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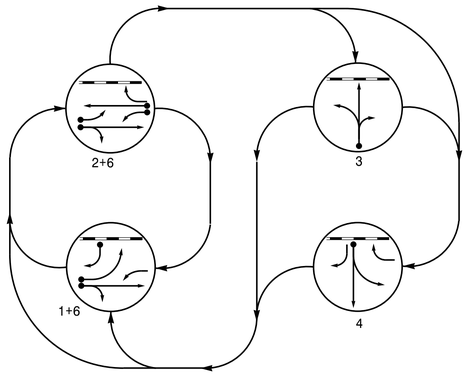
PROJECT REFERENCE NO.	SHEET NO.
R-5726	Sig.3.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

RAIL PREEMPT PHASES

(High Priority)

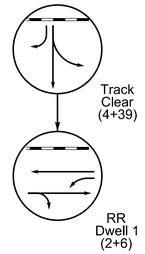


TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	2+6	3	4	TC RL AC KR	RR DW EL L	FLASH
11	—	F Y	R	R	R	R	R
21,22	R	G	R	R	R	G	R
23	R	F Y	R	F Y	R	R	R
24	F Y	F Y	R	R	R	F Y	R
31	R	R	G	R	R	R	R
32	R	R	G	R	R	R	R
41	R	R	R	G	G	R	R
42	R	R	R	G	G	R	R
43	R	R	R	G	G	R	R
61,62	G	G	R	R	R	G	R

MAXTIME DETECTOR INSTALLATION CHART

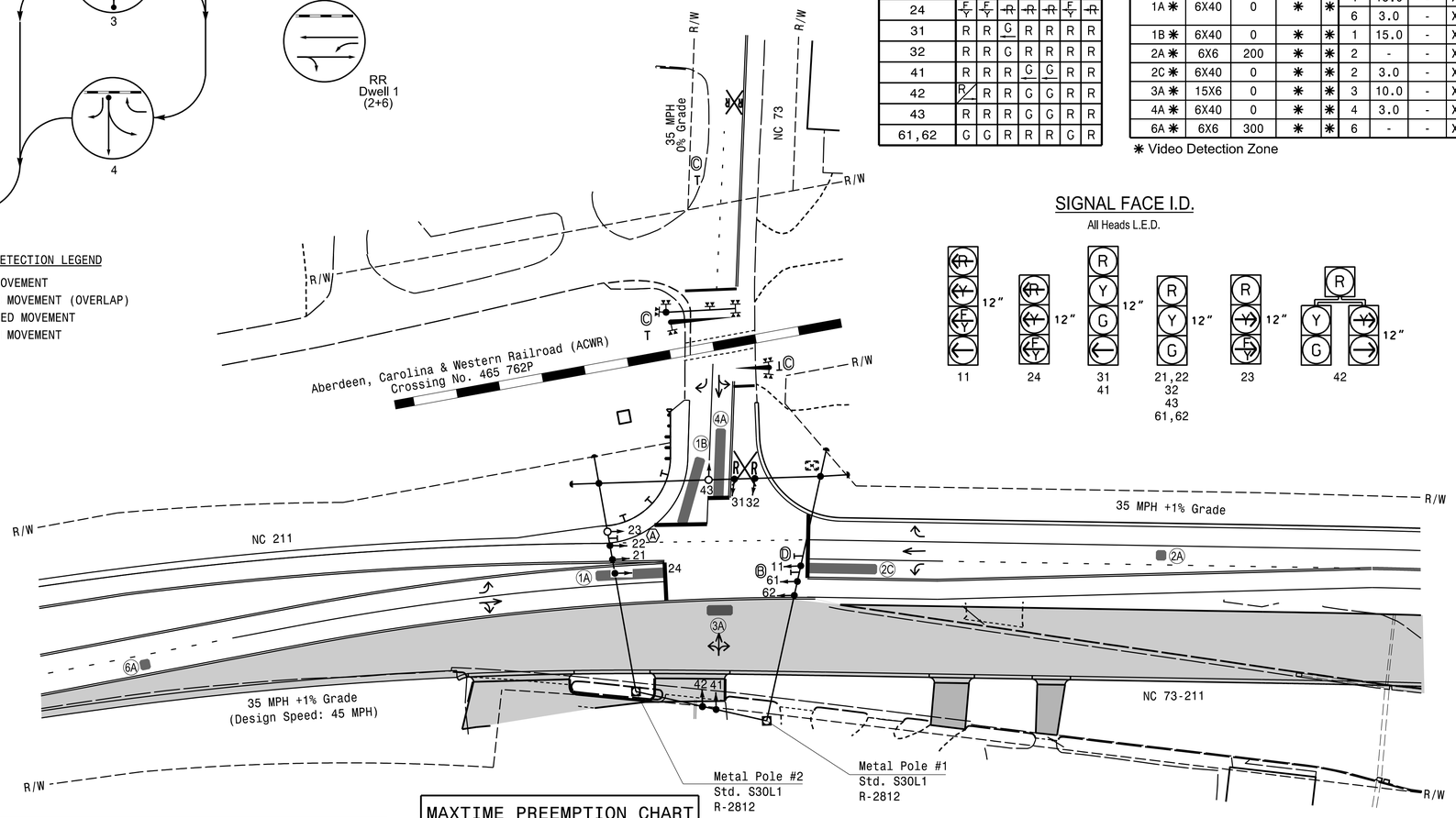
DETECTOR					PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL CALL	DELAY DURING GREEN	NEW CARD
1A ✱	6X40	0	✱	✱	1	15.0	-	X	-	X	-	✱
					6	3.0	-	X	-	X	X	✱
1B ✱	6X40	0	✱	✱	1	15.0	-	X	-	X	-	✱
2A ✱	6X6	200	✱	✱	2	-	-	X	X	X	-	✱
2C ✱	6X40	0	✱	✱	2	3.0	-	X	-	X	X	✱
3A ✱	15X6	0	✱	✱	3	10.0	-	X	-	X	-	✱
4A ✱	6X40	0	✱	✱	4	3.0	-	X	-	X	-	✱
6A ✱	6X6	300	✱	✱	6	-	-	X	X	X	-	✱

