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09/08/99

8/24/2026
X:\NCDOT\Div 12 Pedestrian Safety Projects - 2026\Roadway\Proj\52073_Rdy_fsh_combined.dgn
User:cpruett

TIP PROJECT: BN-0031LA

CONTRACT: DL00392

See Sheet 1A For Index of Sheets

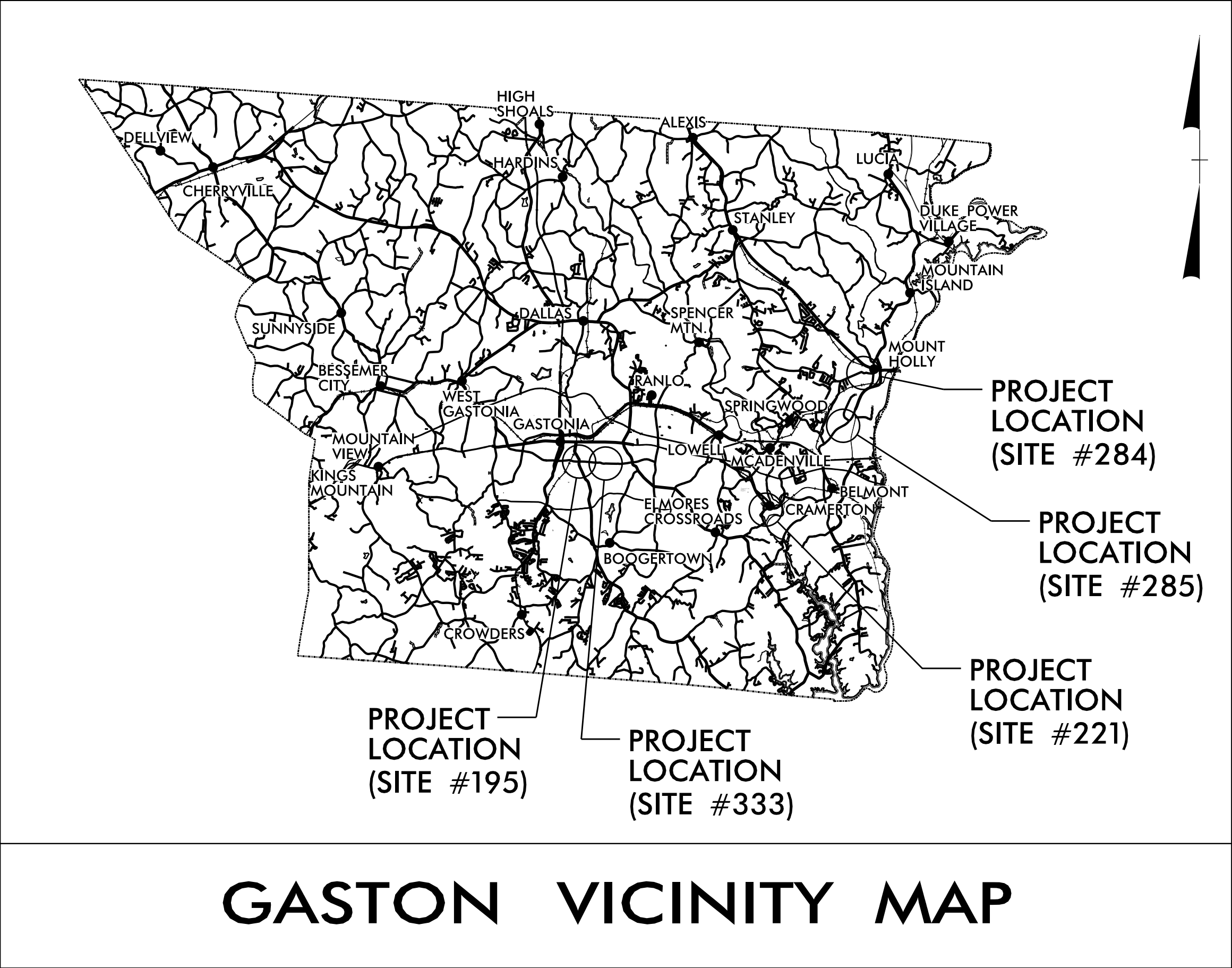
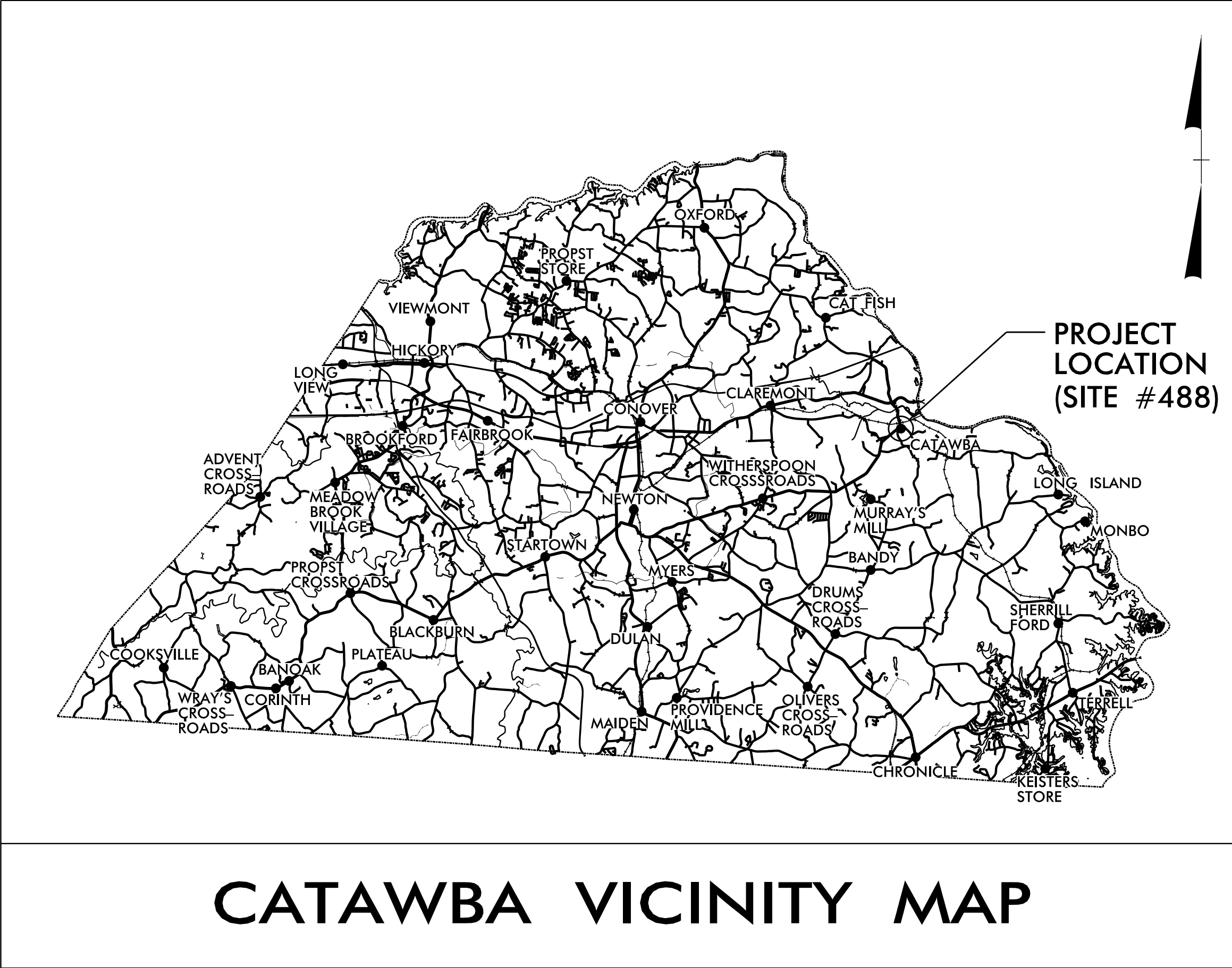
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CATAWBA COUNTY / GASTON COUNTY

LOCATION: VARIOUS LOCATIONS THROUGHOUT CATAWBA AND
GASTON COUNTIES

TYPE OF WORK: PEDESTRIAN SIGNALS, CONCRETE CURB RAMPS,
AND CROSSWALKS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
52073.12.8	TAPE012	PE (SITE#195)	
52073.12.301	TA12301	CONST. (SITE#195)	
52073.12.8	TAPE012	PE (SITE#333)	
52073.12.302	TA12301	CONST. (SITE#333)	
52073.12.6	TAPE012	PE (SITE#488)	
52073.12.303	TA12301	CONST. (SITE#488)	
52073.12.6	TAPE012	PE (SITE#221)	
52073.12.304	TA12301	CONST. (SITE#221)	
52073.12.6	TAPE012	PE (SITE#284)	
52073.12.305	TA12301	CONST. (SITE#284)	
52073.12.6	TAPE012	PE (SITE#285)	
52073.12.306	TA12301	CONST. (SITE#285)	



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UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



TGS ENGINEERS
201 W. MARION ST
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

RIGHT OF WAY DATE:
N/A

LETTING DATE:
SEPTEMBER 22, 2026

2024 STANDARD SPECIFICATIONS

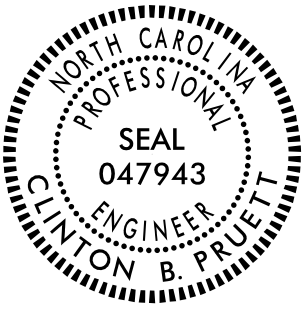
NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION 12
1710 E. MARION ST
SHELBY, NC 28150

JIMMY L. TERRY, PE
PROJECT ENGINEER
(SITES #195, #333, #488)

CLINTON B. PRUETT, PE
PROJECT DESIGN ENGINEER
(SITES #195, #333, #488)

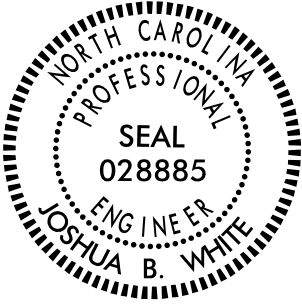
JOSHUA B. WHITE PE PLS
PROJECT ENGINEER
(SITES #221, #284, #285)

R. TODD BRACKETT
PROJECT DESIGN ENGINEER
(SITES #221, #284, #285)



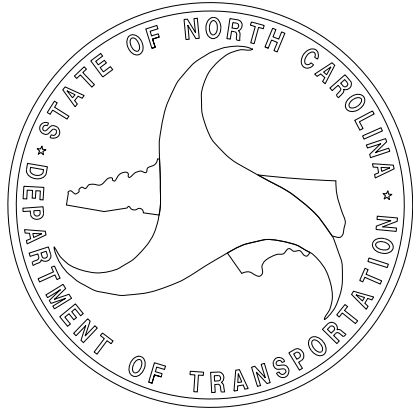
ROADWAY DESIGN ENGINEER
(SITES #195, #333, #488)
8/24/2026

DocuSigned by:
Clinton B. Pruett
SIGNATURE DATE: P.E.



ROADWAY DESIGN ENGINEER
(SITES #221, #284, #285)
8/25/2026

DocuSigned by:
Joshua B. White
SIGNATURE DATE: P.E.



09/08/99

TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets

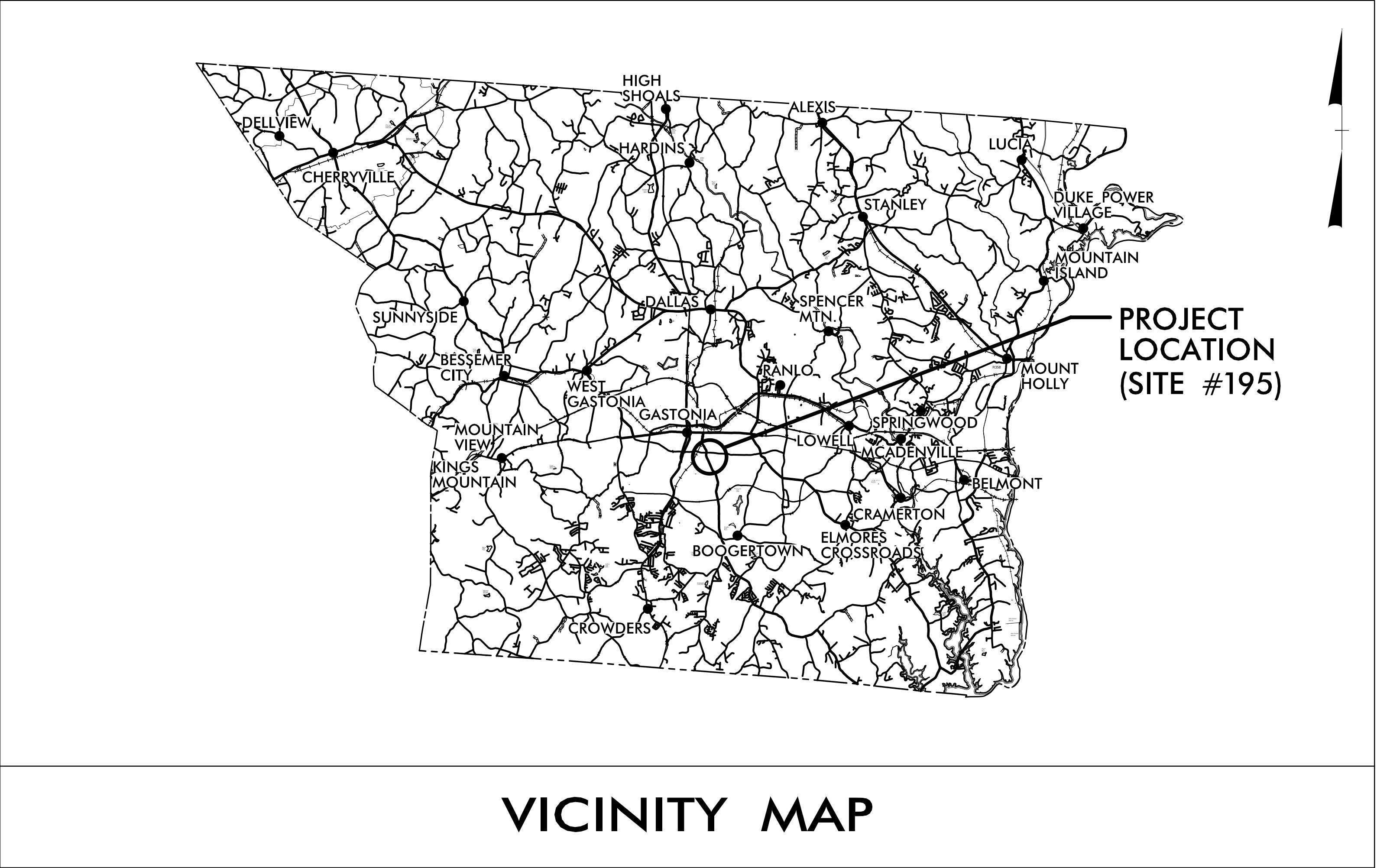
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: INTERSECTION OF NC 274 (UNION RD) AND SR 2466
(E GARRISON BLVD)

TYPE OF WORK: INSTALLATION OF PEDESTRIAN SIGNALS AND
CONSTRUCTION OF CONCRETE CURB RAMPS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
52073.12.8	TAPE012	PE	
52073.12.301	TA12301	CONST.	



VICINITY MAP

DOCUMENT NOT CONSIDERED FINAL
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GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 19,400
K = N/A %
D = N/A %
T = N/A % *
V = 45 MPH
* TTST =N/A DUAL =N/A
FUNC CLASS =
URBAN ARTERIAL
REGIONAL TIER

PROJECT LENGTH

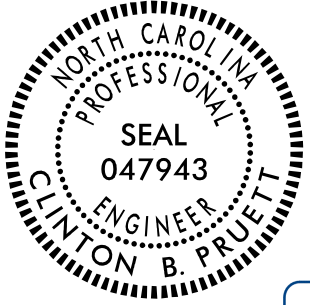
N/A

NCDOT CONTACT: JOSH WHITE, PE, PLS

PLANS PREPARED BY:	PLANS PREPARED FOR:
 TGS ENGINEERS 201 W. MARION ST SUITE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 1710 E. MARION ST SHELBY, NC 28150
RIGHT OF WAY DATE: N/A	JIMMY L. TERRY, PE PROJECT ENGINEER
	CLINTON B. PRUETT, PE PROJECT DESIGN ENGINEER
2024 STANDARD SPECIFICATIONS	

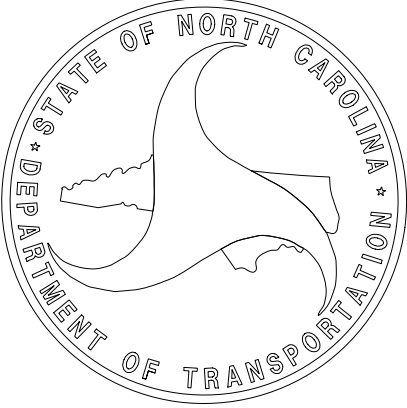
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ENGINEER

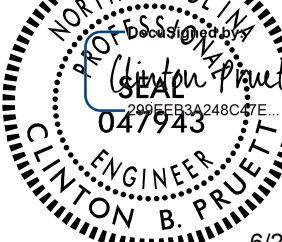
6/25/2026



DocuSigned by:
Clinton Pruett
SIGNATURE

P.E.



PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	1A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
6/25/2026	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	TCS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS & PAVEMENT MARKING LEGEND
4	PLAN SHEET
EC-2A	ONSITE CONCRETE WASHOUT DETAIL
SIG-1.0 THRU SIG-1.2	SIGNAL PLANS

PAVEMENT MARKING LEGEND

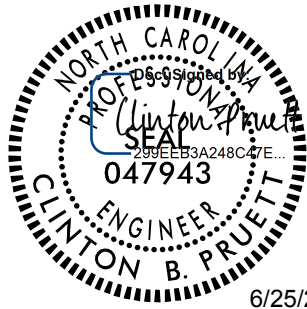
SYMBOL	DESCRIPTION
	THERMOPLASTIC (24")
T61	WHITE STOPBAR (90 MILS)
T62	WHITE CROSSWALK LINE (90 MILS)

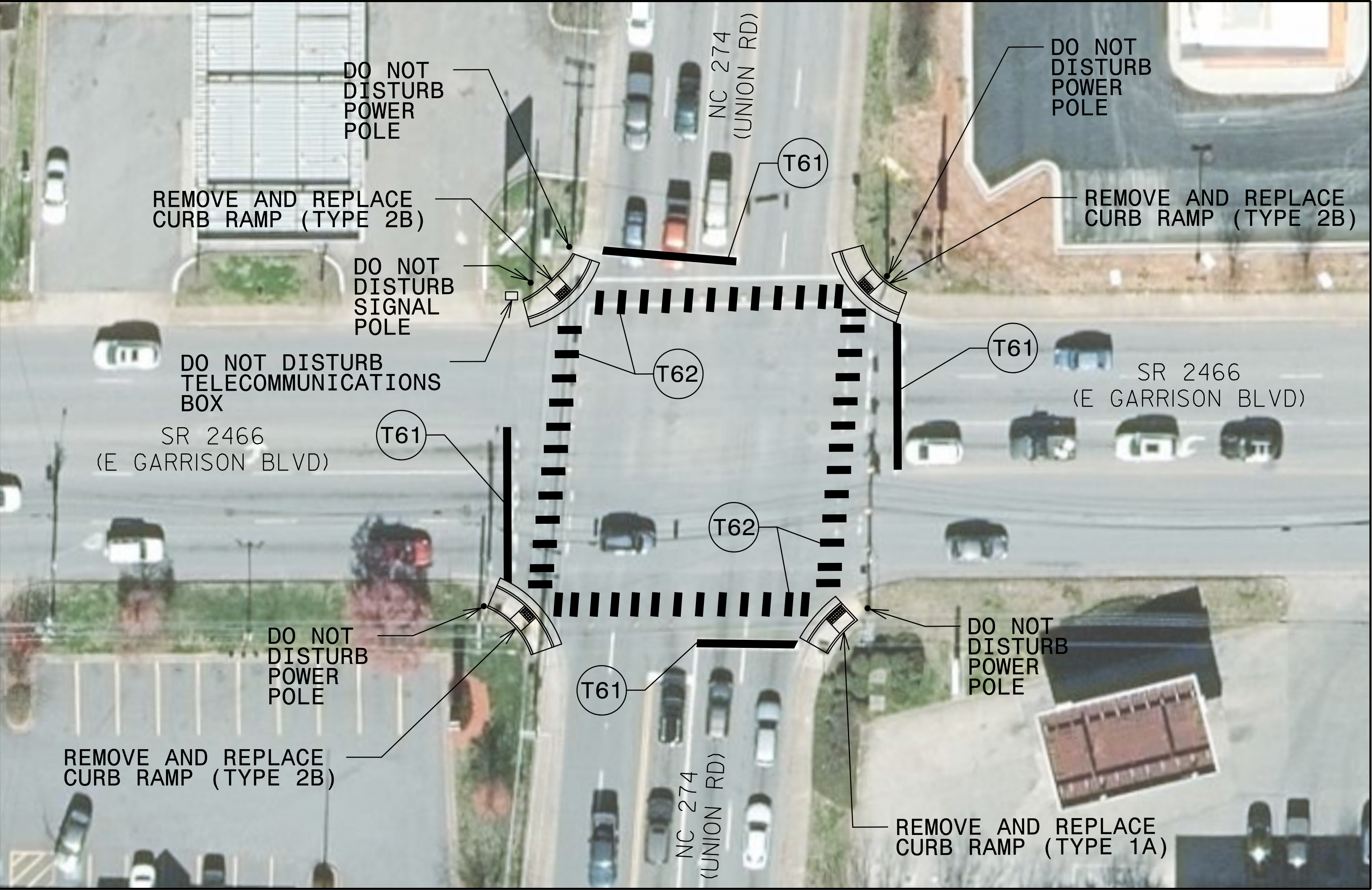
8/17/99

REVISIONS



SITE 195 – NC 274 (UNION RD) AT SR 2466 (E GARRISON BLVD)

PROJECT REFERENCE NO.	SHEET NO.
BN-0031A	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST., STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



NOTE: REFER TO SIGNAL PLANS
FOR ALL PEDESTRIAN SIGNAL
AND PUSH BUTTON LOCATIONS.

