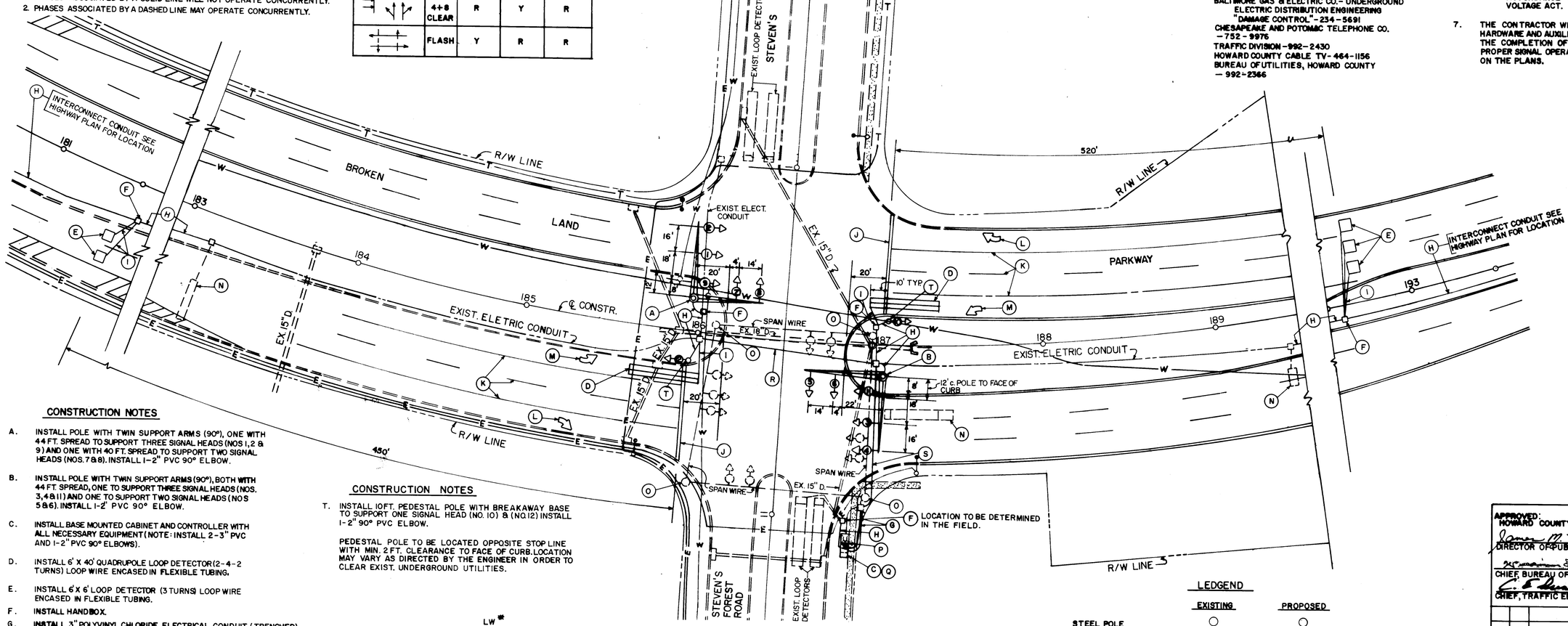
PHASE AND SEQUENCE DIAGRAM		TRAFFIC SIGNAL HEAD 1 2 3 4	5 6 7 8	9 10 11 12
	1+5	R	R	GA
	1+5 CLEAR	R	R	YA
	2+6	G	R	R
	2+6 CLEAR	Y	R	R
	4+8	R	G	R
	4+8 CLEAR	R	Y	R
	FLASH	Y	R	R

GENERAL NOTES

1. THE PROPOSED HIGHWAY MARKING AND SIGNING SHALL BE INSTALLED BY HOWARD COUNTY.
2. THE UTILITIES SHOWN ON THE CONSTRUCTION PLAN ARE SCHEMATIC ONLY AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES CAN BE LOCATED IN THE FIELD. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF THE CONSTRUCTION OPERATION IN THE VICINITY OF THE UTILITIES. ANY DAMAGE INCURRED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   MISS UTILITY-1-800-257-7777
   BALTIMORE GAS & ELECTRIC CO.- UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING "DAMAGE CONTROL"-234-5691
   CHESAPEAKE AND POTOMAC TELEPHONE CO. -752-9976
   TRAFFIC DIVISION-992-2430
   HOWARD COUNTY CABLE TV-464-1156
   BUREAU OF UTILITIES, HOWARD COUNTY -992-2366
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATION AND DETAIL FOR CONSTRUCTION DESIGN MANUAL VOLUME IV.
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY WRAPPED AND/OR BAGGED IN BURLAP, PRIOR TO SIGNAL BEING PLACED IN SERVICE.
5. THE CONTRACTOR SHALL COMPLY WITH OSHA AND MOSHA CODES.
6. THE CONTRACTORS SHALL COMPLY WITH THE FOLLOWING:

   MAINTAIN SIX INCHES MINIMUM CLEARANCE WITH ALL UNDERGROUND UTILITIES AND ALL OVERHEAD CLEARANCES SHALL BE IN ACCORDANCE WITH THE MARYLAND HIGH VOLTAGE ACT.
7. THE CONTRACTOR WILL SUPPLY ALL THE OTHER HARDWARE AND AUXILIARY EQUIPMENT REQUIRED FOR THE COMPLETION OF THE PROJECT AND ENSURE PROPER SIGNAL OPERATION AS DESIGNED AND SHOWN ON THE PLANS.



