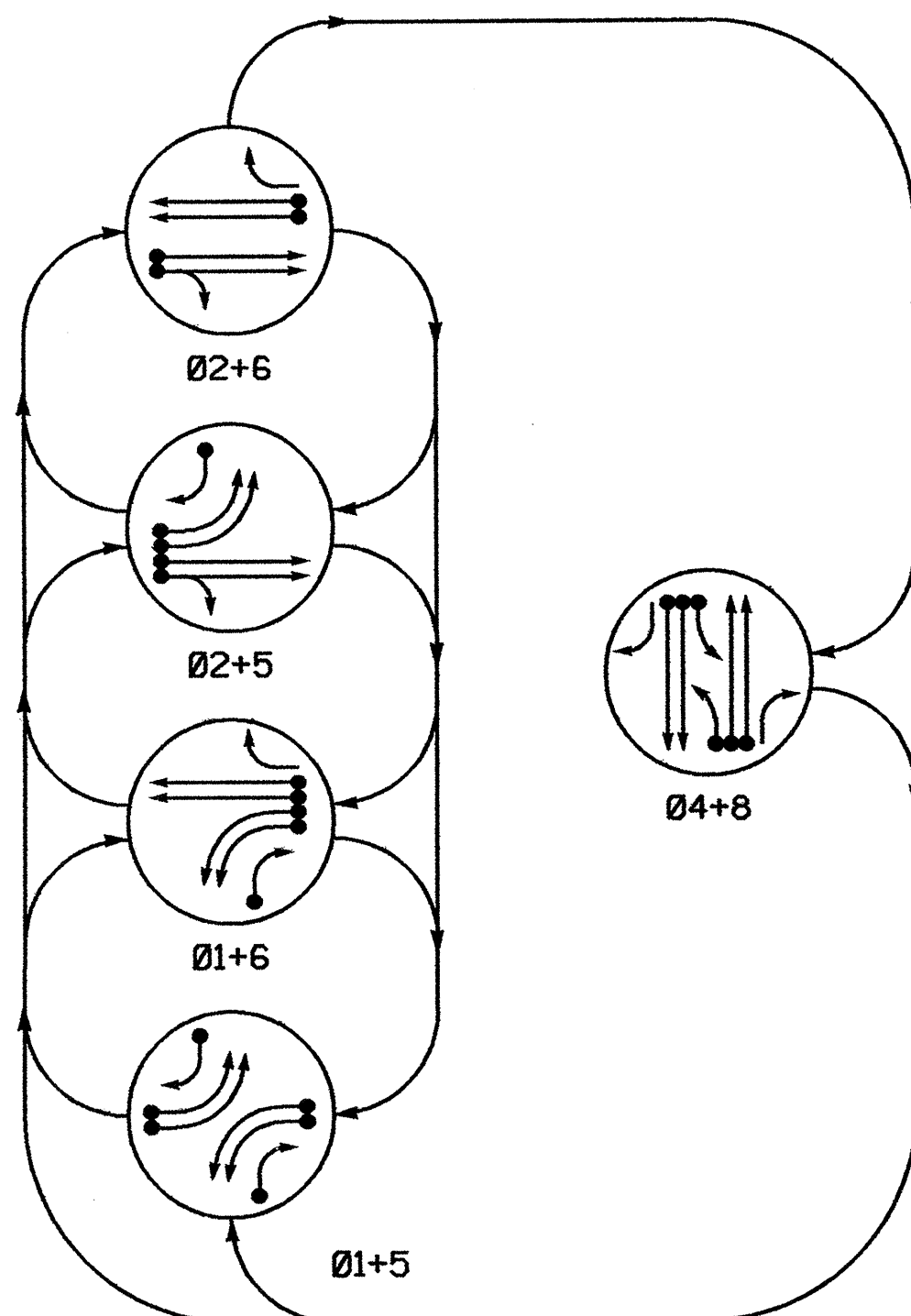


PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

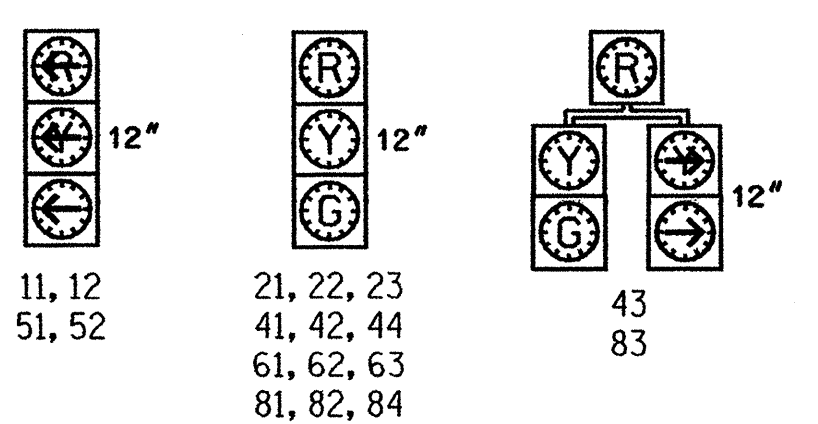
- ← ● → DETECTED MOVEMENT
- ← ○ → UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE					
	01+5	01+6	02+5	02+6	04+8	05+8
11, 12	←	←	←	←	←	←
21, 22, 23	R	R	G	G	R	Y
41, 42, 44	R	R	R	R	G	R
43	R	R	R	R	G	R
51, 52	←	←	←	←	←	←
61, 62, 63	R	G	R	G	R	Y
81, 82, 84	R	R	R	R	G	R
83	R	R	R	R	G	R

SIGNAL FACE I.D.

○ Denotes L.E.D.



