APPENDIX B

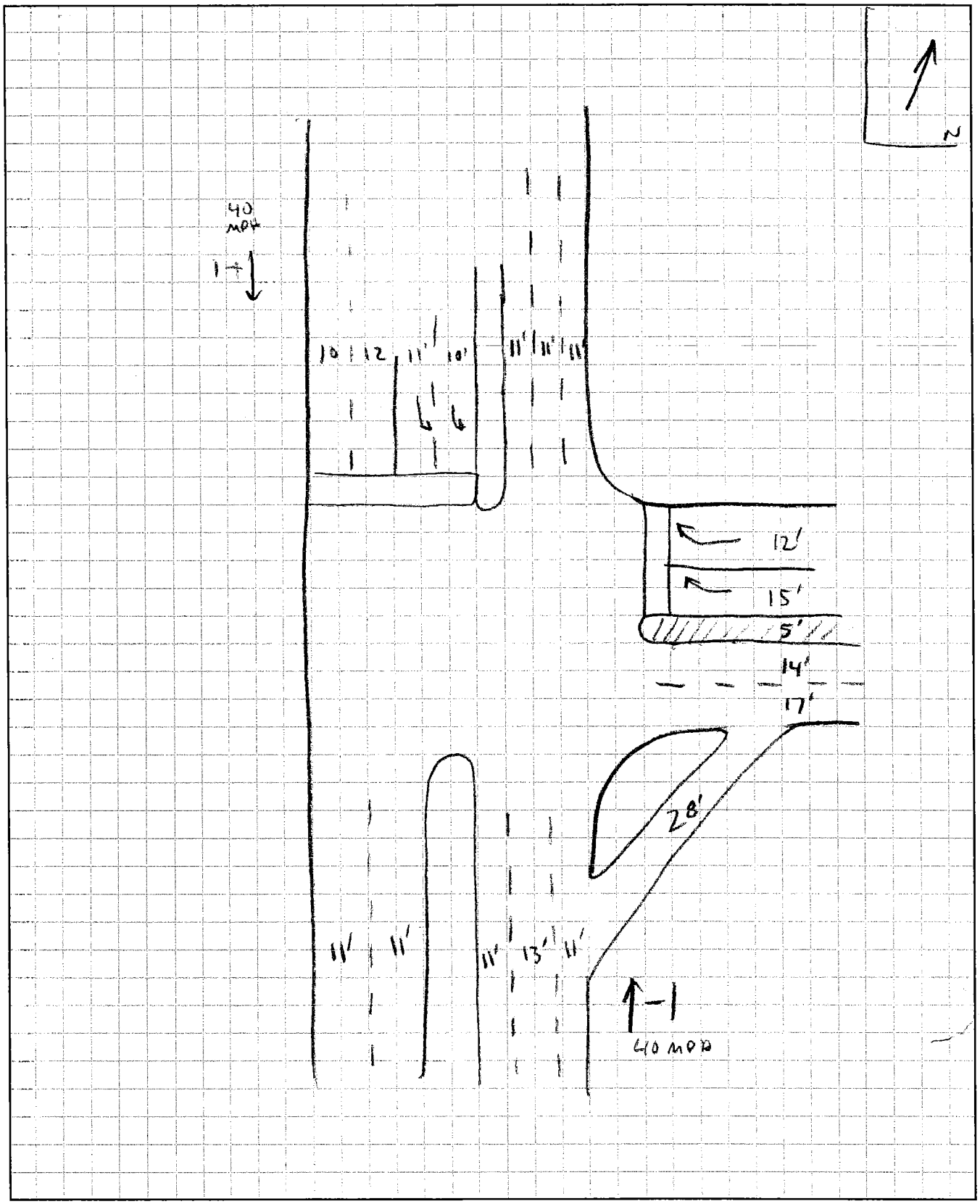
Study Area Intersection Sketches, Photographs and Signal Permit Plans

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Job _____ McMahon Project No. _____ Sheet ____ of ____

Description Forest Dr + Hilltop Ln Designed By KDB Date 1/25/2011

Checked By _____ Date _____



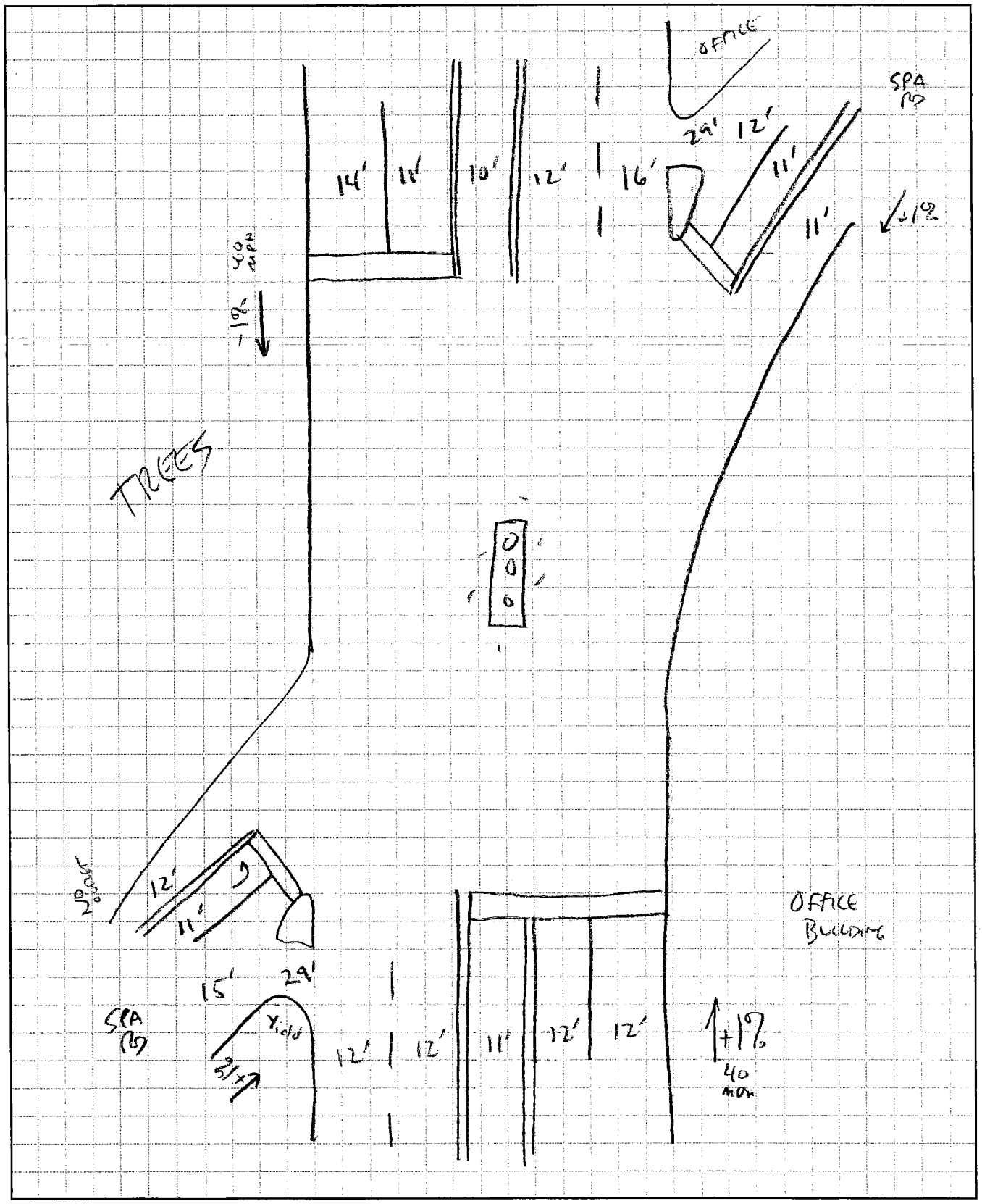
McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

(3)

Job _____ McMahon Project No. _____ Sheet ____ of ____

Description Forest Pl + SPA Rd Designed By MOB Date 1/25/2011

Checked By _____ Date _____



McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

(4)

Job _____ McMahon Project No. _____ Sheet ____ of ____

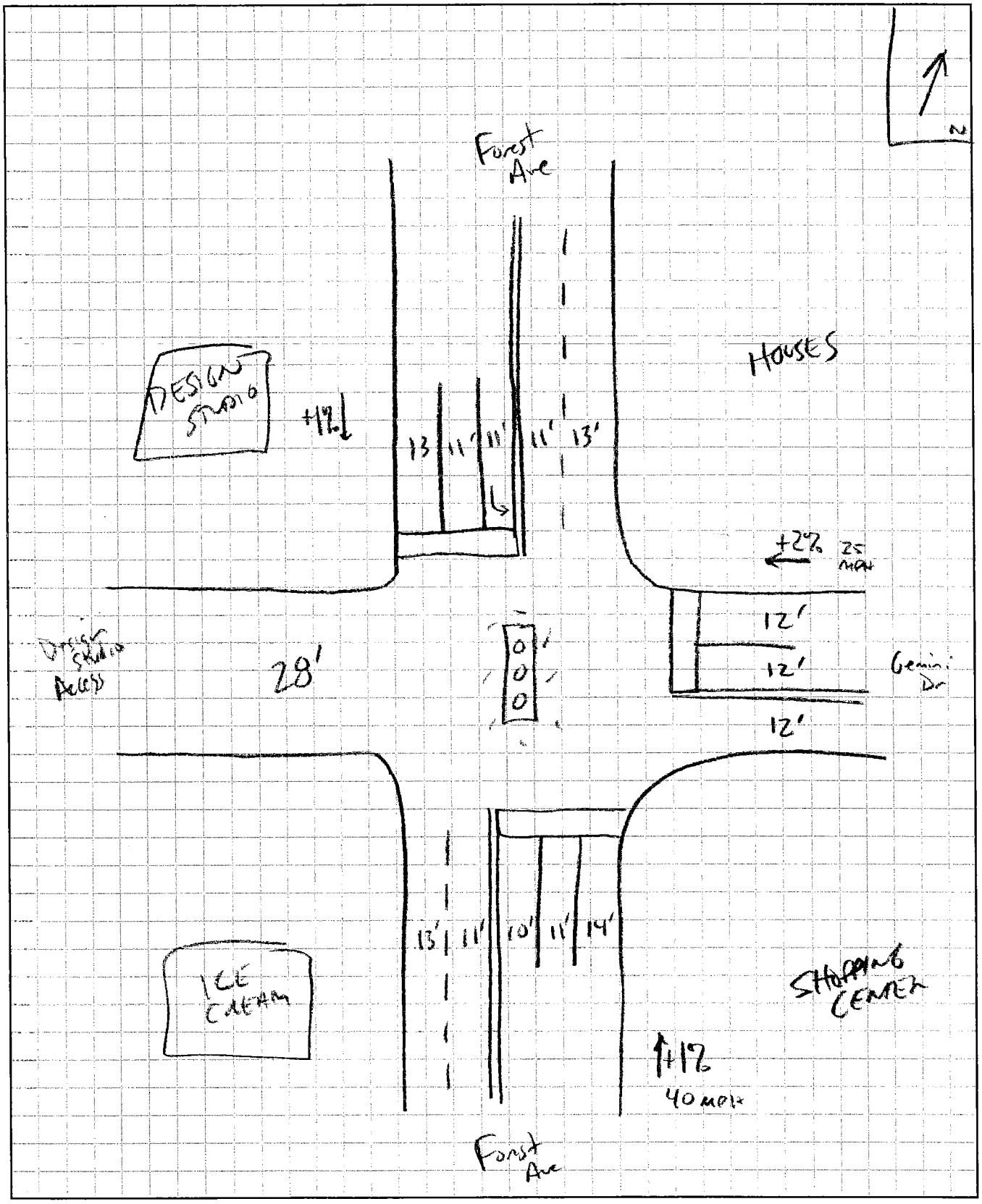
Description Forest Dr + Gemini Dr / Access

Designed By MDB

Checked By _____

Date 1/25/2011

Date _____



(5)

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Job _____ McMahon Project No. _____ Sheet ____ of ____

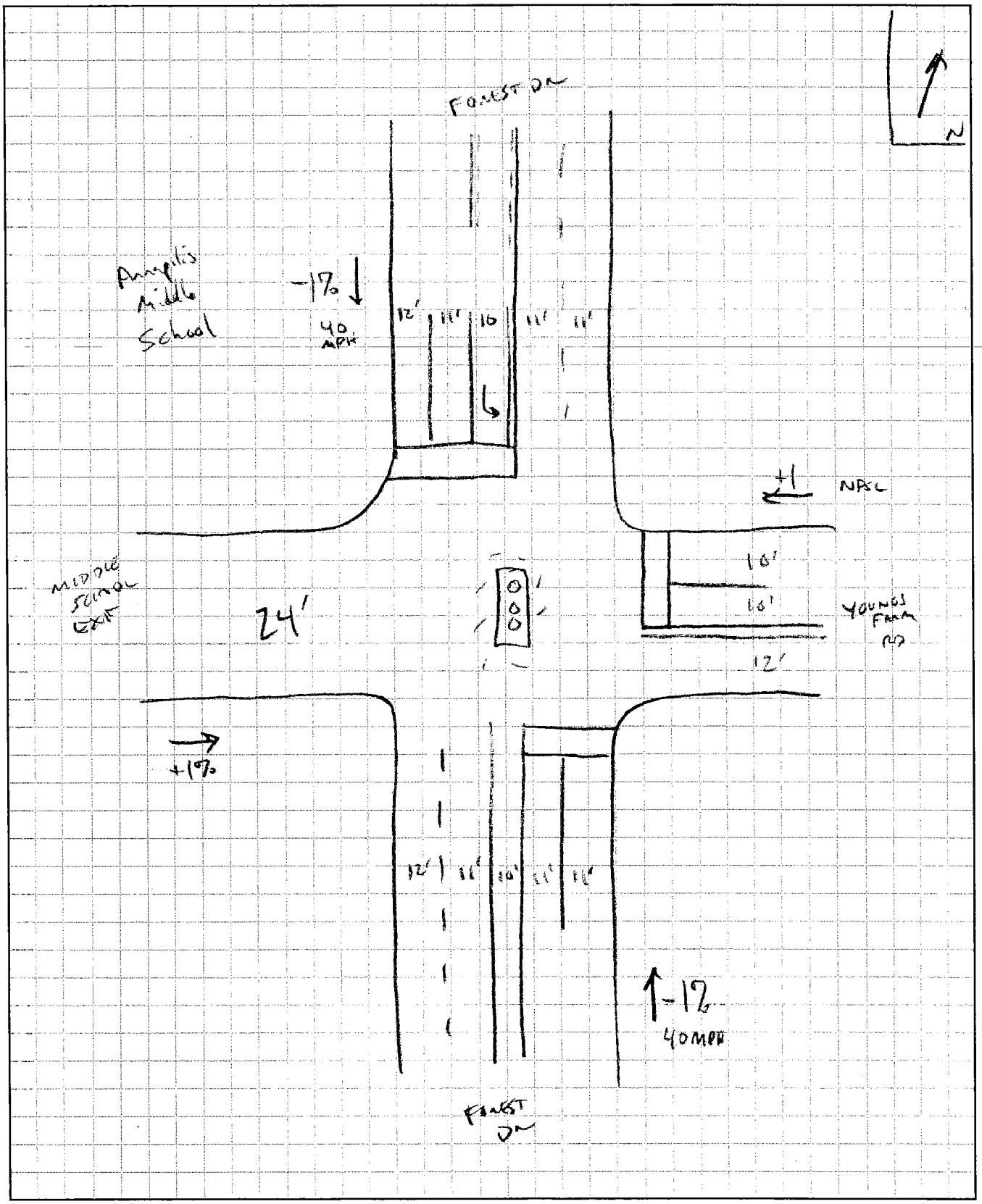
Description Forest Dr + Young Farm Rd

Designed By NOB

Checked By _____

Date 1/25/2011

Date _____



McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

(6)