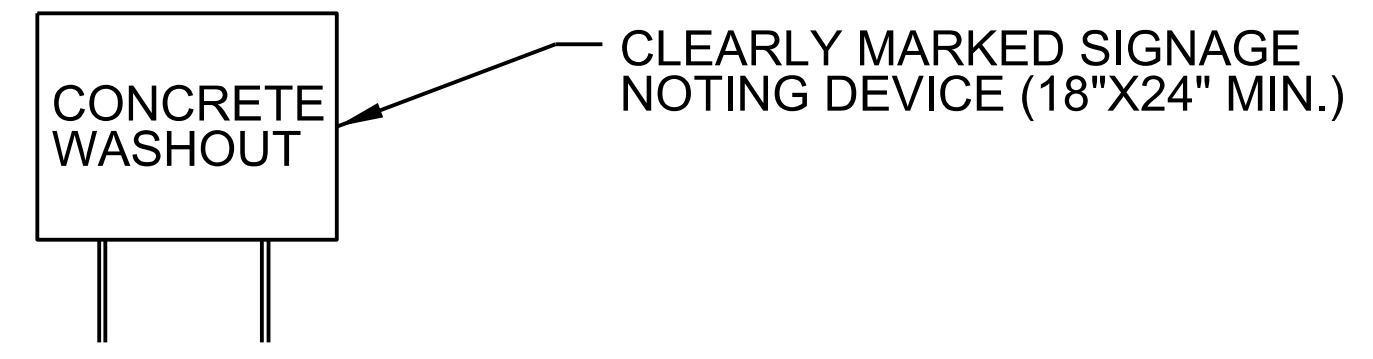
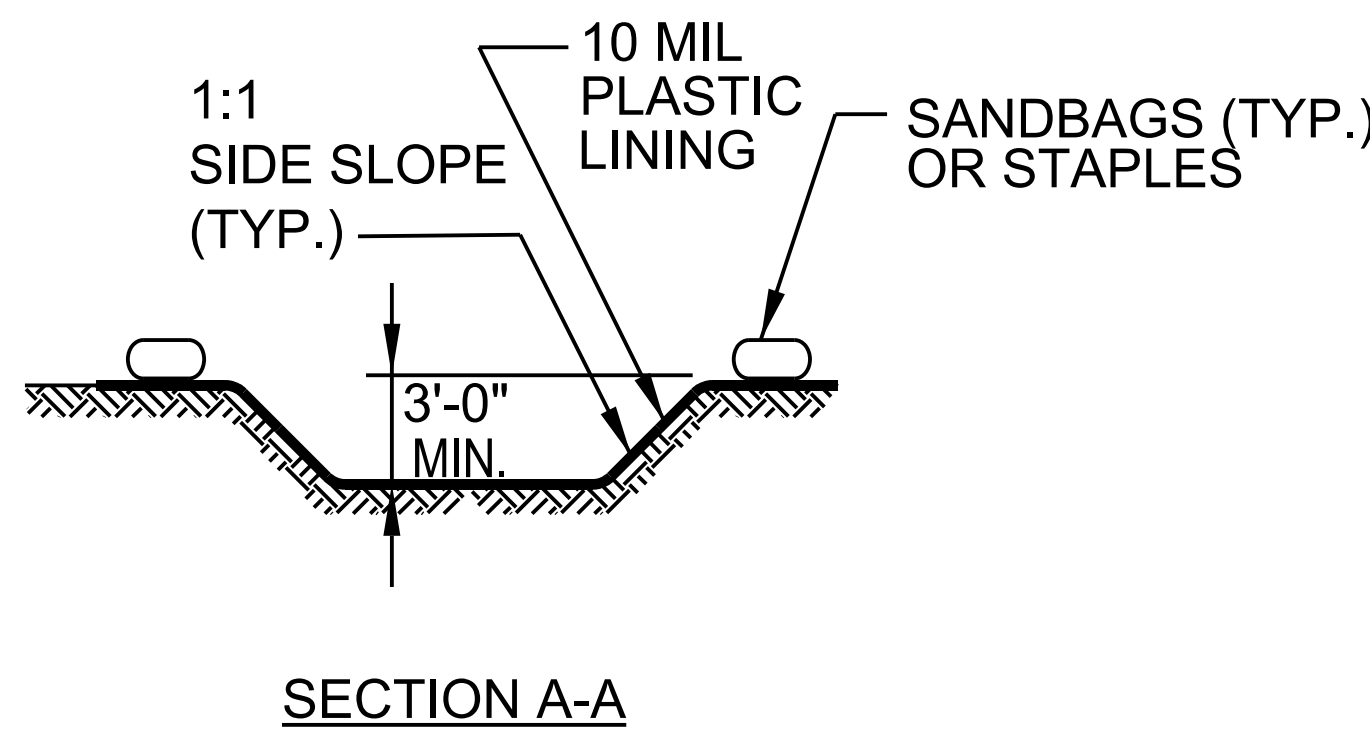
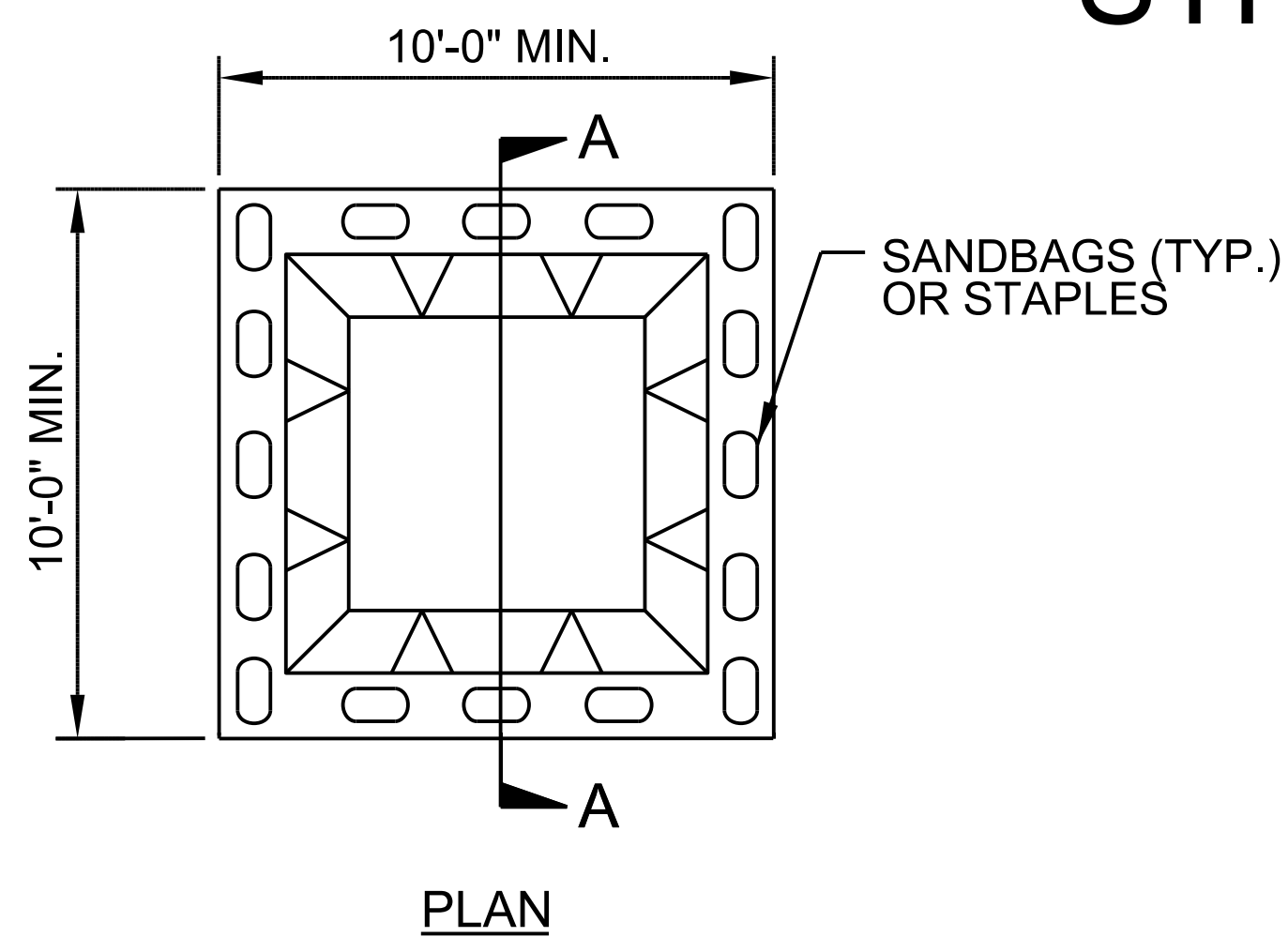
NOTE: NO SURVEY INFORMATION
AVAILABLE. ITEMS ARE SHOWN
AT APPROXIMATE LOCATIONS
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 FOR CURB RAMP INSTALLATION.
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

\$\$\$SYTIME\$\$\$
\$\$\$DESIGN\$\$\$
\$\$\$DRAWING\$\$\$
\$\$\$DATE: 8/17/99\$\$\$
\$\$\$BY: [signature]\$\$\$
\$\$\$CHECKED: [signature]\$\$\$
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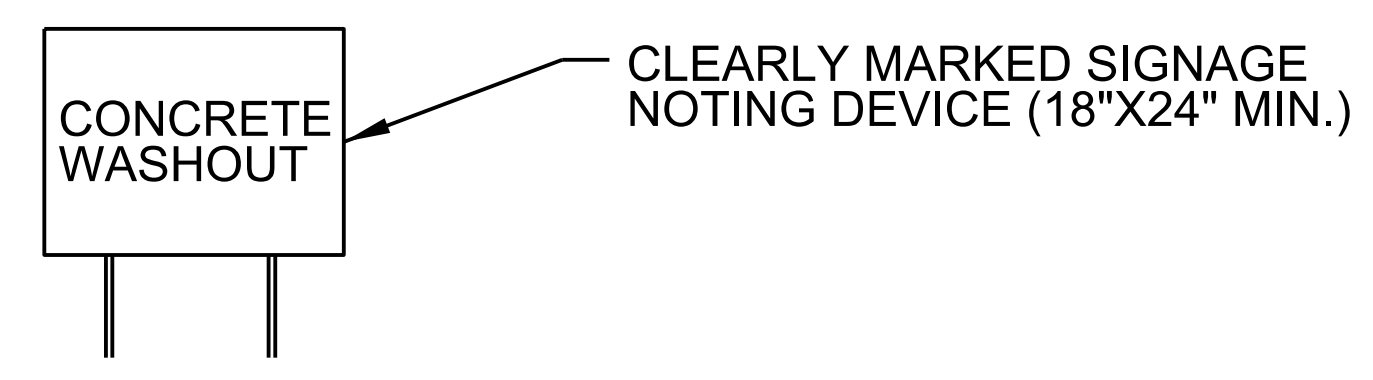
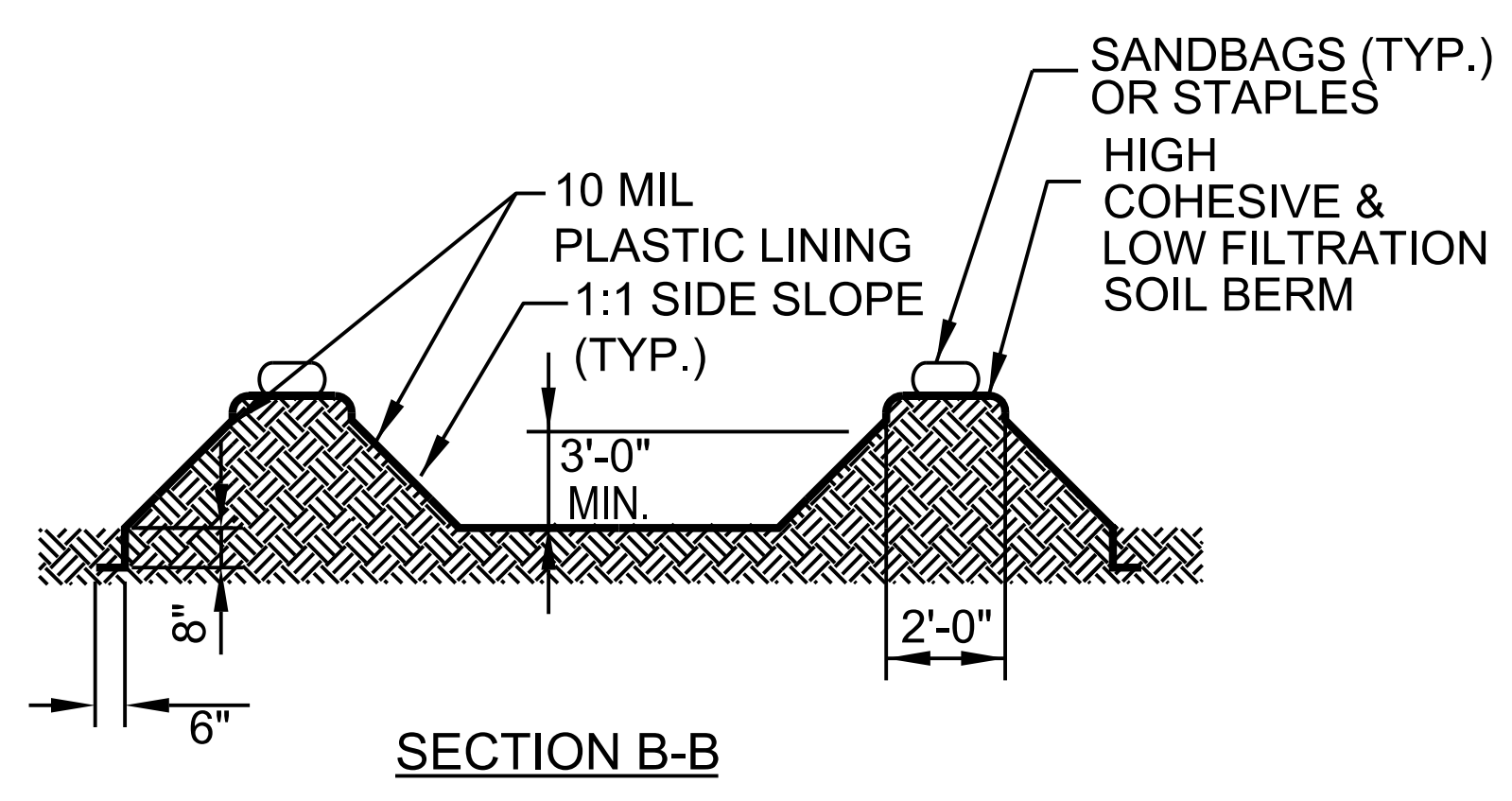
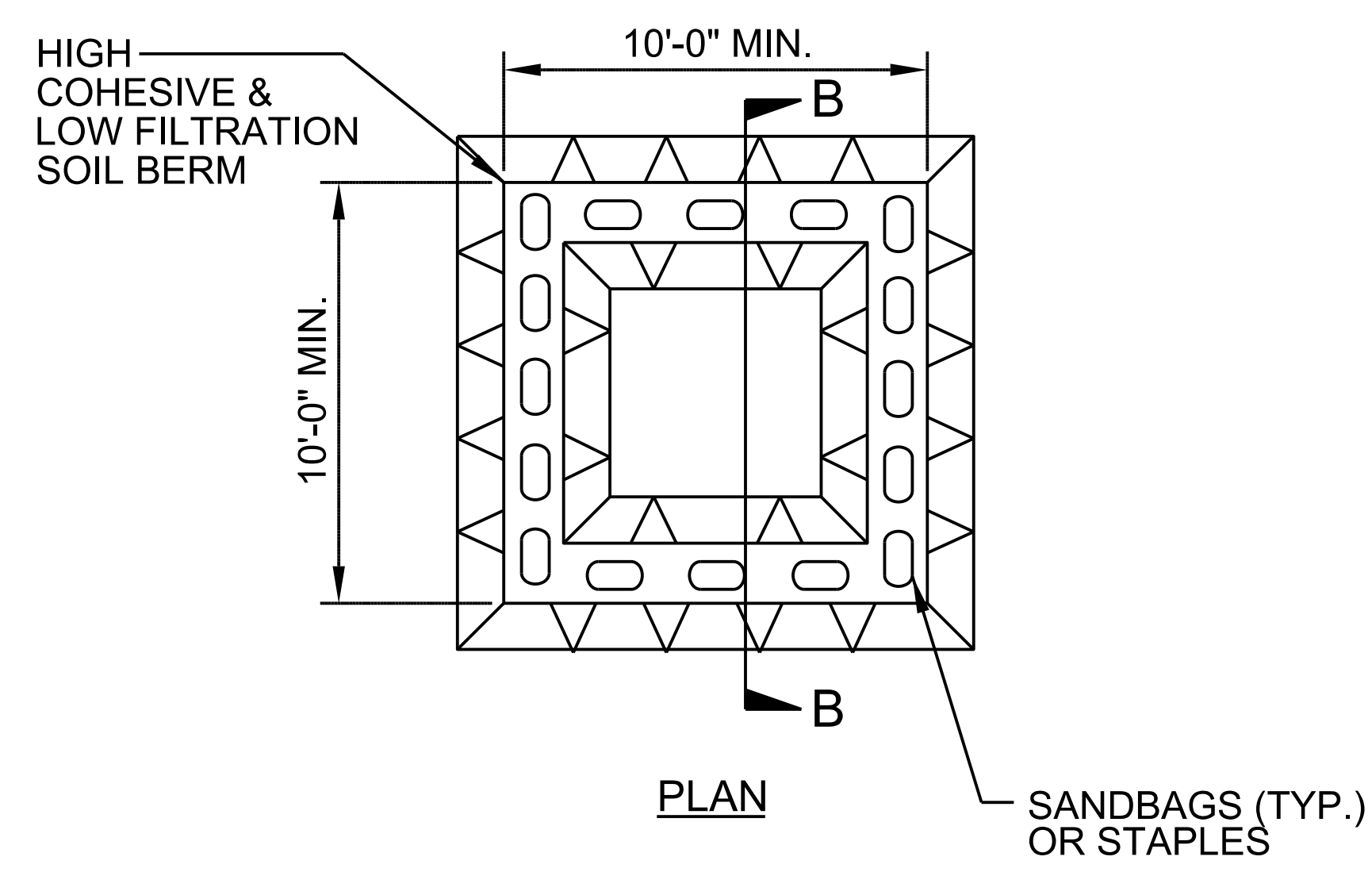
PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

