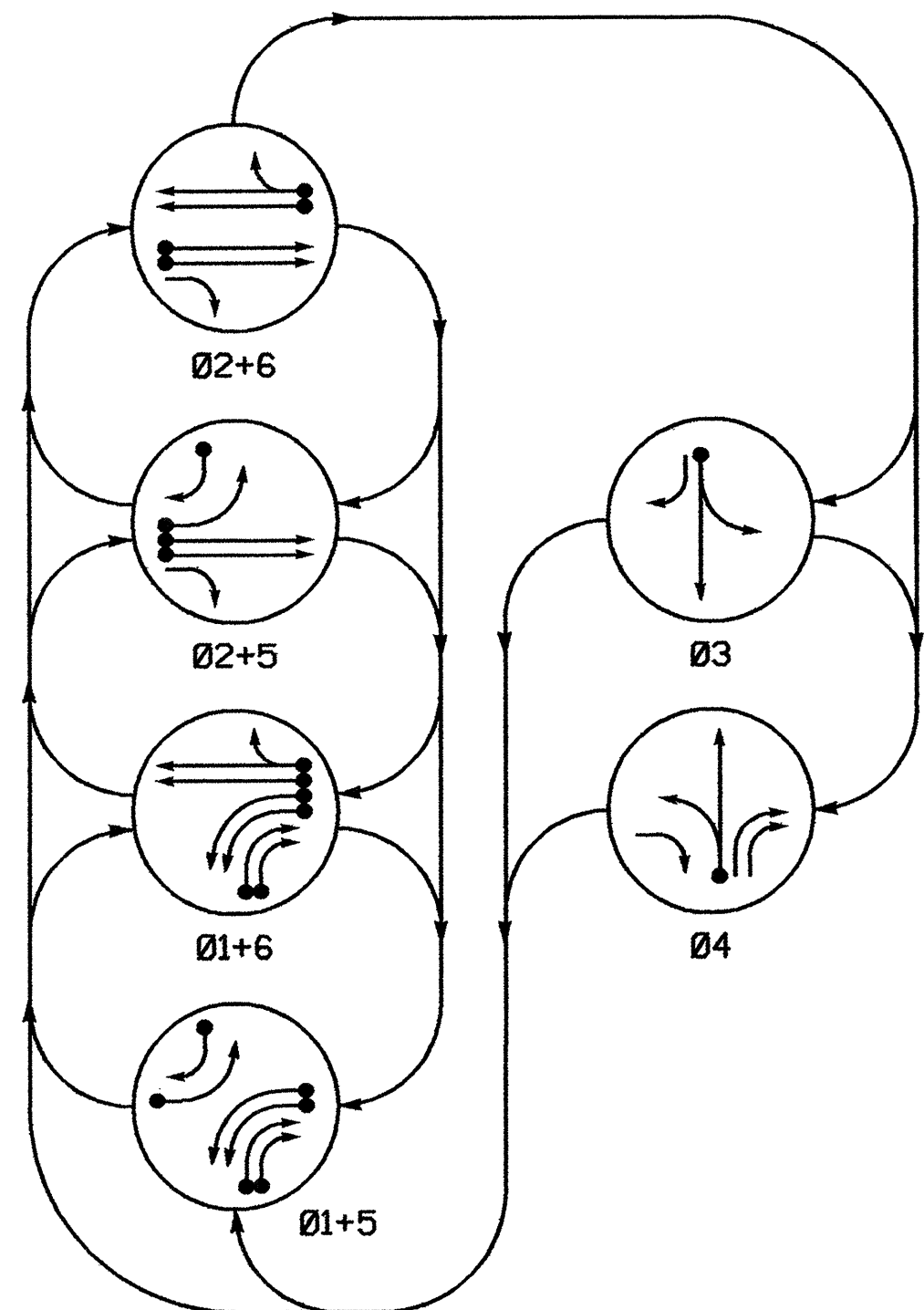


**PHASING DIAGRAM**



**PHASING DIAGRAM DETECTION LEGEND**

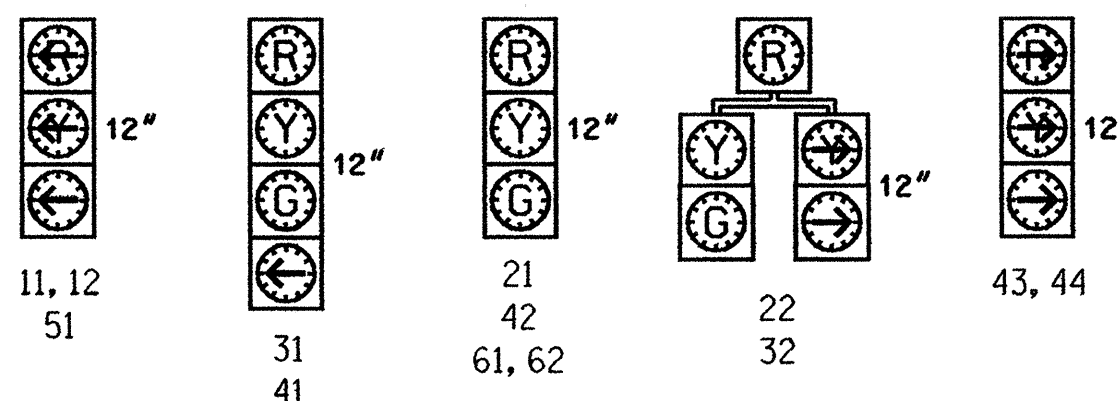
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