Job _____ McMahon Project No. _____ Sheet ____ of ____

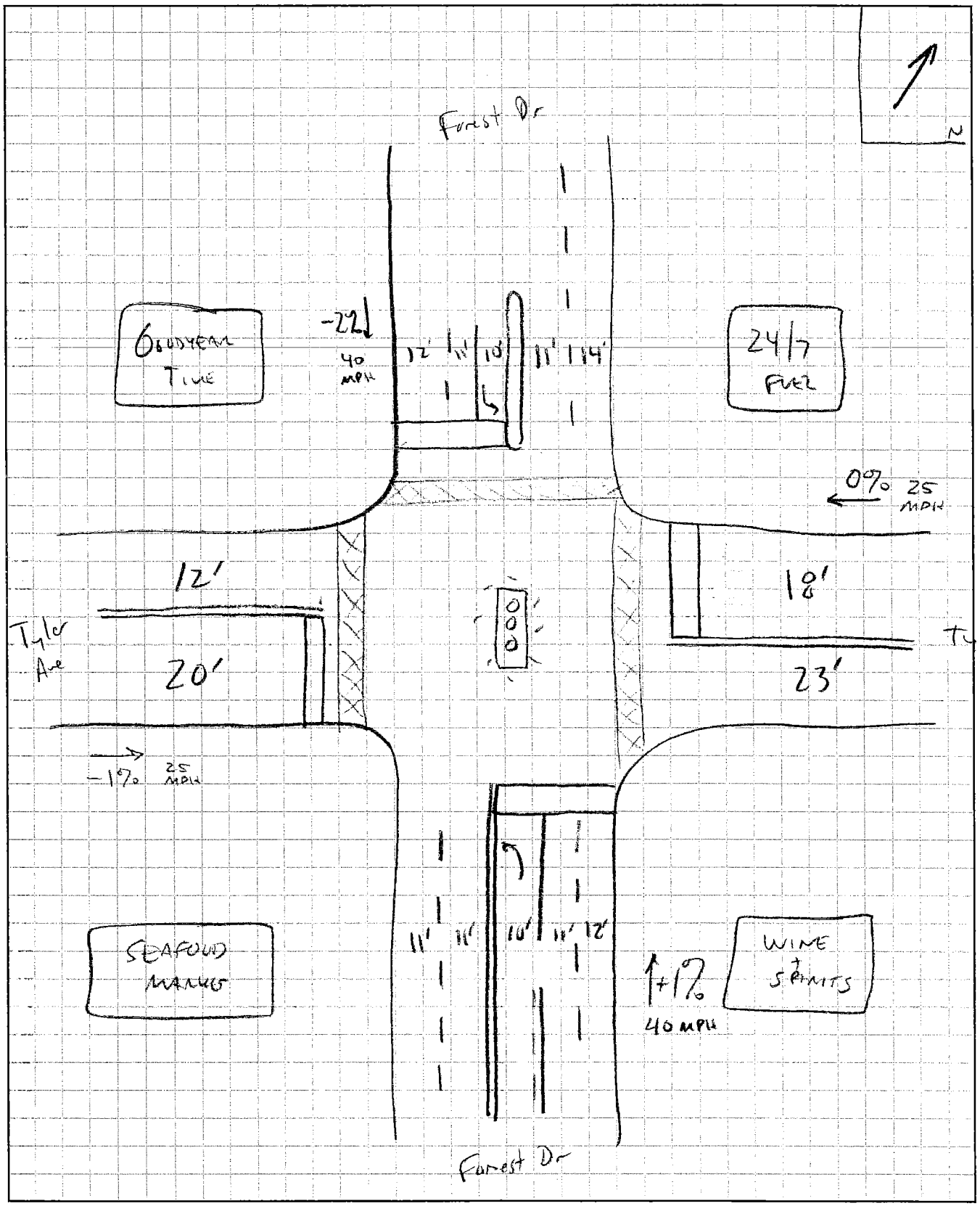
Description FOREST DRIVE + TYLER AVENUE

Designed By NOB

Date 1/25/2011

Checked By _____

Date _____



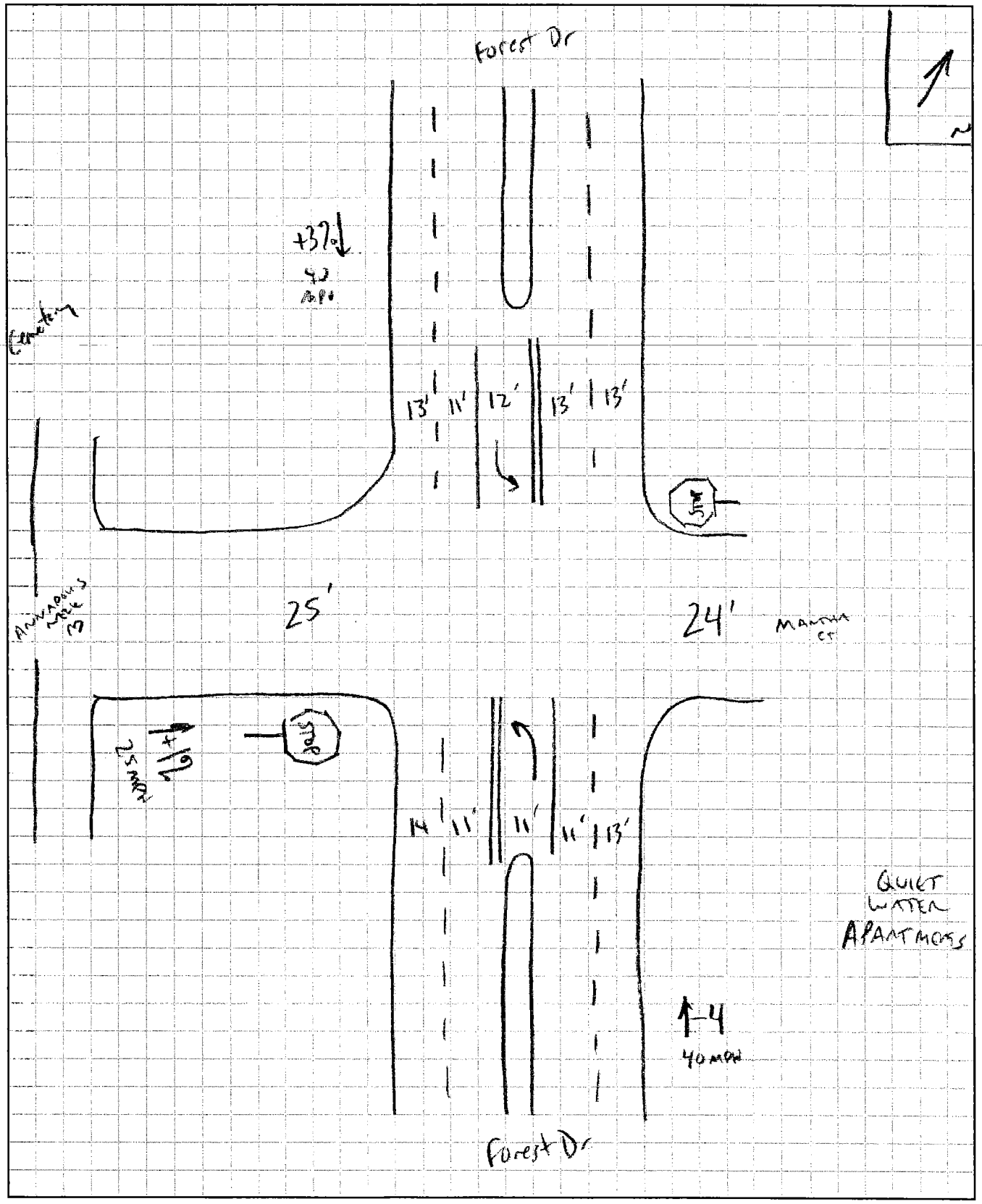
McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

(7)

Job _____ McMahon Project No. _____ Sheet ____ of ____

Description Forest Dr + Annapolis Neck Rd / Martha Ct Designed By MPB Date 1/25/2011

Checked By _____ Date _____



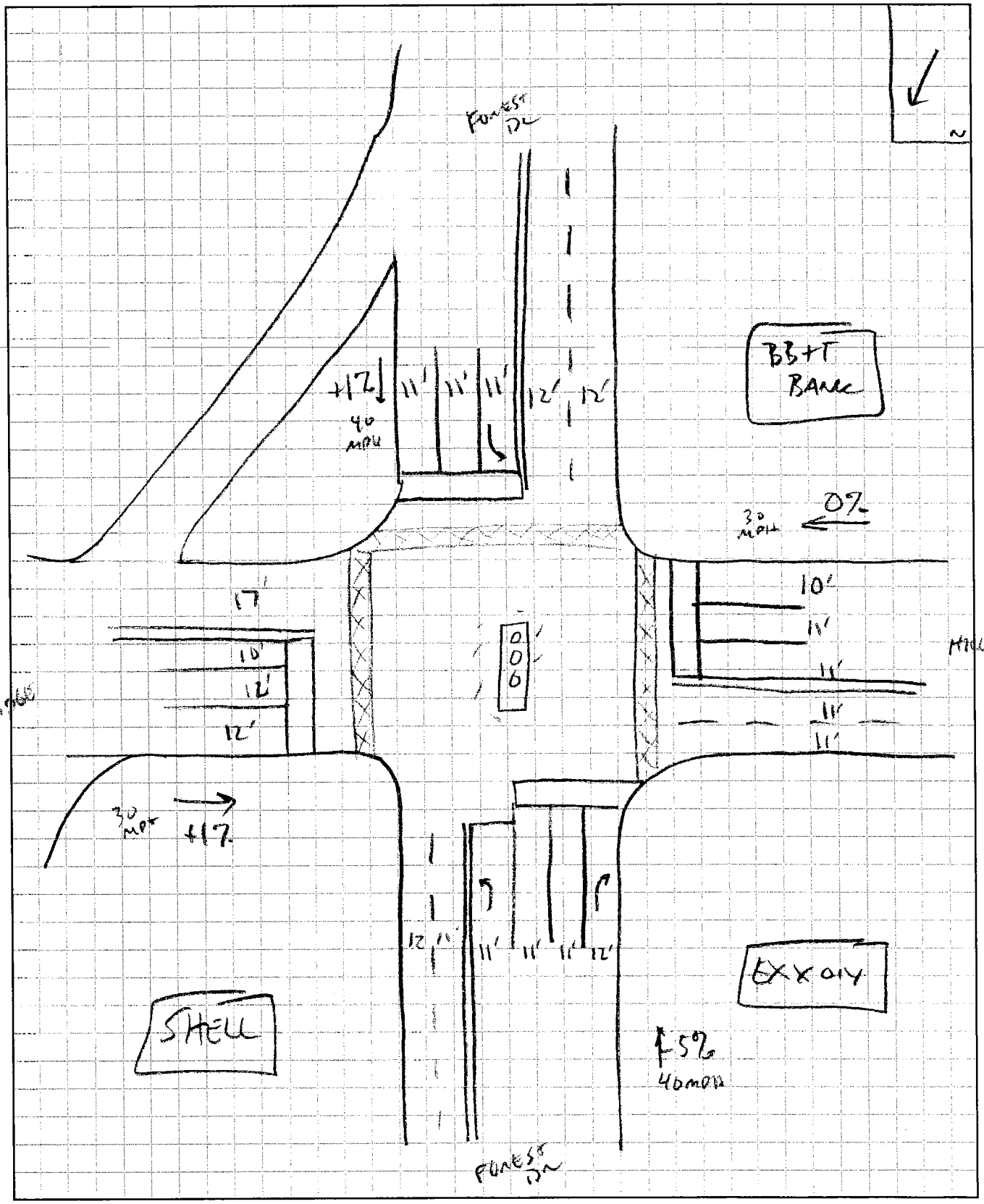
McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

(8)

Job _____ McMahon Project No. _____ Sheet ____ of ____

Description FOREST DR + MILLEMONE / BAY RIDGE Designed By MOB Date 1/25/2011

Checked By _____ Date _____



IMG_2188.jpg

Forest Dr & Hillsmere / Bay Ridge - Hillsmere EB Approach

IMG_2189.jpg

Forest Dr & Hillsmere / Bay Ridge - Hillsmere EB Approach

IMG_2190.jpg

Forest Dr & Hillsmere / Bay Ridge - Looking west on Hillsmere

IMG_2191.jpg

Forest Dr & Hillsmere / Bay Ridge - Forest Dr SB Approach

IMG_2192.jpg

Forest Dr & Hillsmere / Bay Ridge - Forest Dr SB Approach

IMG_2193.jpg

Forest Dr & Hillsmere / Bay Ridge - Forest DR NB Departure

IMG_2194.jpg

Forest Dr & Hillsmere / Bay Ridge - Bay Ridge WB Approach

IMG_2195.jpg

Forest Dr & Hillsmere / Bay Ridge - BayRidge EB Approach

IMG_2196.jpg

Forest Dr & Hillsmere / Bay Ridge - Looking south along channelization

IMG_2197.jpg

Forest Dr & Hillsmere / Bay Ridge - Looking east on BayRidge

IMG_2198.jpg

Forest Dr & Hillsmere / Bay Ridge - Forest NB Approach

IMG_2199.jpg

Forest Dr & Hillsmere / Bay Ridge - Looking east on Channelization

IMG_2200.jpg

Forest Dr & Hillsmere / Bay Ridge - Forest Dr NB Approach

IMG_2201.jpg

Forest Dr & Hillsmere / Bay Ridge - Forest Dr SB Departure

IMG_1952.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Forest NB Departure

IMG_1953.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Forest SB Approach

IMG_1954.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Looking east to Martha Ct

IMG_1955.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Looking west to Annapolis Neck Rd

IMG_1956.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Looking east to Martha Ct

IMG_1957.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Looking north on Annapolis Neck Rd

IMG_1958.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Looking south on Annapolis Neck Rd

IMG_1959.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Annapolis Neck Rd EB Approach

IMG_1960.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Forest Dr SB Departure

IMG_1961.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Forest Dr NB Approach

IMG_1962.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Forest DR NB Approach

IMG_1963.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Looking east into Martha Ct

IMG_1964.jpg

Forest Dr & Annapolis Neck Rd/ Martha Ct - Martha Ct WB Approach

IMG_2202.jpg

Forest Dr & Tyler Ave -Tyler WB Approach

IMG_2203.jpg

Forest Dr & Tyler Avenue - Tyler WB Approach

IMG_2204.jpg

Forest Dr & Tyler Avenue - Looking east on Tyler

IMG_2205.jpg

Forest Dr & Tyler Avenue - Forest NB Departure

IMG_2206.jpg

Forest Dr & Tyler Avenue - Forest SB Approach

IMG_2207.jpg

Forest Dr & Tyler Avenue - Looking west on Tyler

IMG_2208.jpg

Forest Dr & Tyler Avenue - Tyler WB Approach

IMG_2209.jpg

Forest Dr & Tyler Avenue - Forest SB Departure

IMG_2210.jpg

Forest Dr & Tyler Avenue - Forest SB Departure

IMG_2211.jpg

Forest Dr & Tyler Avenue - Forest NB Approach

IMG_2212.jpg

Forest Dr & Youngs Farm/ School Exit - Youngs Farm WB Approach

IMG_2213.jpg

Forest Dr & Youngs Farm/ School Exit - Looking east on Youngs Farm

IMG_2214.jpg

Forest Dr & Youngs Farm/ School Exit - Forest NB Approach

IMG_2215.jpg

Forest Dr & Youngs Farm/ School Exit - Forest SB Departure

IMG_2216.jpg

Forest Dr & Youngs Farm/ School Exit - School Exit EB Approach

IMG_2217.jpg

Forest Dr & Youngs Farm/ School Exit - Forest SB Approach

IMG_2218.jpg

Forest Dr & Youngs Farm/ School Exit - Forest NB Departure

IMG_2219.jpg

Forest Dr & Gemini Dr - Forest NB Approach

IMG_2220.jpg

Forest Dr & Gemini Dr - Forest SB Departure

IMG_2224.jpg

Forest Dr & Gemini Dr - Forest SB Approach

IMG_2225.jpg

Forest Dr & Gemini Dr - Forest NB Departure

IMG_2226.jpg

Forest Dr & Gemini Dr - Looking east on Gemini

IMG_2227.jpg

Forest Dr & Gemini Dr - Gemini WB Approach

IMG_2228.jpg

Forest Dr & Spa Road - Looking to channelization on Spa Rd

IMG_2229.jpg

Forest Dr & Spa Road - Looking to channelization on Spa Rd

IMG_2230.jpg

Forest Dr & Spa Road - Forest NB Approach

IMG_2231.jpg

Forest Dr & Spa Road - Forest Dr SB Departure

IMG_2232.jpg

Forest Dr & Spa Road - Spa Rd WB Departure

IMG_2233.jpg

Forest Dr & Spa Road - Spa Rd EB Approach

IMG_2234.jpg

Forest Dr & Spa Road - Forest Dr SB Approach

IMG_2235.jpg

Forest Dr & Spa Road - Looking to NB right channelization

IMG_2236.jpg

Forest Dr & Spa Road - Forest Dr NB Departure

IMG_2237.jpg

Forest Dr & Spa Road - Looking east on Spa Rd

IMG_2238.jpg

Forest Dr & Spa Road - Spa Rd WB Approach

IMG_2239.jpg

Forest Dr & Hilltop Ln - Forest Dr NB Approach

IMG_2240.jpg

Forest Dr & Hilltop Ln - Forest Dr NB Approach

IMG_2241.jpg

Forest Dr & Hilltop Ln - Looking east on Hilltop

IMG_2242.jpg

Forest Dr & Hilltop Ln - Hilltop WB Approach

IMG_2243.jpg

Forest Dr & Hilltop Ln - Forest Dr WB Approach

IMG_2244.jpg

Forest Dr & Hilltop Ln - Forest Dr WB Approach

IMG_2245.jpg

Forest Dr & Hilltop Ln - Forest NB Departure

IMG_2248.jpg

Forest Dr SB Approach

IMG_2249.jpg

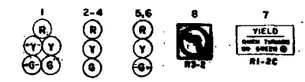
Forest Dr & Hilltop Ln - Forest Dr SB Departure