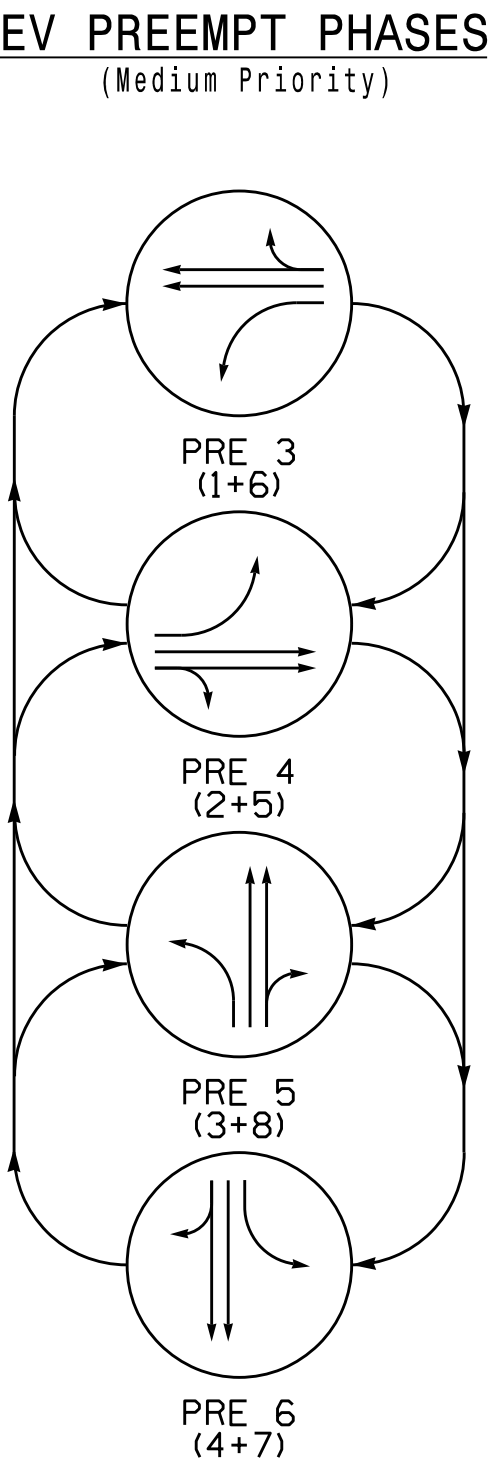
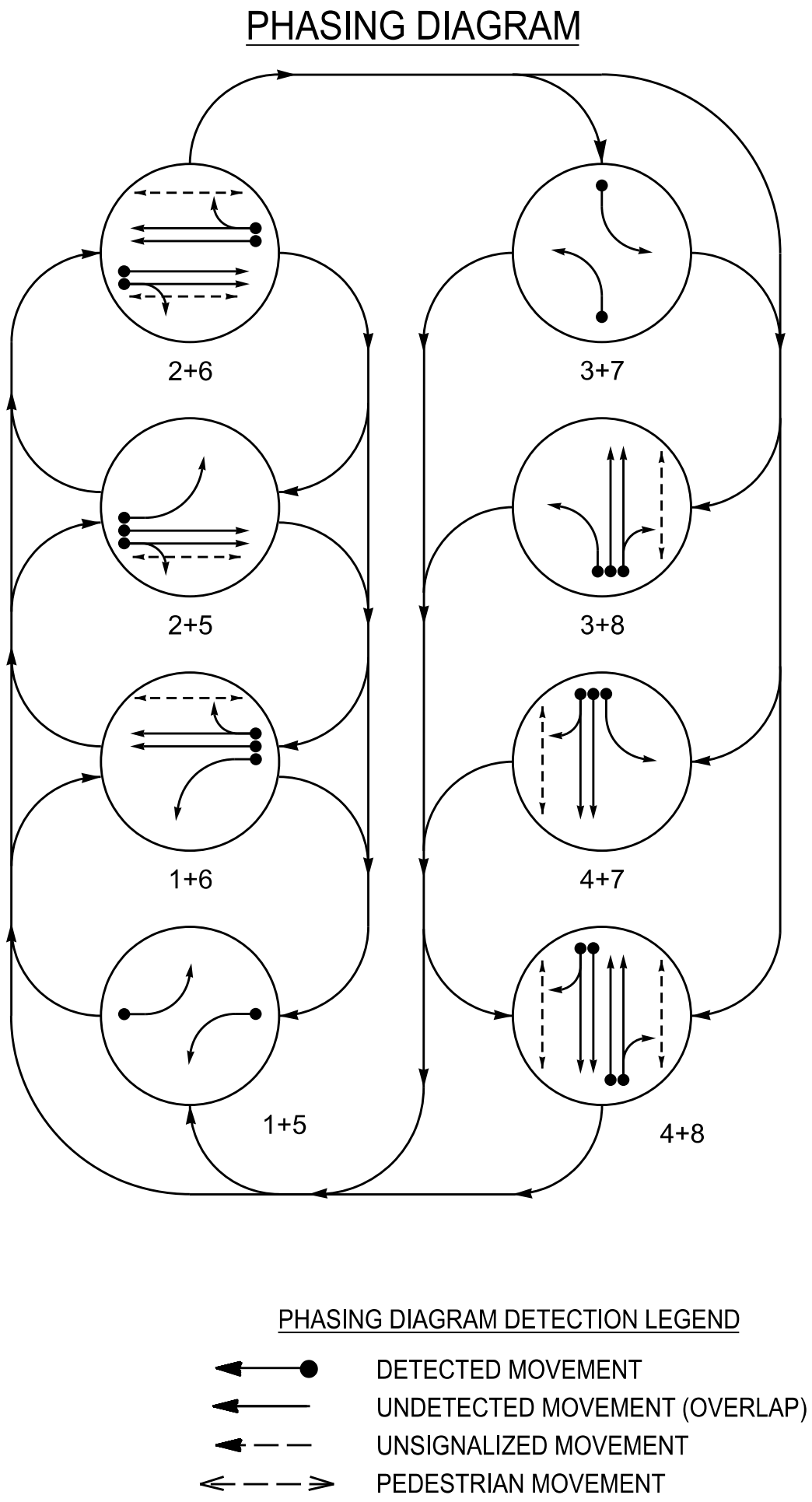


TABLE OF OPERATION																
SIGNAL FACE	PHASE															
	1 + 5	1 + 6	2 + 5	2 + 6	3 + 7	3 + 8	4 + 7	4 + 8	PRE 3	PRE 4	PRE 5	PRE 6	FLASH			
11	←	←	←	←	←	←	←	←	←	←	←	←	←			
21,22	R	R	G	G	R	R	R	R	R	G	R	R	R			
31	←	←	←	←	←	←	←	←	←	←	←	←	←			
41,42	R	R	R	R	R	G	G	R	R	R	R	G	R			
51	←	←	←	←	←	←	←	←	←	←	←	←	←			
61,62	R	G	R	G	R	R	R	R	G	R	R	R	R			
71	←	←	←	←	←	←	←	←	←	←	←	←	←			
81,82	R	R	R	R	R	G	R	G	R	R	G	R	R			
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DW	DW	DW	DW	DRK			
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DW	DW	DW	DW	DRK			
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DW	DW	DW	DW	DRK			
P81,P82	DW	DW	DW	DW	DW	W	DW	W	DW	DW	DW	DW	DRK			

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION				
SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Union.
P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Union.
P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Garrison.
PB43	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Garrison.
P62	X	-	Walk	Union. Walk sign is on to cross Union.
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Union.
PB63	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Union.
P81	X	-	Walk	Garrison. Walk sign is on to cross Garrison.
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Garrison.
P82	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Garrison.

8 Phase
Fully Actuated
w/ Emergency Vehicle Preemption
Gastonia Signal System

PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	Sig.1.0

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024, "Standard Specifications for Roads and Structures" dated January 2024, and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website: <https://connect.ncdot.gov/resources/safety/Pages/TSMO-Design-Resources.aspx>
- 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.
- Replace existing pushbuttons with APS Pushbuttons.
- This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- See Roadway Design Plans for cross walk locations.

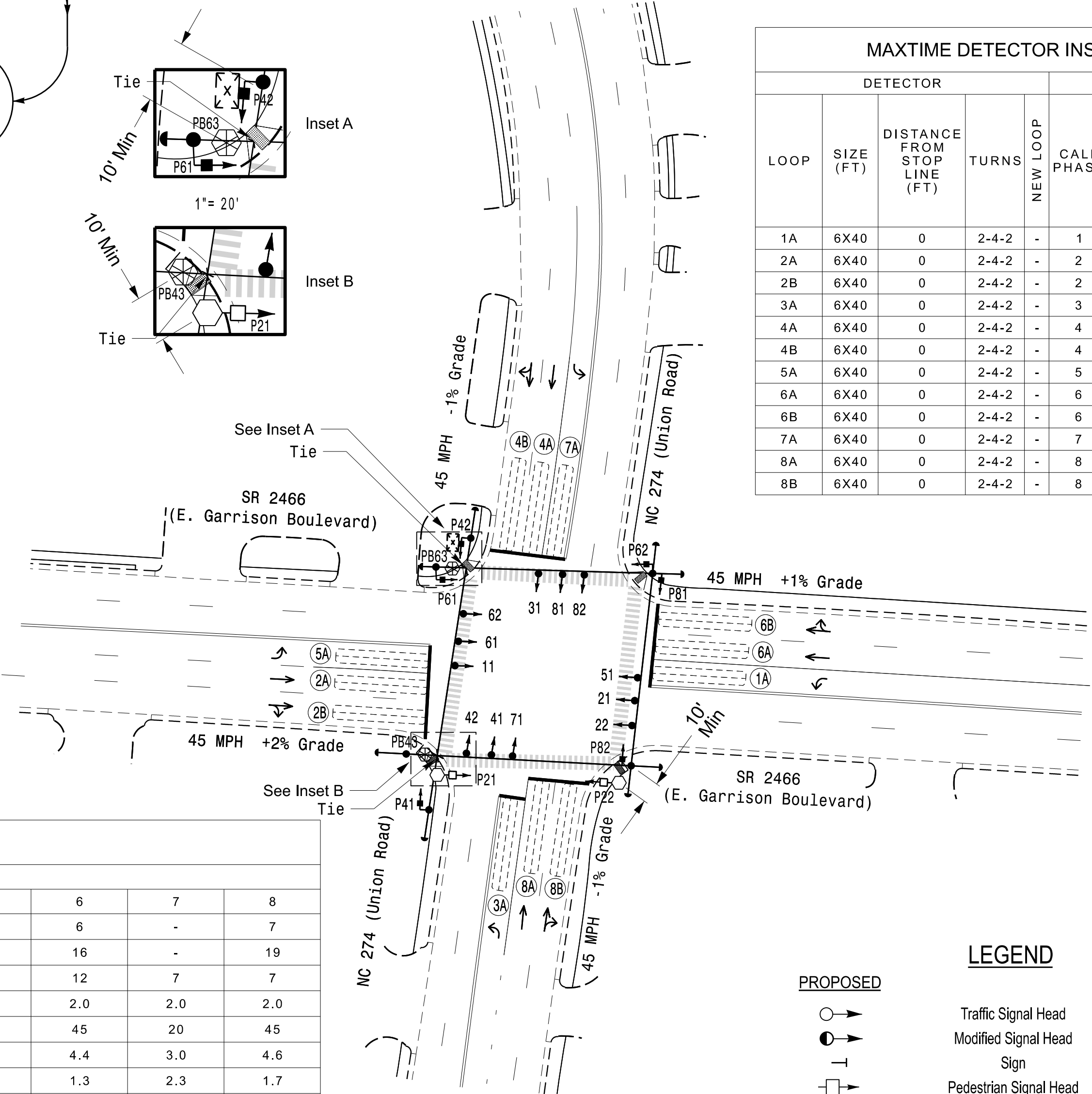
MAXTIME DETECTOR INSTALLATION CHART												
DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD	
1A	6X40	0	2-4-2	-	1	3.0	-	X	-	X	-	-
2A	6X40	0	2-4-2	-	2	-	-	X	-	X	-	-
2B	6X40	0	2-4-2	-	2	-	-	X	-	X	-	-
3A	6X40	0	2-4-2	-	3	3.0	-	X	-	X	-	-
4A	6X40	0	2-4-2	-	4	-	-	X	-	X	-	-
4B	6X40	0	2-4-2	-	4	10.0	-	X	-	X	-	-
5A	6X40	0	2-4-2	-	5	3.0	-	X	-	X	-	-
6A	6X40	0	2-4-2	-	6	-	-	X	-	X	-	-
6B	6X40	0	2-4-2	-	6	-	-	X	-	X	-	-
7A	6X40	0	2-4-2	-	7	3.0	-	X	-	X	-	-
8A	6X40	0	2-4-2	-	8	-	-	X	-	X	-	-
8B	6X40	0	2-4-2	-	8	10.0	-	X	-	X	-	-

MAXTIME PREEMPTION CHART				
FUNCTION	PRE 3	PRE 4	PRE 5	PRE 6
Type	EMERG VEH	EMERG VEH	EMERG VEH	EMERG VEH
Exit Phases	2, 6	2, 6	4, 8	4, 8
Delay	0	0	0	0
Call Extend Time	2.0	2.0	2.0	2.0
Max Presence	120	120	120	120
Enter Min Green	1	1	1	1
Enter Walk	1	1	1	1
Enter Ped Clear	5	5	5	5
Enter Yellow Change	25.5*	25.5*	25.5*	25.5*
Enter Red Clear	25.5*	25.5*	25.5*	25.5*
Track Green	0	0	0	0
Track Yellow Change	25.5*	25.5*	25.5*	25.5*
Track Red Clear	25.5*	25.5*	25.5*	25.5*
Dwell Green	7	7	7	7
Exit Min Green	255*	255*	255*	255*
Exit Yellow Change	25.5*	25.5*	25.5*	25.5*
Exit Red Clear	25.5*	25.5*	25.5*	25.5*
Exit Type	EXIT PHASES	EXIT PHASES	EXIT PHASES	EXIT PHASES
Ped Clear Through Yellow	Y	Y	Y	Y
Require All Red Entry	-	-	-	-

* Directs controller to use default phase timing.

MAXTIME TIMING CHART								
FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	7	-	7	-	6	-	7
Ped Clear	-	18	-	21	-	16	-	19
Min Green *	7	12	7	7	7	12	7	7
Passage *	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max 1 *	20	45	20	45	20	45	20	45
Yellow Change	3.0	4.4	3.0	4.6	3.0	4.4	3.0	4.6
Red Clear	2.6	1.3	2.6	1.7	2.4	1.3	2.3	1.7
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Advance Walk	-	7	-	7	-	6	-	7
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle 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.



PROPOSED		EXISTING	
	Traffic Signal Head		N/A
	Modified Signal Head		N/A
	Sign		N/A
	Pedestrian Signal Head		N/A
	With Push button & Sign		N/A
	Signal Pole with Guy		N/A
	Signal Pole with Sidewalk Guy		N/A
	Inductive Loop Detector		N/A
	Controller & Cabinet		N/A
	Junction Box		N/A
	2-in Underground Conduit		N/A
	Right of Way		N/A
	Directional Arrow		N/A
	Curb Ramp		N/A
	Type I Pushbutton Post		N/A
	Type II Signal Pedestal		N/A

AECOM
NC Firm License No.: F-0342
5438 Wade Park Boulevard
Suite 200 Raleigh, NC 27607
Phone: 919-461-1100

Signal Upgrade

Prepared for the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SR 2466 (E. Garrison Boulevard)
at
NC 274 (Union Road)

Division 12 Gaston County Gastonia

PLAN DATE: May 2026 REVIEWED BY: R. Garrett

PREPARED BY: X. Han REVIEWED BY:

REVISIONS

INIT. DATE

Sig. Inventory No. 12-0098

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

THURGOOD LAW

SEAL 056268

ENGINEER

YUDONG HAN

Signed by: Yudong Han

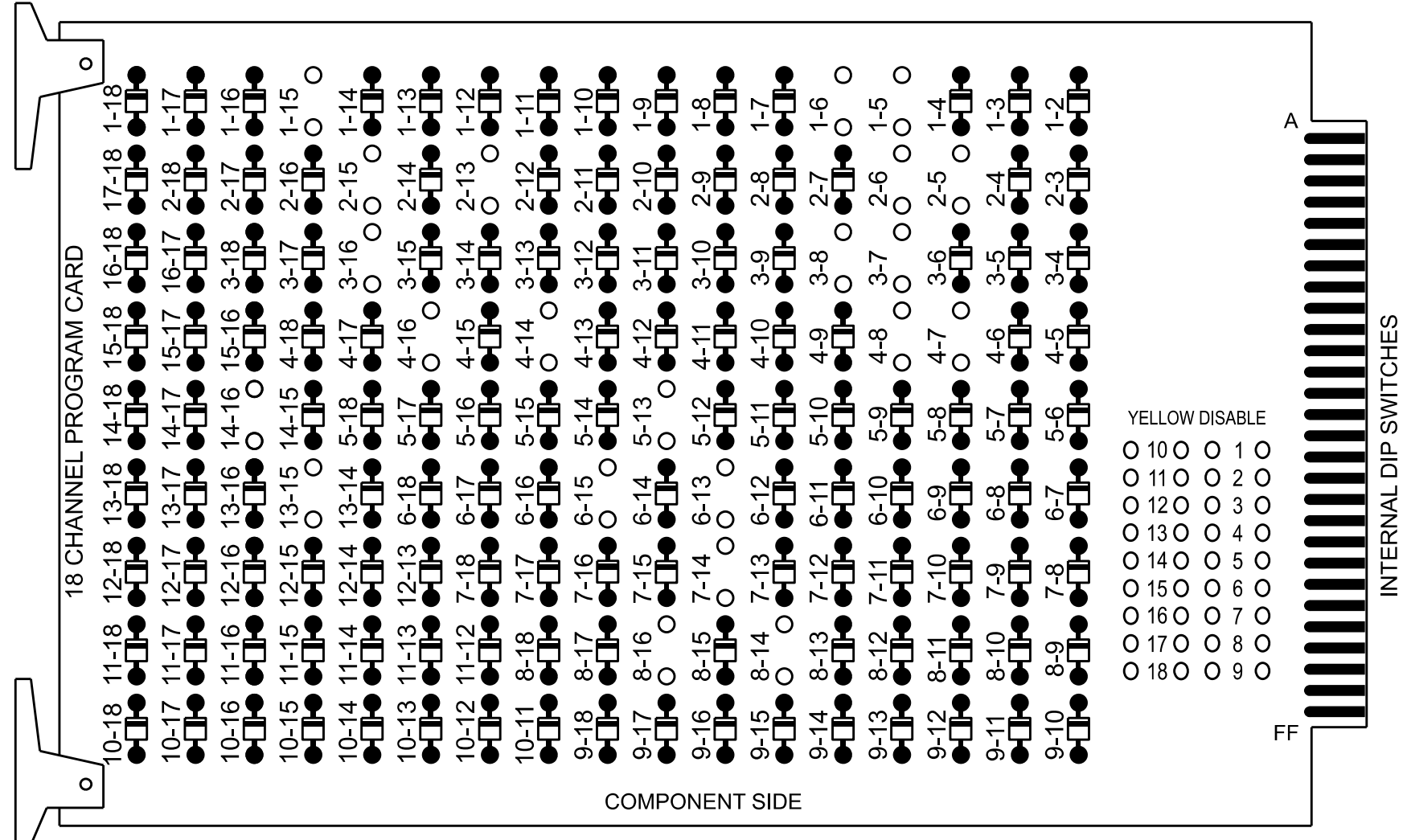
6/5/2026

DATE

18 CHANNEL IP CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

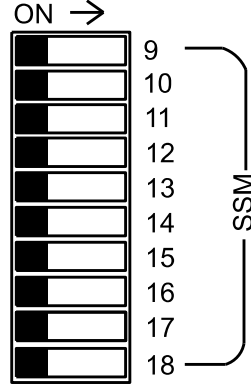
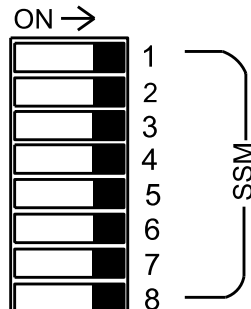
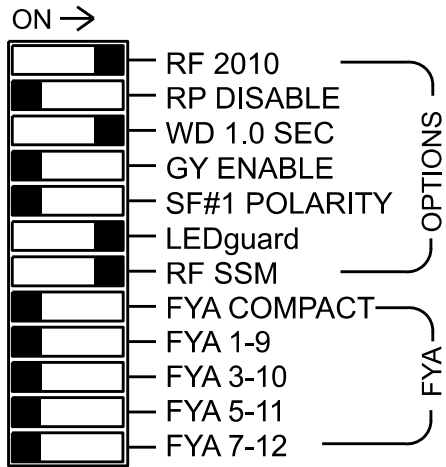
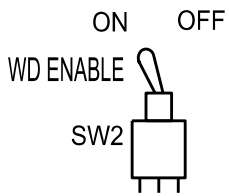
REMOVE DIODE JUMPERS 1-5, 1-6, 1-15, 2-5, 2-6, 2-13, 2-15, 3-7, 3-8,
3-16, 4-7, 4-8, 4-14, 4-16, 5-13, 6-13, 6-15, 7-14, 8-14, 8-16, 13-15 AND 14-16.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that the Red Enable is active at all times during normal operation.
- Integrate monitor with Ethernet network in cabinet.



■ = DENOTES POSITION OF SWITCH

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
- Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
- The cabinet and controller are part of the Gastonia Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S3, S4, S5, S6, S7, S8, S9,
S10, S11, S12
Phases Used.....1, 2, 2PED, 3, 4, 4PED, 5, 6, 6PED,
7, 8, 8 PED
Overlaps.....NONE

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11	21,22	P21, P22	31	41,42	P41, P42	51	61,62	P61, P62	71	81,82	P81, P82	NU	NU	NU	NU	NU	NU
RED		128			101			134			107							
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW	125			116			131			122								
YELLOW ARROW	126			117			132			123								
GREEN ARROW	127			118			133			124								
Hand icon			113			104			119			110						
Walking person icon			115			106			121			112						

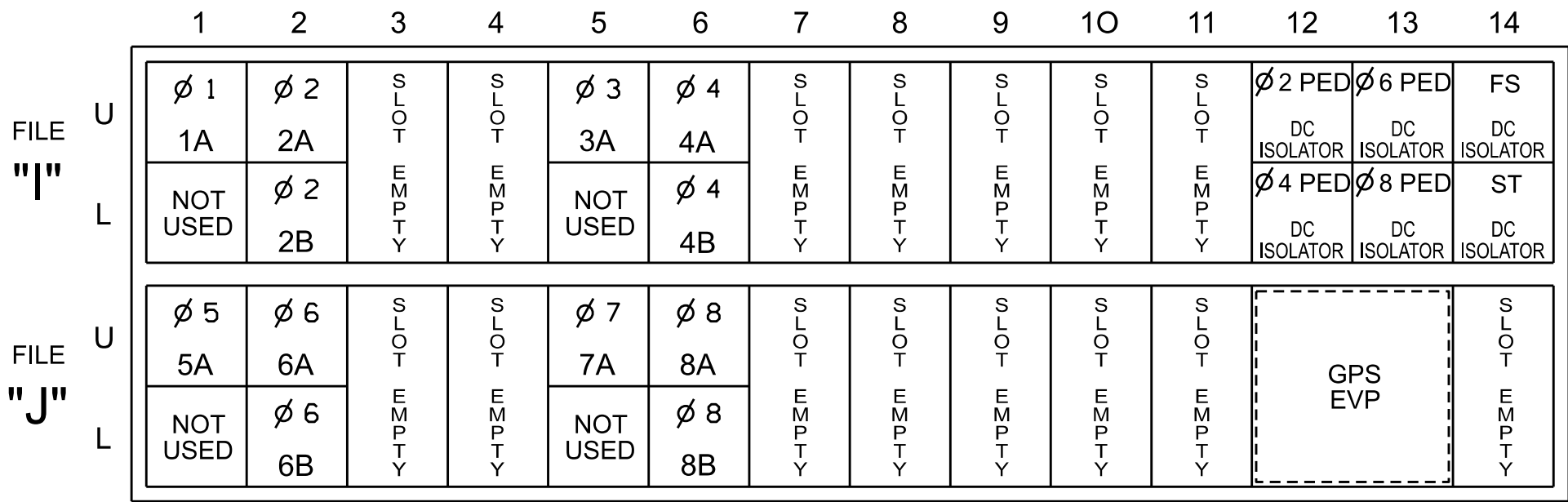
NU = Not Used

ACCESSIBLE PEDESTRIAN SIGNAL (APS)
INSTALLATION NOTES

- Install push buttons and APS equipment per manufacturer's instructions.
- Provide a dedicated cable to each push button per manufacturer's instructions.
- If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
- Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
- Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
- An APS push button station that is designed to work without the need for interfacing with a pedestrian signal head shall be installed for applications where a push button is installed in a median without a pedestrian signal head.
- A push button with a single tactile arrow that points in both directions of travel shall be installed if the median separates two parallel crosswalks.

