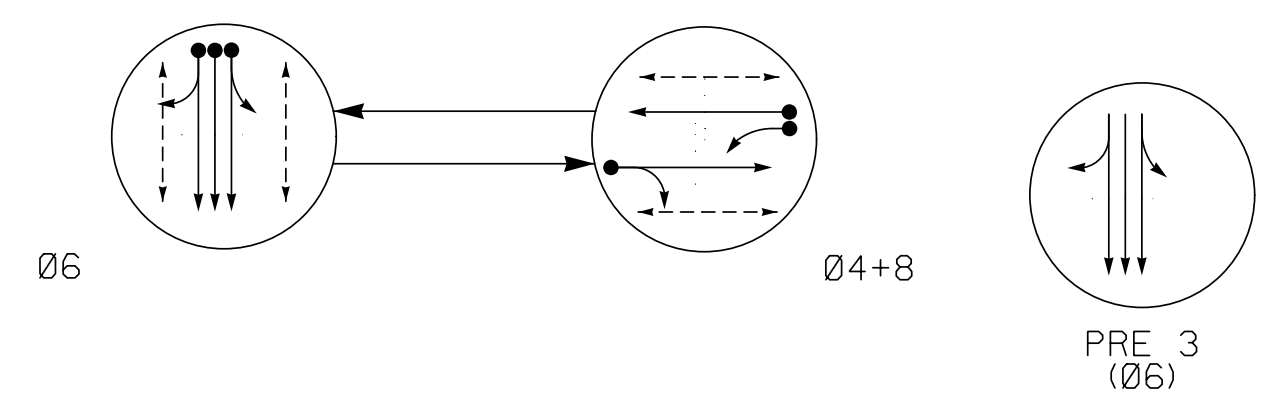
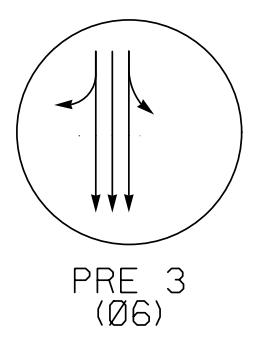


PHASING DIAGRAM



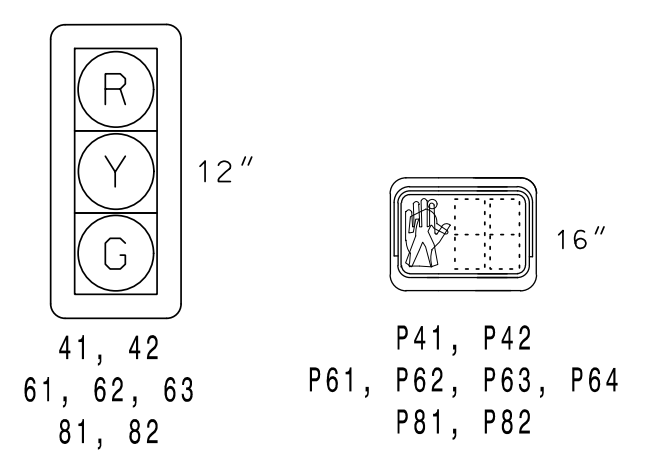
PHASING DIAGRAM DETECTION LEGEND
 ● DETECTED MOVEMENT
 ◀ UNDETECTED MOVEMENT (OVERLAP)
 - - - UNSIGNALIZED MOVEMENT
 <- - - PEDESTRIAN MOVEMENT

EV PREEMPT PHASES
(Medium Priority)



SIGNAL FACE	PHASE			
	Ø 6	Ø 4+8	P 3	FLASH
41, 42	R	G	R	R
61, 62, 63	G	R	G	Y
81, 82	R	G	R	R
P41, P42	DW	W	DW	DRK
P61, P62, P63, P64	W	DW	DW	DRK
P81, P82	DW	W	DW	DRK

SIGNAL FACE I.D.
All Heads L.E.D.