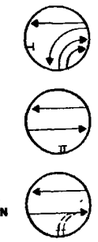
IMG_2250.jpg

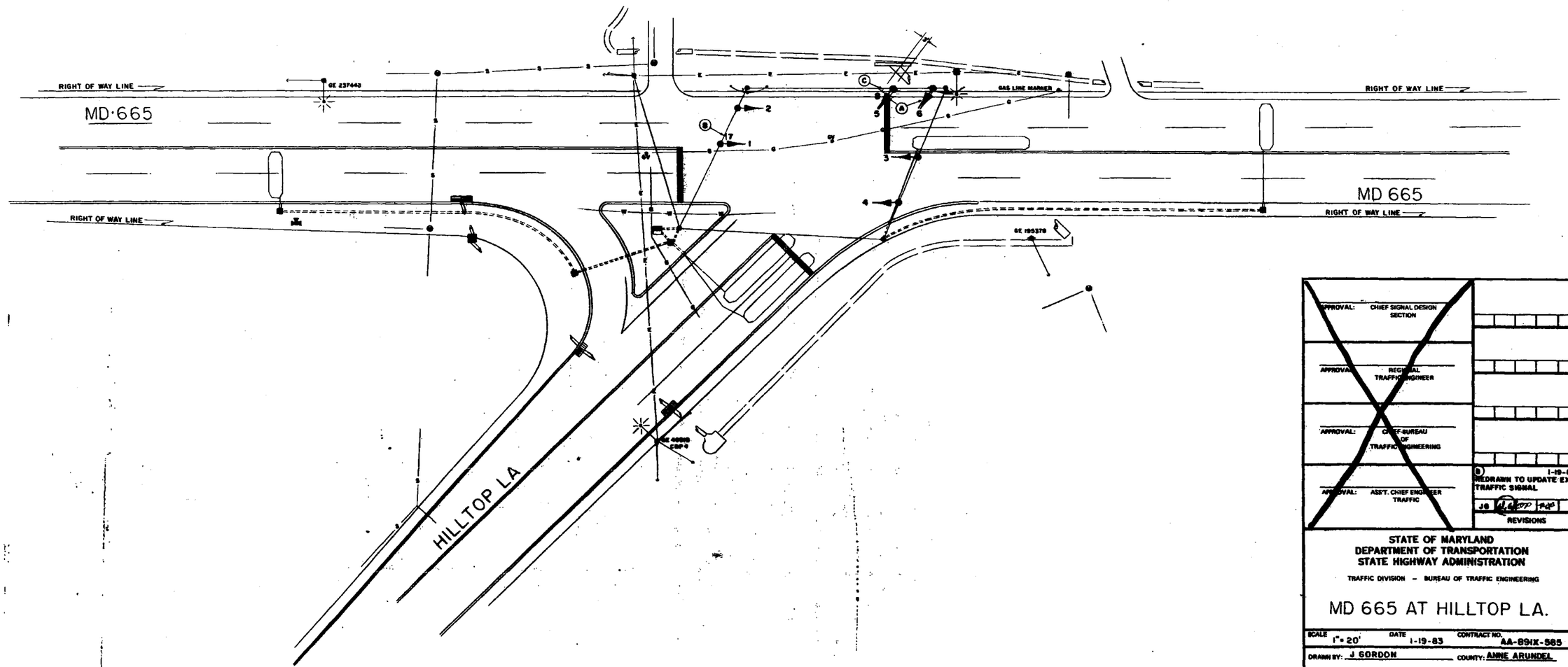
Forest Dr & Hilltop Ln - Show current lane availability Forest Dr NB

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

SIGNALS & SIGNS







APPROVAL: CHIEF SIGNAL DESIGN SECTION

APPROVAL: REGIONAL TRAFFIC ENGINEER

APPROVAL: CHIEF-BUREAU OF TRAFFIC ENGINEERING

APPROVAL: ASS'T. CHIEF ENGINEER TRAFFIC

B 1-19-83 REDRAWN TO UPDATE EX. TRAFFIC SIGNAL

JG

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

TRAFFIC DIVISION – BUREAU OF TRAFFIC ENGINEERING

MD 665 AT HILLTOP LA.

SCALE	DATE	CONTRACT NO.
1" = 20'	1-19-83	AA-891X-585

DRAWN BY: J GORDON COUNTY: ANNE ARUNDEL

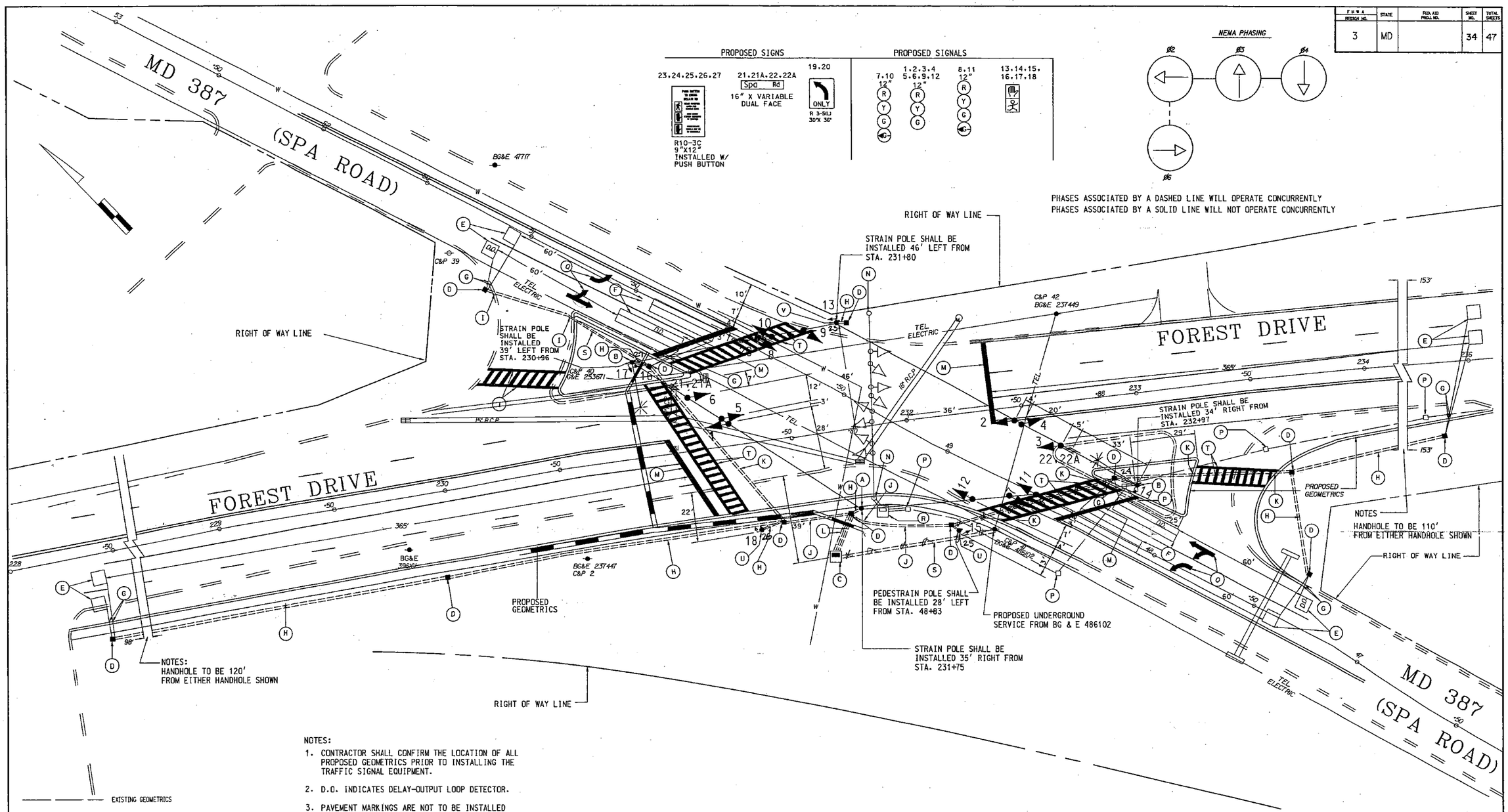
DESIGNED BY: SIGNAL NO.: 02163

CHECKED BY:

DRAWING NO. TS-824B

30 63%

F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD		34	47



NOTES:

1. CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL PROPOSED GEOMETRICS PRIOR TO INSTALLING THE TRAFFIC SIGNAL EQUIPMENT.
2. D.O. INDICATES DELAY-OUTPUT LOOP DETECTOR.
3. PAVEMENT MARKINGS ARE NOT TO BE INSTALLED UNTIL LOOP DETECTORS AND CONDUIT INSTALLATIONS ARE COMPLETED.

EXISTING GEOMETRICS

PROPOSED GEOMETRICS

LEGEND OF UTILITIES

A	AERIAL
G	GAS MAIN
W	WATER MAIN
S	SEWER MAIN
E	ELECTRIC CABLES
T	TELEPHONE CABLES
C	CABLE TELEVISION

REVISIONS	APPROVALS	REVISIONS
(B) REDESIGNED TRAFFIC SIGNAL DUE TO GEOMETRIC CHANGES S.H.A. NO. AA-317-82-221 11/82	CHIEF, DESIGN SECTION	
(C) ADD E/P L.T. FOR S.B. MD 487 (SPA ROAD)	ASST. DISTRICT ENGINEER, TRAFFIC	
B.C.D.	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION	
(D) S.H.A. NO. AA-374-82-535 RECONSTRUCTION OF A TWO PHASE INTERSECTION 10/83		
E.M.M.		
(A) REDRAWN 11/3/82	DIRECTOR, TRAFFIC & SAFETY	
E.M.		

ORIGINAL ON FILE

JOHNSON, MIRMIRAN, & THOMPSON, P.A.
72 LOVETON CIRCLE
SPARKS, MARYLAND 21152
(410) 329-3100

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

FOREST DRIVE AND SPA ROAD

LOGMILE: 02038700.66

DRAWN BY:	KEN MASEK	F.A.P. NO.		TS NO.	SHEET NO.
CHK. BY:	E.M. MILESKY	S.H.A. NO.	AA3175376		
SCALE:	1"=20'	COUNTY	ANNE ARUNDEL	121 (D)	34 OF 47
DATE:	11/3/82				

FILE: m:\md_sigs\spa.dgn
DATE: 12-Sep-96 15:10

S08083

PROJECT DESCRIPTION

I. GENERAL

This project is located at the intersection of Forest Drive @ Spa Road in Anne Arundel County Maryland and involves the reconstruction of the existing signal and the geometric improvements of an additional left turn lane along Forest Drive eastbound and westbound and an additional left turn lane along Spa Road northbound and southbound.

II. INTERSECTION OPERATION

The proposed traffic signal will operate in a NEMA four (4) phase, fully traffic actuated mode. The Forest Drive approaches will operate concurently. Each of the Spa Road approaches will operate separately.

A new eight phase fully traffic actuated 'Eagle' controller with six (6) two channel time delay output loop detector amplifiers, telemery module, intersection monitor with battery back up and pre-emption call isolation relay package housed in a base mounted cabinet shall be located at its' new location.

III. SPECIAL NOTES

1. It is the responsiblity of the contractor to confirm geometrics prior to placing signal equipment.
2. The signal shop will be notified to perform internal wiring of the cabinet at MD 665 @ Hilltop Lane. All cable shall be identified and brought into the controller by the contractor. The contractor shall notify Mr. Douglas Beall, A. A. County Signal shop at (410) 222-1940 seventy-two (72) hours in advance of this work.
3. Anne Arundel County will be given at least three (3) days notice to perform striping through the intersection area. Contact Mr. Robert Sword at (410) 222-7331 to initiate this operation.
4. MOT Plates for this project will be as follows: 104.107, 105.00, 01, 02, 105.101, 105.103, 105.105, and 107.007.

CONSTRUCTION DETAILS

- (A) Install 12" x 32 foot galvanized steel pole. (Note: one two inch 90 degree PVC schedule 80 bend.)
- (B) Install 12" x 32 foot galvanized steel pole with pedestrian signal heads, pedestrian pushbuttons and pushbutton sign, 20 foot street lighting arm with 250 watt luminaire (Note: one-two inch 90 degree PVC schedule 80 bend.)
- (C) Install controller and cabinet. (Note: two, 4" 90 degree PVC schedule 40 bend and one, 2" 90 degree PVC schedule 80 bend.)
- (D) Install handhole.
- (E) Install 6' x 6' loop detector in 1/4 inch flexible tubing (4 turns).
- (F) Install 6' x 30' loop detector in 1/4 inch flexible tubing (3-6-3 turns).
- (G) Install 1 inch liquid tight flexible non-metallic conduit and fitting (Detector Wire Sleeve).
- (H) Install 2 inch polyvinyl chloride electrical conduit schedule 40 - trenched.
- (I) Install 2 inch polyvinyl chloride electrical conduit schedule 80 - bored.
- (J) Install 3 inch polyvinyl chloride electrical conduit schedule 40 - trenched
- (K) Install 3 inch polyvinyl chloride electrical conduit schedule 80 - bored
- (L) Install 4 inch polyvinyl chloride electrical conduit schedule 40 - trenched
- (M) Install 24 inch preformed pavement marking tape for stop line.
- (N) Remove and salvage existing strain pole and all attached equipment.
- (O) Not used.
- (P) Remove existing handhole and abandon existing conduit.
- (Q) Install proposed pavement marking.
- (R) Remove existing controller and attached equipment.
- (S) Install 2 inch polyvinyl chloride electrical conduit schedule 80- trenched.
- (T) Install 12 inch preformed pavement marking tape for crosswalks.
- (U) Install 12" x 10 foot galvanized steel pedestal pole with pedestrian signal heads, pedestrian pushbuttons and pushbutton sign. (Note: one two inch 90 degree PVC schedule 40 bend.)
- (V) Install 12" x 32 foot galvanized steel pole with pedestrian signal heads, pedestrian pushbuttons and pushbutton sign.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY SHA AND INSTALLED BY THE CONTRACTOR:

QUANTITY	SPEC. SECTION	DESCRIPTION
2 EA	814	FURNISH 12" 1 WAY, 3 SECTON (R,Y,G, 12" GA) SIGNAL HEAD - SPAN WIRE MOUNT
8 EA	814	FURNISH 12" 1 WAY, 3 SECTION (R,Y,G) SIGNAL HEAD-SPAN WIRE MOUNT
2 EA	814	FURNISH 12" 1-WAY, 4-SECTION (R, Y, G, GA) SIGNAL HEAD - SPAN MOUNT
6 EA	814	FURNISH 12" ONE-WAY, TWO SECTION PEDESTRIAN SIGNAL HEAD- POLE MOUNT
5 EA	817	FURNISH PUSHBUTTON AND SIGN
1 EA	816	EIGHT-PHASE (FULLY-ACTUATED) 'EAGLE' CONTROLLER, TELEMENTRY MODULE, INTERSECTION MONITOR WITH BATTERY BACKUP AND PRE-EMPTION CALL ISOLATION RELAY PACKAGE HOUSED IN BASE MOUNTED CABINET (TO BE FURNISHED BY A. A. COUNTY)
4 S.F.	813	D3-2 STREET NAME SIGN (DUEL FACE) WITH SPAN WIRE MOUNTED HARDWARE (SPA ROAD), 16" x VARIABLE
15 S.F.	813	TWO (2) R3-5L (30"x36") SIGN WITH SPAN WIRE MOUNTED HARDWARE
3.75 S.F.	813	FIVE (5) R10-3C (9" x 12") SIGN WITH POLE BANDING MOUNTED HARDWARE
6 EA.	—	FURNISH TWO CHANNEL TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR:

QUANTITY	SPEC. SECTION	DESCRIPTION
L.S.	104	FURNISH AND INSTALL MAINTENANCE OF TRAFFIC
125 L.F.	—	FURNISH AND INSTALL 24" WHITE PAV'T MARKING TAPE FOR STOP LINES
450 L.F.	—	FURNISH AND INSTALL 12" WHITE PAVEMENT MARKING TAPE FOR CROSSWALKS
4 EA.	—	FURNISH AND INSTALL PAV'T ARROWS
15 C.Y.	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
170 L.F.	804	FURNISH AND INSTALL #6 AWG STRANDED BARE COPPER GROUND WIRE
50 L.F.	805	FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT
1 EA.	—	FURNISH AND INSTALL 6" x 6" x 24" STAINLESS STEEL WEATHER TIGHT TROUGH
14 EA.	811	FURNISH AND INSTALL ELECTRIC HANDHOLE
4 EA.	—	FURNISH AND INSTALL 12" x 32' STRAIN POLE (2-PLY)
940 L.F.	810	FURNISH AND INSTALL ELECTRIC CABLE, 2-CONDUCTOR (NO. 14 A.W.G.)
2 EA.	806	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
6 EA.	804	FURNISH AND INSTALL GROUND ROD -3/4" DIAMETER x 10' LENGTH
1 EA.	—	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240V, 1 PHASE 3 WIRE SYSTEM)
12 EA.	814	INSTALL SIGNAL HEAD - SPAN MOUNT
3500 L.F.	810	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (ALUMINUM SHIELDED)
90 L.F.	810	FURNISH AND INSTALL CABLE, 5-CONDUCTOR (NO. 14 A.W.G.)
1430 L.F.	810	FURNISH AND INSTALL ELECTRICAL CABLE, 7-CONDUCTOR (NO. 14 A.W.G.)
400 L.F.	810	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR (NO. 12 A.W.G.) TRAY CABLE
2600 L.F.	810	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
850 L.F.	815	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
2 EA.	808	FURNISH AND INSTALL 20' LIGHTING ARM ON SIGNAL STRUCTURE
515 L.F.	819	FURNISH AND INSTALL STEEL SPAN WIRE - 3/8" DIAMETER
775 L.F.	805	FURNISH AND INSTALL P.V.C. CONDUIT 2" - TRENCHED SCHEDULE 40
40 L.F.	805	FURNISH AND INSTALL P.V.C. CONDUIT 2" - BORED SCHEDULE 80
75 L.F.	805	FURNISH AND INSTALL P.V.C. CONDUIT 3" - TRENCHED SCHEDULE 40
240 L.F.	805	FURNISH AND INSTALL P.V.C. CONDUIT 3" - BORED SCHEDULE 80
20 L.F.	805	FURNISH AND INSTALL P.V.C. CONDUIT 4" - TRENCHED SCHEDULE 40
1 EA.	816	INSTALL CONTROLLER AND CABINET - BASE MOUNT
1 L.S.	—	REMOVE AND RETURN EXISTING EQUIPMENT
60 L.F.	810	3 CONDUCTOR (NO. 4 A.W.G.)
10 L.F.	805	FURNISH AND INSTALL P.V.C. CONDUIT 2" -TRENCHED SCHEDULE 80

EQUIPMENT LIST (CONT'D)

QUANTITY	SPEC. SECTION	DESCRIPTION
6 EA	814	INSTALL 12" ONE-WAY, TWO SECTION PEDESTRIAN SIGNAL HEAD-POLE MOUNT
5 EA	817	INSTALL PUSHBUTTON AND SIGN
825 L.F.	810	FURNISH AND INSTALL ELECTRICAL CABLE 3 -CONDUCTOR (NO. 14 A.W.G.)
2 EA	800	FURNISH AND INSTALL 12"X 10 FOOT PEDESTAL POLE
19 S.F.	813	INSTALL OVERHEAD SIGNS - SPAN MOUNT

C. EQIUPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO ANNE ARUNDEL COUNTY TRAFFIC SIGNAL SHOP. CONTACT MR. DOUGLAS BEALL (410) 222-1940 72 HOURS IN ADVANCE PRIOR TO DELIVERY.