INPUT FILE POSITION LAYOUT

(front view)



EX. : 1A, 2A, ETC. = LOOP NO.'S

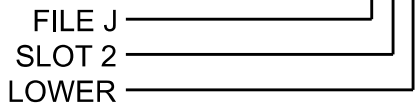
FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1	3.0		X		X	
2A	TB2-5,6	I2U	39	1	2	2			X		X	
2B	TB2-7,8	I2L	43	5	3	2			X		X	
3A	TB4-5,6	I5U	58	20	7	3	3.0		X		X	
4A	TB4-9,10	I6U	41	3	8	4			X		X	
4B	TB4-11,12	I6L	45	7	9	4	10.0		X		X	
5A	TB3-1,2	J1U	55	17	15	5	3.0		X		X	
6A	TB3-5,6	J2U	40	2	16	6			X		X	
6B	TB3-7,8	J2L	44	6	17	6			X		X	
7A	TB5-5,6	J5U	57	19	21	7	3.0		X		X	
8A	TB5-9,10	J6U	42	4	22	8			X		X	
8B	TB5-11,12	J6L	46	8	23	8	10.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE:
INSTALL DC ISOLATORS
IN INPUT FILE SLOTS
I12 AND I13.

INPUT FILE POSITION LEGEND: J2L



COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

GPS PREEMPTION INSTALLATION NOTE

Install a GPS preemption system. Perform installation according to manufacturer's directions and NCDOT engineer approved mountaing location to accomplish the preemption schemes shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0098
DESIGNED: May 2026
SEALED: 06/05/2026
REVISED: N/A

AECOM
NC Firm License No.: F-0342
5438 Wade Park Boulevard
Suite 200, Raleigh, NC 27607
Phone: 919-461-1100

Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 2466 (E. Garrison Boulevard) at NC 274 (Union Road)		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared for the Offices of: 		Division 12 Gaston County Gastonia		SEAL 	
PLAN DATE: May 2026		REVIEWED BY: J O Deaton		DocuSigned by: James O. Deaton 6/5/2026	
PREPARED BY: M W Yalch		REVIEWED BY:		406F8AC43BBD0E DATE	
REVISIONS		INIT.		DATE	
				SIC. INVENTORY NO. 12-0098	

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration						
Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehide	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

Notice Red Flash

PREEMPTION PROGRAMMING

Front Panel
Main Menu >Controller >Preemption >Preempt Phasing/Preempt Parameters

Web Interface
Home >Controller >Preempt Configuration >Preempts

Preempt	3	4	5	6
Enabled	Enabled	Enabled	Enabled	Enabled
Type	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh
Track Phases	-	-	-	-
Track Overlaps	-	-	-	-
Dwell Phases	1,6	2,5	3,8	4,7
Dwell Peds	-	-	-	-
Dwell Overlaps	-	-	-	-
Cycling Phases	-	-	-	-
Cycling Peds	-	-	-	-
Cycling Overlaps	-	-	-	-
Exit Phases	2,6	2,6	4,8	4,8
Exit Overlaps	-	-	-	-
Delay	0	0	0	0
Call Ext Time	2.0	2.0	2.0	2.0
Max Presence	120	120	120	120
Max Pres Act	Terminate	Terminate	Terminate	Terminate
Enter Min Green	1	1	1	1
Enter Walk	1	1	1	1
Enter Ped Clear	5	5	5	5
Enter Yellow Change	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	25.5	25.5
Track Green	-	-	-	-
Track Yellow Clr	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5
Dwell Green	7	7	7	7
Exit Min Green	255	255	255	255
Exit Yellow Change	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5
Exit Type	Exit Phases	Exit Phases	Exit Phases	Exit Phases
Non Locking Memory	X	X	X	X
Not Ovrd Flash	X	X	X	X
Not Ovrd Nxt Pre	X	X	X	X
Require All Red Entry	-	-	-	-
Track Clear Ovrd	X	X	X	X
Ped Clear During Yellow	X	X	X	X
Entry Omit OLTG	-	-	-	-
Track Reserve	-	-	-	-

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters
StartUp Clearance Hold
6

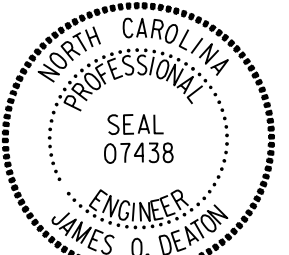
Unit Flash Parameters
All Red Flash Exit Time
6

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0098
DESIGNED: May 2026
SEALED: 06/05/2026
REVISED: N/A

Electrical Detail - Sheet 2 of 2

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

AECOM
NC Firm License No.: F-0342
5438 Wade Park Boulevard
Suite 200, Raleigh, NC 27607
Phone: 919-461-1100

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared for the Offices of:  750 N. Greenfield Pkwy, Garner, NC 27529	SR 2466 (E. Garrison Boulevard) at NC 274 (Union Road)		SEAL  DocuSigned by: <i>James O. Deaton</i> 40E78AC430BD40E SIGNATURE DATE 6/5/2026 SIG. INVENTORY NO. 12-0098
	Division 12 Gaston County Gastonia		
	PLAN DATE: May 2026	REVIEWED BY: J O Deaton	
	PREPARED BY: M W Yalch	REVIEWED BY:	
	REVISIONS		
INIT.		DATE	

09/08/99

TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets

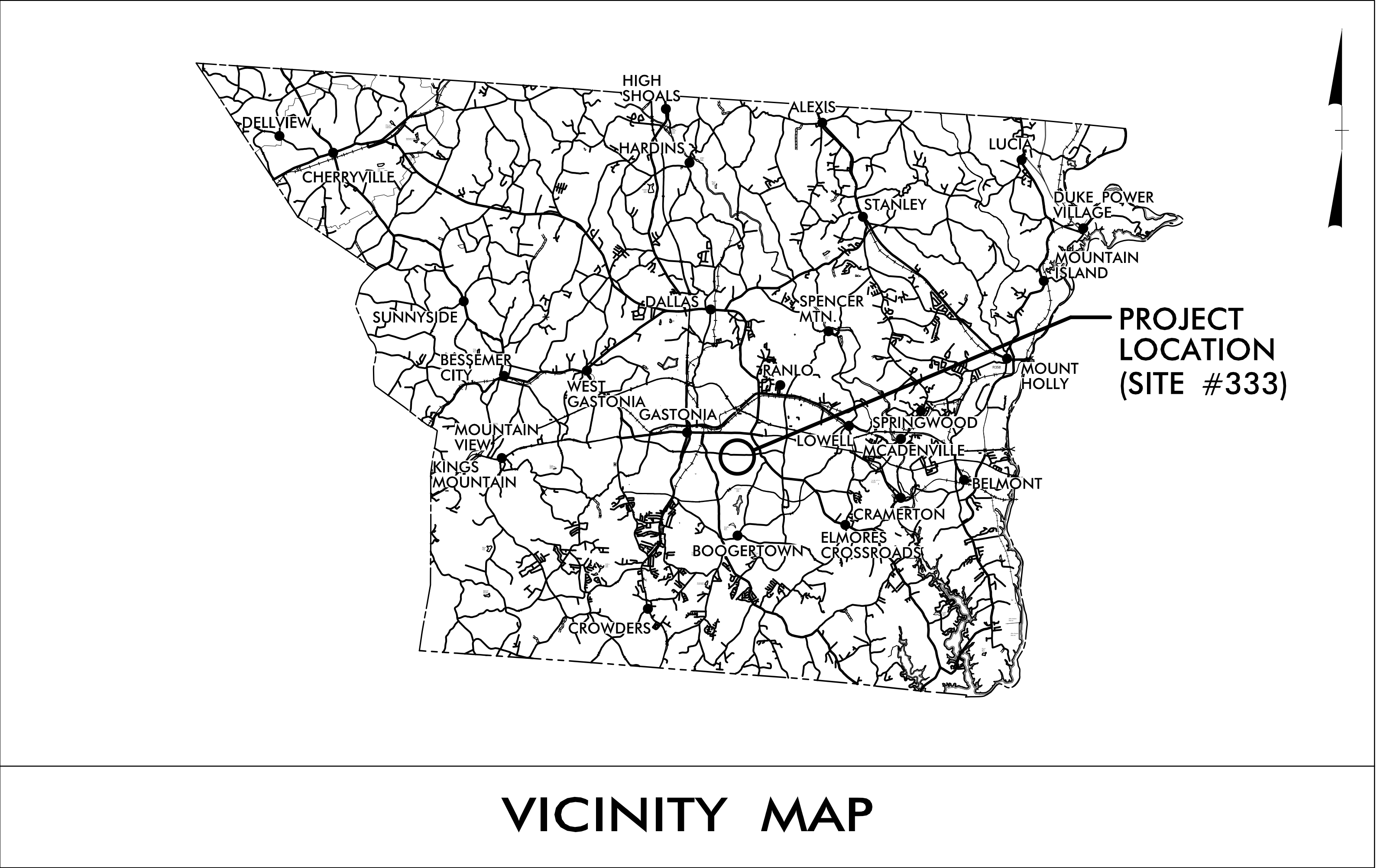
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: INTERSECTION OF SR 2466 (E GARRISON BLVD) AND
SR 1700 (CHURCHILL DR)

TYPE OF WORK: INSTALLATION OF PEDESTRIAN SIGNALS AND
CONSTRUCTION OF CONCRETE CURB RAMPS

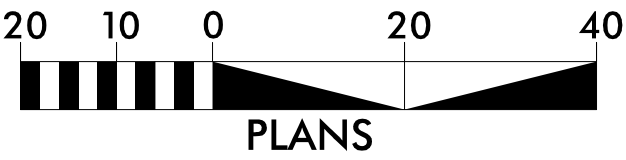
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
52073.12.8	TAPE012	PE	
52073.12.302	TA12301	CONST.	



VICINITY MAP

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 16,600
K = N/A %
D = N/A %
T = N/A % *
V = 45 MPH
* TTST =N/A DUAL =N/A
FUNC CLASS =
URBAN ARTERIAL
REGIONAL TIER

PROJECT LENGTH

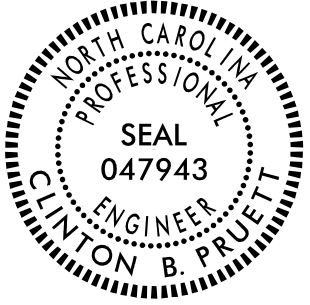
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NCDOT CONTACT: JOSH WHITE, PE, PLS

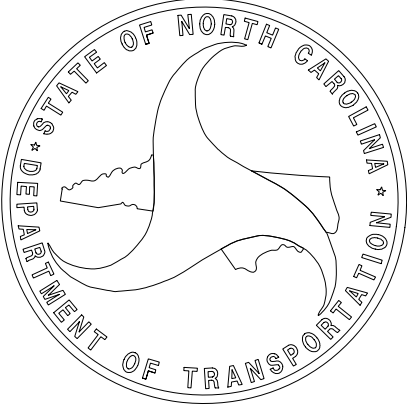
PLANS PREPARED BY:	PLANS PREPARED FOR:
 TGS ENGINEERS 201 W. MARION ST SUITE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 1710 E. MARION ST SHELBY, NC 28150
RIGHT OF WAY DATE: N/A	JIMMY L. TERRY, PE PROJECT ENGINEER
	CLINTON B. PRUETT, PE PROJECT DESIGN ENGINEER
2024 STANDARD SPECIFICATIONS	

ROADWAY DESIGN
ENGINEER

6/25/2026



DocuSigned by:
Clinton Pruett
SIGNATURE: P.E.



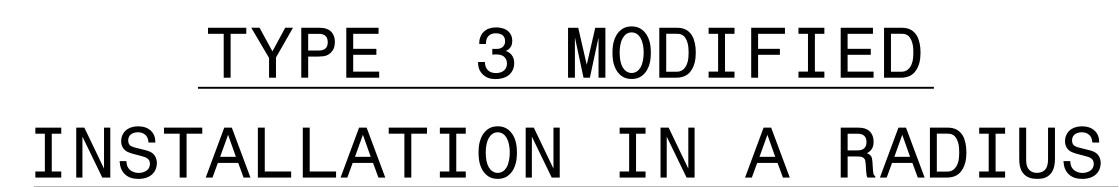


RAMP WIDTH AREA IS VARIABLE

2'-0" LENGTH

BASE DIAMETER
0.9"R TO 1.40"R

TOP DIAMETER OF NO LESS
THAN 50% TO NO MORE
THAN 65% OF THE BASE
DIAMETER



- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

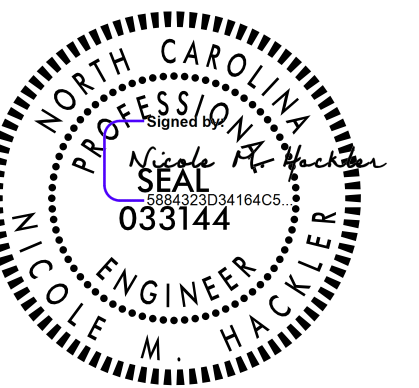
PAY LIMITS FOR 1 CURB RAMP

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

CURB RAMP
PARALLEL RAMP

SHEET 9 OF 13

848D06



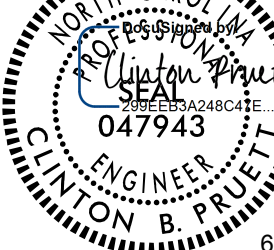
25/2026

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

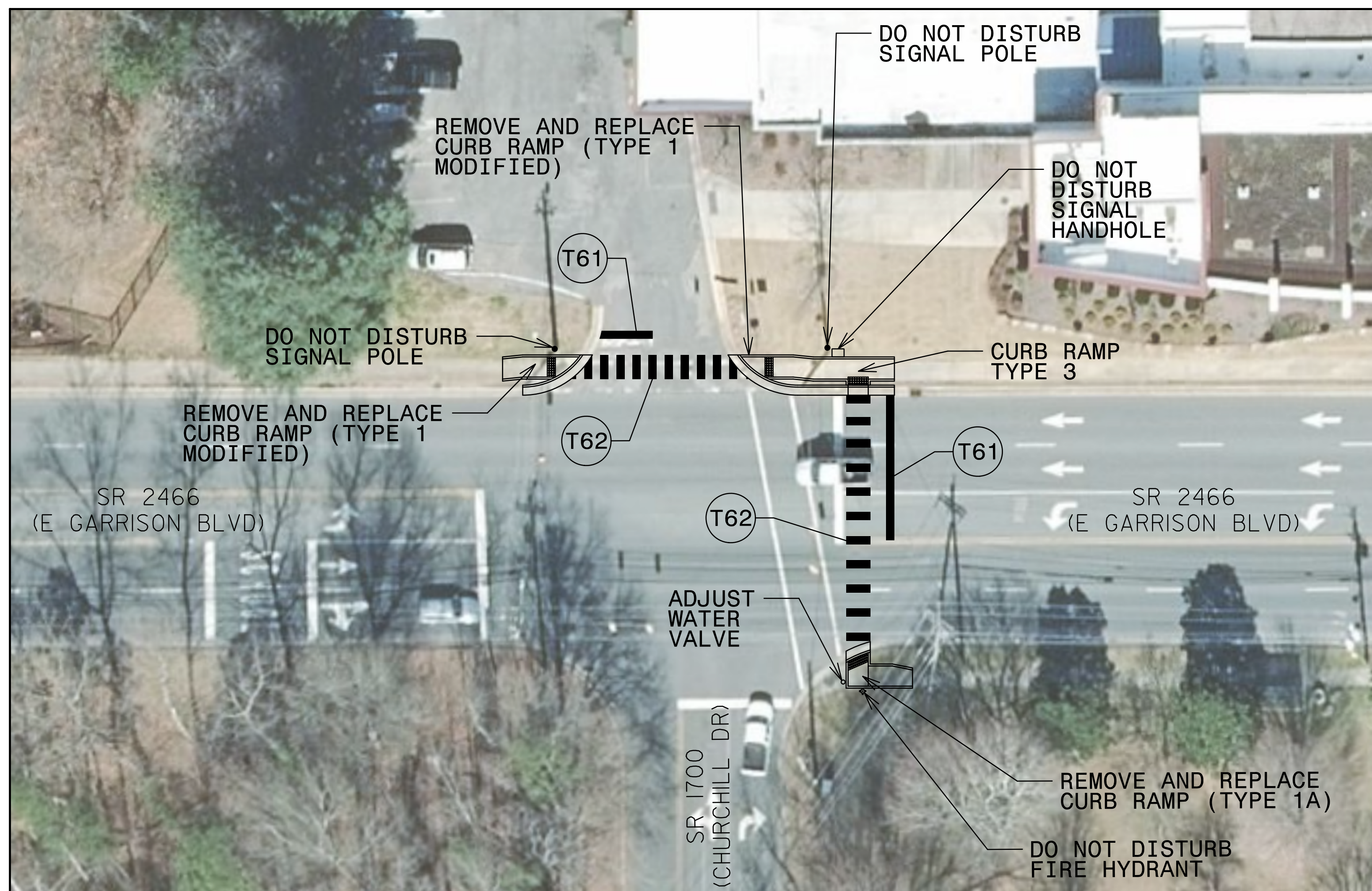
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 12-22-2023
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: special_details\nmhackler\D0609.dgn

PROJECT REFERENCE NO.	SHEET NO.
BN-003/LA	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
6/25/2026	
DESIGN NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	TGS ENGINEERS 201 W. MARION ST., STE 200 SHELBY, NC 28150 PH. (704) 476-0003 CORP. LICENSE NO.: C-0275

