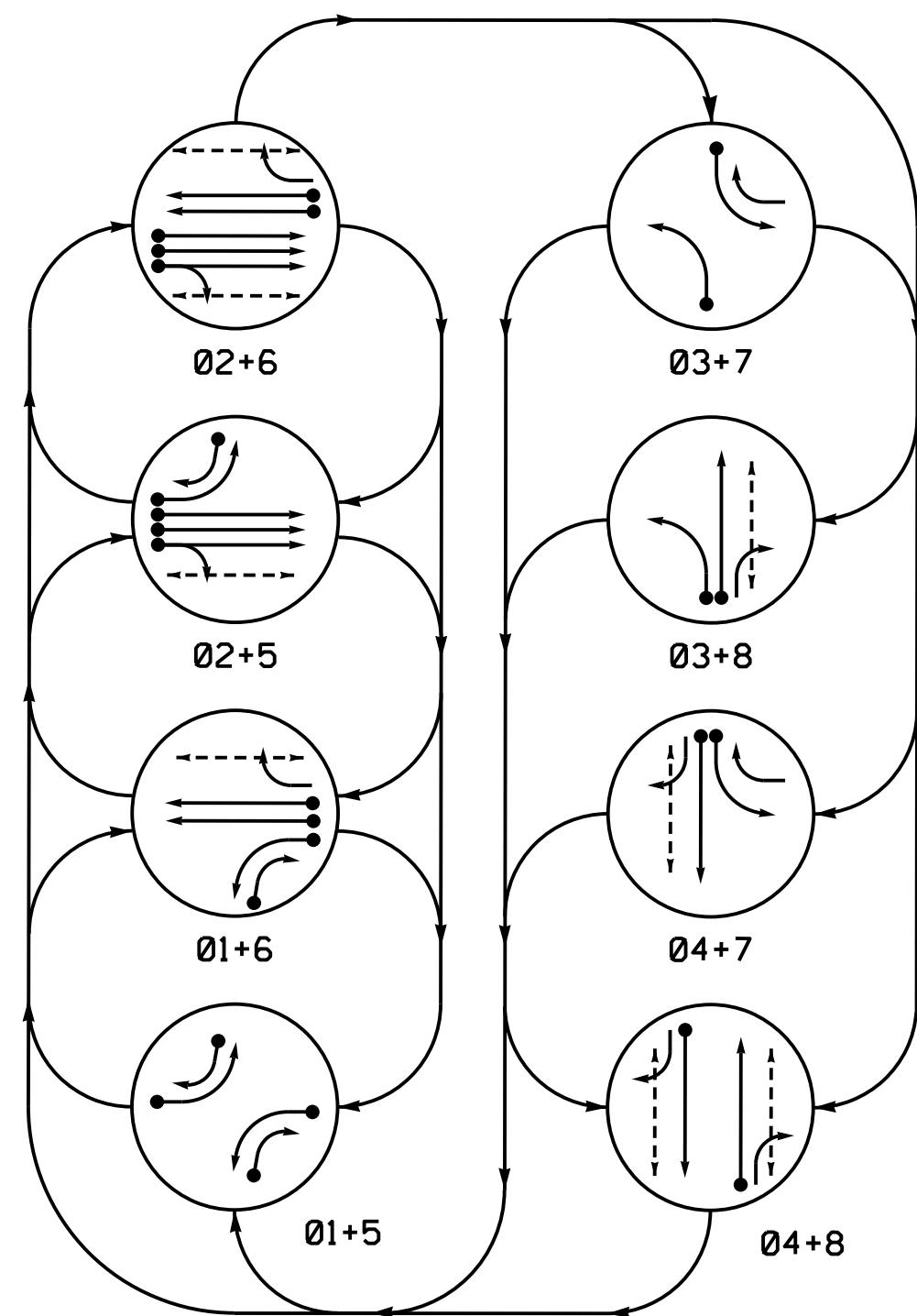


PHASING DIAGRAM



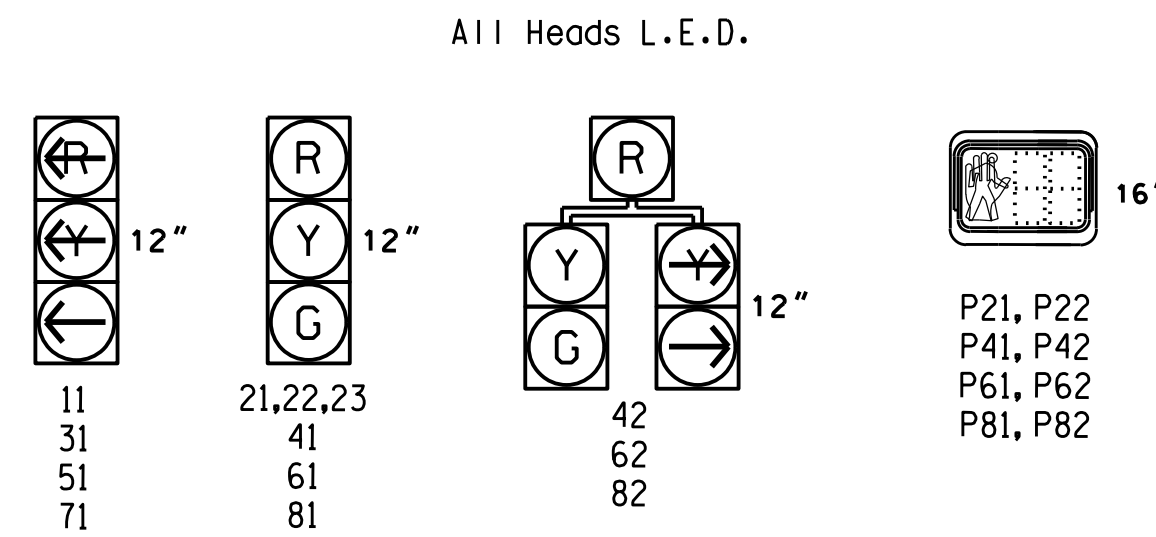
PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE								FLASH
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	
11									
21,22,23	R	R	G	G	R	R	R	R	Y
31	R	R	R	R					
41	R	R	R	R	R	R	G	G	R
42	R	R	R	R	R	R	G	G	R
51									
61	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R	R	R	R	Y
71	R	R	R	R					
81	R	R	R	R	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.