QUANTITY	DESCRIPTION
10 EA	REMOVE AND SALVAGE SIGNAL HEAD (ANY TYPE)
1 EA	REMOVAL AND SALVAGE OF CABINET (ANY TYPE)
2 EA	REMOVE AND SALVAGE SIGNAL STRAIN POLES

NOTE: ALL EQUIPMENT AND MATERIAL NOT LISTED ABOVE WILL BECOME THE PROPERTY OF THE CONTRACTOR

THE FOLLOWING CONTACT PERSONS FOR DISTRICT # 5 ARE AS FOLLOWS:

Mr. Paul Armstrong
District Engineer
Phone: (410) 841-5450

Mr. Lawrence E. Elliott
Assistant District Engineer-Traffic
Phone: (410) 841-5450

Mr. Charles George
Assistant District Engineer-Maintenance
Phone: (410) 841-5450

Mr. John Mayes
Assistant District Engineer-Utility
Phone: (410) 841-5450

Mr. Richard L. Daff
Chief Traffic Operations Division
Phone: (410) 787-7630

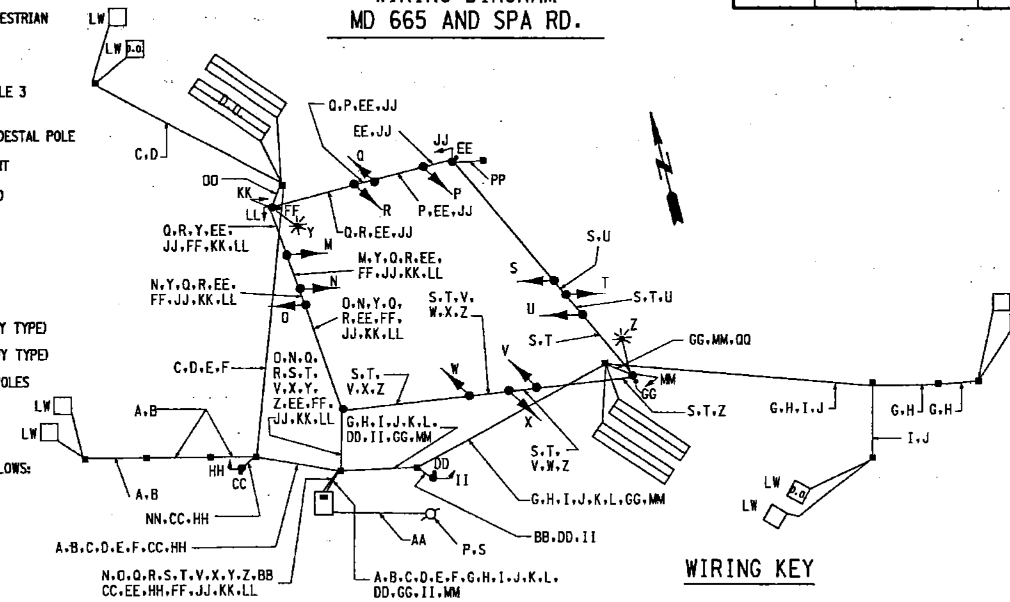
THE FOLLOWING CONTACT PERSONS FOR ANNE ARUNDEL COUNTY ARE AS FOLLOWS:

Mr. Robert Sword
Assistant Division Chief
Phone: (410) 222-7331

Mr. Douglas Beall
Signal Supervisor
Phone: (410) 222-1940

MR. WILLIAM ECKARDT
BALTIMORE GAS AND ELECTRIC COMPANY
SOUTHERN DISTRIBUTION
7317 PARKWAY DRIVE
HANOVER, MARYLAND 21076

WIRING DIAGRAM MD 665 AND SPA RD.



WIRING KEY

A.B.C.D.C.D. E.F.G.H.I.J.K.L	2 CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED (NO. 14) AWG
Y.Z	2 CONDUCTOR (NO. 12 A.W.G.) TRAY FOR ALL LUMINAIRES.
CC.DD.EE.FF.GG	2 CONDUCTOR ELECTRIC CABLE NO. 14 A.W.G. FOR PEDS PUSH BUTTON
AA	3 CONDUCTOR (NO. 4 A.W.G.)
HH.II.JJ.KK.LL.MM	3 CONDUCTOR ELECTRICAL CABLE NO 14 A.W.G. ONE WAY 2 SECTION PED SIGNAL HEAD
M.P.U.W	5 CONDUCTOR ELECTRICAL CABLE (NO. 14) AWG
N.O.Q.R.S.T.V.X	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG
BB.NN.OO.PP.QQ	STRANDED BARE COPPER WIRE (NO. 6 A.W.G.)
P.S.	POWER SOURCE
L.W.	LOOP WIRE

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	W	W	W	W	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
PHASE 2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	G ←G	G ←G	G	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	G ←G	G ←G	G	DW	DW	DW	DW	W	W
PED CLEAR	R	R	R	R	R	R	R	R	R	G ←G	G ←G	G	DW	DW	DW	DW	FL/DW	FL/DW
PHASE 4 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

PHASING NOTES :
- PHASE 2 WILL ALWAYS BE WITH PHASE 6 NEVER ALONE
- PHASE 3 WILL ALWAYS BE ALONE
- PHASE 4 WILL ALWAYS BE ALONE

JOHNSON, MIRMIRAN, & THOMPSON, P.A.
72 LOVETON CIRCLE
SPARKS, MARYLAND 21152
(410) 329-3100

REVISIONS	APPROVALS	REVISIONS
D. 10/95 S.H.A. AA 317-202-571 RECONSTRUCT TRAFFIC SIGNAL DUE TO GEOMETRIC CHANGES	CHIEF, DESIGN SECTION	
C. 4/90 ADD E/P LT. FOR S.B. MD 387 (SPA ROAD) D.C.D.	ASST. DISTRICT ENGINEER, TRAFFIC	
B. 10/83 S.H.A. AA 374-501-505 RECONSTRUCTION OF A TWO PHASE INTERSECTION E.M.M.	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION	
A. 11/3/82 REDRAW K.M.	DIRECTOR, TRAFFIC & SAFETY	

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

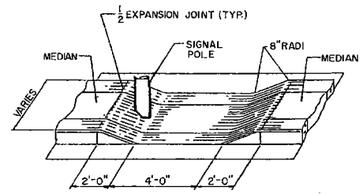
FOREST DRIVE AND SPA ROAD

GENERAL INFORMATION LOG MILE: 02038700.66

DRAWN BY: S.R.BARANOWSKI	F.A.P. NO.		TS NO.	SHEET NO.
CHK. BY: R.R.ZACHERL	S.H.A. NO.	AA3175376	121(D)	35 OF 47
SCALE: 1" = 20'	COUNTY	ANNE ARUNDEL		
DATE: 3/16/88				

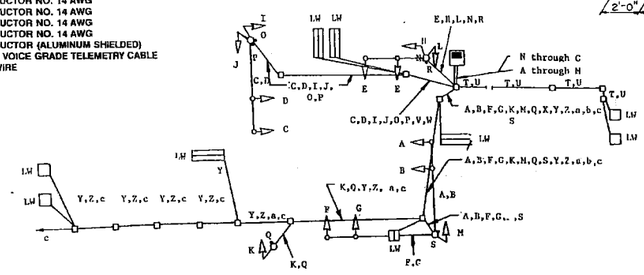
S08084

MEDIAN SIDEWALK RAMP



WIRING DIAGRAM

A,C,F	7 CONDUCTOR NO. 14 AWG
B,D,E,G	5 CONDUCTOR NO. 14 AWG
H-M	3 CONDUCTOR NO. 14 AWG
N-S	2 CONDUCTOR NO. 14 AWG
T-b	2 CONDUCTOR (ALUMINUM SHIELDED)
c	6 PAIR VOICE GRADE TELEMETRY CABLE
LW	LOOP WIRE



SIGNS

15,16 — LEFT TURN YIELD ON GREEN — R10 – 12, 36"x42"

17 - 22 — R10 – 4AA, 9"x12"

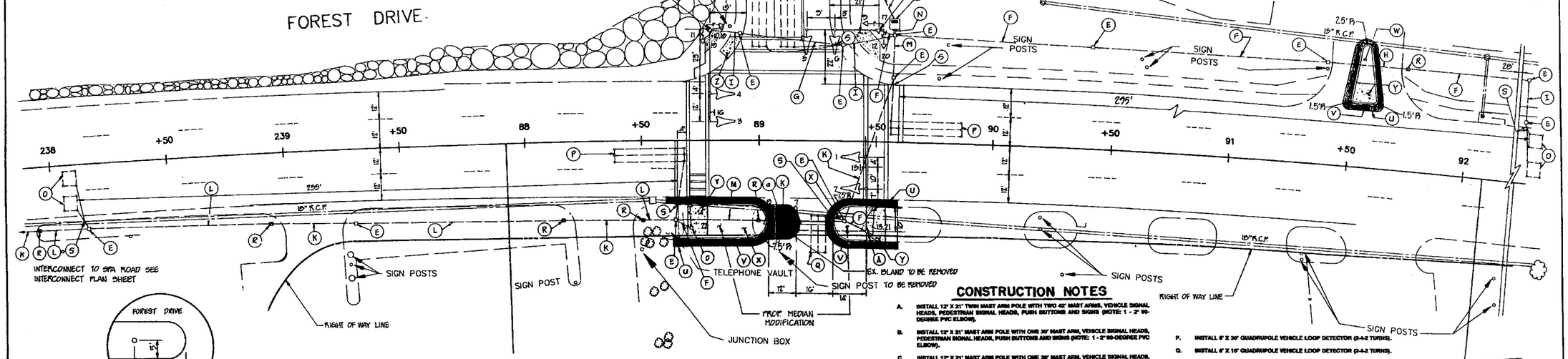
12" SIGNAL

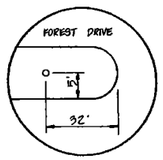
1,3 — 2,4-7 — 9-14

8

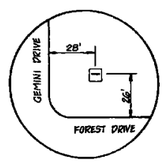
PHASING CHART

NON CONFLICTING PHASES MAY TIME CONCURRENTLY																													
CL=CLEARANCE TO CONFLICTING PHASE							NOT USED												NOT USED										
SIGNAL NUMBER	Ø1	CL	Ø2	Ø2 ALT	Ø2 CL	CL	Ø3	CL	Ø4	CL	Ø4 ALT	Ø4 CL	CL	Ø5	CL	Ø6	CL	Ø7	CL	Ø8	CL	Ø8 ALT	Ø8 CL	CL		
1	R/G	R/G	R	R	R	R	R		R	R	R	R	R	R	R	G	Y			R	R	R	R	R		
2	R	R	R	R	R	R	R		R	R	R	R	R	R	R	G	Y			R	R	R	R	R		Y
3	R	R	G	Y	G	G	Y		R	R	R	R	R	R/G	R/G	R	R			R	R	R	R	R		f
4	R	R	G	Y	G	G	Y		R	R	R	R	R	R	R	R	R			R	R	R	R	R		Y
5,6	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R			G	Y	G	G	Y		R
7	R	R	R	R	R	R	R		G	Y	G	G	Y	R	R	R	R			R	R	R	R	R		R
8	R/G	R/G	R	R	R	R	R		G	Y	G	G	Y	R	R	R	R			R	R	R	R	R		R
9,10	DW	DW	DW	DW	WK	⅞	DW		DW	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW		D
11,14	DW	DW	DW	DW	DW	DW			DW	DW	WK	⅞	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW		D
12,13	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	WK	⅞	DW		D
NON-CONFLICT PHASE	5,6		5,6		5,6		7,8		7,8		7,8			1,2		1,2		3,4		3,4						
CONFLICT PHASE	1,3,4,7,8		1,3,4,7,8		1,3,4,7,8		1,2,3,4,5,6		1,2,3,4,5,6		1,2,3,4,5,6			3,4,5,6,7,8		3,4,5,6,7,8		1,2,5,6,7,8		1,2,5,6,7,8		1,2,5,6,7,8				





PEDESTAL POLE LOCATION



CONTROLLER LOCATION

CONSTRUCTION NOTES

A. INSTALL 12" X 21' TWIN MAST ARM POLE WITH TWO 42" MAST ARMS, VEHICLE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS AND SIGNS (NOTE: 1 - 2" 90-DEGREE PVC ELBOW).

B. INSTALL 12" X 21' MAST ARM POLE WITH ONE 30' MAST ARM, VEHICLE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS AND SIGNS (NOTE: 1 - 2" 90-DEGREE PVC ELBOW).

C. INSTALL 12" X 21' MAST ARM POLE WITH ONE 30' MAST ARM, VEHICLE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS AND SIGNS (NOTE: 1 - 2" 90-DEGREE PVC ELBOW).

D. INSTALL 6' PEDESTAL POLE WITH PEDESTRIAN SIGNAL HEADS, PUSH BUTTON AND SIGN (NOTE: 1 - 2" 90-DEGREE ELBOW).

E. INSTALL HANDBOX.

F. INSTALL 2" PVC CONDUIT - TRENCHED.

G. INSTALL 2" GALVANIZED STEEL CONDUIT - PUSHED.

H. INSTALL 2" GALVANIZED STEEL CONDUIT - SLOTTED IN ROADWAY.

I. INSTALL 2" PVC CONDUIT. CONDUIT TO BE INSTALLED (TRENCHED) PRIOR TO CONSTRUCTING PROPOSED SIDEWALK OR FOLLOWING REMOVAL OF THE EXISTING SIDEWALK. SIDEWALK REMOVED SHALL BE REPLACED AFTER CONDUIT IS INSTALLED.

J. INSTALL 2" GALVANIZED STEEL CONDUIT - TRENCHED

K. INSTALL 2" GALVANIZED STEEL CONDUIT - SLOTTED IN ROADWAY

L. INSTALL 3" PVC CONDUIT - TRENCHED

M. INSTALL 3" PVC CONDUIT. CONDUIT TO BE INSTALLED (TRENCHED) FOLLOWING REMOVAL OF THE EXISTING SIDEWALK. SIDEWALK TO BE REPLACED FOLLOWING PLACEMENT OF THE CONDUIT.

N. INSTALL 4" PVC CONDUIT - TRENCHED

O. INSTALL 6' X 6' VEHICLE LOOP DETECTOR (3 TURNS).

P. INSTALL 6' X 30' QUADRUPOLE VEHICLE LOOP DETECTOR (2-4-2 TURNS).

Q. INSTALL 6' X 15' QUADRUPOLE VEHICLE LOOP DETECTOR (2-4-2 TURNS).

R. INSTALL GALVANIZED/PVC CONDUIT ADAPTER SLEEVE

S. INSTALL 1" GALVANIZED STEEL SLEEVE FOR DETECTOR LEAD-IN (ONE PER LOOP).

T. INSTALL 8-PHASE FULL ACTUATED SOLID STATE CONTROLLER WITH INTERNAL TIME-BASE COORDINATION UNIT AND CABINET WITH 2 - 4" 90-DEGREE PVC ELBOWS AND 1 - 2" 90-DEGREE GALVANIZED STEEL ELBOW IN BASE.

U. SAWCUT EXISTING PAVEMENT SEE DETAIL ON SHEET NO. 6.

V. CONSTRUCT COMBINATION CONCRETE CURB AND GUTTER SEE DETAIL ON SHEET NO. 6.

W. CONSTRUCT LANDSCAPED MEDIAN: REMOVE EXISTING PAVEMENT TO SUBBASE, GRADE TO DRAIN BACKFILL WITH SUITABLE MATERIAL AND PLACE 2" OF TOP SOIL, PROPERTY OWNER TO PROVIDE LANDSCAPING.

X. REMOVE EXISTING PAVEMENT TO SUBBASE, GRADE TO DRAIN, BACKFILL WITH SUITABLE MATERIAL, PLACE 2" TOP SOIL, SEED AND MULCH.