CONSTRUCTION NOTES

A. INSTALL POLE WITH TWIN SUPPORT ARMS (90°), ONE WITH 44 FT. SPREAD TO SUPPORT THREE SIGNAL HEADS (NOS 1, 2 & 9) AND ONE WITH 40 FT. SPREAD TO SUPPORT TWO SIGNAL HEADS (NOS. 7 & 8). INSTALL 1-2" PVC 90° ELBOW.

B. INSTALL POLE WITH TWIN SUPPORT ARMS (90°), BOTH WITH 44 FT. SPREAD, ONE TO SUPPORT THREE SIGNAL HEADS (NOS. 3, 4 & 11) AND ONE TO SUPPORT TWO SIGNAL HEADS (NOS 5 & 6). INSTALL 1-2' PVC 90° ELBOW.

C. INSTALL BASE MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT (NOTE: INSTALL 2-3" PVC AND 1-2" PVC 90° ELBOWS).

D. INSTALL 6' X 40' QUADRUPOLE LOOP DETECTOR (2-4-2 TURNS) LOOP WIRE ENCASED IN FLEXIBLE TUBING.

E. INSTALL 6' X 6' LOOP DETECTOR (3 TURNS) LOOP WIRE ENCASED IN FLEXIBLE TUBING.

F. INSTALL HANDBOX.

G. INSTALL 3" POLYVINYL CHLORIDE ELECTRICAL CONDUIT. (TRENCHED)

H. INSTALL 2" POLYVINYL CHLORIDE ELECTRICAL CONDUIT. (TRENCHED)

I. INSTALL 1" GALVANIZED STEEL CONDUIT SLEEVE FOR DETECTOR LEAD IN.

J. 24" WHITE STOP LINE MARKING BY OTHERS.

K. 4" WHITE LANE LINE MARKING BY OTHERS.

L. RIGHT TURN ARROW BY OTHERS.

M. LEFT TURN ARROW BY OTHERS.

N. DISCONNECT EXISTING LOOP DETECTOR.

O. REMOVE AND SALVAGE POLE, SPAN WIRES AND SIGNAL HEADS.

P. REMOVE AND SALVAGE EXISTING BASE MOUNTED CONTROLLER. REMOVE EXISTING BASE.

Q. ELECTRIC FEED AND METER BY BG & E.

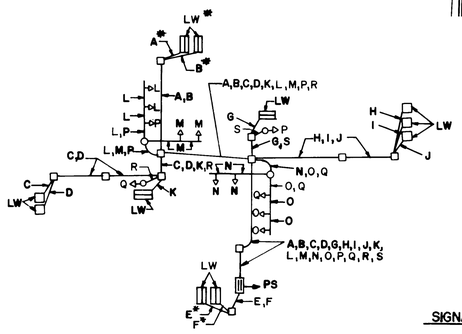
R. INSTALL 3" GALVANIZED STEEL ELECTRICAL CONDUIT (PUSHED) CONNECT TO EXISTING HANDBOXES.

S. INSTALL 4" GALVANIZED STEEL ELECTRICAL CONDUIT (PUSHED) CONNECT TO EXISTING HANDBOXES.

CONSTRUCTION NOTES

T. INSTALL 10FT. PEDESTAL POLE WITH BREAKAWAY BASE TO SUPPORT ONE SIGNAL HEAD (NO. 10) & (NO. 12) INSTALL 1-2" 90° PVC ELBOW.

PEDESTAL POLE TO BE LOCATED OPPOSITE STOP LINE WITH MIN. 2 FT. CLEARANCE TO FACE OF CURB. LOCATION MAY VARY AS DIRECTED BY THE ENGINEER IN ORDER TO CLEAR EXIST. UNDERGROUND UTILITIES.



SIGNAL WIRING DIAGRAM

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

L M N O P Q R S — 5 CONDUCTOR CABLE (NO. 14 AWG)

LW — LOOP WIRE NO. 14 AWG
PS — PROPOSED UNDERGROUND SERVICE
✱ — EXISTING CABLE

WIRING KEY

LEDGEND

	EXISTING	PROPOSED
STEEL POLE	○	○
MAST ARM		
SIGNAL HEAD		
STREET LIGHT		
SIGNS	T	T
HAND BOX	□	□
CONTROL CABINET	C	C
CONDUIT		
TELEPHONE CONDUIT	T	
ELECTRIC	E	
SANITARY	S	
WATER	W	
STORMDRAIN	15" D	

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR OF PUBLIC WORKS — DATE 9/3/91
CHIEF, BUREAU OF ENGINEERING — DATE 8-3-91
CHIEF, TRAFFIC ENGINEERING DIV. — DATE 8/30/91

BY	NO.	REVISION	DATE

3/8/91
Date

Professional Engineer No. 5407

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

TITLE: TRAFFIC SIGNAL PLAN
BROKEN LAND PARKWAY AND STEVEN'S FOREST ROAD

Des By H.R.P.	Scale 1" = 30'	Proj.No. 89-0040	
Drn By J.W.B.	Date JAN. 1991	Drawing No. 1 OF 1	
Chk By S.P.	Approved		

746

BLPSTEV2