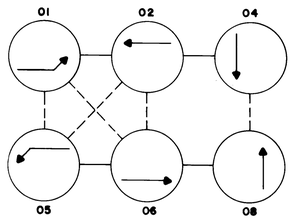
PHASE AND SEQUENCE DIAGRAM		TRAFFIC SIGNAL HEAD 1 2 3 4	5 6 7 8	9 10 11 12
	1+5	R	R	GA
	1+5 CLEAR	R	R	YA
	2+6	G	R	R
	2+6 CLEAR	Y	R	R
	4+8	R	G	R
	4+8 CLEAR	R	Y	R
	FLASH	Y	R	R

* EXISTING SIGNAL HEAD.

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.

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 COMPANY--UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING DAMAGE CONTROL-234-5691
   CHESAPEAKE AND POTOMAC TELEPHONE COMPANY-752-9976
   TRAFFIC DIVISION-992-2430
   HOWARD COUNTY CABLE TV-464-1156
   BUREAU OF UTILITIES, HOWARD COUNTY -992-2366

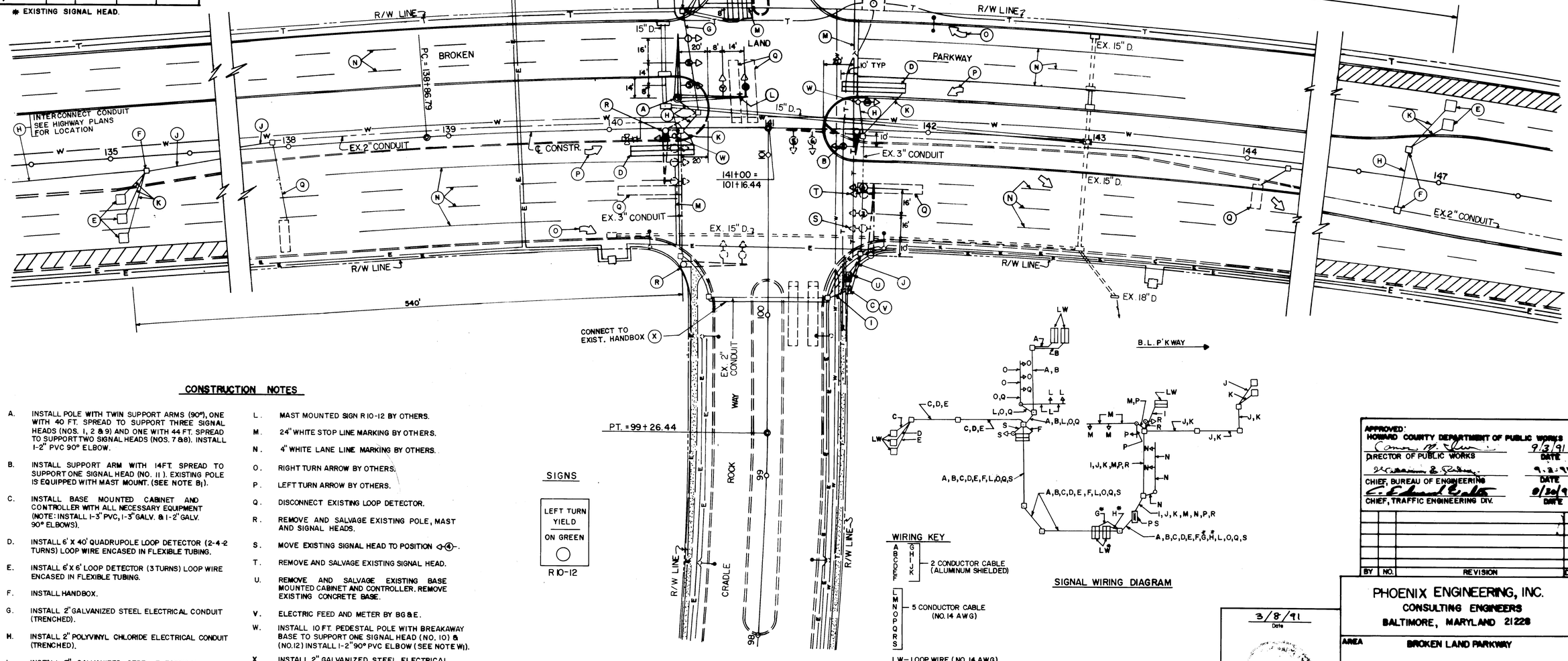
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATION AND DETAIL FOR CONSTRUCTION DESIGN MANUAL VOLUME IIIE.
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY WRAPPED AND/OR BAGGED IN BURLAP, PRIOR TO SIGNAL BEING PLACED IN SERVICE.
5. THE CONTRACTOR SHALL COMPLY WITH OSHA 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.