***SITE 333 – SR 2466 (E GARRISON BLVD)
AT SR 1700 (CHURCHILL DR)***



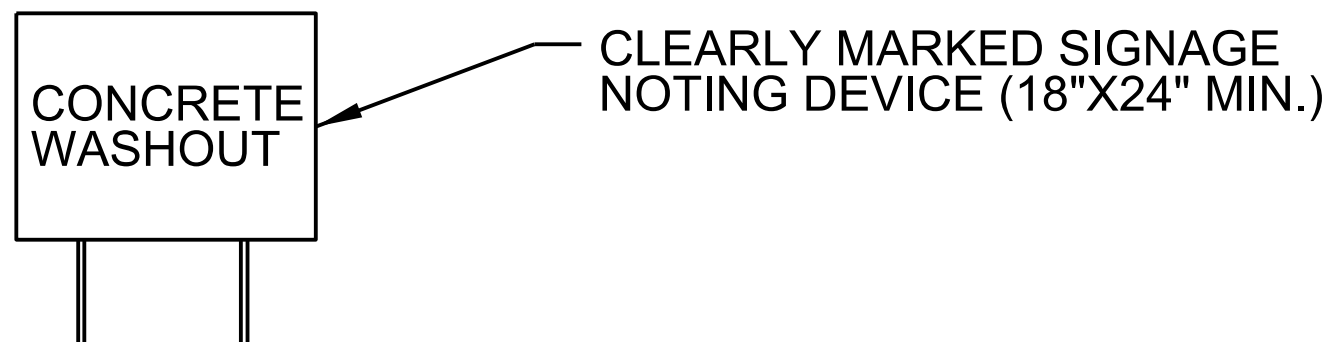
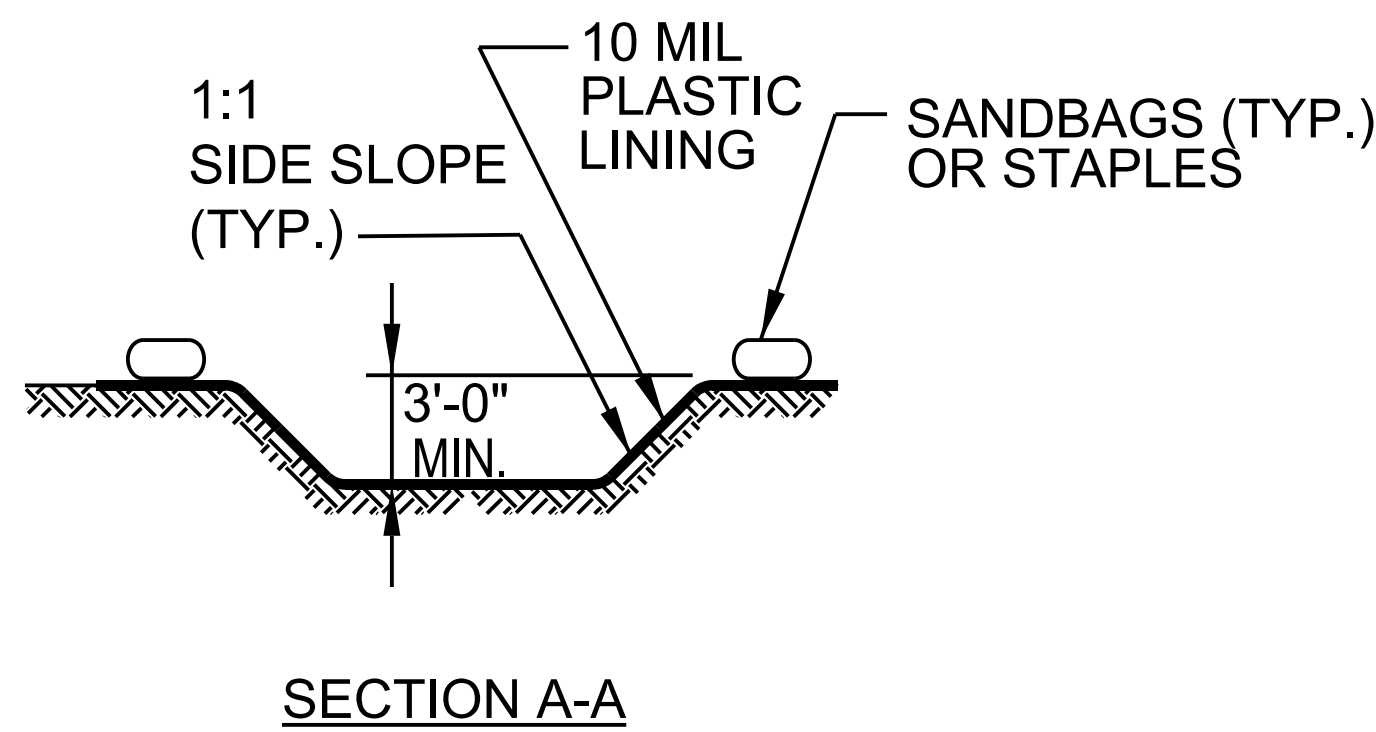
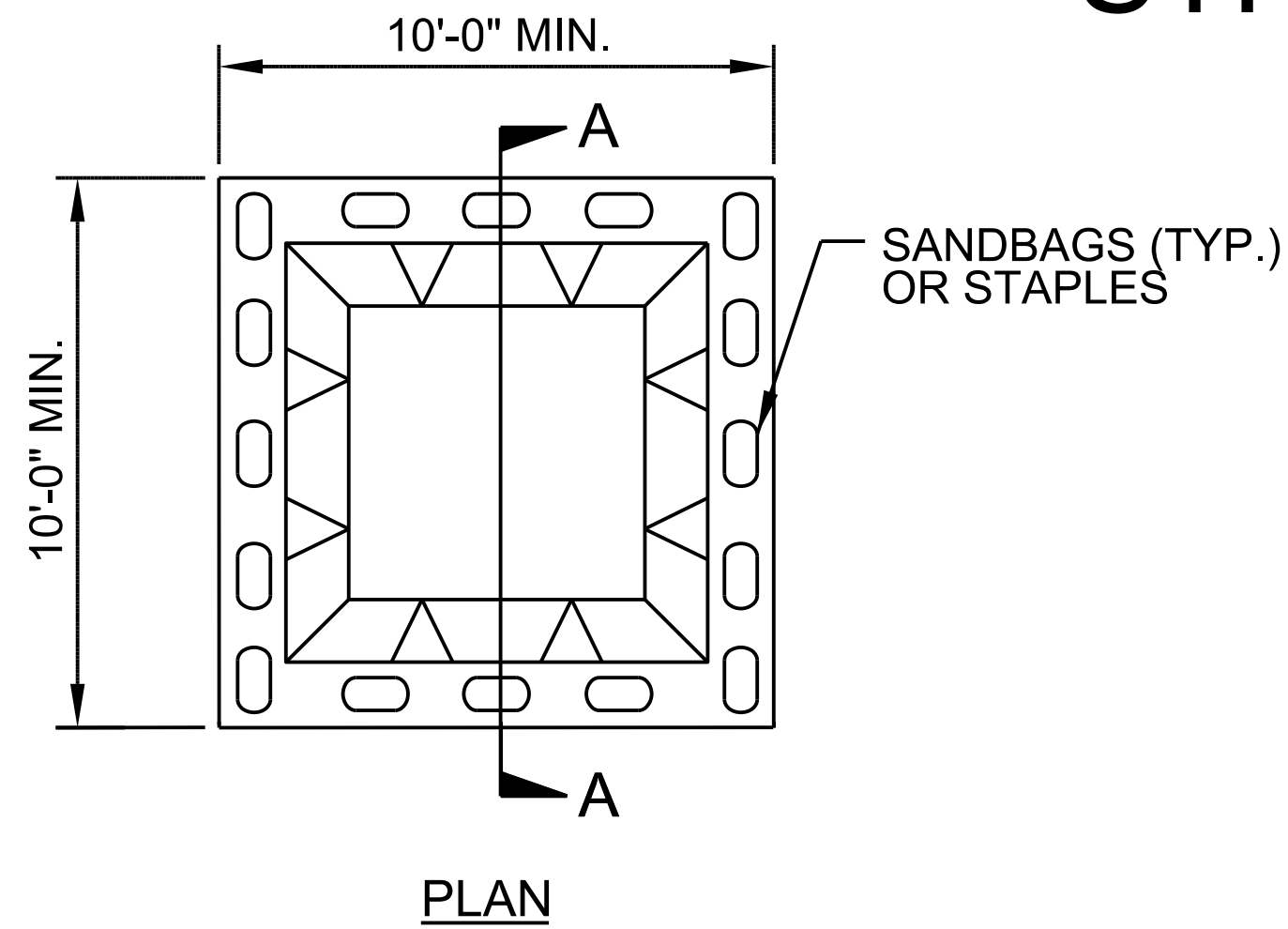
NOTE: REFER TO SIGNAL PLANS
FOR ALL PEDESTRIAN SIGNAL
AND PUSH BUTTON LOCATIONS.

NOTE: NO SURVEY INFORMATION
AVAILABLE. ITEMS ARE SHOWN
AT APPROXIMATE LOCATIONS
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

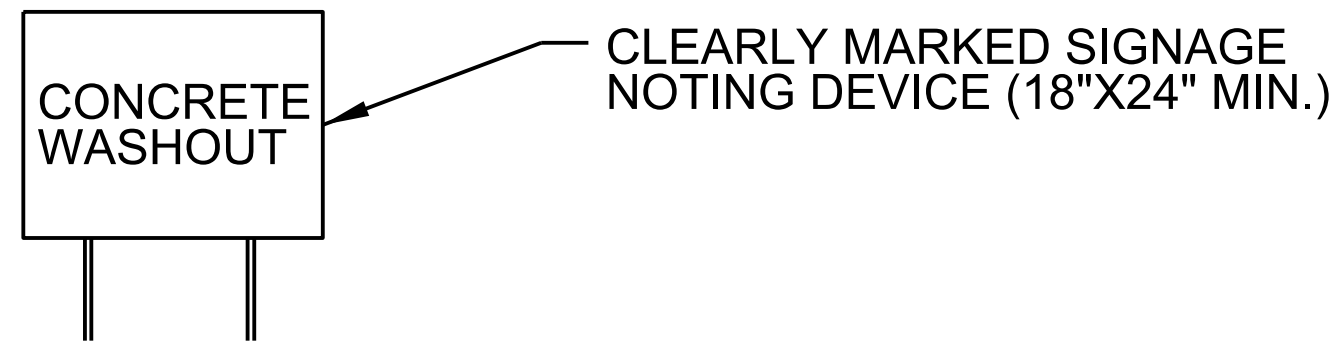
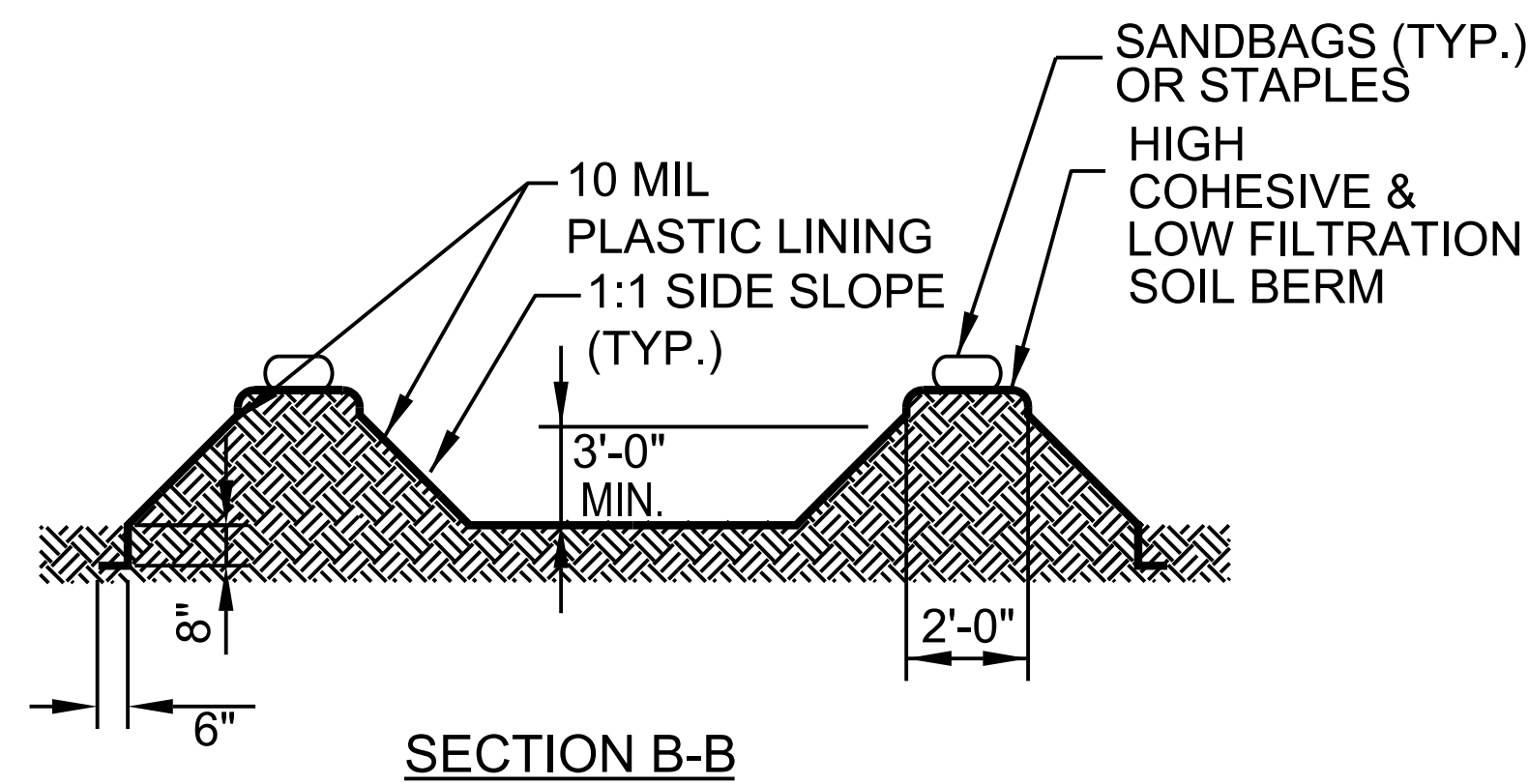
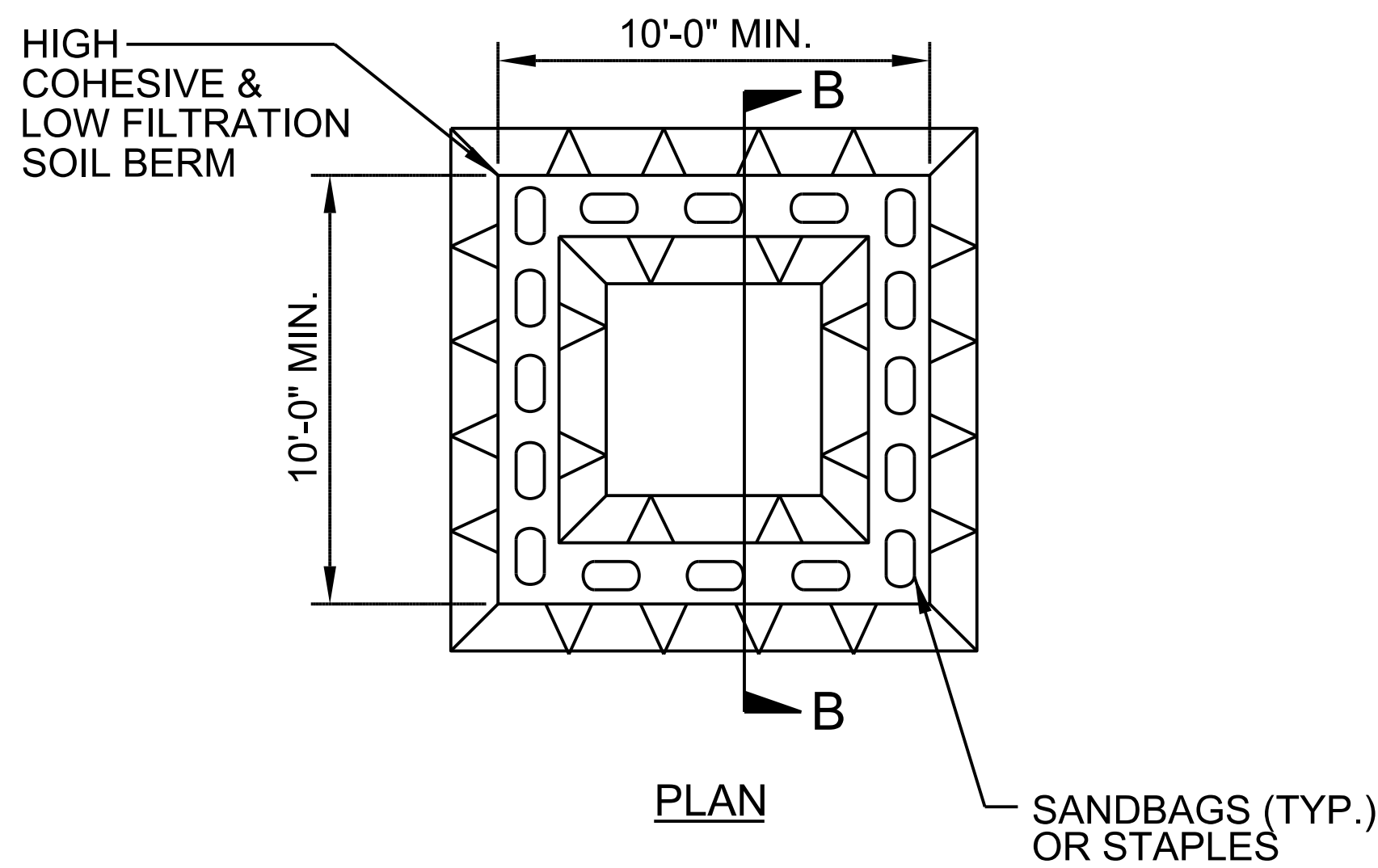
PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

	DETECTED MOVEMENT
	UNDETECTED MOVEMENT (OVERLAP)
	UNSIGNALIZED MOVEMENT
	PEDESTRIAN MOVEMENT

TABLE OF OPERATION			
SIGNAL FACE	PHASE		
	2 + 6	4 + 8	F A S H
21	$\overline{F}$ $\overline{Y}$	$\overline{R}$ $\overline{R}$	$\overline{R}$ $\overline{R}$
22,23	G	R	R
41,42	R	G	R
61	$\overline{F}$ $\overline{Y}$	$\overline{R}$ $\overline{R}$	$\overline{R}$ $\overline{R}$
62,63	G	R	R
81,82	R	G	R
P61,P62	W	DW	DR
P81,P82	DW	W	DR

	12"		12"		16"
21 61		22,23 41,42 62,63 81,82		P61,P62 P81,P82	
			12"		
		24 25			
		(See notes 8 & 9)			

MAXTIME DETECTOR INSTALLATION CHART												
DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD	
2A	6X6	300	6	-	2	-	-	X	X	X	-	
2B	6X6	300	6	-	2	-	-	X	X	X	-	
4A	6X20	+10	Existing	-	4	-	-	X	-	X	-	
6A	6X6	300	6	-	6	-	-	X	X	X	-	
6B	6X6	300	6	-	6	-	-	X	X	X	-	
8A	6X60	0	2-4-2	-	8	-	-	X	-	X	-	
8B	6X60	0	2-4-2	-	8	-	-	X	-	X	-	

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Pavement markings are existing unless otherwise shown/noted.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Flash beacons 24 and 25 during school hours.
10. Beacons 24 and 25 shall flash alternately.
11. All proposed pedestrian signal heads shall be black in color (Federal Standard 595C, Color Chip Number 27038).

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	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	
	Type II Signal Pedestal	
	Type I Pushbutton Post	
	Right Arrow "ONLY" Sign (R3-5R)	
	Street Name Sign (D3-1)	
	School Advance Beacon (See Figure 1)	

MAXTIME TIMING CHART				
FEATURE	PHASE			
	2	4	6	8
Walk *	-	-	14	12
Ped Clear	-	-	9	16
Min Green *	12	7	12	7
Passage *	6.0	2.0	6.0	2.0
Max 1 *	60	20	60	20
Yellow Change	4.8	3.2	4.8	3.2
Red Clear	1.5	2.6	1.5	2.6
Added Initial *	1.5	-	1.5	-
Maximum Initial *	34	-	34	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	30	-	30	-
Minimum Gap	3.0	-	3.0	-
Advance Walk	-	-	7	5
Non Lock Detector	-	X	-	X
Vehicle Recall	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	X	-	X
Simultaneous Entry	-	X	-	X

SIGNAL FACE	INTERVAL	
	1	2
24	ON	OFF
25	OFF	ON

FIGURE 1

24 12"

SPEED
LIMIT
35

8:00 - 9:00 AM
3:00 - 4:00 PM
SCHOOL
DAYS

25 12"

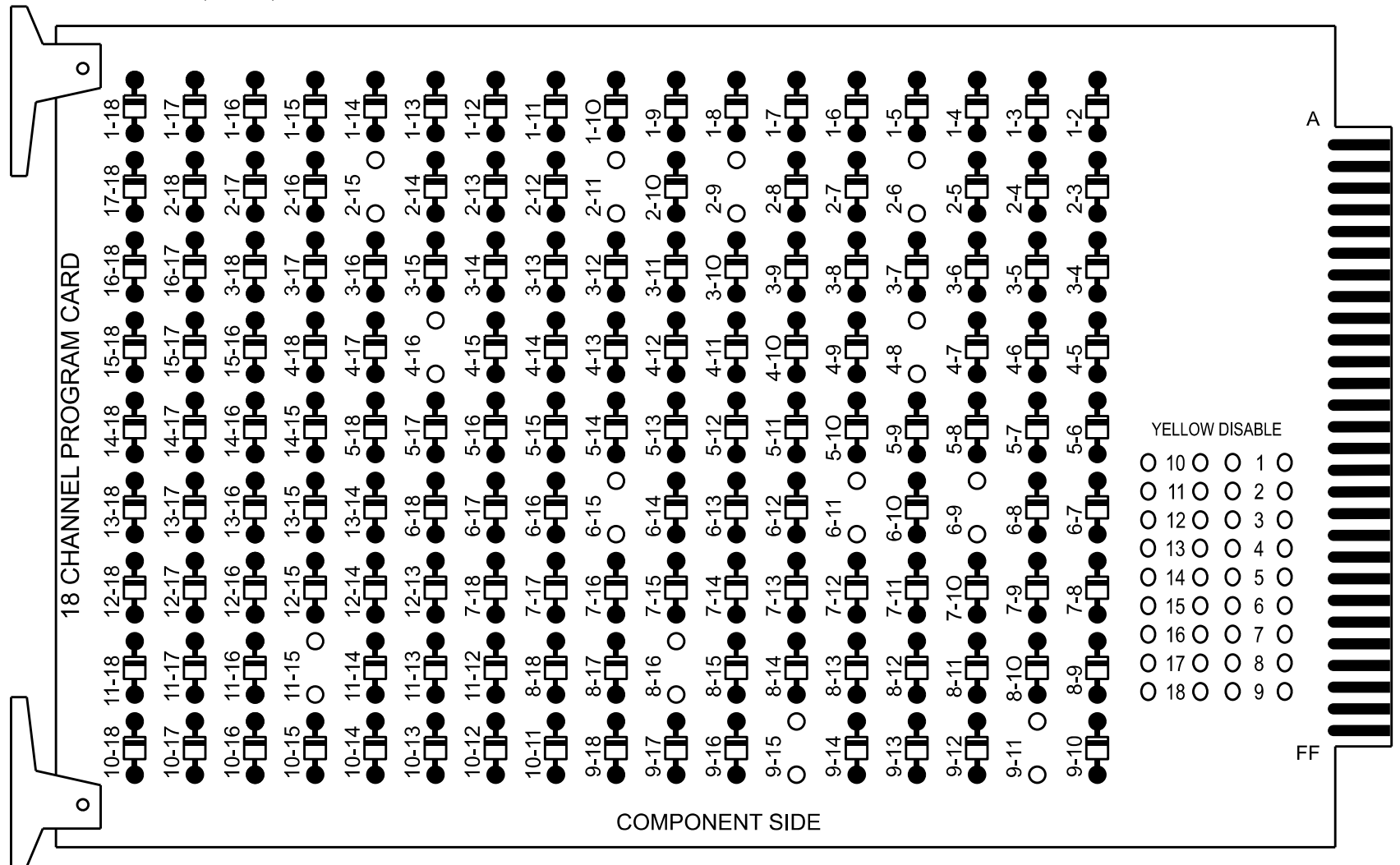
SIGN ©

Stantec Stantec Consulting Services Inc. 801 Jones Franklin Road-Suite 300 Raleigh, NC 27606 Tel. 919.851.6866 Fax. 919.851.7024 www.stantec.com License No. F-0672	Prepared in the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529	Signal Upgrade SR 2466 (Garrison Boulevard) at Churchill Drive Division 12 Gaston County Gastonia <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">PLAN DATE: April 2026</td> <td style="width: 50%;">REVIEWED BY: R Muncey</td> </tr> <tr> <td>PREPARED BY: J Galloway</td> <td>REVIEWED BY:</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">REVISIONS</th> <th style="width: 10%;">INIT.</th> <th style="width: 20%;">DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	PLAN DATE: April 2026	REVIEWED BY: R Muncey	PREPARED BY: J Galloway	REVIEWED BY:	REVISIONS	INIT.	DATE																															DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SEAL Signed by <u>Jason Galloway</u> 4/22/2026 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1001F2B40B46FE</td> <td style="width: 50%;">DATE</td> </tr> <tr> <td>SIG. INVENTORY NO.</td> <td>12-0276</td> </tr> </table>	1001F2B40B46FE	DATE	SIG. INVENTORY NO.	12-0276
PLAN DATE: April 2026	REVIEWED BY: R Muncey																																											
PREPARED BY: J Galloway	REVIEWED BY:																																											
REVISIONS	INIT.	DATE																																										
1001F2B40B46FE	DATE																																											
SIG. INVENTORY NO.	12-0276																																											

18 CHANNEL IP CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

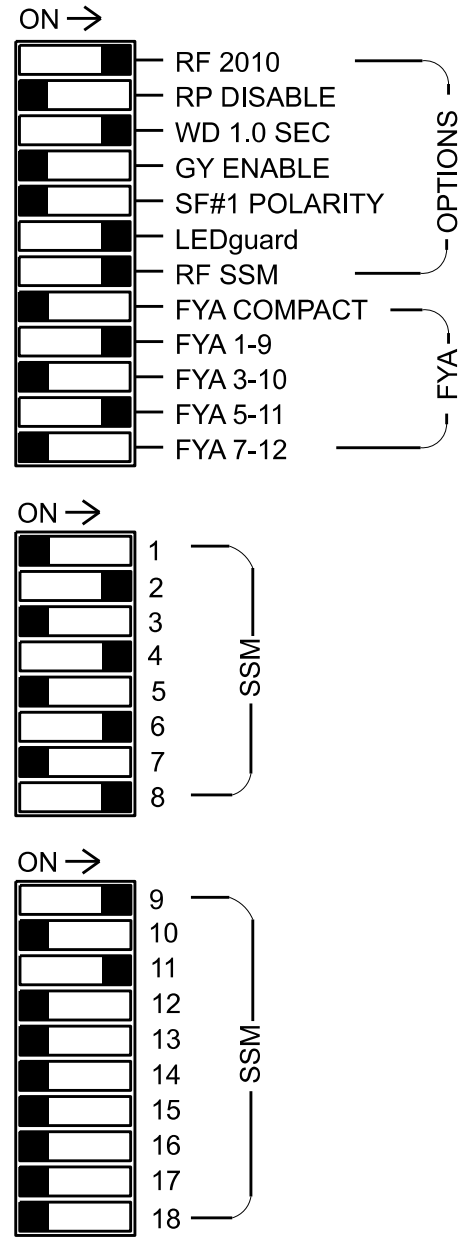
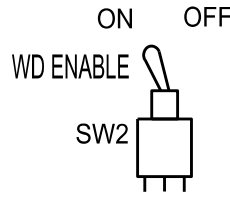
REMOVE DIODE JUMPERS 2-6, 2-9, 2-11, 2-15, 4-8, 4-16, 6-9, 6-11, 6-15, 8-16, 9-11, 9-15, and 11-15.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Integrate monitor with Ethernet network in cabinet.