✱ Video Detection Zone

4 Phase Fully Actuated With Railroad Preemption (Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. This location contains railroad preemption phasing. Do not program signal for late night flashing operation.
3. Phase 1 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Reposition existing signal heads numbered 11,21,22,24,61 and 62.
6. Set all detector units to presence mode.
7. Program phase 40 to run concurrently with all phases during normal operation. Phase 39 must be incompatible with Phase 40 and included as a track clear phase.
8. This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.



SIGNAL FACE I.D.

All Heads L.E.D.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	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	
N/A	Railroad Cantilever	
N/A	Railroad Gate and Flasher	
N/A	Railroad Tracks	
N/A	Guardrail	
	Construction Zone	
	Non-Intrusive Detection Zone	
	Metal Strain Pole	
Ⓐ	"RIGHT TURN SIGNAL" Sign (R10-10R)	Ⓐ
Ⓑ	Left Arrow "ONLY" Sign (R3-5L)	Ⓑ
Ⓒ	"DO NOT STOP ON TRACKS" Sign (R8-8)	Ⓒ
Ⓓ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓓ

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	6	39	40
Walk *	–	–	–	–	–		
Ped Clear *	–	–	–	–	–		
Min Green *	7	10	7	7	12		
Passage *	2.0	5.0	2.0	2.0	6.0		
Max 1 *	20	60	15	30	60		
Yellow Change	3.0	4.4	3.8	3.8	4.4	3.8	4.4
Red Clear	1.9	1.6	1.0	1.2	1.6	1.2	1.9
Added Initial *	–	2.5	–	–	2.5		
Maximum Initial *	–	24	–	–	34		
Time Before Reduction *	–	15	–	–	15		
Time To Reduce *	–	34	–	–	34		
Minimum Gap	–	3.0	–	–	3.0		
Advance Walk	–	–	–	–	–		
Non Lock Detector	X	–	X	X	–		
Vehicle Recall	–	MIN RECALL	–	–	MIN RECALL		MIN RECALL
Dual Entry	–	–	–	–	–		

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

MAXTIME PREEMPTION CHART

FUNCTION	PRE 1
Type	RAIL ROAD
Exit Phases	4
Delay	0
Max Presence	0
Enter Min Green	1
Enter Walk	0
Enter Ped Clear	0
Enter Yellow Change	4.4*
Enter Red Clear	1.9*
Track Green	27
Track Yellow Change	3.8
Track Red Clear	1.2
Dwell Green	0
Exit Min Green	255*
Exit Yellow Change	25.5*
Exit Red Clear	25.5*
Call Extend Time	1.0
Exit Type	EXIT PHASES
Ped Clear Through Yellow	–
Require All Red Entry	–

* Directs controller to use default phase timing.

This signal was designed for advanced preemption

Signal Upgrade
Temporary Design 2 (TMP Phase II)

MOTT MACDONALD

MOTT MACDONALD I & E, LLC
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License No. F-0669

Prepared for: Transportation Mobility and Safety Division, Signal Design Section, 750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40 1"=40'

NC 211/NC 73-211
at
NC 73 (South Intersection)

Division 8 Moore County West End

PLAN DATE: June 2024 REVIEWED BY: R. Mullinax
PREPARED BY: LD Stouchko REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 034437 ENGINEER LORI D. STOUCHKO

DocuSigned by: Lori D. Stouchko
FF586C7596C645A...
11-Jul-2024
SIGNATURE DATE

SIG. INVENTORY NO. 08-110312