Y. CONSTRUCT SIDEWALK RAMP SEE DETAIL THIS SHEET.

Z. CONSTRUCT 4" SIDEWALK SEE DETAIL ON SHEET NO. 6.

a. CONSTRUCT BITUMINOUS PAVEMENT SEE DETAIL ON SHEET NO. 6

b. UNDERGROUND POWER FEED TO BE SUPPLIED BY BG&E.

c. REUSE EXISTING HANDBOX

d. REUSE EXISTING CONDUIT

GENERAL NOTES

1. ALL NON-MAST ARM OR NON-MAST ARM POLE MOUNTED SIGNING SHALL BE THE RESPONSIBILITY OF THE TRAFFIC ENGINEERING DIVISION OF THE BUREAU OF HIGHWAYS, DEPARTMENT OF PUBLIC WORKS, ANNE ARUNDEL COUNTY, MARYLAND AND IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
2. THE UTILITIES SHOWN ON THE CONSTRUCTION PLAN ARE SCHEMATIC ONLY AND ARE NOT TO BE CONSIDERED TO BE 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(2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS 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 AND OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   MISS UTILITY - 1-800-257-7777
   BG&E - 301-234-5991
   C & P COMPANY - 301-393-3048
   ANNE ARUNDEL COUNTY TRAFFIC ENGINEERING DIVISION - 301-222-7331
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS(M.S.A., JANUARY 1982) AND THE ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS AND DETAILS, 1986, AND ALL AMENDMENTS TO BOTH SPECIFICATIONS.
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY WRAPPED AND/OR BAGGED IN BURLAP BY THE CONTRACTOR PRIOR TO THE SIGNAL BEING PLACED IN SERVICE.
5. UNDERGROUND WIRING SHALL BE PLACED IN NEW GALVANIZED CONDUITS PUSHED OR SLOTTED UNDER THE ROAD SURFACE AND PVC ELECTRICAL CONDUIT SHALL BE ALLOWED AS SPECIFIED AND SHOWN ON THE CONTRACT DRAWINGS.
6. ALL LANDSCAPED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AFTER SIGNAL CONSTRUCTION.
7. ALL POLE, SIGNAL HEAD, PAVEMENT MARKING AND DETECTOR LOCATIONS ARE TO BE MARKED IN THE FIELD AND APPROVED BY THE TRAFFIC ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
8. SHIELDING FOR THE DETECTOR HOME-RUN CABLES MUST BE GROUNDED.
9. THE CONTRACTOR SHALL FURNISH THREE (3) COPIES OF THE AS-BUILT PLANS TO THE TRAFFIC ENGINEERING DIVISION.
10. "D.O." INDICATES DELAYED OUTPUT LOOP DETECTORS.
11. CONTRACTOR TO PROVIDE ADEQUATE EXCESS WIRE TO EXTEND TO THE END OF EACH 42" MAST ARM

NATIONWIDE PHARMACY

AS BUILT
12-11-95
As Per Contractor

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD 21093
301-252-6060

STATE OF MARYLAND — DAVID G. MONGAN — REG. NO. 12554

REVISED DATE	BY
5/28/91	JWH

APPROVED
CHIEF ENGINEER
BUREAU OF ENGINEERING
RIGHT OF WAY ACQUIRED — DATE
CHIEF OF RIGHT OF WAY SERVICES

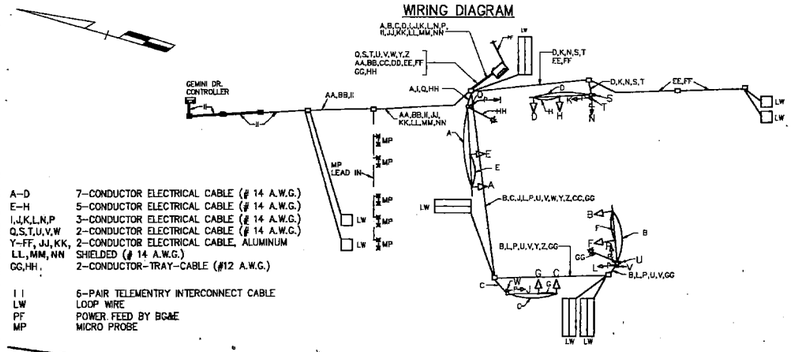
ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY M V	SCALE 1" = 20'	TRAFFIC SIGNAL PLAN
CHECKED BY JWH	SHEET NO. 37 A OF 37	FOREST DRIVE
DATE 5/91	PROJECT NO. H-3716	GEMINI DRIVE TO TYLER AVENUE PHASE I
APPROVED DESIGN ENGINEER	PROPOSAL NO. 2332-R	FOREST DRIVE AT GEMINI DRIVE
	MAP NO.	6TH DISTRICT A.A. CO., MD.

2 NEW SHEET

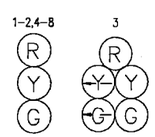
37A19

WIRING DIAGRAM

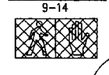


A–D	7–CONDUCTOR ELECTRICAL CABLE (# 14 A.W.G.)
E–H	5–CONDUCTOR ELECTRICAL CABLE (# 14 A.W.G.)
I,J,K,L,N,P	3–CONDUCTOR ELECTRICAL CABLE (# 14 A.W.G.)
Q,S,T,U,V,W	2–CONDUCTOR ELECTRICAL CABLE (# 14 A.W.G.)
Y–FF, JJ, KK, LL,MM, NN	2–CONDUCTOR ELECTRICAL CABLE, ALUMINUM SHIELDED (# 14 A.W.G.)
GG,HH	2–CONDUCTOR–TRAY–CABLE (#12 A.W.G.)
I I	6–PAIR TELEMENTRY INTERCONNECT CABLE
LW	LOOP WIRE
PF	POWER FEED BY BG&E
MP	MICRO PROBE

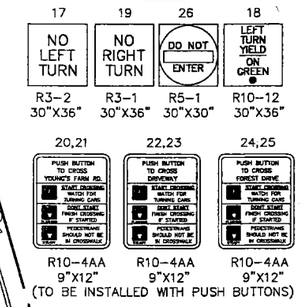
12" SIGNALS



16" SIGNALS

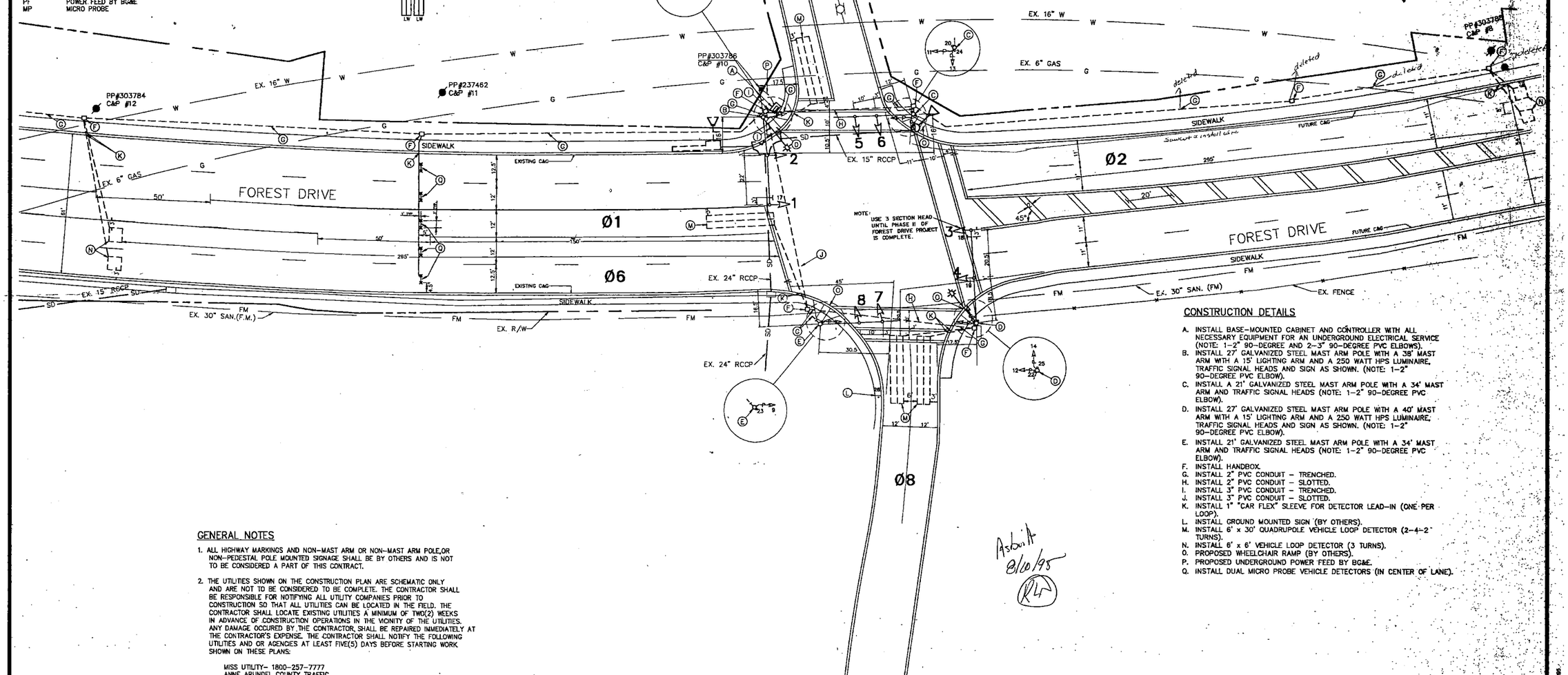


SIGNS



PHASING CHART

NON-CONFLICTING PHASES MAY TIME CONCURRENTLY CL=CLEARANCE TO CONFLICTING PHASE																																	FLASH
							NOT USED				NOT USED							NOT USED															
SIGNAL NUMBER	#1	CL	#2	CL	#2 ALT	PD CL	CL	#3	CL	#4	CL	#5	CL	#6	CL	#6 ALT	PD CL	CL	#7	CL	#8	CL	#8 ALT	PD CL	CL		
1	R	R	G	Y	G	G	Y			R	R			R	R	R	R	R			R	R	R	R	R	R	Y
2	R	R	G	Y	G	G	Y			R	R			R	R	R	R	R			R	R	R	R	R	R	Y
3	R	R	R	R	R	R	R			R	R			G	Y	G	G	Y			R	R	R	R	R	R	Y
4	R	R	R	R	R	R	R			R	R			G	Y	G	G	Y			R	R	R	R	R	R	Y
5,6	R	R	R	R	R	R	R			R	R			R	R	R	R	R			G	Y	G	G	Y	R	Y
7,8	R	R	R	R	R	R	R			G	Y			R	R	R	R	R			R	R	R	R	R	R	R
9–12	DW	DW	DW	DW	WK	A	DW			DW	DW			DW	DW	WK	A	DW			DW	DW	DW	DW	DW	DW	FLASH
13–14	DW	DW	DW	DW	DW	DW	DW			DW	DW			DW	DW	DW	DW	DW			DW	DW	WK	A	DW	DW	FLASH
NON-CONFLICT PHASE	5,6		5,6		5,6					7,8				1,2		1,2					3,4		3,4			FLASH	
CONFLICT PHASE	2,3,4,7,8		1,3,4,7,8		1,3,4,7,8					1,2,3,5,6				3,4,5,7,8		3,4,5,7,8					1,2,5,6,7		1,2,5,6,7			FLASH	



CONSTRUCTION DETAILS

A. INSTALL BASE–MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT FOR AN UNDERGROUND ELECTRICAL SERVICE (NOTE: 1–2" 90–DEGREE AND 2–3" 90–DEGREE PVC ELBOWS).
B. INSTALL 27' GALVANIZED STEEL MAST ARM POLE WITH A 38' MAST ARM WITH A 15' LIGHTING ARM AND A 250 WATT HPS LUMINAIRE, TRAFFIC SIGNAL HEADS AND SIGN AS SHOWN. (NOTE: 1–2" 90–DEGREE PVC ELBOW).
C. INSTALL A 21' GALVANIZED STEEL MAST ARM POLE WITH A 34' MAST ARM AND TRAFFIC SIGNAL HEADS (NOTE: 1–2" 90–DEGREE PVC ELBOW).
D. INSTALL 27' GALVANIZED STEEL MAST ARM POLE WITH A 40' MAST ARM WITH A 15' LIGHTING ARM AND A 250 WATT HPS LUMINAIRE, TRAFFIC SIGNAL HEADS AND SIGN AS SHOWN. (NOTE: 1–2" 90–DEGREE PVC ELBOW).
E. INSTALL 21' GALVANIZED STEEL MAST ARM POLE WITH A 34' MAST ARM AND TRAFFIC SIGNAL HEADS (NOTE: 1–2" 90–DEGREE PVC ELBOW).
F. INSTALL HANDBOX.
G. INSTALL 2" PVC CONDUIT – TRENCHED.
H. INSTALL 2" PVC CONDUIT – SLOTTED.
I. INSTALL 3" PVC CONDUIT – TRENCHED.
J. INSTALL 3" PVC CONDUIT – SLOTTED.
K. INSTALL 1" "CAR FLEX" SLEEVE FOR DETECTOR LEAD–IN (ONE PER LOOP).
L. INSTALL GROUND MOUNTED SIGN (BY OTHERS).
M. INSTALL 6' x 30' QUADRUPOLE VEHICLE LOOP DETECTOR (2–4–2 TURNS).
N. INSTALL 6' x 6' VEHICLE LOOP DETECTOR (3 TURNS).
O. PROPOSED WHEELCHAIR RAMP (BY OTHERS).
P. PROPOSED UNDERGROUND POWER FEED BY BG&E.
Q. INSTALL DUAL MICRO PROBE VEHICLE DETECTORS (IN CENTER OF LANE).

GENERAL NOTES

1. ALL HIGHWAY MARKINGS AND NON–MAST ARM OR NON–MAST ARM POLE,OR NON–PEDESTAL POLE MOUNTED SIGNAGE SHALL BE BY OTHERS AND IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
2. THE UTILITIES SHOWN ON THE CONSTRUCTION PLAN ARE SCHEMATIC ONLY AND ARE NOT TO BE CONSIDERED TO BE 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(2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF THE UTILITIES. ANY DAMAGE OCCURED BY THE CONTRACTOR, SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AND OR AGENCIES AT LEAST FIVE(5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   MISS UTILITY– 1800–257–7777
   ANNE ARUNDEL COUNTY TRAFFIC ENGINEERING DIVISION–410–222–7331
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS(S.H.A., JANUARY, 1982) AND THE ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS AND DETAILS, 1988, AND ALL AMENDMENTS TO EACH SPECIFICATION.
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY WRAPPED AND OR BAGGED IN BURLAP BY THE CONTRACTOR PRIOR TO THE SIGNAL BEING PLACED IN SERVICE.
5. ALL POLE, SIGNAL HEAD, AND DETECTOR LOCATIONS ARE TO BE MARKED IN THE FIELD AND APPROVED BY THE TRAFFIC ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL FURNISH THREE (3) COPIES OF THE AS–BUILT PLANS TO THE TRAFFIC ENGINEERING DIVISION.