■ = DENOTES POSITION OF SWITCH

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
- Program phases 4 and 8 for Dual Entry.
- Program phases 4 and 8 for Simultaneous Start.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
- The cabinet and controller are part of the Gastonia Signal System.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S2,S3** S5,S8,S9,S11,S12, AUX S1,AUX S4
Phases Used.....2,2PED**,4,6,6PED**
Overlap "1".....*
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....NOT USED

*See overlap programming detail on sheet 2
**Used to drive school flashing warning beacon

SIGNAL HEAD HOOK-UP CHART

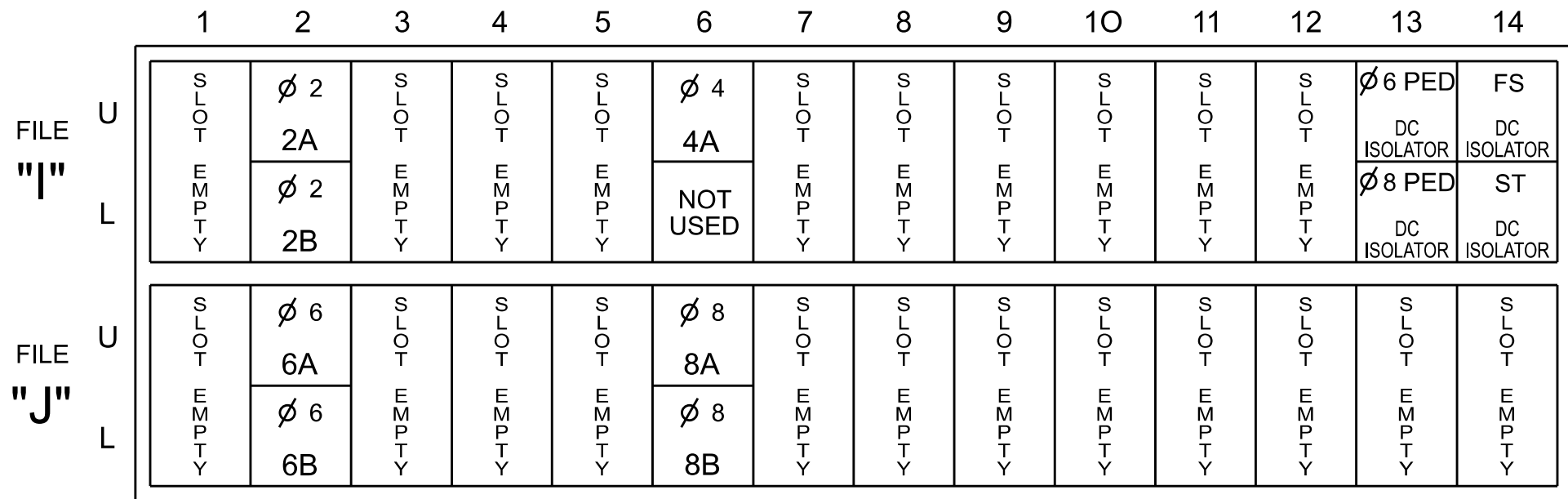
LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	22,23	NU	24	NU	41,42	NU	NU	62,63	P61, P62	25	NU	81,82	P81, P82	61	NU	NU	21
RED		128			101			134				107						
YELLOW		129			102			135				108						
GREEN		130			103			136				109						
RED ARROW													A121			A114		
YELLOW ARROW													A122			A115		
FLASHING YELLOW ARROW													A123			A116		
GREEN ARROW																		
Hand icon										119			110					
PED YELLOW				**						**								
Walking person icon			*							121			112					

NU = Not Used

- * Denotes install load resistor. See load resistor installation detail this sheet.
- ** Special Warning Beacon will be wired to S3P-Y and S9P-Y. See sheet 2 for wiring and programming details.
- ★ See pictorial of head wiring in detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)



EX. : 1A, 2A, ETC. = LOOP NO.'S

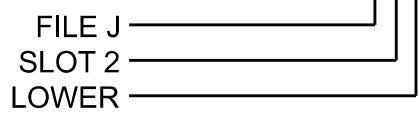
FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	TB2-5,6	I2U	39	1	2	2			X	X	X	
2B	TB2-7,8	I2L	43	5	3	2			X	X	X	
4A	TB4-9,10	I6U	41	3	8	4			X	X	X	
6A	TB3-5,6	J2U	40	2	16	6			X	X	X	
6B	TB3-7,8	J2L	44	6	17	6			X	X	X	
8A	TB5-9,10	J6U	42	4	22	8			X	X	X	
8B	TB5-11,12	J6L	46	8	23	8			X	X	X	
PED PUSH BUTTONS												
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE:
INSTALL DC ISOLATORS
IN INPUT FILE SLOT I13.

INPUT FILE POSITION LEGEND: J2L

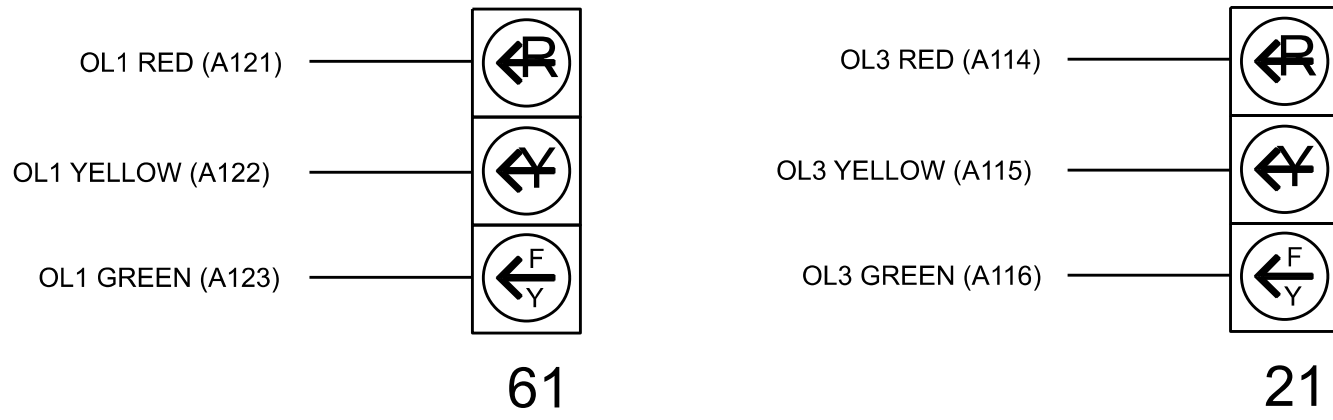


COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

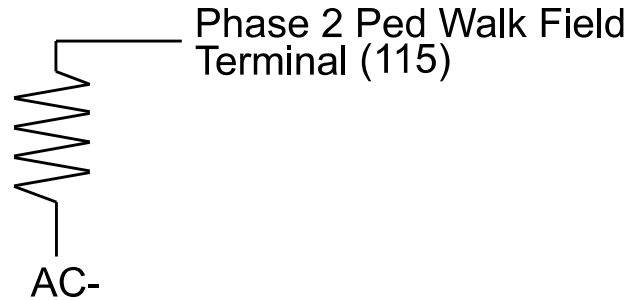


THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0267
DESIGNED: April 2026
SEALED: 4/22/2026
REVISED:

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



Electrical Detail - Sheet 1 of 3

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Electrical and Programming
Details For:

Prepared in the Offices of:



750 N. Greenfield Pkwy, Garner, NC 27529

SR 2466 (Garrison Boulevard)
at
Churchill Drive

Division 12 Gaston County Gastonia

PLAN DATE: April 2026 REVIEWED BY: R Muncey

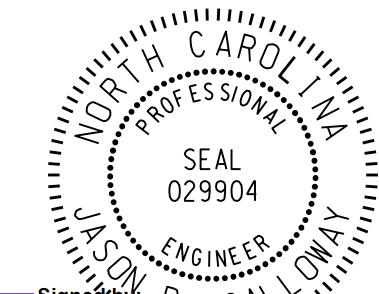
PREPARED BY: J Galloway REVIEWED BY:

REVISIONS

INIT. DATE

DATE

SEAL



Signature: Jason P. Galloway

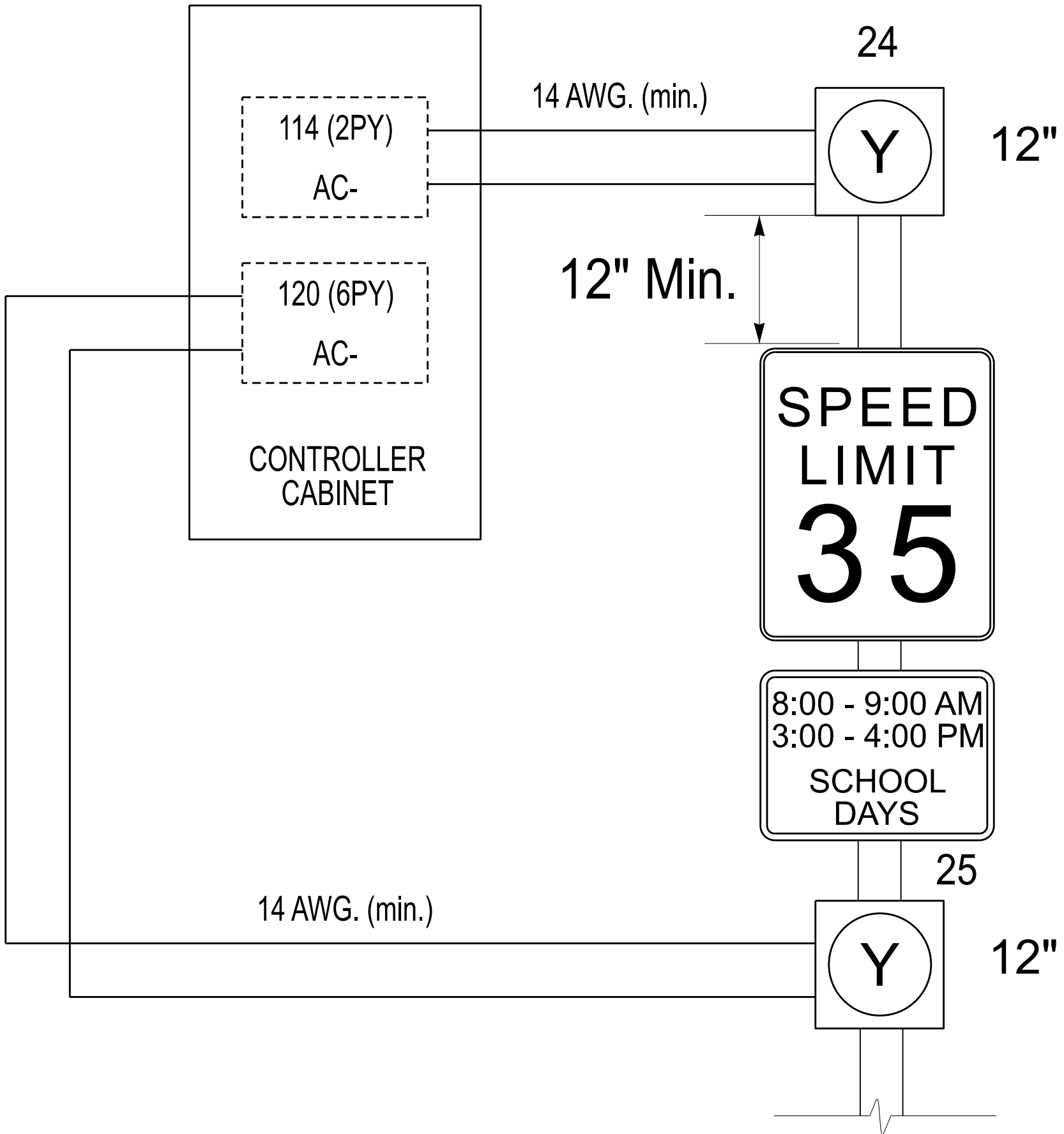
DATE: 4/22/2026

SIG. INVENTORY NO. 12-0276

SCHOOL ADVANCE BEACON WIRING DETAIL

(wire flasher as shown below)

SIGN SHOWN IS TYPICAL. ACTUAL SPEED AND MESSAGE MAY VARY.



IMPORTANT

- IF ATTACHED, REMOVE, TAPE, AND LABEL CONFLICT MONITOR WIRE ATTACHED TO THE REAR OF TERMINALS 114 (2PY) AND 120 (6PY).
- TO ACTIVATE BEACON OPERATION AS INDICATED ON THE SIGNAL PLAN, PROGRAM THE CONTROLLER AS SHOWN IN THE LOGIC PROCESSOR AND OUTPUT ASSIGNMENT PROGRAMMING DETAILS ON THIS SHEET.

3. IN ORDER FOR FLASHER TO SWITCH "ON" AND "OFF" BY TIME OF DAY, USE THE SCHEDULER FUNCTION TO CREATE TWO DAY PLANS: ONE PLAN WITH THE BEGIN TIME OF OPERATION, AND A SECOND PLAN WITH THE END TIME OF OPERATION.

ASSIGN AN ACTION PLAN TO BE COMMANDED BY THE DAY PLAN CONTAINING THE BEGIN TIME. THE DAY PLAN CONTAINING THE END TIME SERVES AS THE PLAN THAT CEASES THE FLASHING OF BEACONS BY ACTIVATING AN ACTION PLAN CORRESPONDING WITH NORMAL (NON-SCHOOL HOURS) OPERATION.

LOGIC PROCESSOR PROGRAMMING

Front Panel

Main Menu >Controller >More >User Programs >Definition

Web Interface

Home >Controller >User Programs Configuration >User Programs Definition

Program 1

Statement	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext
1	Unit Stop Time	1	Result=A	Aux Switch State	0	None	0	0.0	0.0
2	Local Variable	10	Result=(A==B)	Current Pattern	0	Number	*	0.0	0.0
3	Global Variable	33	Result=(A AND B)	Local Variable	10	Flash State	0	0.0	0.0
4	Global Variable	34	Result=(A AND B)	Local Variable	10	Alt Flash State	0	0.0	0.0

* Pattern number to be set by City Engineer or their representative.

LOGIC STATEMENT DESCRIPTION

Statement 1 Description: Aux Switch Stop Time

Statement 2 Description: Verify Pattern set during beacon hours of operation

Statement 3 Description: Set Global Variable 33 to flash if beacon pattern is active (wig flash state)

Statement 4 Description: Set Global Variable 34 to flash if beacon pattern is active (wag flash state)

MAXTIME BEACON OUTPUT
ASSIGNMENT PROGRAMMING DETAIL

Front Panel

Main Menu >Controller >More >Advanced IO >Output Points

Web Interface

Home >Controller >Advanced IO >Cabinet Configuration >Output Points

IO Module 1

Output Point	Description	Output Control Type	Index
33	C1-35	Global Variable	33
34	C1-36	Global Variable	34

Output Reference Schedule

OUTPUT 33 = 2 PED Y
OUTPUT 34 = 6 PED Y

OVERLAP PROGRAMMING

Front Panel

Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface

Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	3
Type	FYA 4 - Section	FYA 4 - Section
Included Phases	2	6
Modifier Phases	-	-
Modifier Overlaps	-	-
Trail Green	0	0
Trail Yellow	0.0	0.0
Trail Red	0.0	0.0

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0267
DESIGNED: April 2026
SEALED: 4/22/2026
REVISED:

Electrical Detail - Sheet 2 of 3

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750 N. Greenfield Pkwy, Garner, NC 27529

Electrical and Programming
Details For:

Prepared in the Offices of:

SR 2466 (Garrison Boulevard)
at
Churchill Drive

Division 12 Gaston County Gastonia

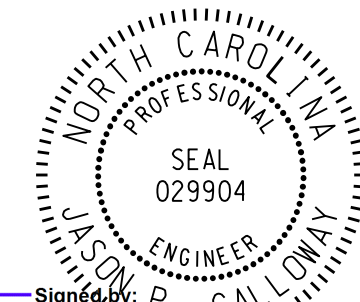
PLAN DATE: April 2026 REVIEWED BY: R Muncey

PREPARED BY: J Galloway REVIEWED BY:

REVISIONS

INIT. DATE

SEAL



Signed by: Jason P. Galloway 4/22/2026

1001E2B40B4B46E DATE

SIG. INVENTORY NO. 12-0276

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration						
Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

↑
NOTE FLASH RED

MAXTIME STARTUP AND SOFTWARE FLASH
PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters	Unit Flash Parameters
StartUp Clearance Hold	All Red Flash Exit Time
6	6

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0267
DESIGNED: April 2026
SEALED: 4/22/2026
REVISED:

Electrical Detail - Sheet 3 of 3

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Electrical and Programming
Details For:

Prepared in the Offices of:

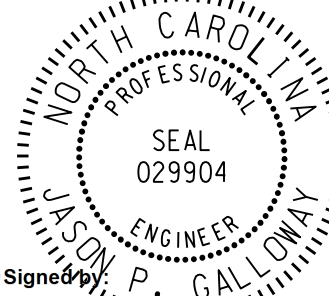


750 N. Greenfield Pkwy, Garner, NC 27529

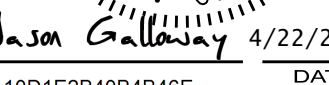
SR 2466 (Garrison Boulevard)
at
Churchill Drive

Division 12	Gaston County	Gastonia
PLAN DATE: April 2026	REVIEWED BY: R Muncey	
PREPARED BY: J Galloway	REVIEWED BY:	
REVISIONS	INIT.	DATE

SEAL



SEAL
029904
ENGINEER
JASON P. GALLOWAY

Signed by:  4/22/2026

SIG. INVENTORY NO. 12-0276

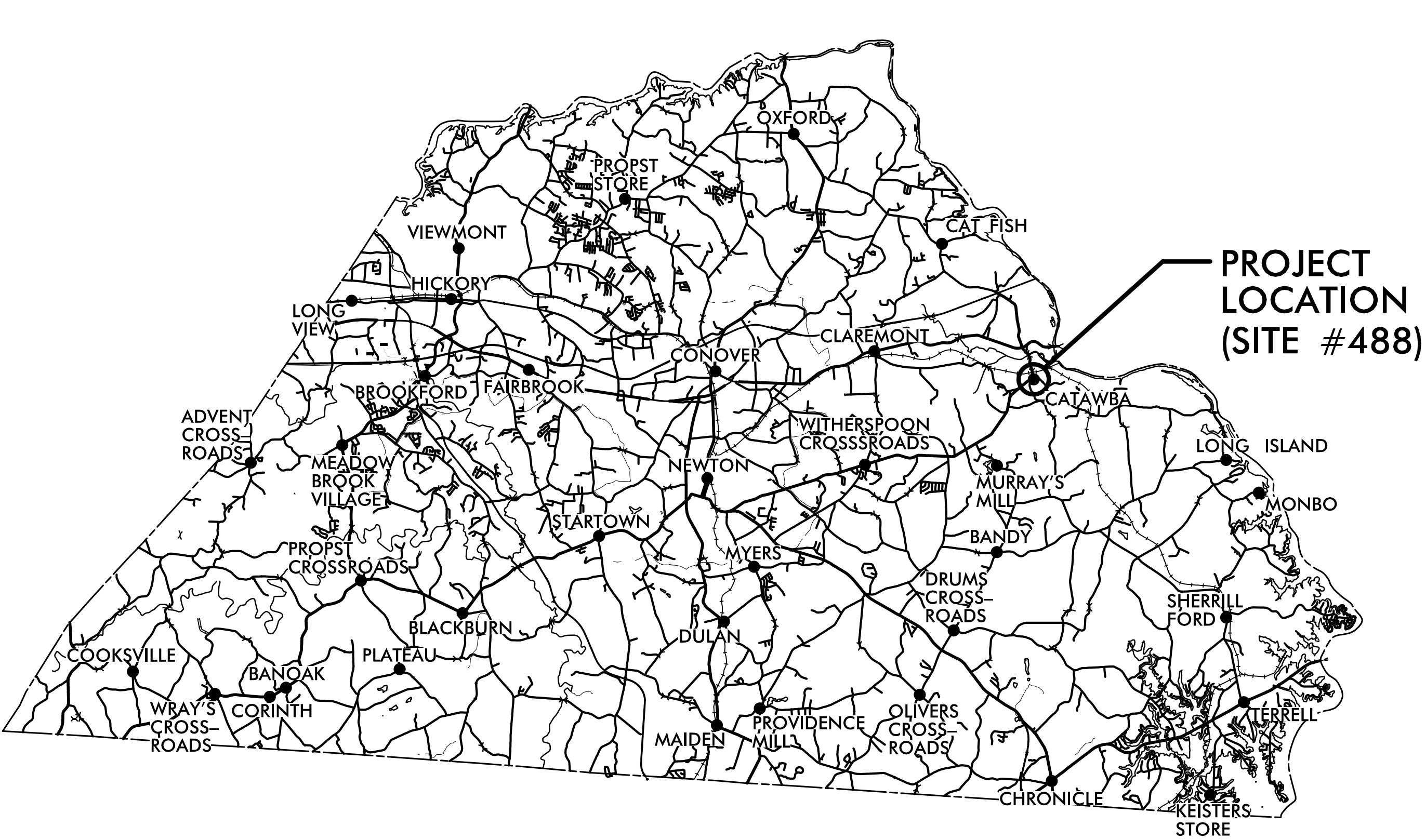
See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CATAWBA COUNTY

LOCATION: NC 10 (N. MAIN ST) FROM 1ST AVE SW TO 1ST AVE NW

TYPE OF WORK: INSTALLATION OF PEDESTRIAN SIGNALS AND CONSTRUCTION OF CONCRETE CURB RAMPS



VICINITY MAP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
52073.12.6	TAPE012	PE	
52073.12.303	TA12301	CONST.	