LEGEND

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



CONSTRUCTION NOTES

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

B. INSTALL SUPPORT ARM WITH 14FT. SPREAD TO SUPPORT ONE SIGNAL HEAD (NO. 11). EXISTING POLE IS EQUIPPED WITH MAST MOUNT. (SEE NOTE B1).

C. INSTALL BASE MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT (NOTE: INSTALL 1-3" PVC, 1-3" GALV. & 1-2" GALV. 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 2" GALVANIZED STEEL ELECTRICAL CONDUIT (TRENCHED).

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

I. INSTALL 3" GALVANIZED STEEL ELECTRICAL CONDUIT (PUSHED).

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

K. INSTALL 1" GALVANIZED STEEL CONDUIT SLEVE FOR DETECTOR LEAD IN.

L. MAST MOUNTED SIGN R10-12 BY OTHERS.

M. 24" WHITE STOP LINE MARKING BY OTHERS.

N. 4" WHITE LANE LINE MARKING BY OTHERS.

O. RIGHT TURN ARROW BY OTHERS.

P. LEFT TURN ARROW BY OTHERS.

Q. DISCONNECT EXISTING LOOP DETECTOR.

R. REMOVE AND SALVAGE EXISTING POLE, MAST AND SIGNAL HEADS.

S. MOVE EXISTING SIGNAL HEAD TO POSITION ◁④▷.

T. REMOVE AND SALVAGE EXISTING SIGNAL HEAD.

U. REMOVE AND SALVAGE EXISTING BASE MOUNTED CABINET AND CONTROLLER. REMOVE EXISTING CONCRETE BASE.

V. ELECTRIC FEED AND METER BY BG&E.

W. INSTALL 10 FT. PEDESTAL POLE WITH BREAKAWAY BASE TO SUPPORT ONE SIGNAL HEAD (NO. 10) & (NO. 12) INSTALL 1-2" 90° PVC ELBOW (SEE NOTE W1).

X. INSTALL 2" GALVANIZED STEEL ELECTRICAL CONDUIT (PUSHED).

NOTE W1: PEDESTAL POLES TO BE INSTALLED OPPOSITE THE STOP LINE WITH MINIMUM 2'-0" CLEARANCE TO FACE OF CURB. LOCATIONS MAY VARY AS DIRECTED BY THE ENGINEER IN ORDER TO CLEAR EXISTING UNDERGROUND UTILITIES.

NOTE B1: CONTRACTOR SHALL MEASURE THE EXISTING MAST MOUNT FLANGE AND BOLT SPACING TO DETERMINE ITS FIT TO THE FLANGE PROVIDED ON THE MAST ARM. SHOP DRAWING SHOWING ANY REQUIRED MODIFICATION TO THE MOUNTS MUST BE SUBMITTED TO THE ENGINEER FOR HIS APPROVAL.

SIGNS

WIRING KEY

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

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

SIGNAL WIRING DIAGRAM

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DIRECTOR OF PUBLIC WORKS — DATE 9/3/91

CHIEF, BUREAU OF ENGINEERING — DATE 9-3-91

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 CRADLE ROCK WAY (SOUTH)

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

BLPCRAD6