LEGEND OF UTILITIES

WATER	W
GAS	G
UNDERGROUND TELEPHONE	T
SANITARY SEWER	S
UNDERGROUND ELECTRIC	E
AERIAL	A
STORM DRAIN	SD
SEWAGE FORCE MAIN	FM
CABLE TV	TV

LUKAS ASSOCIATES
Transportation Planning and Engineering Consultants
451 Hungerford Drive
Suite 302
Rockville, Maryland 20850
Tel. 301–340–9166
Fax. 301–340–0855

STATE OF MARYLAND — ALLEN G. LUKAS — REG. NO. 14608 — REGISTERED PROFESSIONAL ENGINEER — 5/2/95

RIGHT OF WAY ACQUIRED	DATE
CHIEF RIGHT OF WAY SERVICES	

REVISIONS

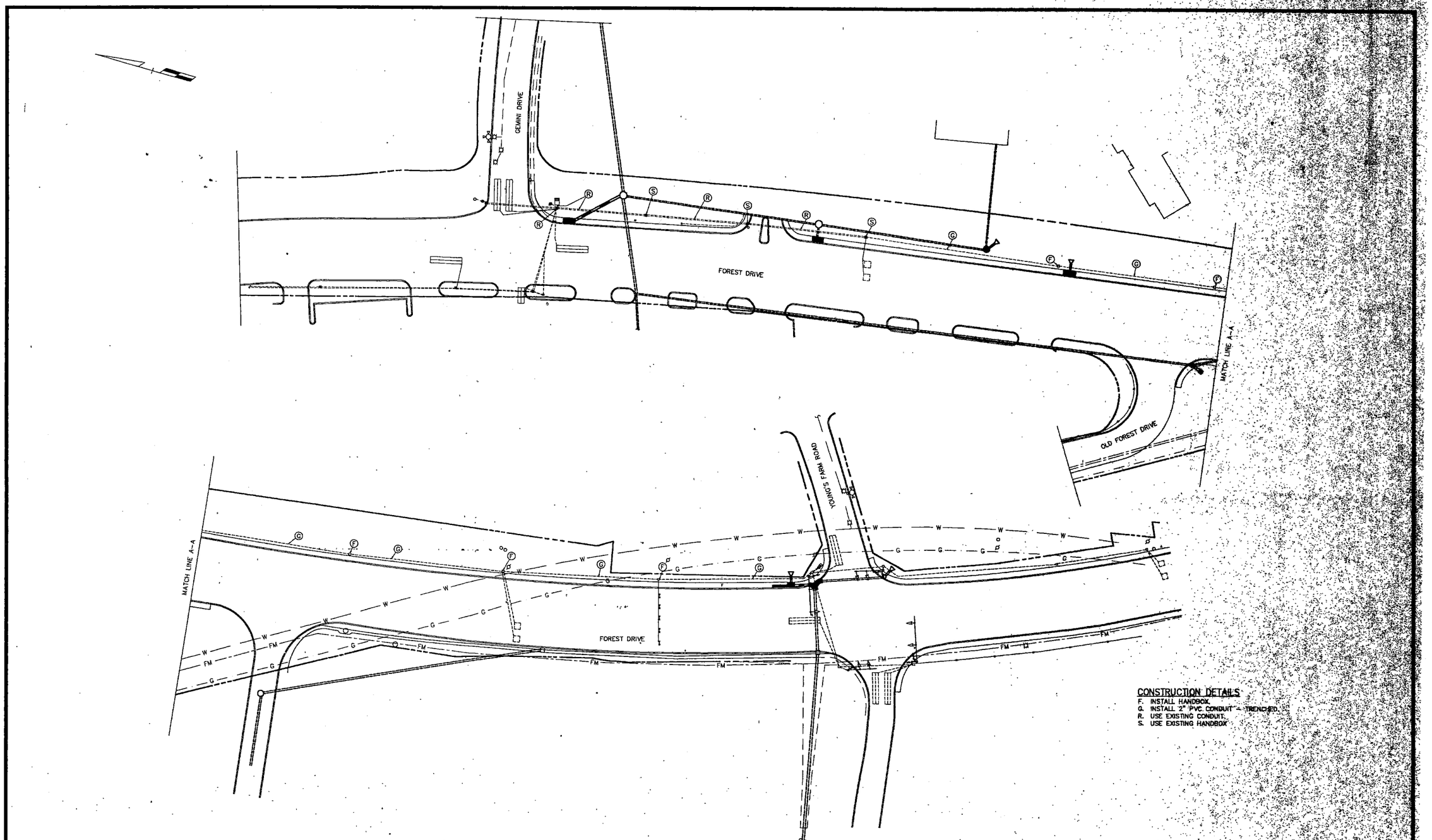
DATE	BY	DESCRIPTION	APPROVED
2/10/95	KLN	DELETE PEDS #4/#6 ADD MICROPROBES	
5/04/95	SAD	ADD PED #6	
5/95	SAD	Source to be installed [illegible]	

APPROVED — DATE — CHIEF ENGINEER
APPROVED — DATE — CHIEF TRAFFIC ENGINEERING

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY F.B.	SCALE: 1" = 20'	SIGNAL PLAN
CHECKED BY A.A.L.	SHEET NO. 7 OF 8	FOREST DRIVE & YOUNG'S FARM ROAD
DATE: 8–17–94	PROJECT NO.	
APPROVED — PROJECT MANAGER	PROPOSAL NO.	
	MAP NO.	

S08085



LUKAS ASSOCIATES

Transportation, Planning and Engineering Consultants

451 Hungerford Drive
Suite 302
Rockville, Maryland 20850

Tel. 301-340-9166
Fax. 301-340-0865

STATE OF MARYLAND — JOHN HERMAN LUKAS — REGISTERED PROFESSIONAL ENGINEER — No. 14844

John H. Lukas 5/8/95

RIGHT OF WAY ACQUIRED	DATE
CHIEF RIGHT OF WAY SERVICES	

REVISIONS

DATE	BY	DESCRIPTION	APPROVED
2/10/95	KLN	DELETE PEDS #4/#6 ADD MICROPROBES	
5/05/95		ADD PED #6	

APPROVED — DATE — CHIEF ENGINEER

APPROVED — DATE — CHIEF TRAFFIC ENGINEERING

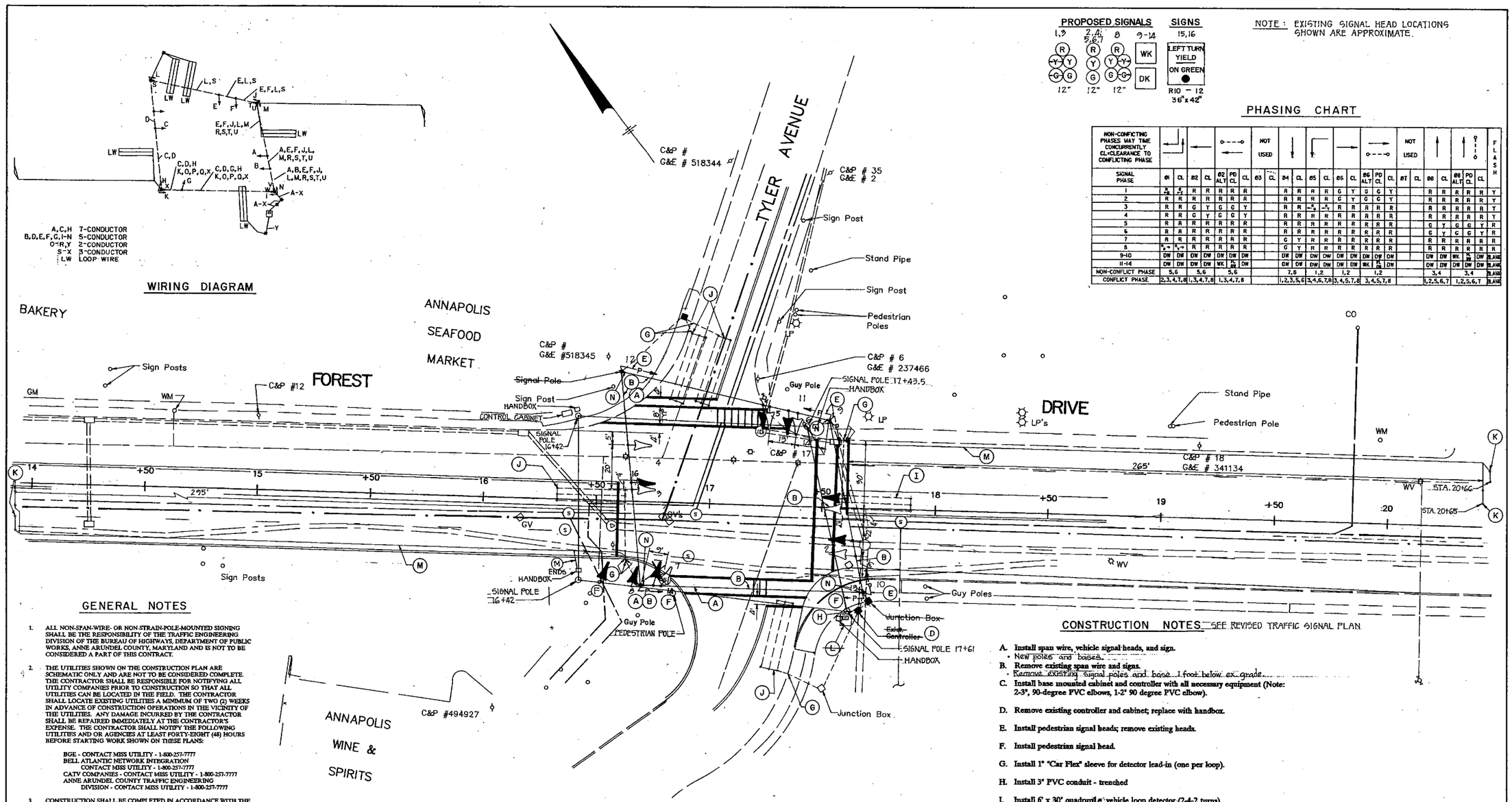
ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY	F.B.
CHECKED BY	A.A.L.
DATE:	8-17-94
APPROVED	
PROJECT MANAGER	
SCALE:	1" = 40'
SHEET NO.	8 OF 8
PROJECT NO.	
PROPOSAL NO.	
CONTRACT NO.	

INTERCONNECT PLAN

FOREST DRIVE

S08086



PHASING CHART

NON-CONFICTING PHASES MAY TIME CONCURRENTLY CL=CLEARANCE TO CONFLICTING PHASE																															
							NOT USED												NOT USED												
SIGNAL PHASE	Ø1	CL	Ø2	CL	Ø2 ALT	PD CL	CL	Ø3	CL	Ø4	CL	Ø5	CL	Ø6	CL	Ø6 ALT	PD CL	CL	Ø7	CL	Ø8	CL	Ø8 ALT	PD CL	CL	FLASH
1	R/G	R/Y	R	R	R	R	R			R	R	R	R	G	Y	G	G	Y			R	R	R	R	R	Y
2	R	R	R	R	R	R	R			R	R	R	R	G	Y	G	G	Y			R	R	R	R	R	Y
3	R	R	G	Y	G	G	Y			R	R	R/G	R/Y	R	R	R	R	R			R	R	R	R	R	Y
4	R	R	G	Y	G	G	Y			R	R	R	R	R	R	R	R	R			R	R	R	R	R	Y
5	R	R	R	R	R	R	R			R	R	R	R	R	R	R	R	R			G	Y	G	G	Y	R
6	R	R	R	R	R	R	R			R	R	R	R	R	R	R	R	R			G	Y	G	G	Y	R
7	R	R	R	R	R	R	R			G	Y	R	R	R	R	R	R	R			R	R	R	R	R	R
8	R/→	R/→	R	R	R	R	R			G	Y	R	R	R	R	R	R	R			R	R	R	R	R	R
9-10	DW	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	WK	WK/DW	DW	BLANK
11-14	DW	DW	DW	DW	WK	WK/DW	DW			DW	DW	DW	DW	DW	DW	WK	WK/DW	DW			DW	DW	DW	DW	DW	BLANK
NON-CONFLICT PHASE	5,6		5,6		5,6					7,8		1,2		1,2		1,2					3,4		3,4			BLANK
CONFLICT PHASE	2,3,4,7,8		1,3,4,7,8		1,3,4,7,8					1,2,3,5,6		3,4,6,7,8		3,4,5,7,8		3,4,5,7,8					1,2,5,6,7		1,2,5,6,7			BLANK

GENERAL NOTES

1. ALL NON-SPAN-WIRE- OR NON-STRAIN-POLE-MOUNTED SIGNING SHALL BE THE RESPONSIBILITY OF THE TRAFFIC ENGINEERING DIVISION OF THE BUREAU OF HIGHWAYS, DEPARTMENT OF PUBLIC WORKS, ANNE ARUNDEL COUNTY, MARYLAND AND IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
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 (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS 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 AND OR AGENCIES AT LEAST FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   BGE - CONTACT MISS UTILITY - 1-800-257-7777
   BELL ATLANTIC NETWORK INTEGRATION
   CONTACT MISS UTILITY - 1-800-257-7777
   CATV COMPANIES - CONTACT MISS UTILITY - 1-800-257-7777
   ANNE ARUNDEL COUNTY TRAFFIC ENGINEERING
   DIVISION - CONTACT MISS UTILITY - 1-800-257-7777
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS (SHA AND THE ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS AND DETAILS, 1988, AND ALL AMENDMENTS TO BOTH SPECIFICATIONS).
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY WRAPPED AND/OR BAGGED IN BURLAP BY THE CONTRACTOR PRIOR TO THE SIGNAL BEING PLACED IN SERVICE.
5. UNDERGROUND WIRING SHALL BE PLACED IN NEW GALVANIZED CONDUITS PUSHED OR SLOTTED UNDER THE ROAD SURFACE, AND PVC ELECTRICAL CONDUIT SHALL BE ALLOWED AS SPECIFIED AND SHOWN ON THE CONTRACT DRAWINGS.
6. ALL LANDSCAPED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AFTER SIGNAL CONSTRUCTION.
7. ALL POLE, SIGNAL HEAD, PAVEMENT MARKING AND DETECTOR LOCATIONS ARE TO BE MARKED IN THE FIELD AND APPROVED BY THE TRAFFIC ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
8. SHIELDING FOR THE DETECTION HOME-RUN CABLES MUST BE GROUNDED.
9. THE CONTRACTOR SHALL FURNISH THREE (3) COPIES OF THE AS-BUILT PLANS TO THE TRAFFIC ENGINEERING DIVISION.
10. THE CONTRACTOR SHALL INSTALL ALL PROPOSED EQUIPMENT WITH THE EXCEPTION OF PEDESTRIAN SIGNAL HEADS AND HAVE THE EQUIPMENT FULLY OPERATIONAL PRIOR TO REMOVING EXISTING SPAN WIRE, SIGNAL HEADS, SIGNS, CONTROLLER AND CABINET.

CONSTRUCTION NOTES SEE REVISED TRAFFIC SIGNAL PLAN

A. Install span wire, vehicle signal heads, and sign.
   - New poles and bases.
B. Remove existing span wire and signs.
   - Remove existing signal poles and base 1 foot below ex. grade.
C. Install base mounted cabinet and controller with all necessary equipment (Note: 2-3", 90-degree PVC elbows, 1-2" 90 degree PVC elbow).
D. Remove existing controller and cabinet; replace with handbox.
E. Install pedestrian signal heads; remove existing heads.
F. Install pedestrian signal head.
G. Install 1" "Car Flex" sleeve for detector lead-in (one per loop).
H. Install 3" PVC conduit - trenched
I. Install 6' x 30' quadruple vehicle loop detector (2-4-2 turns).
J. Install 6' x 30' quadruple vehicle loope detector (2-4-2 turns); remove existing detector and wiring.
K. Install Double Micro loop vehicle detector with 125' leadin cables
L. ~~Proposed underground power feed~~ Overhead feed at 16+42 Left.
M. Install sawcut
N. Install pedestrian push button

AS BUILT
10/14/97

AS BUILT
DATE Jan. 7, 2000
BY John C. Parks

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
849 FAIRMOUNT AVENUE
SUITE 100
BALTIMORE, MD 21286
(410) 512-4500

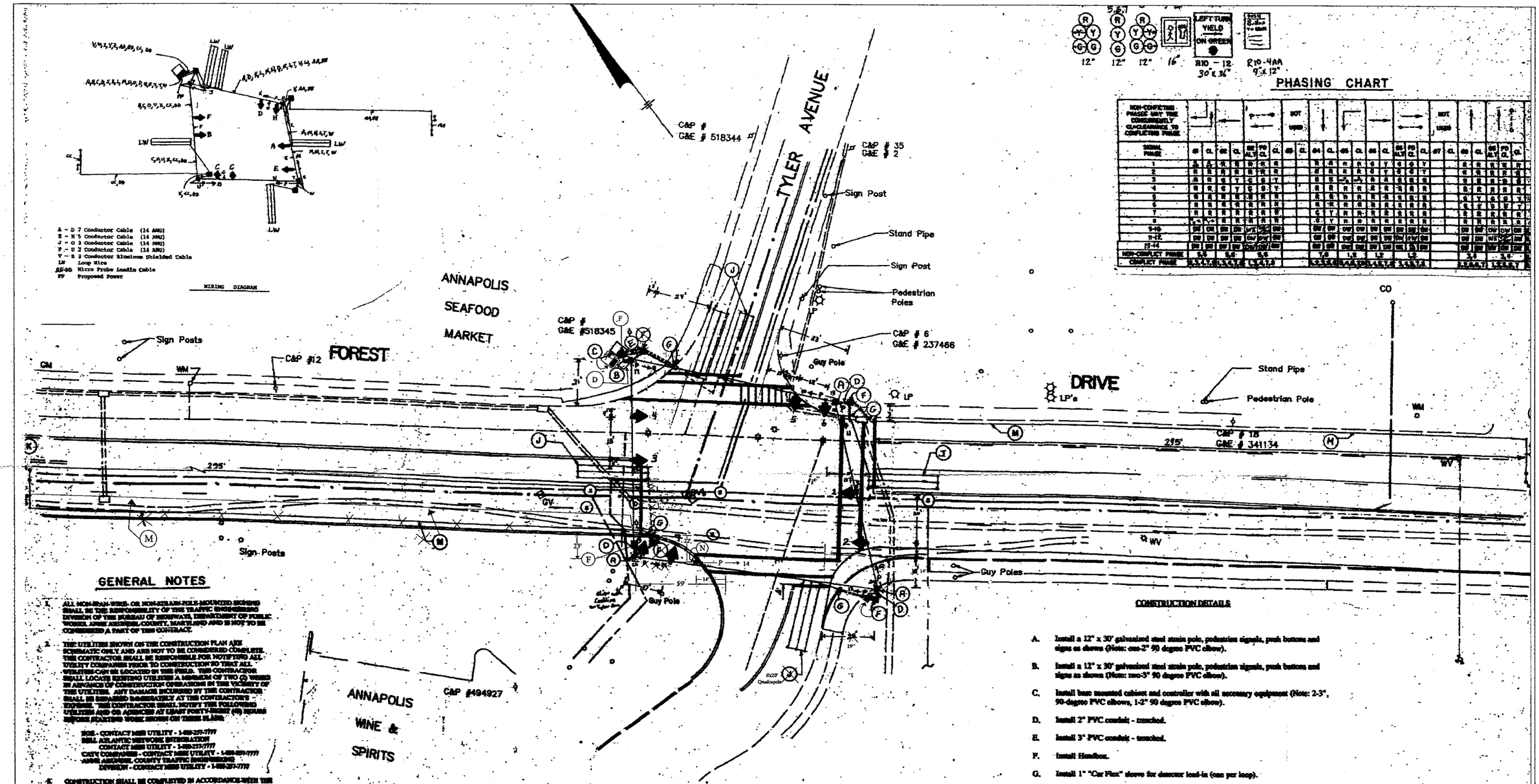
STATE OF MARYLAND DAVID G. MONGAN REGISTERED PROFESSIONAL ENGINEER
DAVID G. MONGAN
MD. REG. NO. 12254

REVISED DATE	BY
AS-BUILT 10/14/97	WBCM

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY T.P.O.	SCALE 1" = 20'	TRAFFIC SIGNAL PLAN	
CHECKED BY J.W.H.	SHEET NO. 29 of 31	FOREST DRIVE	
DATE JULY, 1991	PROJECT NO. H3716	GEMINI DRIVE TO TYLER AVENUE PHASE II	
APPROVED	PROPOSAL NO. 2332R	FOREST DRIVE AT TYLER AVENUE	
DESIGN ENGINEER	MAP NO.	6TH DISTRICT	A.A. CO., MD.