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GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 6,650
K = N/A %
D = N/A %
T = N/A % *
V = 25 MPH
* TTST =N/A DUAL =N/A
FUNC CLASS =
URBAN MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

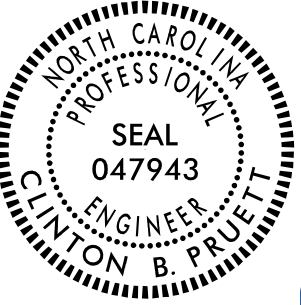
N/A

NCDOT CONTACT: JOSH WHITE, PE, PLS

PLANS PREPARED BY:	PLANS PREPARED FOR:
 TGS ENGINEERS 201 W. MARION ST SUITE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 1710 E. MARION ST SHELBY, NC 28150
RIGHT OF WAY DATE: N/A	JIMMY L. TERRY, PE PROJECT ENGINEER
	CLINTON B. PRUETT, PE PROJECT DESIGN ENGINEER
2024 STANDARD SPECIFICATIONS	

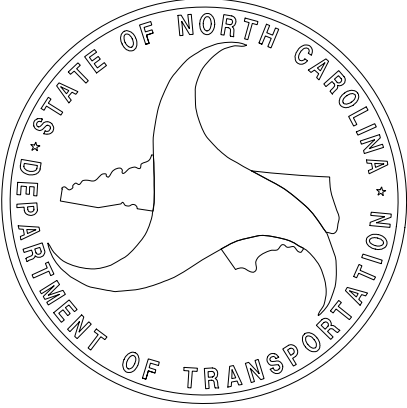
ROADWAY DESIGN
ENGINEER

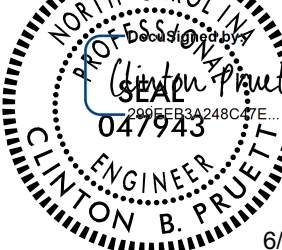
6/25/2026



DocuSigned by:

SIGNATURE: P.E.



PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	1A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
6/25/2026	
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	TCS ENGINEERS 201 W. MARION ST., STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275

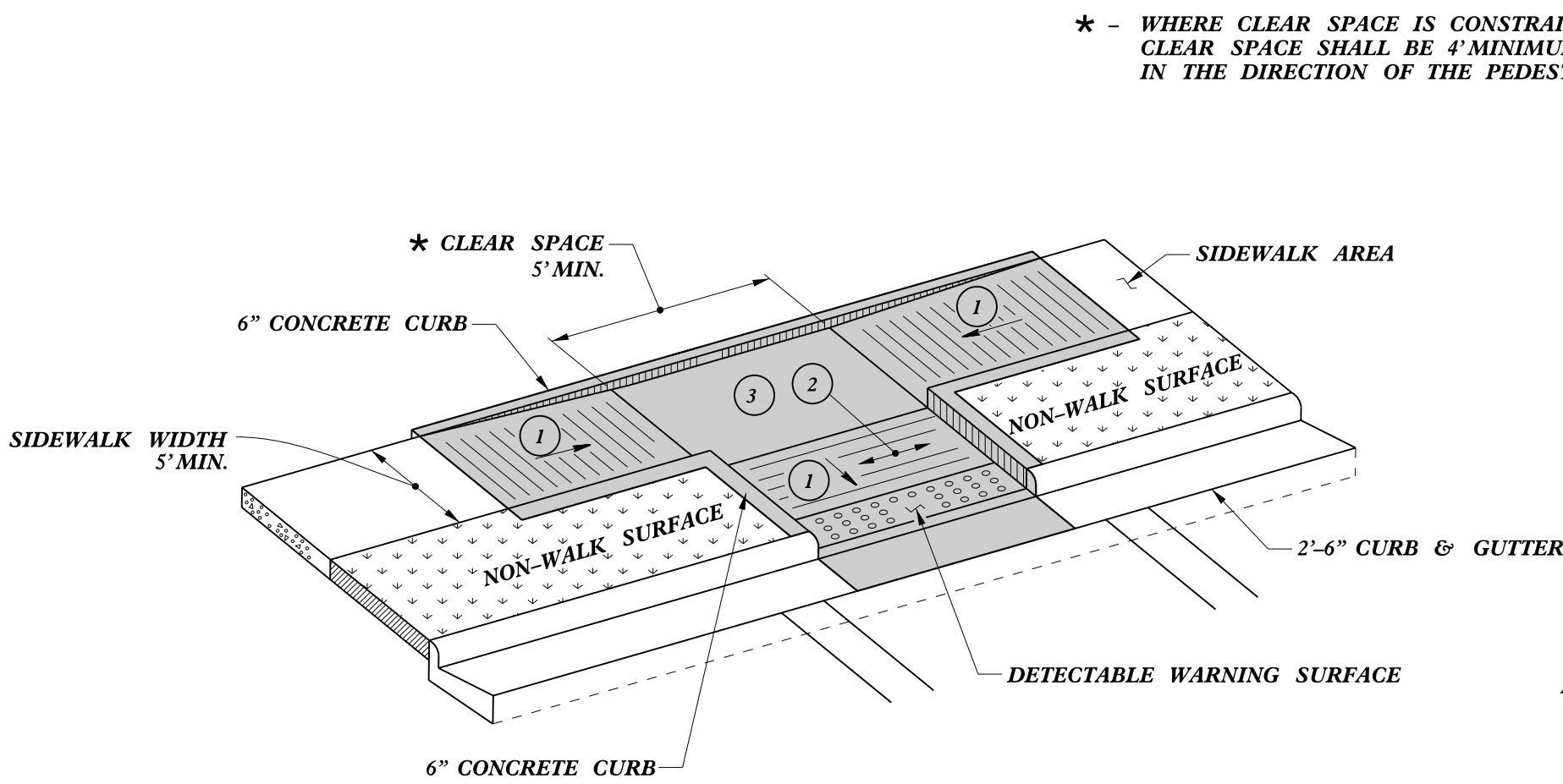
INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS & PAVEMENT MARKING LEGEND
2C-1	CURB RAMP DETAIL
4 THRU 6	PLAN SHEETS
EC-2A	ONSITE CONCRETE WASHOUT DETAIL
SIG-1.0 THRU SIG-2.0	SIGNAL PLANS

PAVEMENT MARKING LEGEND

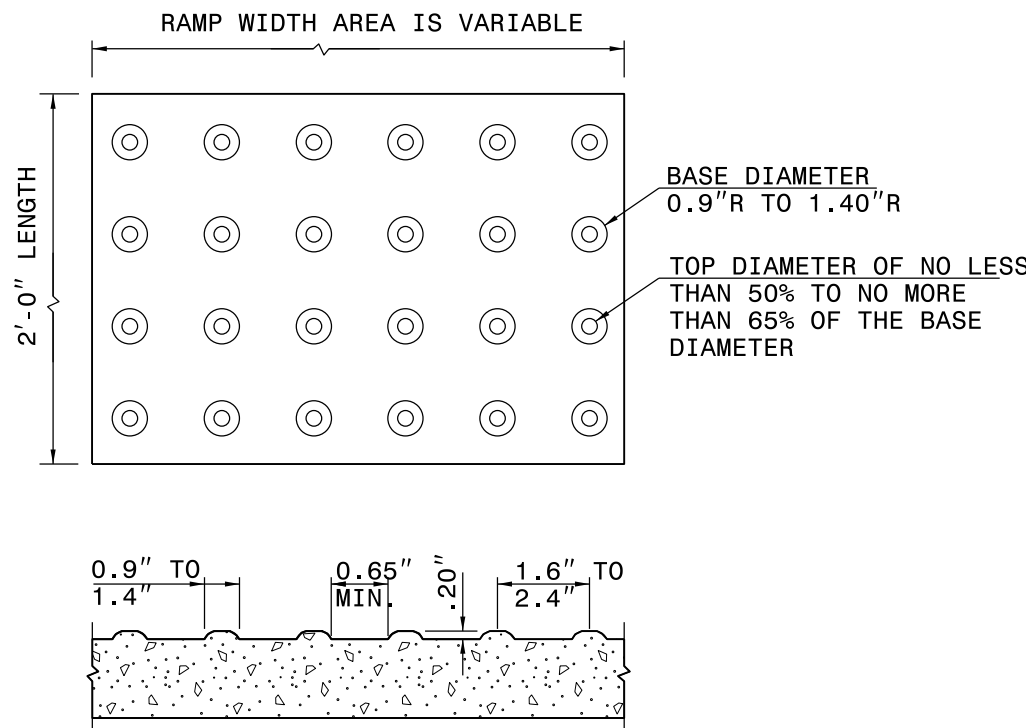
SYMBOL	DESCRIPTION
	THERMOPLASTIC (4")
T2	WHITE SOLID LANE LINE (90 MILS)
T4	3 FT.-9 FT./SP WHITE MINISKIP (90 MILS)
	THERMOPLASTIC (24")
T61	WHITE STOPBAR (90 MILS)
T62	WHITE CROSSWALK LINE (90 MILS)
	THERMOPLASTIC PAVEMENT MARKING SYMBOLS
T71	RIGHT TURN ARROW (90 MILS)

PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	2C-1

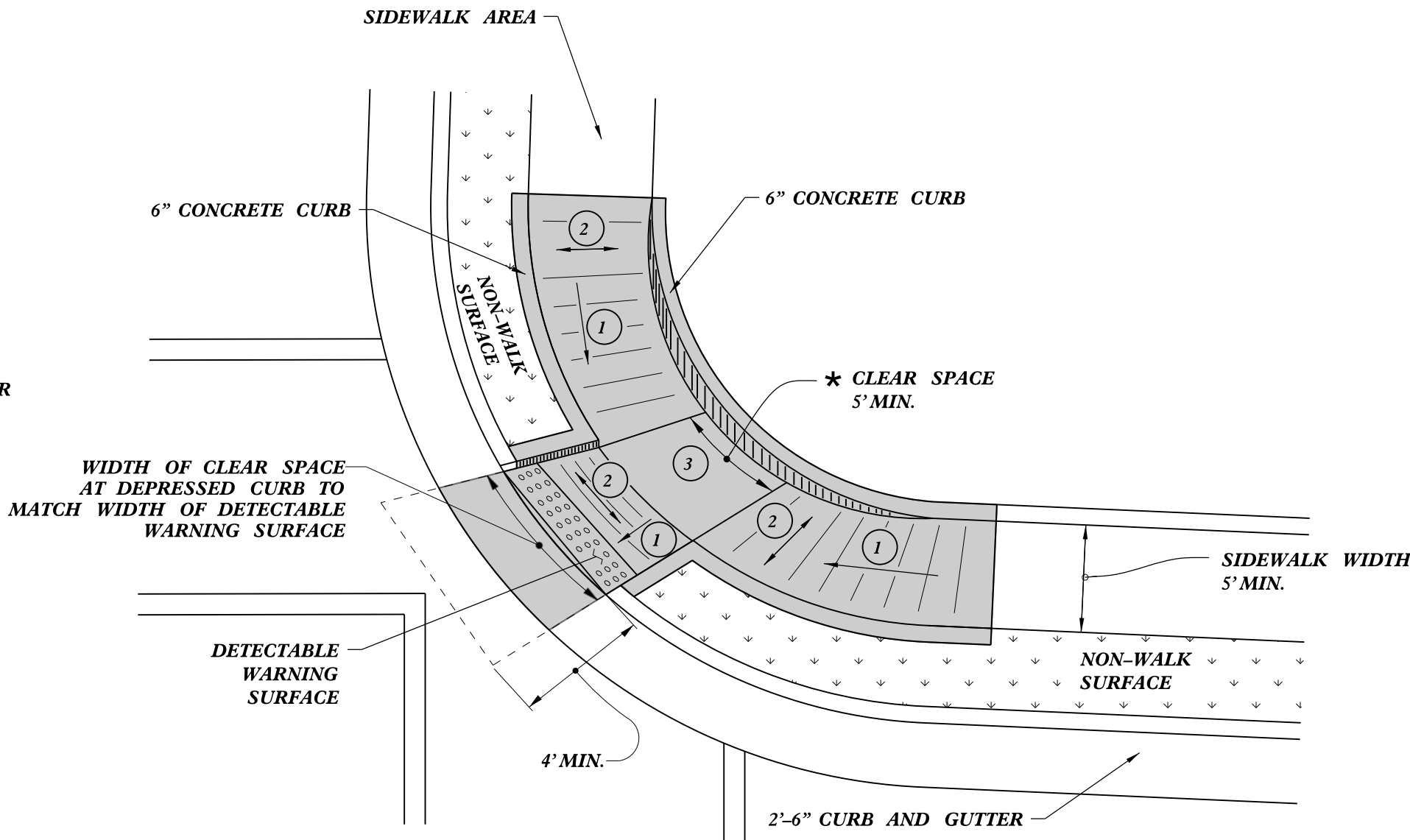


TYPE 3

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE



TYPE 3 MODIFIED
INSTALLATION IN A RADIUS

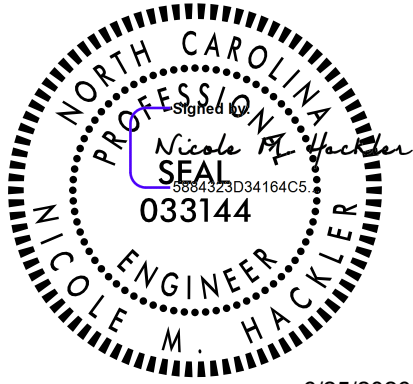
- 1 8.33% (12:1) MAX RAMP SLOPE
2 CROSS SLOPE: 2.00%
3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

PAY LIMITS FOR 1 CURB RAMP

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF 13
848D06



6/25/2026

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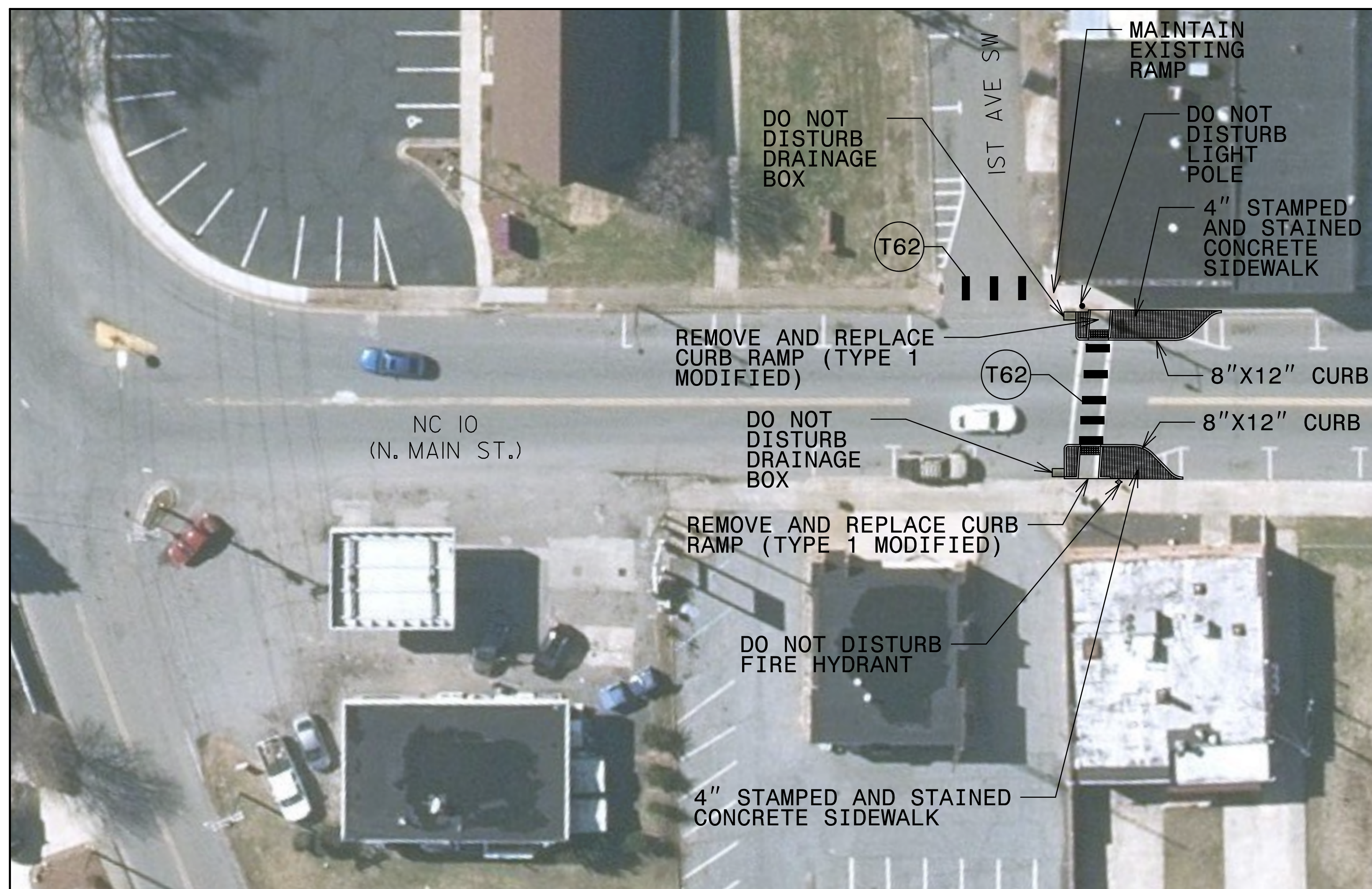
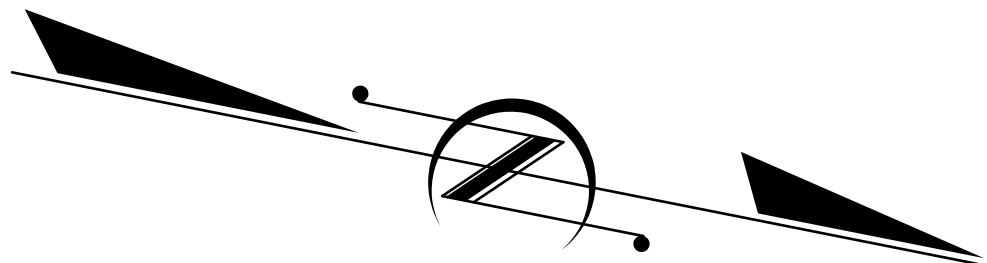
CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 12-22-2023
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: special_details\nmhackler\DO609.dgn

PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
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	TCS ENGINEERS 201 W. MARION ST., STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. REFERENCE NO.: C-0275