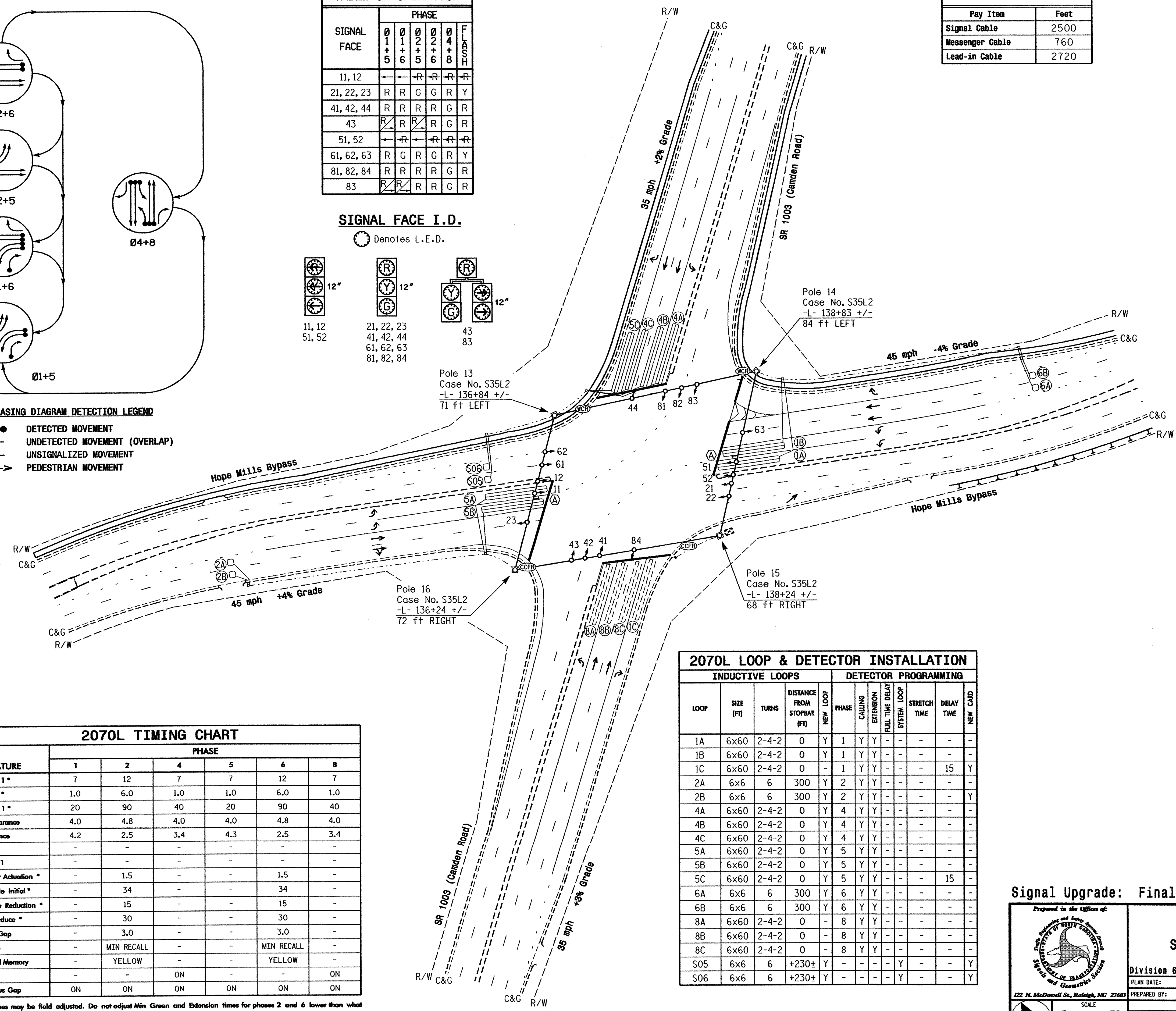
PLAN QUANTITIES

Pay Item	Feet
Signal Cable	2500
Messenger Cable	760
Lead-in Cable	2720

5 Phase Fully Actuated (Hope Mills Bypass Closed Loop System)

NOTES

- Refer to "Roadway Standard Drawings NCCDDT" 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.
- Set all detector units to presence mode.
- Closed loop system data: Controller Asset #1255.



2070L TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	8
Min Green 1*	7	12	7	7	12	7
Extension 1*	1.0	6.0	1.0	1.0	6.0	1.0
Max Green 1*	20	90	40	20	90	40
Yellow Clearance	4.0	4.8	4.0	4.0	4.8	4.0
Red Clearance	4.2	2.5	3.4	4.3	2.5	3.4
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	-	-	ON	-	-	ON
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.

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	-	-	-	-	-
1B	6x60	2-4-2	0	Y	1	Y	Y	-	-	-	-	-
1C	6x60	2-4-2	0	-	1	Y	Y	-	-	-	15	Y
2A	6x6	6	300	Y	2	Y	Y	-	-	-	-	-
2B	6x6	6	300	Y	2	Y	Y	-	-	-	-	Y
4A	6x60	2-4-2	0	Y	4	Y	Y	-	-	-	-	-
4B	6x60	2-4-2	0	Y	4	Y	Y	-	-	-	-	-
4C	6x60	2-4-2	0	Y	4	Y	Y	-	-	-	-	-
5A	6x60	2-4-2	0	Y	5	Y	Y	-	-	-	-	-
5B	6x60	2-4-2	0	Y	5	Y	Y	-	-	-	-	-
5C	6x60	2-4-2	0	Y	5	Y	Y	-	-	-	15	-
6A	6x6	6	300	Y	6	Y	Y	-	-	-	-	-
6B	6x6	6	300	Y	6	Y	Y	-	-	-	-	-
8A	6x60	2-4-2	0	-	8	Y	Y	-	-	-	-	-
8B	6x60	2-4-2	0	-	8	Y	Y	-	-	-	-	-
8C	6x60	2-4-2	0	-	8	Y	Y	-	-	-	-	-
S05	6x6	6	+230±	Y	-	-	-	Y	-	-	-	Y
S06	6x6	6	+230±	Y	-	-	-	Y	-	-	-	Y

LEGEND

- | | | | |
|--|---|--|---|