47,430



PHASING CHART

NON-CONFLICTING PHASES MAY TIME CONCURRently CLEARANCE TO CONFLICTING PHASE																														
								NOT USED												NOT USED										
SIGNAL PHASE	Ø1	CL	Ø2	CL	Ø3 ALT	Ø3 CL	Ø4	CL	Ø4	CL	Ø5	CL	Ø6	CL	Ø6 ALT	Ø6 CL	Ø7	CL	Ø8	CL	Ø8 ALT	Ø8 CL
1	R	R	R	R	R	R			R	R	R	R	G	Y	G	Y			R	R	R	R
2	R	R	R	R	R	R			R	R	R	R	G	Y	G	Y			R	R	R	R
3	R	R	G	Y	G	Y			R	G	R	R	R	R	R	R			R	R	R	R
4	R	R	G	Y	G	Y			R	R	R	R	R	R	R	R			R	R	R	R
5	R	R	R	R	R	R			R	R	R	R	R	R	R	R			R	Y	R	Y
6	R	R	R	R	R	R			R	R	R	R	R	R	R	R			R	Y	R	Y
7	R	R	R	R	R	R			G	Y	R	R	R	R	R	R			R	R	R	R
8	R	R	R	R	R	R			G	Y	R	R	R	R	R	R			R	R	R	R
9-10	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW
11-12	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW
13-14	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	DW	DW
NON-CONFLICT PHASE	5.0		5.0		5.0				7.0		1.0		1.0		1.0				3.0		3.0	
CONFLICT PHASE	5,6,7,8,9,10,11,12,13,14								1,2,3,4,5,6,7,8,9,10,11,12,13,14										1,2,3,4,5,6,7,8,9,10,11,12,13,14			

GENERAL NOTES

1. ALL NON-SPAN-WIRE- OR NON-STRAIN-POLE-MOUNTED SIGNAL SHALL BE THE RESPONSIBILITY OF THE TRAFFIC ENGINEERING DIVISION OF THE BUREAU OF HIGHWAYS, DEPARTMENT OF PUBLIC WORKS, ANNE ARUNDEL COUNTY, MARYLAND AND IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
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 (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS 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 AND OR AGENCIES AT LEAST FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   BGE - CONTACT MISS UTILITY - 1-800-257-7777
   BELL ATLANTIC NETWORK INTEGRATION CONTACT MISS UTILITY - 1-800-257-7777
   CATV COMPANIES - CONTACT MISS UTILITY - 1-800-257-7777
   ANNE ARUNDEL COUNTY TRAFFIC ENGINEERING DIVISION - CONTACT MISS UTILITY - 1-800-257-7777
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS (SHA) AND THE ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS AND DETAILS, (SHA) AND ALL AMENDMENTS TO SAID SPECIFICATIONS.
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY TRAPPED AND/OR TAGGED W/ BURLAP BY THE CONTRACTOR PRIOR TO THE SIGNAL BEING PLACED IN SERVICE.
5. UNDERGROUND WIRING SHALL BE PLACED IN NEW GALVANIZED CONDUITS PASSING OR SLOTTED THROUGH THE ROAD SURFACE, AND PVC ELECTRICAL CONDUIT SHALL BE ALLOWED AS SPECIFIED AND SHOWN ON THE SCHEMATIC DIAGRAM.
6. [illegible] SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AFTER SIGNAL CONSTRUCTION.
7. ALL POLE, SIGNAL HEAD, PAVEMENT MARKING AND DETECTOR LOCATIONS ARE TO BE MARKED IN THE FIELD AND APPROVED BY THE TRAFFIC ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
8. [illegible] FOR THE DETECTION HEAD AND CABLE MUST BE GROUNDED.
9. THE CONTRACTOR SHALL FURNISH THREE (3) COPIES OF THE AS-BUILT PLANS TO THE TRAFFIC ENGINEERING DIVISION.
10. THE CONTRACTOR SHALL INSTALL ALL SIGNAL EQUIPMENT WITH THE PROPER MOUNTING HARDWARE. SIGNAL HEADS AND SAME THE EQUIPMENT FULLY OPERATIONAL PRIOR TO REMOVING EXISTING SIGNAL HEADS, POLES, CONTROLLER AND CABINET.

CONSTRUCTION DETAILS

A. Install a 12" x 30' galvanized steel strain pole, pedestrian signals, push buttons and signs as shown (Note: one-2" 90 degree PVC elbow).

B. Install a 12" x 30' galvanized steel strain pole, pedestrian signals, push buttons and signs as shown (Note: two-3" 90 degree PVC elbow).

C. Install base mounted cabinet and controller with all necessary equipment (Note: 2-3", 90-degree PVC elbows, 1-2" 90 degree PVC elbow).

D. Install 2" PVC conduit - trenched.

E. Install 3" PVC conduit - trenched.

F. Install Handhole.

G. Install 1" "Car Flex" sleeve for detector lead-in (one per loop).

H. Install 3/8" Span Wire complete with vehicle signal heads and signs as shown.

I. Install 6' x 30' quadrupole vehicle loop detector (2-4-2 turns).

K. Install Double Micro-loop vehicle detector for passage detection.

L. Proposed underground power feed.

M. Install sawcut for probe loadins.

(NOTE: see Equipment List 'C' for Removal & Salvage items of existing signal)

N. 12' Ped Pole, T Base, Ped Signal w/ Push Button and Sign.

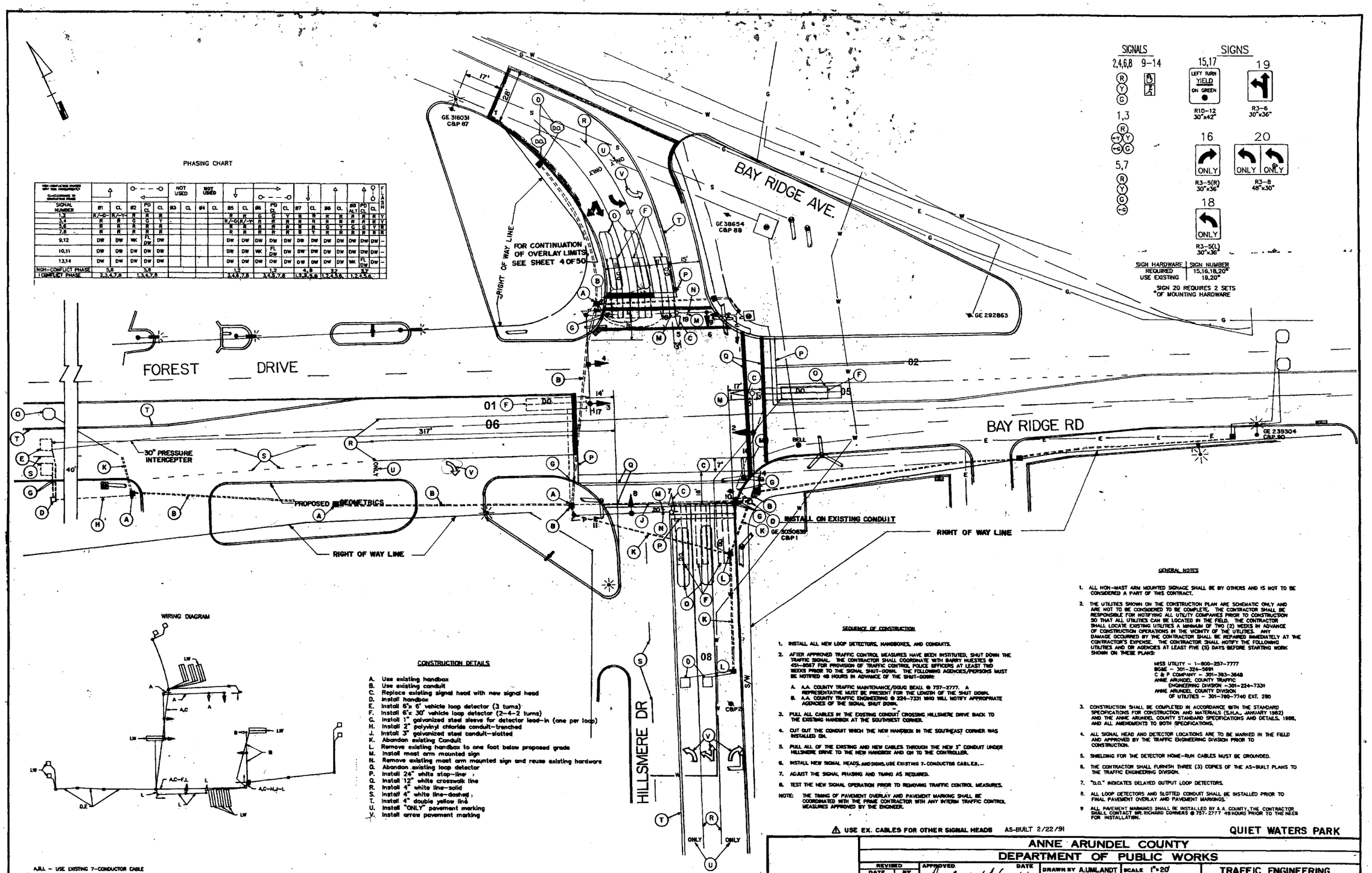
Feb. 19, 1998
John C. Parks

47518

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
849 FAIRMOUNT AVENUE
SUITE 100
BALTIMORE, MD 21286
(410) 512-4600

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

REVISED DATE	BY	APPROVED	DATE	DRAWN BY T.P.G.	SCALE 1" = 20'	TRAFFIC SIGNAL PLAN
		DEPUTY DIRECTOR		Checked by J.W.A.	SHEET NO. 29 of 31	FOREST DRIVE
		APPROVED	DATE	DATE JULY, 1996	PROJECT NO. H5716	GEORGE DRIVE TO TYLER AVENUE PHASE II



PHASING CHART

SIGNAL NUMBER	#1	CL	#2	PD CL	CL	#3	CL	#4	CL	#5	CL	#6	PD CL	CL	#7	CL	#8	CL	#8 ALT	PD CL	CL	FLASH
NON-CONFLICTING PHASES (ANY TWO CONCURRENTLY)						NOT USED		NOT USED														
CL=CLEARANCE IN CONFLICTING PHASE																						
1,2	R/-G-	R/-Y-	R	R	R					R	R	G	G	Y	R	R	R	R	R	R	R	Y
3,4	R	R	G	C	Y					R/-G	R/-Y	R	R	R	R	R	R	R	R	R	R	Y
5,6	R	R	R	R	R					R	R	R	R	R	R	R	G	Y	G	G	Y	R
7,8	R	R	R	R	R					R	R	R	R	R	R	R	Y	R	R	R	R	R
9,12	DW	DW	WK	FL DW	DW					DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	-
10,11	DW	DW	DW	DW	DW					DW	DW	WK	FL DW	DW	DW	DW	DW	DW	DW	DW	DW	-
13,14	DW	DW	DW	DW	DW					DW	DW	DW	DW	DW	DW	DW	DW	DW	WK	FL DW	DW	-
NON-CONFLICT PHASE	5,6		5,6							1,2		1,2			4,8		3,7		3,7			
CONFLICT PHASE	2,3,4,7,8		1,3,4,7,8							3,4,6,7,8		3,4,5,7,8			1,2,3,5,6		1,2,4,5,6		1,2,4,5,6			

WIRING DIAGRAM

A,B,L – USE EXISTING 7-CONDUCTOR CABLE
C–H,J,K – 2-CONDUCTOR CABLE (ALUMINUM SHIELDED, No.14 AWG)
LW – LOOPWIRE (No.14 AWG)

CONSTRUCTION DETAILS

A. Use existing handbox
B. Use existing conduit
C. Replace existing signal head with new signal head
D. Install handbox
E. Install 6'x 6' vehicle loop detector (3 turns)
F. Install 6'x 30' vehicle loop detector (2–4–2 turns)
G. Install 1" galvanized steel sleeve for detector lead-in (one per loop)
H. Install 2" polyvinyl chloride conduit-trenched
J. Install 3" galvanized steel conduit-slotted
K. Abandon existing Conduit
L. Remove existing handbox to one foot below proposed grade
M. Install mast arm mounted sign
N. Remove existing mast arm mounted sign and reuse existing hardware
O. Abandon existing loop detector
P. Install 24" white stop-line
Q. Install 12" white crosswalk line
R. Install 4" white line-solid
S. Install 4" white line-dashed
T. Install 4" double yellow line
U. Install "ONLY" pavement marking
V. Install arrow pavement marking

SEQUENCE OF CONSTRUCTION

1. INSTALL ALL NEW LOOP DETECTORS, HANDBOXES, AND CONDUITS.
2. AFTER APPROVED TRAFFIC CONTROL MEASURES HAVE BEEN INSTITUTED, SHUT DOWN THE TRAFFIC SIGNAL. THE CONTRACTOR SHALL COORDINATE WITH BARRY HUESTES @ 451-8567 FOR PROVISION OF TRAFFIC CONTROL POLICE OFFICERS AT LEAST TWO WEEKS PRIOR TO THE SIGNAL SHUT-DOWN. THE FOLLOWING AGENCIES/PERSONS MUST BE NOTIFIED 48 HOURS IN ADVANCE OF THE SHUT-DOWN:
   A. A.A. COUNTY TRAFFIC MAINTENANCE/DOUG BEALL @ 757-2777. A REPRESENTATIVE MUST BE PRESENT FOR THE LENGTH OF THE SHUT DOWN.
   B. A.A. COUNTY TRAFFIC ENGINEERING @ 224-7331 WHO WILL NOTIFY APPROPRIATE AGENCIES OF THE SIGNAL SHUT DOWN.
3. PULL ALL CABLES IN THE EXISTING CONDUIT CROSSING HILLSMERE DRIVE BACK TO THE EXISTING HANDBOX AT THE SOUTHWEST CORNER.
4. CUT OUT THE CONDUIT WHICH THE NEW HANDBOX IN THE SOUTHEAST CORNER WAS INSTALLED ON.
5. PULL ALL OF THE EXISTING AND NEW CABLES THROUGH THE NEW 3" CONDUIT UNDER HILLSMERE DRIVE TO THE NEW HANDBOX AND ON TO THE CONTROLLER.
6. INSTALL NEW SIGNAL HEADS, AND SIGNS, USE EXISTING 7-CONDUCTOR CABLES.
7. ADJUST THE SIGNAL PHASING AND TIMING AS REQUIRED.
8. TEST THE NEW SIGNAL OPERATION PRIOR TO REMOVING TRAFFIC CONTROL MEASURES.

NOTE: THE TIMING OF PAVEMENT OVERLAY AND PAVEMENT MARKING SHALL BE COORDINATED WITH THE PRIME CONTRACTOR WITH ANY INTERIM TRAFFIC CONTROL MEASURES APPROVED BY THE ENGINEER.

GENERAL NOTES

1. ALL NON-MAST ARM MOUNTED SIGNAGE SHALL BE BY OTHERS AND IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
2. THE UTILITIES SHOWN ON THE CONSTRUCTION PLAN ARE SCHEMATIC ONLY AND ARE NOT TO BE CONSIDERED TO BE 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 (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF THE UTILITIES. ANY DAMAGE OCCURRED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AND OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
   MISS UTILITY – 1-800-257-7777
   BGE – 301-324-5691
   C & P COMPANY – 301-393-3648
   ANNE ARUNDEL COUNTY TRAFFIC ENGINEERING DIVISION –301-224-7331
   ANNE ARUNDEL COUNTY DIVISION OF UTILITIES – 301-790-7740 EXT. 280
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (S.H.A., JANUARY 1982) AND THE ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS AND DETAILS, 1988, AND ALL AMENDMENTS TO BOTH SPECIFICATIONS.
4. ALL SIGNAL HEAD AND DETECTOR LOCATIONS ARE TO BE MARKED IN THE FIELD AND APPROVED BY THE TRAFFIC ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
5. SHIELDING FOR THE DETECTOR HOME-RUN CABLES MUST BE GROUNDED.
6. THE CONTRACTOR SHALL FURNISH THREE (3) COPIES OF THE AS-BUILT PLANS TO THE TRAFFIC ENGINEERING DIVISION.
7. "D.O." INDICATES DELAYED OUTPUT LOOP DETECTORS.
8. ALL LOOP DETECTORS AND SLOTTED CONDUIT SHALL BE INSTALLED PRIOR TO FINAL PAVEMENT OVERLAY AND PAVEMENT MARKINGS.
9. ALL PAVEMENT MARKINGS SHALL BE INSTALLED BY A.A. COUNTY. THE CONTRACTOR SHALL CONTACT MR. RICHARD CONNERS @ 757-2777 48 HOURS PRIOR TO THE NEED FOR INSTALLATION.