**TABLE OF OPERATION**

SIGNAL FACE	PHASE					L.E.D.
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3	
11, 12	-	-	-	-	-	-
21	R	R	G	G	R	Y
22	R	R	G	G	R	Y
31	R	R	R	R	C	R
32	R	R	R	R	G	R
41	R	R	R	R	G	R
42	R	R	R	R	G	R
43, 44	-	-	-	-	-	-
51	-	-	-	-	-	-
61, 62	R	G	R	G	R	Y

**SIGNAL FACE I.D.**

Denotes L.E.D.



**2070L LOOP & DETECTOR INSTALLATION**

INDUCTIVE LOOPS				DETECTOR PROGRAMMING								
LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	SYSTEM LOOP	STRETCH TIME	DELAY TIME	NEW CARD
1A	6x60	2-4-2	0	Y	1	Y	Y	-	-	-	2	-
1B	6x60	2-4-2	0	Y	1	Y	Y	-	-	-	-	-
1C	6x60	2-4-2	+5	Y	1	Y	Y	-	-	-	15	Y
1D	6x60	2-4-2	+5	Y	1	Y	Y	-	-	-	15	Y
2A	6x6	4	300	Y	2	Y	Y	-	-	-	-	-
2B	6x6	4	300	Y	2	Y	Y	-	-	-	-	Y
3A	6x40	2-4-2	0	Y	3	Y	Y	-	-	-	-	-
4A	6x60	2-4-2	+5	Y	4	Y	Y	-	-	-	-	-
5A	6x60	2-4-2	0	Y	5	Y	Y	-	-	-	-	Y
5B	6x40	2-4-2	0	Y	5	Y	Y	-	-	1	15	-
6A	6x6	6	300	Y	6	Y	Y	-	-	-	-	-
6B	6x6	6	300	Y	6	Y	Y	-	-	-	-	Y
S15	6x6	4	+160±	Y	-	-	-	-	-	-	-	Y
S16	6x6	4	+160±	Y	-	-	-	-	-	-	-	Y