| | PROPOSED Traffic Signal Head | | EXISTING Traffic Signal Head |
| | PROPOSED Modified Signal Head | | EXISTING Modified Signal Head |
| | PROPOSED Pedestrian Signal Head | | EXISTING Pedestrian Signal Head |
| | PROPOSED Signal Pole with Guy | | EXISTING Signal Pole with Guy |
| | PROPOSED Inductive Loop Detector | | EXISTING Inductive Loop Detector |
| | PROPOSED Controller & Cabinet | | EXISTING Controller & Cabinet |
| | PROPOSED Junction Box | | EXISTING Junction Box |
| | PROPOSED 2-in Underground Conduit | | EXISTING 2-in Underground Conduit |
| | PROPOSED Right of Way with Marker | | EXISTING Right of Way with Marker |
| | PROPOSED Directional Arrow | | EXISTING Directional Arrow |
| | PROPOSED Pavement Marking Arrow | | EXISTING Pavement Marking Arrow |
| | PROPOSED Metal Strain Pole | | EXISTING Metal Strain Pole |
| | PROPOSED Wheelchair Ramp | | EXISTING Wheelchair Ramp |
| | PROPOSED Curb Cut for Future Ramp | | EXISTING Curb Cut for Future Ramp |
| | PROPOSED Guardrail | | EXISTING Guardrail |
| | PROPOSED U-Turn "MUST YIELD" Sign (R3-27) | | EXISTING U-Turn "MUST YIELD" Sign (R3-27) |

Signal Upgrade: Final Design

222 N. McDowell St., Raleigh, NC 27603

Hope Mills Bypass at SR 1003 (Camden Road)

Division 6 Cumberland County Hope Mills

PLANNED BY: P.J. Porter REVIEWED BY: L.A. Elliott

PREPARED BY: P.J. Porter REVIEWED BY: STF/JPG

DATE: May 2003

SEAL

24393

DATE: 10/22/03