SIGNALS: 2,4,6,8 9–14 (R Y G); 1,3 (R Y G +G); 5,7 (R Y G +G)

SIGNS: 15,17 LEFT TURN YIELD ON GREEN R10-12 30"x42"; 19 R3-6 30"x36"; 16 ONLY R3-5(R) 30"x36"; 20 ONLY ONLY R3-8 48"x30"; 18 ONLY R3-5(L) 30"x36"

SIGN HARDWARE REQUIRED	SIGN NUMBER
USE EXISTING	15,16,18,20* 19,20*

*SIGN 20 REQUIRES 2 SETS OF MOUNTING HARDWARE

⚠ USE EX. CABLES FOR OTHER SIGNAL HEADS AS-BUILT 2/22/91

QUIET WATERS PARK

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

REVISED DATE	BY	APPROVED	DATE	DRAWN BY A.UMLANDT	SCALE 1"=20'	TRAFFIC ENGINEERING
5/3/89⚠	PAH	CHIEF BUREAU OF HIGHWAYS	6/8/89	CHECKED BY P.HEDRICH	SHEET NO. 46 OF 53	FOREST DR/BAY RIDGE RD AT BAY RIDGE AVE./HILLSMERE DR
		APPROVED CHIEF, TRAFFIC ENGINEERING DIVISION	DATE	DATE 3/16/89	PROJECT NO. P-3205	
				APPROVED DESIGN ENGINEER	PROPOSAL NO. 89-23	
					MAP NO.	

39236

MARC TBC Traffic Data

Date 2/10/2011 Time 7:30:32

MARC Name Forest Drive
Source Database

Program Day	Hou	Min	Group 1 Pattern	Group 1 TR Override	Group 2 Pattern	Group 2 TR Override
1	9	0	3/3/1	0-None		0-None
1	18	0	Free(OFF=4)	0-None		0-None
2	6	30	1/1/1	0-None		0-None
2	9	15	3/3/1	0-None		0-None
2	15	0	2/2/1	0-None		0-None
2	19	30	3/3/1	0-None		0-None
2	21	0	Free(OFF=4)	0-None		0-None
7	8	0	3/3/1	0-None		0-None
7	21	0	Free(OFF=4)	0-None		0-None
8	0	1	Free(OFF=4)	0-None		0-None
14	6	0	3/3/1	0-None		0-None
14	19	0	Free(OFF=4)	0-None		0-None
0	0	0		0-None		0-None
0	0	0		0-None		0-None
0	0	0		0-None		0-None

MARC Intersection/Detector Assignment Data

Date 2/10/2011 Time 7:30:15

MARC Name Forest Drive

Source Database

Add	Name	Status	Grp	Det1	Det2	Det3	Det4	Det5	Det6	Det7	Det8
1	Chinquapin Round Road	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
2	Bywater Road	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
3	S. Cherry Grove Road	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
4	Hilltop Lane	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
5	Spa Road	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
6	Gemini Drive	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
7	Youngsfarm Road	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
8	Tyler Avenue	1-OnLine	1	0-Inact	1-OnLine	0-Inact	0-Inact	0-Inact	1-OnLine	0-Inact	0-Inact
9		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
10		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
11		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
12		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
13		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
14		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
15		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
16		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact

MARC Intersection/Detector Assignment Data

Date 2/10/2011 Time 7:30:23

MARC Name Forest Drive

Source Database

Add	Name	Status	Grp	Det1	Det2	Det3	Det4	Det5	Det6	Det7	Det8
17		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
18		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
19		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
20		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
21		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
22		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
23		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
24		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
25		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
26		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
27		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
28		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
29		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
30		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
31		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact
32		0-Inact	0	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact	0-Inact

MARC TBC Miscellaneous Data

Date 2/10/2011 Time 7:30:24

MARC Name	Forest Drive
Source	Database

DST Begin	Month	Week
	3	2

DST End	Month	Week
	11	1

Cycle Zero	Hour	Minute
Reference Time	24	0

Source	Equate1	Equate 2	Equate 3	Equate 4	Equate 5	Equate 6	Equate 7
2	3	4	5	6	0	0	0
8	9	10	11	12	13	0	0
14	15	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

Coordination Timing Plan Data - Dial 1 Split 1

Date 2/10/2011 Time 11:00

2

Intersection Name	Hilltop Lane
Source	Database
Cycle Length	150

AM

Ring Sum Times	150	120	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	35	85	0	30	0	120	0	0
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	6-Ph Omit
Ph Min Veh Serv	11	26	0	9	0	26	0	0
Ph Min Ped Serv	0	30	0	29	0	0	0	0

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	34	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 2 Split 2

Date 2/10/2011 Time 11:00

PM

Intersection Name	Hilltop Lane
Source	Database
Cycle Length	150
Ring Sum Times	150 120 0 0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	60	60	0	30	0	120	0	0
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	6-Ph Omit
Ph Min Veh Serv	11	26	0	9	0	26	0	0
Ph Min Ped Serv	0	30	0	29	0	0	0	0

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	40	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 3 Split 3

Date 2/10/2011 Time 11:00

Sat

Intersection Name	Hilltop Lane
Source	Database
Cycle Length	120
Ring Sum Times	120 90 0 0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	43	47	0	30	0	90	0	0
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	6-Ph Omit
Ph Min Veh Serv	11	26	0	9	0	26	0	0
Ph Min Ped Serv	0	30	0	29	0	0	0	0

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	87	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

Phase Vehicle Basic Timing Data

Date 2/10/2011 Time 10:58:45

Intersection Name Hilltop Lane

Source Database

Phase	1	2	3	4	5	6	7	8
Minimum Green	5	20	0	1	0	20	0	0
Passage	3.5	5.0	0.0	0.0	0.0	5.0	0.0	0.0
Maximum 1	20	55	0	0	0	55	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0
Red Clearance	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0

Phase	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0
Red Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Pedestrian Timing Data

Date 2/10/2011 Time 10:58:45

Intersection Name Hilltop Lane

Source Database

Phase	1	2	3	4	5	6	7	8
Walk	0	11	0	4	0	0	0	0
Pedestrian Clear	0	13	0	24	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	1	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0
Pedestrian Clear	0	0	0	0	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

3

Coordination Timing Plan Data - Dial 1 Split 1

Date 2/7/2011 Time 16:11

Intersection Name	Spa Road			
Source	Database			
Cycle Length	150			
Ring Sum Times	150	97	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	0	97	30	23	0	97	0	0
Mode	6-Ph Omit	1-Coord Ph	0-Actuated	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	6-Ph Omit
Ph Min Veh Serv	0	26	10	10	0	26	0	0
Ph Min Ped Serv	0	26	0	23	0	26	0	0

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	34	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 2 Split 2

Date 2/7/2011 Time 16:11

Intersection Name	Spa Road
Source	Database
Cycle Length	150

Ring Sum Times	150	100	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	0	100	20	30	0	100	0	0
Mode	6-Ph Omit	1-Coord Ph	0-Actuated	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	6-Ph Omit
Ph Min Veh Serv	0	26	10	10	0	26	0	0
Ph Min Ped Serv	0	26	0	23	0	26	0	0

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	80	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 3 Split 3

Date 2/7/2011 Time 16:11

Intersection Name	Spa Road			
Source	Database			
Cycle Length	120			
Ring Sum Times	120	70	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	0	70	25	25	0	70	0	0
Mode	6-Ph Omit	1-Coord Ph	0-Actuated	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	6-Ph Omit
Ph Min Veh Serv	0	26	10	10	0	26	0	0
Ph Min Ped Serv	0	26	0	23	0	26	0	0

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	108	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

Phase Vehicle Basic Timing Data

Date 2/7/2011 Time 16:09:59

Intersection Name Spa Road

Source Database

Phase	1	2	3	4	5	6	7	8
Minimum Green	0	20	5	5	0	20	0	0
Passage	0.0	5.0	4.5	4.5	0.0	5.0	0.0	0.0
Maximum 1	0	40	25	25	0	40	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	3.0	3.0	4.0	4.0	4.0	4.0
Red Clearance	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0

Phase	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Phase Pedestrian Timing Data

Date 2/7/2011 Time 16:09:59

Intersection Name Spa Road

Source Database

Phase	1	2	3	4	5	6	7	8
Walk	0	7	0	8	0	7	0	0
Pedestrian Clear	0	9	0	14	0	9	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	1	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0
Pedestrian Clear	0	0	0	0	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Coordination Timing Plan Data - Dial 1 Split 1

Date 2/7/2011 Time 15:41

Intersection Name	Gemini Drive
Source	Database
Cycle Length	150

Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	105	0	30	15	105	0	30
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	11	31	0	11	11	31	0	11
Ph Min Ped Serv	0	31	0	24	0	0	0	24

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	14	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 2 Split 2

Date 2/7/2011 Time 15:41

Intersection Name	Gemini Drive
Source	Database
Cycle Length	150

Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	25	100	0	25	25	100	0	25
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	11	31	0	11	11	31	0	11
Ph Min Ped Serv	0	31	0	24	0	0	0	24

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	90	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	2	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 3 Split 3

Date 2/7/2011 Time 15:41

Intersection Name	Gemini Drive			
Source	Database			
Cycle Length	120			
Ring Sum Times	120	120	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	75	0	30	15	75	0	30
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	11	31	0	11	11	31	0	11
Ph Min Ped Serv	0	31	0	24	0	0	0	24

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	16	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

Phase Vehicle Basic Timing Data

Date 2/7/2011 Time 15:40:08

Intersection Name Gemini Drive

Source Database

Phase	1	2	3	4	5	6	7	8
Minimum Green	4	25	0	4	4	25	0	4
Passage	2.5	5.0	0.0	2.5	2.5	5.0	0.0	2.5
Maximum 1	25	50	0	35	10	50	0	15
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Phase Pedestrian Timing Data

Date 2/7/2011 Time 15:40:08

Intersection Name Gemini Drive

Source Database

Phase	1	2	3	4	5	6	7	8
Walk	0	4	0	7	0	0	0	7
Pedestrian Clear	0	8	0	11	0	0	0	11
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0
Pedestrian Clear	0	0	0	0	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Coordination Timing Plan Data - Dial 1 Split 1

Date 2/10/2011 Time 8:05

Intersection Name	Youngsfarm Road
Source	Database
Cycle Length	150

Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	100	0	35	0	115	0	35
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	11	56	0	11	0	56	0	11
Ph Min Ped Serv	0	56	0	0	0	56	0	30

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	135	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 2 Split 2

Date 2/10/2011 Time 8:05

Intersection Name	Youngsfarm Road
Source	Database
Cycle Length	150

Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	25	90	0	35	0	115	0	35
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	11	56	0	11	0	56	0	11
Ph Min Ped Serv	0	56	0	0	0	56	0	30

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	130	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 3 Split 3

Date 2/10/2011 Time 8:05

Intersection Name	Youngsfarm Road
Source	Database
Cycle Length	120

Ring Sum Times	120	120	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	70	0	35	0	85	0	35
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	6-Ph Omit	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	11	56	0	11	0	56	0	11
Ph Min Ped Serv	0	56	0	0	0	56	0	30

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	28	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

Phase Vehicle Basic Timing Data

Date 2/10/2011 Time 8:04:35

Intersection Name Youngsfarm Road

Source Database

Phase	1	2	3	4	5	6	7	8
Minimum Green	4	50	0	5	0	50	0	5
Passage	2.5	5.0	0.0	2.5	0.0	5.0	0.0	3.5
Maximum 1	20	50	0	10	0	50	0	20
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Phase Pedestrian Timing Data

Date 2/10/2011 Time 8:04:35

Intersection Name Youngsfarm Road

Source Database

Phase	1	2	3	4	5	6	7	8
Walk	0	7	0	0	0	7	0	11
Pedestrian Clear	0	8	0	0	0	8	0	13
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0
Pedestrian Clear	0	0	0	0	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Coordination Timing Plan Data - Dial 1 Split 1

Date 2/10/2011 Time 7:35

Intersection Name	Tyler Avenue			
Source	Database			
Cycle Length	150			
Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	105	0	30	10	110	0	30
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	10	26	0	10	10	26	0	10
Ph Min Ped Serv	0	26	0	0	0	26	0	24

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	101	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 2 Split 2

Date 2/10/2011 Time 7:35

Intersection Name	Tyler Avenue			
Source	Database			
Cycle Length	150			
Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	105	0	30	10	110	0	30
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	10	26	0	10	10	26	0	10
Ph Min Ped Serv	0	26	0	0	0	26	0	24

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	5	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 3 Split 3

Date 2/10/2011 Time 7:35

Intersection Name	Tyler Avenue			
Source	Database			
Cycle Length	120			
Ring Sum Times	120	120	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	75	0	30	10	80	0	30
Mode	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated	0-Actuated	1-Coord Ph	6-Ph Omit	0-Actuated
Ph Min Veh Serv	10	26	0	10	10	26	0	10
Ph Min Ped Serv	0	26	0	0	0	26	0	24

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	50	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

Phase Vehicle Basic Timing Data

Date 2/10/2011 Time 7:34:03

Intersection Name Tyler Avenue

Source Database

Phase	1	2	3	4	5	6	7	8
Minimum Green	4	20	0	4	4	20	0	4
Passage	3.0	5.0	0.0	4.0	3.0	5.0	0.0	4.0
Maximum 1	10	55	0	12	10	55	0	12
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	3.0	4.0	4.0	3.0	3.0	4.0	4.0	3.0
Red Clearance	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Phase Pedestrian Timing Data

Date 2/10/2011 Time 7:34:03

Intersection Name Tyler Avenue

Source Database

Phase	1	2	3	4	5	6	7	8
Walk	0	7	0	0	0	7	0	7
Pedestrian Clear	0	12	0	0	0	12	0	12
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0
Pedestrian Clear	0	0	0	0	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Coordination Timing Plan Data - Dial 1 Split 1

Date 2/10/2011 Time 11:39

8

Intersection Name	Hillsmere Drive
Source	Database
Cycle Length	150

Ring Sum Times	150	150	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	65	20	50	15	65	20	50
Mode	0-Actuated	1-Coord Ph	0-Actuated	0-Actuated	0-Actuated	1-Coord Ph	0-Actuated	0-Actuated
Ph Min Veh Serv	10	26	11	11	10	26	10	10
Ph Min Ped Serv	0	26	0	0	0	26	0	27

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	44	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 2 Split 2

Date 2/10/2011 Time 11:39

Intersection Name	Hillsmere Drive
Source	Database
Cycle Length	150
Ring Sum Times	150 150 0 0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	30	50	35	35	20	60	35	35
Mode	0-Actuated	1-Coord Ph	0-Actuated	0-Actuated	0-Actuated	1-Coord Ph	0-Actuated	0-Actuated
Ph Min Veh Serv	10	26	11	11	10	26	10	10
Ph Min Ped Serv	0	26	0	0	0	26	0	27

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	85	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate	0	0	0
Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time			

Coordination Timing Plan Data - Dial 3 Split 3

Date 2/10/2011 Time 11:39

Intersection Name	Hillsmere Drive
Source	Database
Cycle Length	110

Ring Sum Times	110	110	0	0

Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Time	15	35	25	35	15	35	25	35
Mode	0-Actuated	1-Coord Ph	0-Actuated	0-Actuated	0-Actuated	1-Coord Ph	0-Actuated	0-Actuated
Ph Min Veh Serv	10	26	11	11	10	26	10	10
Ph Min Ped Serv	0	26	0	0	0	26	0	27

Phase	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Time	0	0	0	0	0	0	0	0
Mode	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated	0-Actuated
Ph Min Veh Serv	0	0	0	0	0	0	0	0
Ph Min Ped Serv	0	0	0	0	0	0	0	0

Offset	Offset 1	Offset 2	Offset 3
Time	87	0	0
Mode	0-Normal	0-Normal	0-Normal
Alternate Sequence	0	0	0
Ring 2 Lag Time	0	0	0
Ring 3 Lag Time	0	0	0
Ring 4 Lag Time	0	0	0

(8)

Phase Vehicle Basic Timing Data

Date 2/10/2011 Time 11:37:56

Intersection Name Hillsmere Drive

Source Database

Phase	1	2	3	4	5	6	7	8
Minimum Green	3	20	0 3	0 3	3	20	3	3
Passage	3.0	5.0	0.0	0.0	3.0	5.0	3.0	3.0
Maximum 1	20	50	0	0	20	50	35	35
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	3.0	4.0	4.0 3	4.0 3	3.0	4.0	3.0	3.0
Red Clearance	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	0	0	0	0	0	0	0	0
Maximum 2	0	0	0	0	0	0	0	0
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Phase Pedestrian Timing Data

Date 2/10/2011 Time 11:37:56

Intersection Name Hillsmere Drive

Source Database

Phase	1	2	3	4	5	6	7	8
Walk	0	7	0	0	0	7	0	7
Pedestrian Clear	0	11	0	0	0	11	0	15
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0

Phase	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0
Pedestrian Clear	0	0	0	0	0	0	0	0
Flashing Walk	0	0	0	0	0	0	0	0
Extended Ped Clear	0	0	0	0	0	0	0	0
Act Rest in Walk	0	0	0	0	0	0	0	0