DETECTOR INSTALLATION CHART

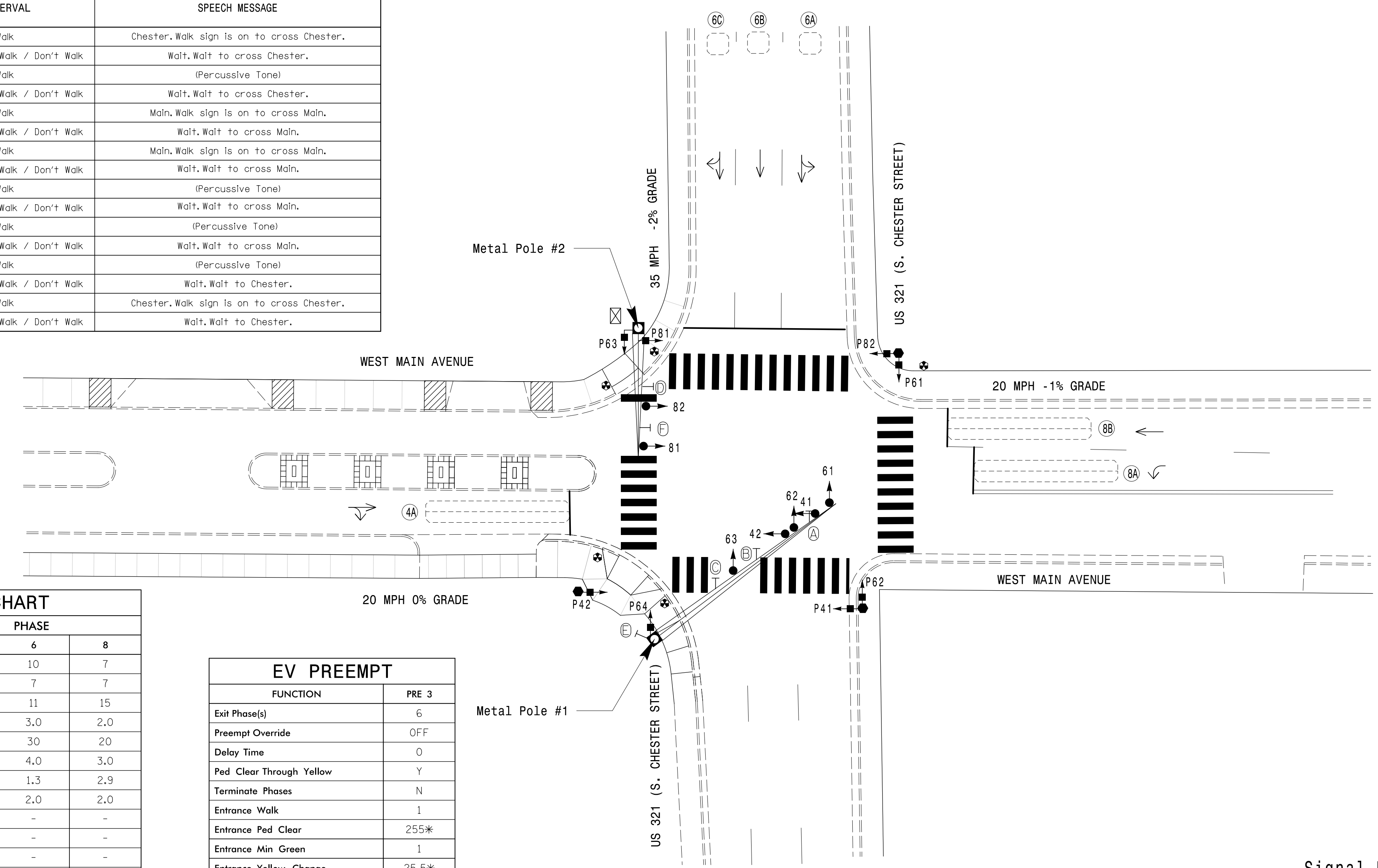
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	LOOP SYSTEM	NEW CARD
4A	6X40	0	2-4-2	-	4	Yes	-	-	-	N	-	X
6A	6X6	70	EXIST	-	6	Yes	-	-	-	N	-	X
6B	6X6	70	EXIST	-	6	Yes	-	-	-	N	-	X
6C	6X6	70	EXIST	-	6	Yes	-	-	-	N	-	X
8A	6X40	0	2-4-2	-	8	Yes	-	-	-	N	-	X
8B	6X40	0	2-4-2	-	8	Yes	-	-	-	N	-	X

2 Phase Fully Actuated w/ Emergency Vehicle Preemption Gastonia 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.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Install new cabinet on the existing cabinet foundation.
- All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
- Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
- City system data:
Controller Asset #0924.

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION			
SIGNAL FACE	VOICE	TONES	SPEECH MESSAGE
P41	X	-	Walk Chester. Walk sign is on to cross Chester.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to cross Chester.
P42	-	X	Walk (Percussive Tone) Main. Walk sign is on to cross Main.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to cross Main.
P61	X	-	Walk Main. Walk sign is on to cross Main.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to cross Main.
P62	X	-	Walk Main. Walk sign is on to cross Main.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to cross Main.
P63	-	X	Walk (Percussive Tone) Main. Walk sign is on to cross Main.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to cross Main.
P64	-	X	Walk (Percussive Tone) Main. Walk sign is on to cross Main.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to cross Main.
P81	-	X	Walk (Percussive Tone) Chester. Walk sign is on to cross Chester.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to Chester.
P82	X	-	Walk Chester. Walk sign is on to cross Chester.
	X	-	Flashing Don't Walk / Don't Walk Wait. Wait to Chester.