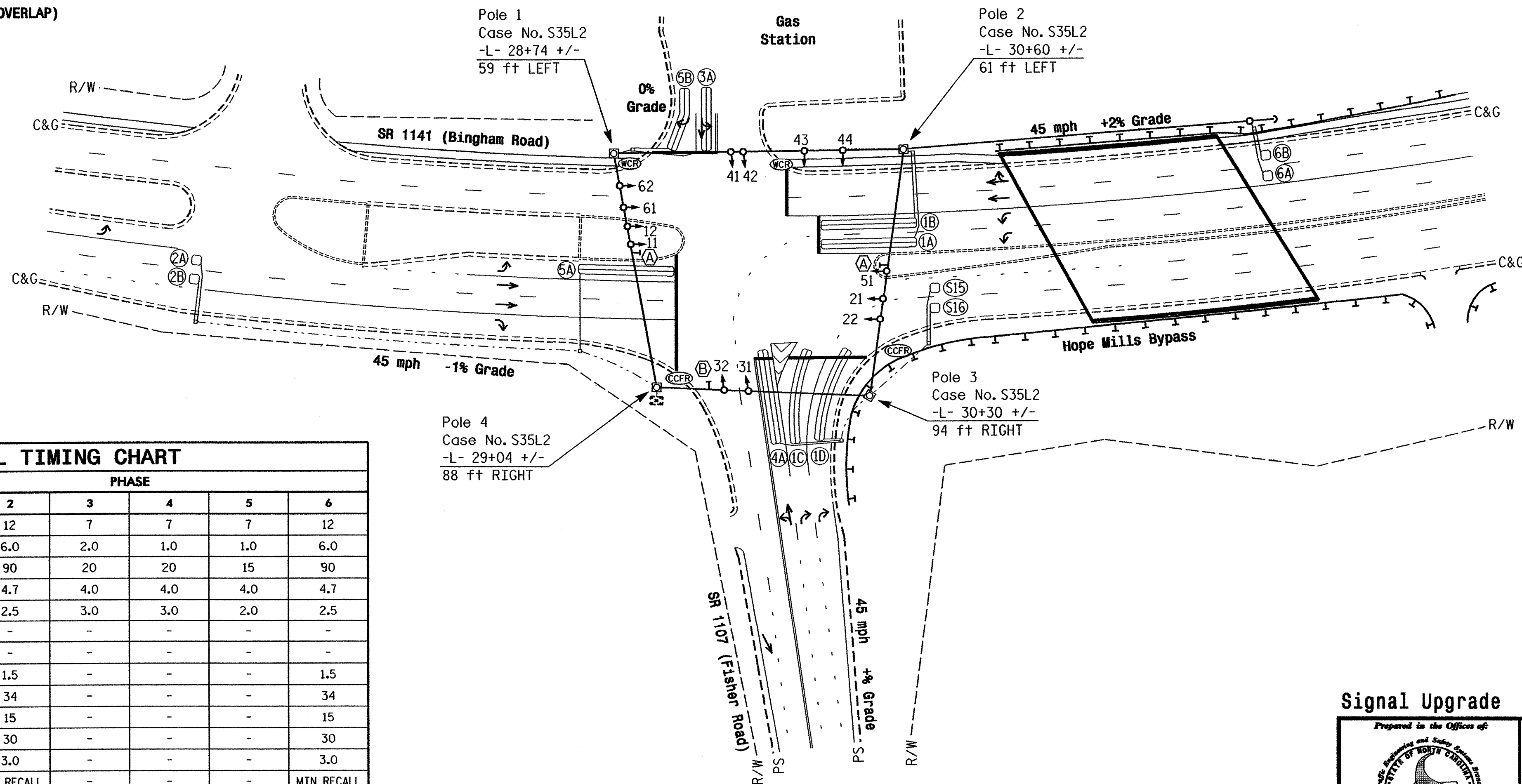
**PLAN QUANTITIES**

Pay Item	Feet
Signal Cable	1410
Messenger Cable	680
Lead-in Cable	2140

**6 Phase Fully Actuated (Hope Mills Bypass Closed Loop System)**

**NOTES**

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- During coordination, phase 1 or phase 5 may be lagged.
- During coordination, the order of phase 3 and phase 4 may be reversed.
- Set all detector units to presence mode.
- Closed loop system data: Controller Asset #0575.



**2070L TIMING CHART**

FEATURE	PHASE					
	1	2	3	4	5	6
Min Green 1 *	7	12	7	7	7	12
Extension 1 *	1.0	6.0	2.0	1.0	1.0	6.0
Max Green 1 *	20	90	20	20	15	90
Yellow Clearance	4.0	4.7	4.0	4.0	4.0	4.7
Red Clearance	3.0	2.5	3.0	3.0	2.0	2.5
Walk 1 *	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	34	-	-	-	34
Time Before Reduction *	-	15	-	-	-	15
Time To Reduce *	-	30	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON

\* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

**LEGEND**

- |          |  |          |                     |
|----------|--|----------|---------------------|
| PROPOSED | Traffic Signal Head                            | EXISTING | Traffic Signal Head |
| PROPOSED | Modified Signal Head                           | EXISTING | N/A                 |
| PROPOSED | Sign   | EXISTING | N/A                 |
| PROPOSED | Pedestrian Signal Head With Push Button & Sign | EXISTING | N/A                 |
| PROPOSED | Signal Pole with Guy                           | EXISTING | N/A                 |
| PROPOSED | Signal Pole with Sidewalk Guy                  | EXISTING | N/A                 |
| PROPOSED | Inductive Loop Detector                        | EXISTING | N/A                 |
| PROPOSED | Controller & Cabinet                           | EXISTING | N/A                 |
| PROPOSED | Junction Box                                   | EXISTING | N/A                 |
| PROPOSED | 2-in Underground Conduit                       | EXISTING | N/A                 |
| PROPOSED | Right of Way                                   | EXISTING | N/A                 |
| PROPOSED | Directional Arrow                              | EXISTING | N/A                 |
| PROPOSED | Pavement Marking Arrow                         | EXISTING | N/A                 |
| PROPOSED | Metal Strain Pole                              | EXISTING | N/A                 |
| PROPOSED | Wheelchair Ramp                                | EXISTING | WCR                 |
| PROPOSED | Curb Cut for Future Ramp                       | EXISTING | CCFR                |
| PROPOSED | Guardrail                                      | EXISTING | N/A                 |
| PROPOSED | U-Turn "MUST YIELD" Sign (R3-27)               | EXISTING | A                   |
| PROPOSED | Right Arrow "ONLY" Sign (R3-5R)                | EXISTING | B                   |

**Signal Upgrade**

Prepared in the Office of:  
**SR 1141 (Bingham Road)/ Hope Mills Bypass at SR 1107 (Fisher Road)/ Gas Station**  
 Division 6 Cumberland County Hope Mills  
 PLAN DATE: May 2003 REVIEWED BY: L.A. Elliott  
 PREPARED BY: P.J. Porter REVIEWED BY: STF/JPG  
 SCALE: 1"=50'

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 L. A. ELLIOTT  
 24393  
 10/22/03  
 DATE  
 SIG. INVENTORY NO. 06-0575