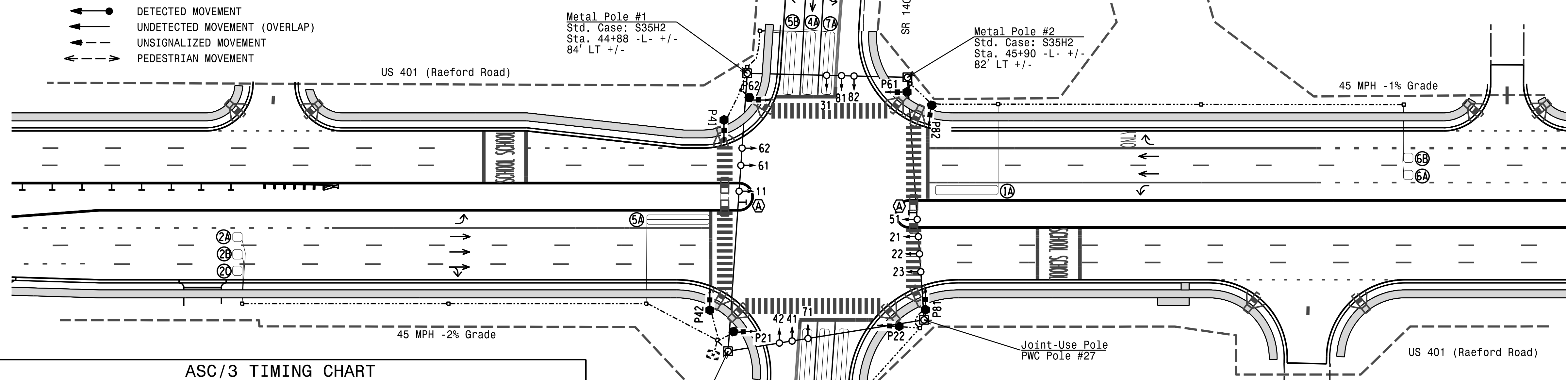
ASC/3 DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	-
1B	6X40	0	2-4-2	X	1	Yes	-	15	-	S	-	-
2A	6X6	300	5	X	2	Yes	-	-	X	N	-	-
2B	6X6	300	5	X	2	Yes	-	-	X	N	-	-
2C	6X6	300	5	X	2	Yes	-	-	X	N	-	-
3A	6X40	0	2-4-2	X	3	Yes	-	3	-	S	-	-
4A	6X40	0	2-4-2	X	4	Yes	-	-	-	S	-	-
5A	6X40	0	2-4-2	X	5	Yes	-	-	-	S	-	-
5B	6X40	0	2-4-2	X	5	Yes	-	15	-	S	-	-
6A	6X6	300	5	X	6	Yes	-	-	X	N	-	-
6B	6X6	300	5	X	6	Yes	-	-	X	N	-	-
7A	6X40	0	2-4-2	X	7	Yes	-	3	-	S	-	-
8A	6X40	0	2-4-2	X	8	Yes	-	-	-	S	-	-

8 Phase Fully Actuated Fayetteville Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



ASC/3 TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Walk *	-	7	-	7	-	7	-	7
Ped Clear	-	23	-	23	-	19	-	28
Veh. Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	20	90	25	35	20	90	25	35
Yellow	3.0	4.7	3.0	4.6	3.0	4.6	3.0	4.3
Red Clear	3.7	1.9	3.6	2.0	3.7	1.9	3.6	2.0
Red Revert	-	-	-	-	-	-	-	-
Actuations B4 Add *	-	0	-	-	-	0	-	-
Seconds / Actuation *	-	1.5	-	-	-	1.5	-	-
Max Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Locking Detector	-	X	-	-	-	X	-	-
Recall Position	-	VEH. RECALL	-	-	-	VEH. RECALL	-	-
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	X	X	X	X	X	X	X	X

* 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

- | | | | |
|-----|--|-----|----------|
| ○ | Traffic Signal Head | ● | EXISTING |
| ○ | Modified Signal Head | N/A | |
| ⊥ | Sign | ⊥ | |
| ⊥ | Pedestrian Signal Head With Push Button & Sign | ⊥ | |
| ⊥ | Signal Pole with Guy | ⊥ | |
| ⊥ | Signal Pole with Sidewalk Guy | ⊥ | |
| ⊥ | Inductive Loop Detector | ⊥ | |
| ⊥ | Controller & Cabinet | ⊥ | |
| ⊥ | Junction Box | ⊥ | |
| ⊥ | 2-in Underground Conduit | ⊥ | |
| N/A | Right of Way | → | |
| → | Directional Arrow | → | |
| ○ | Metal Strain Pole | ○ | |
| ○ | Type II Signal Pedestal | ○ | |
| ⊙ | "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | ⊙ | |

Signal Upgrade - Final Design

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Prepared For the Offices of:
 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 STATE OF NORTH CAROLINA
 Signal Design Section
 750 N. Greenfield Pkwy, Garner, NC 27526

US 401 (Raeford Road) at
 SR 1409 (71st School Road) /
 SR 1105 (Graham Road)
 Division 6 Cumberland County Fayetteville
 PLAN DATE: June 2019 REVIEWED BY: E D Harris
 PREPARED BY: A D Smith REVIEWED BY: B L Watson

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

Professional Engineer Seal for Betsy L. Watson, License No. 29449.

Signature: Betsy L. Watson, Date: 6/5/2019

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