FEATURE	PHASE		
	4	6	8
Min Green *	7	10	7
Walk *	7	7	7
Ped Clear	15	11	15
Veh. Extension *	2.0	3.0	2.0
Max I *	20	30	20
Yellow	3.0	4.0	3.0
Red Clear	2.9	1.3	2.9
Red Revert	2.0	2.0	2.0
Actuations B4 Add *	-	-	-
Seconds / Actuation *	-	-	-
Max Initial *	-	-	-
Time Before Reduction *	-	-	-
Time To Reduce *	-	-	-
Minimum Gap	-	-	-
Locking Detector	-	X	-
Recall Position	-	MIN RECALL	-
Dual Entry	X	-	X
Simultaneous Gap	X	X	X

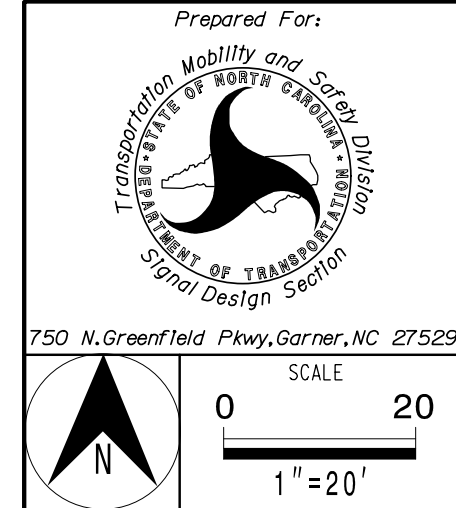
EV PREEMPT	
FUNCTION	PRE 3
Exit Phase(s)	6
Preempt Override	OFF
Delay Time	0
Ped Clear Through Yellow	Y
Terminate Phases	N
Entrance Walk	1
Entrance Ped Clear	255*
Entrance Min Green	1
Entrance Yellow Change	25.5*
Entrance Red Clear	25.5*
Minimum Dwell Time	7
Preempt Input Extension Time **	2
Preempt Max Time	120
Exit Yellow Change	25.5*
Exit Red Clear	25.5*

* Time defaults to time used for phase during normal operation
 ** Program Timing on GPS Detection Unit

LEGEND	
PROPOSED	EXISTING
○ → Traffic Signal Head	● → Traffic Signal Head
● → Modified Signal Head	N/A
↓ Sign	↓ Sign
⊕ Pedestrian Signal Head With Push Button & Sign	⊕ Pedestrian Signal Head With Push Button & Sign
⊗ Type I Pushbutton Post	⊗ Type I Pushbutton Post
⊙ Type II Signal Pedestal	⊙ Type II Signal Pedestal
⊕ Metal Pole with Mastarm	⊕ Metal Pole with Mastarm
⊗ Inductive Loop Detector	⊗ Inductive Loop Detector
⊕ Controller & Cabinet	⊕ Controller & Cabinet
⊗ Junction Box	⊗ Junction Box
⊕ 2-in Underground Conduit	⊕ 2-in Underground Conduit
N/A Right of Way	N/A Right of Way
→ Directional Arrow	→ Directional Arrow
(A) Combined Through and Left Arrow Sign (R3-6L)	(A) Combined Through and Left Arrow Sign (R3-6L)
(B) Through Arrow "ONLY" Sign (R3-5A)	(B) Through Arrow "ONLY" Sign (R3-5A)
(C) Combined Through and Right Arrow Sign (R3-6R)	(C) Combined Through and Right Arrow Sign (R3-6R)
(D) No Right Turn Sign (R3-1)	(D) No Right Turn Sign (R3-1)
(E) No Left Turn Sign (R3-2)	(E) No Left Turn Sign (R3-2)
(F) "ONE WAY" Sign (R6-1L)	(F) "ONE WAY" Sign (R6-1L)

Signal Upgrade

PLANS PREPARED IN THE OFFICE OF:
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 (919) 677-2000



US 321 (S. CHESTER ST.) AT WEST MAIN AVENUE	
Division 12	Gaston County
Prepared By: SP Pennington	Reviewed By: SL Phillips
REVISIONS	INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Professional Engineer Seal for Kevin P. Baumann, State of North Carolina, License No. 044434. Date: 3/11/2022.

3/9/2022 11:17:05 AM Don@le.corr1 ***kmlay-horn.com\SELRAL\RAL_IPTOK\ITS\01\036569_Gastonia\Signal_System\9_Signal_System\9_Sig. 87.0.dgn