***SITE 488 – NC 10 (N. MAIN ST.) FROM
1ST AVE SW TO 1ST AVE NW***

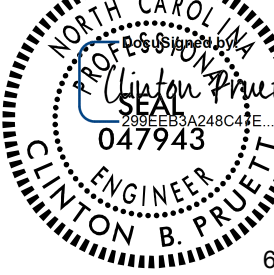


MATCH LINE
MATCH TO SHEET NO. 5

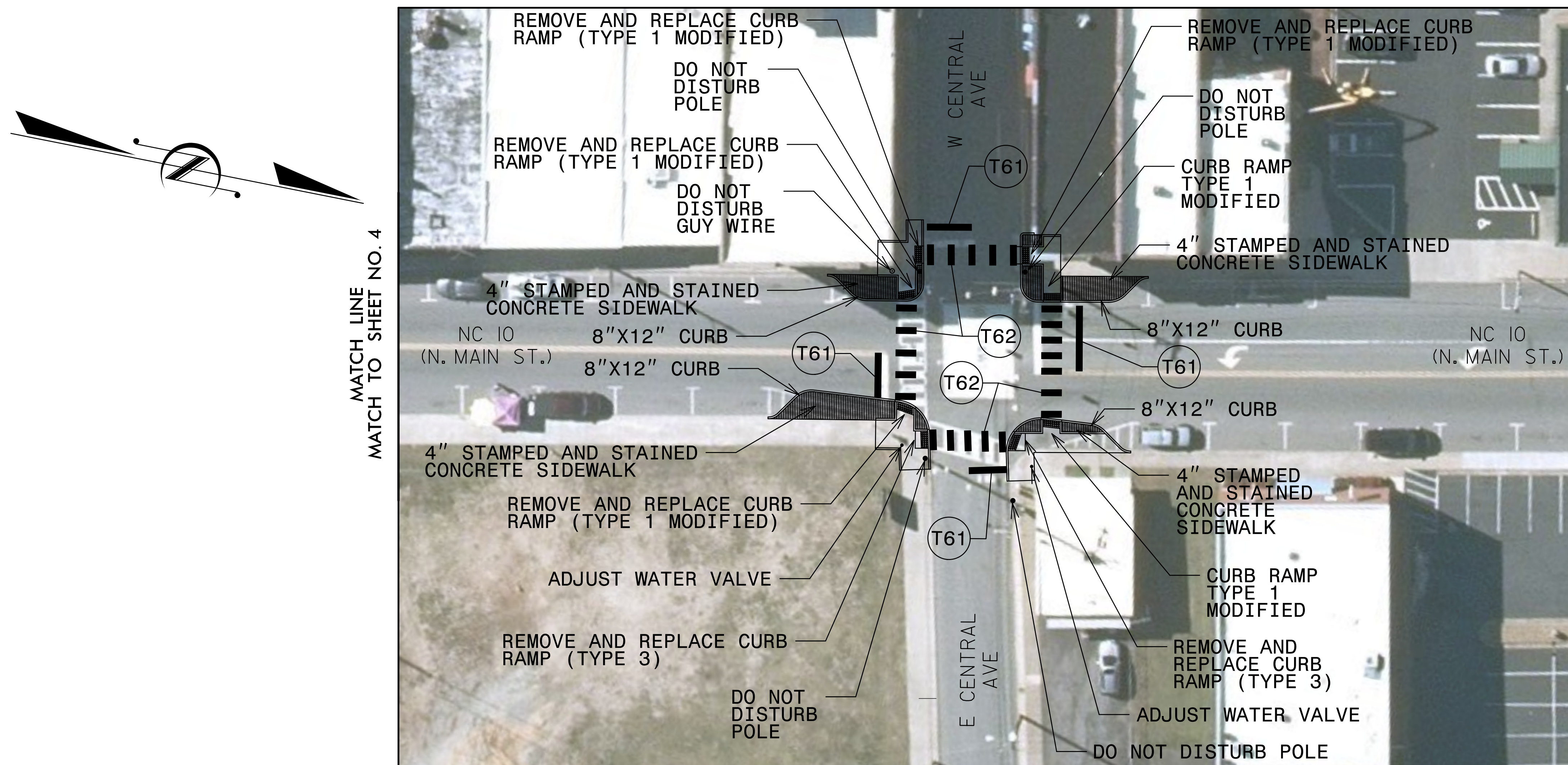
NOTE: REFER TO SIGNAL PLANS
FOR ALL PEDESTRIAN SIGNAL
AND PUSH BUTTON LOCATIONS.

NOTE: NO SURVEY INFORMATION
AVAILABLE. ITEMS ARE SHOWN
AT APPROXIMATE LOCATIONS
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

PROJECT REFERENCE NO.	SHEET NO.
BN-003/LTA	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
6/25/2006	
DESIGN NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	TGS ENGINEERS 201 W. MARION ST., STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275

***SITE 488 – NC 10 (N. MAIN ST.) FROM
1ST AVE SW TO 1ST AVE NW***

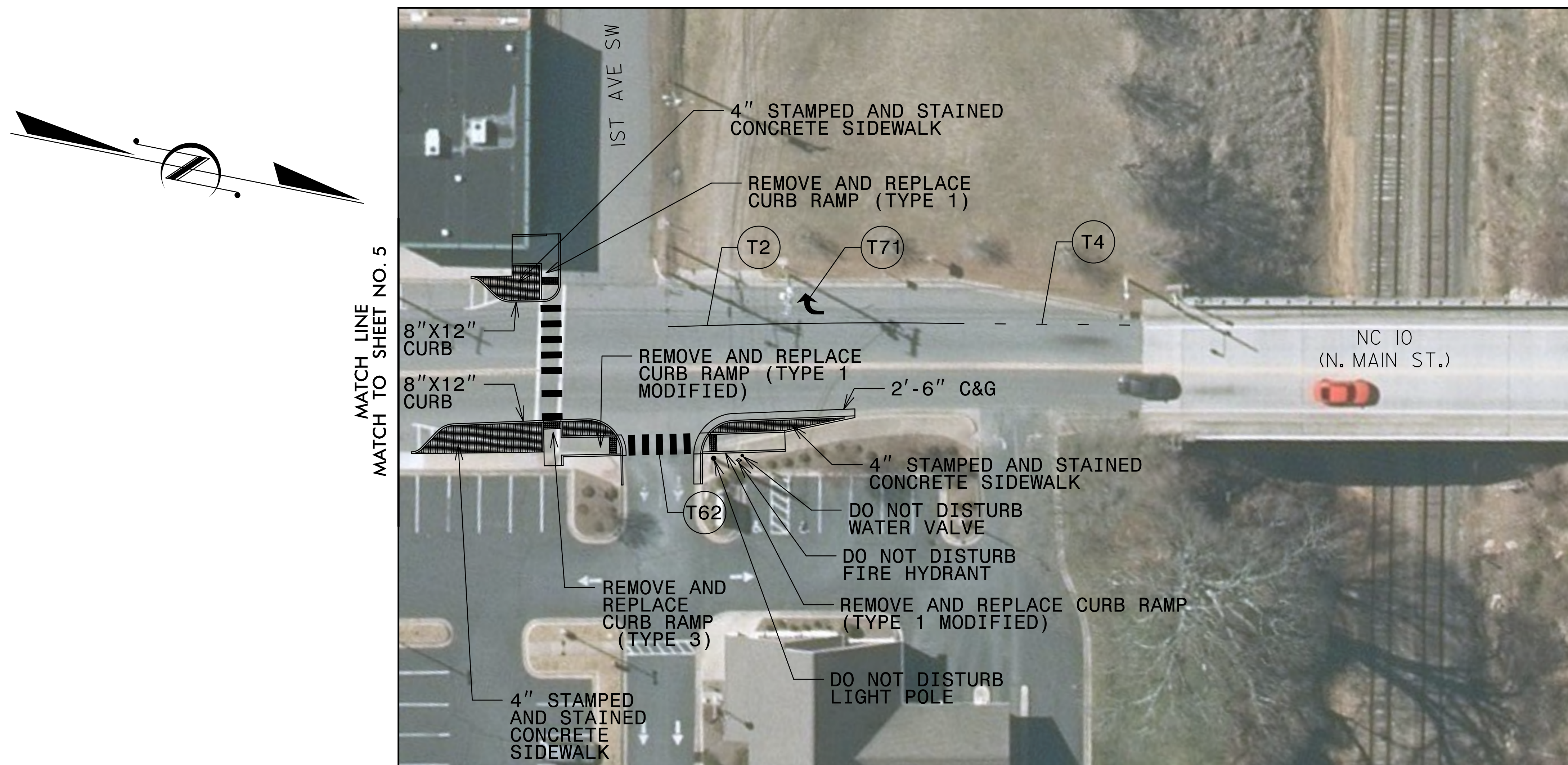


NOTE: REFER TO SIGNAL PLANS
FOR ALL PEDESTRIAN SIGNAL
AND PUSH BUTTON LOCATIONS.

NOTE: NO SURVEY INFORMATION
AVAILABLE. ITEMS ARE SHOWN
AT APPROXIMATE LOCATIONS
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

***SITE 488 – NC 10 (N. MAIN ST.) FROM
1ST AVE SW TO 1ST AVE NW***



NOTE: REFER TO SIGNAL PLANS
FOR ALL PEDESTRIAN SIGNAL
AND PUSH BUTTON LOCATIONS.

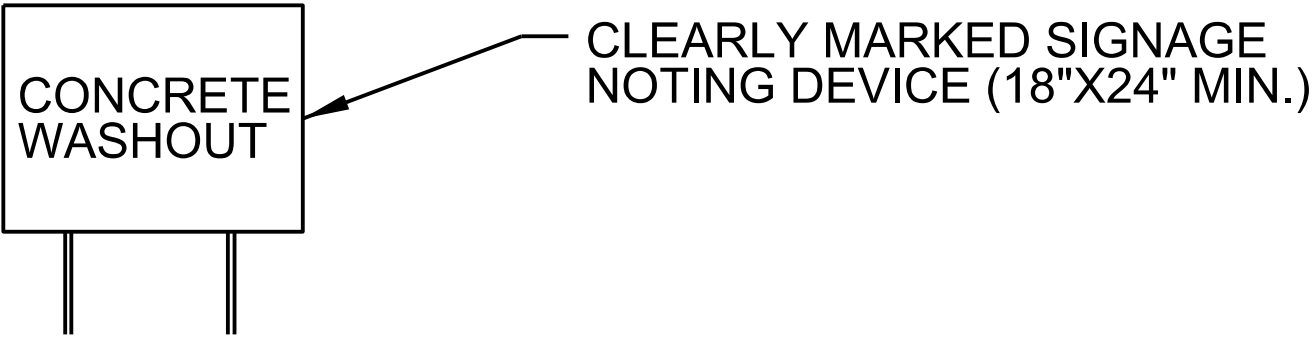
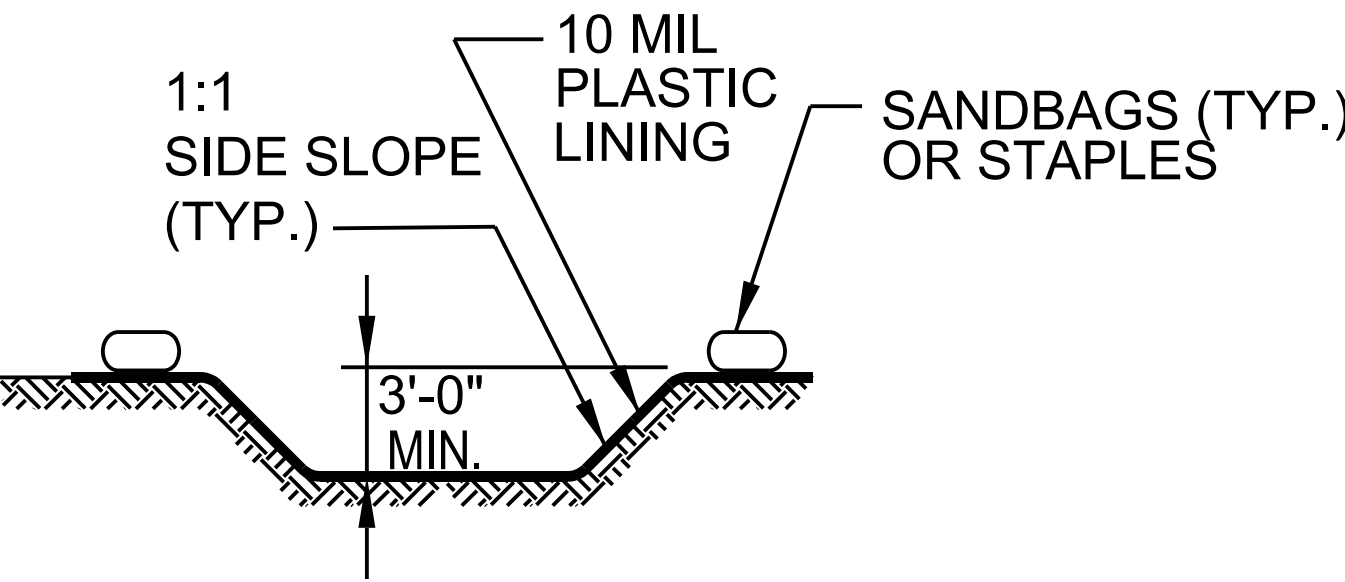
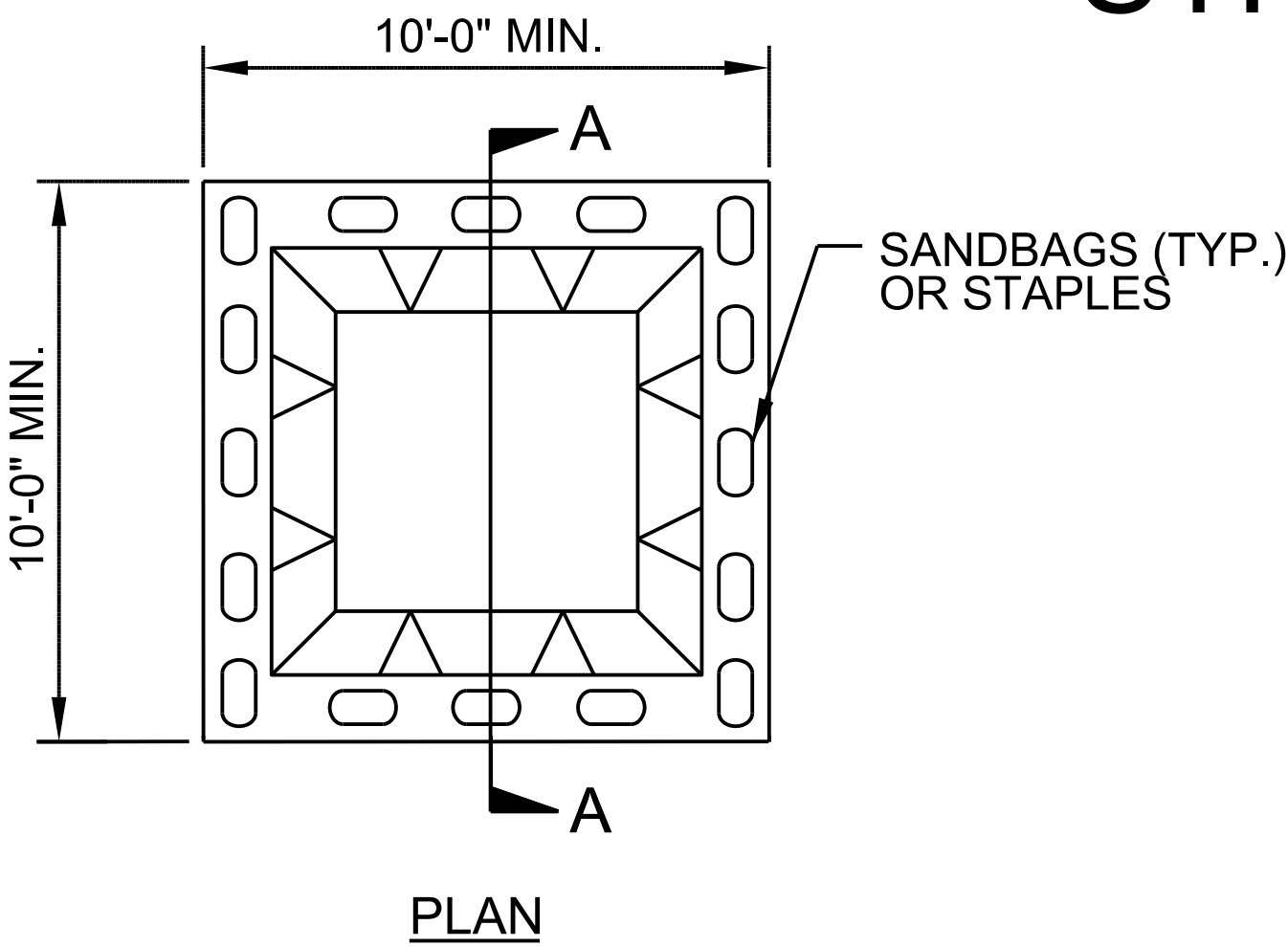
NOTE: NO SURVEY INFORMATION
AVAILABLE. ITEMS ARE SHOWN
AT APPROXIMATE LOCATIONS
BASED ON AERIAL IMAGERY.

NOTE: REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2C-1 DETAIL FOR CURB RAMP INSTALLATION.
REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

\$\$\$\$SYTIME\$\$\$\$
 \$\$\$\$DGN\$\$\$\$
 \$\$\$\$USERNAME\$\$\$

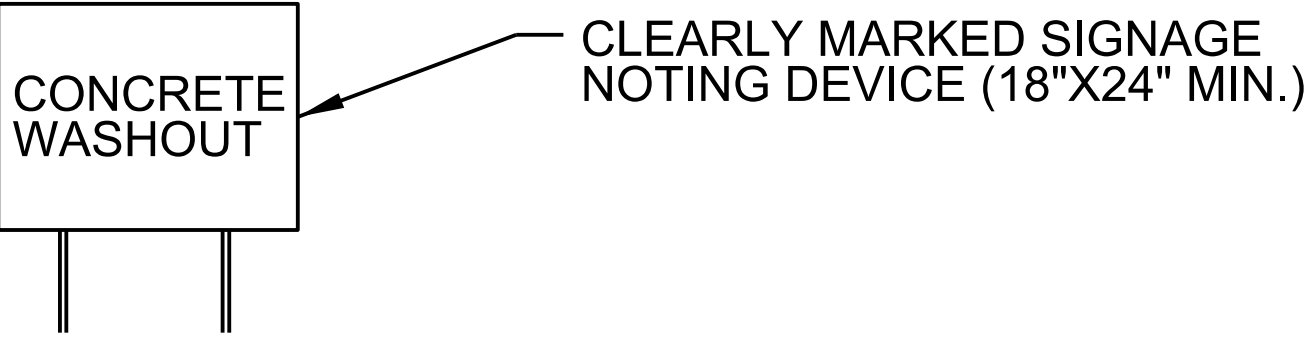
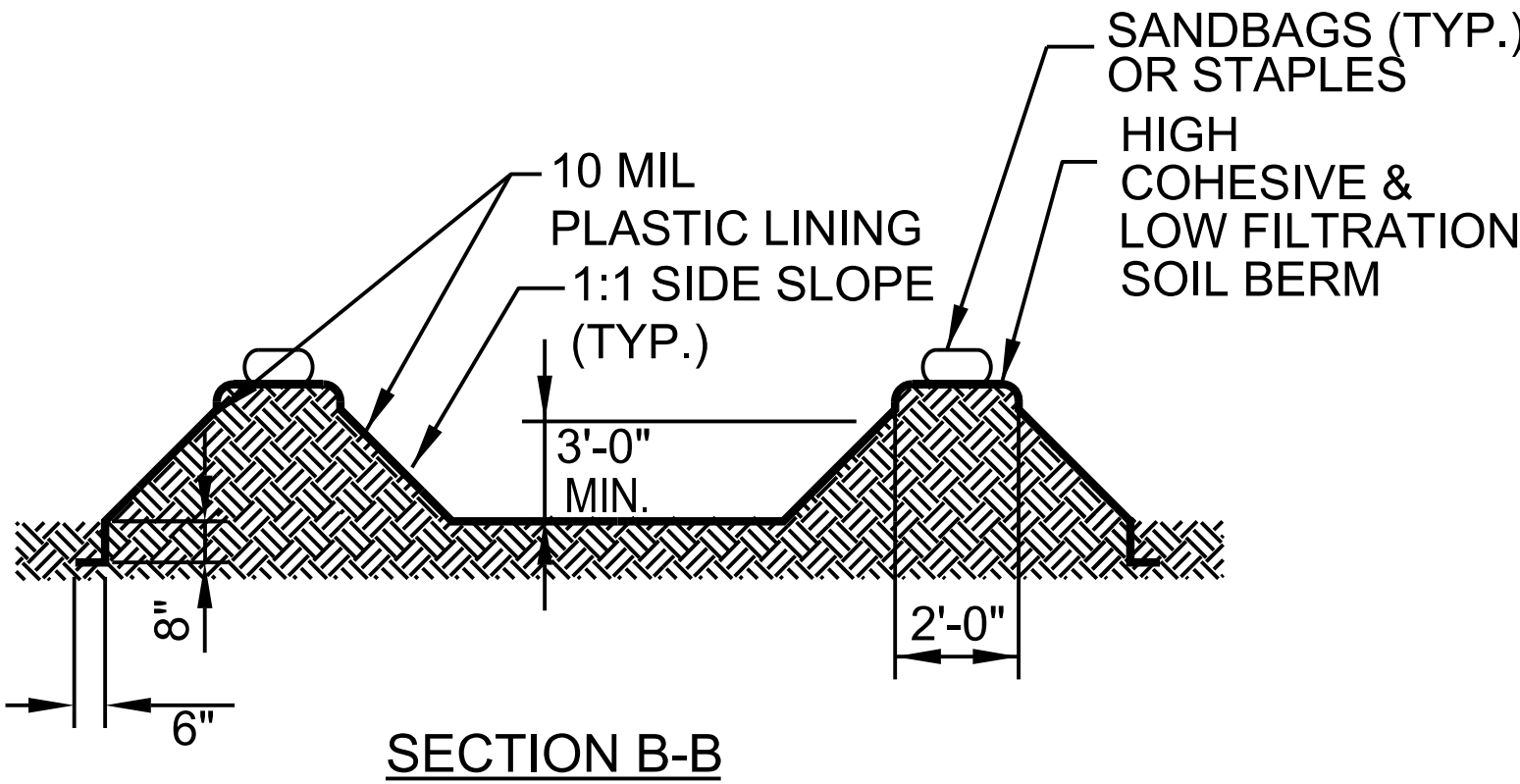
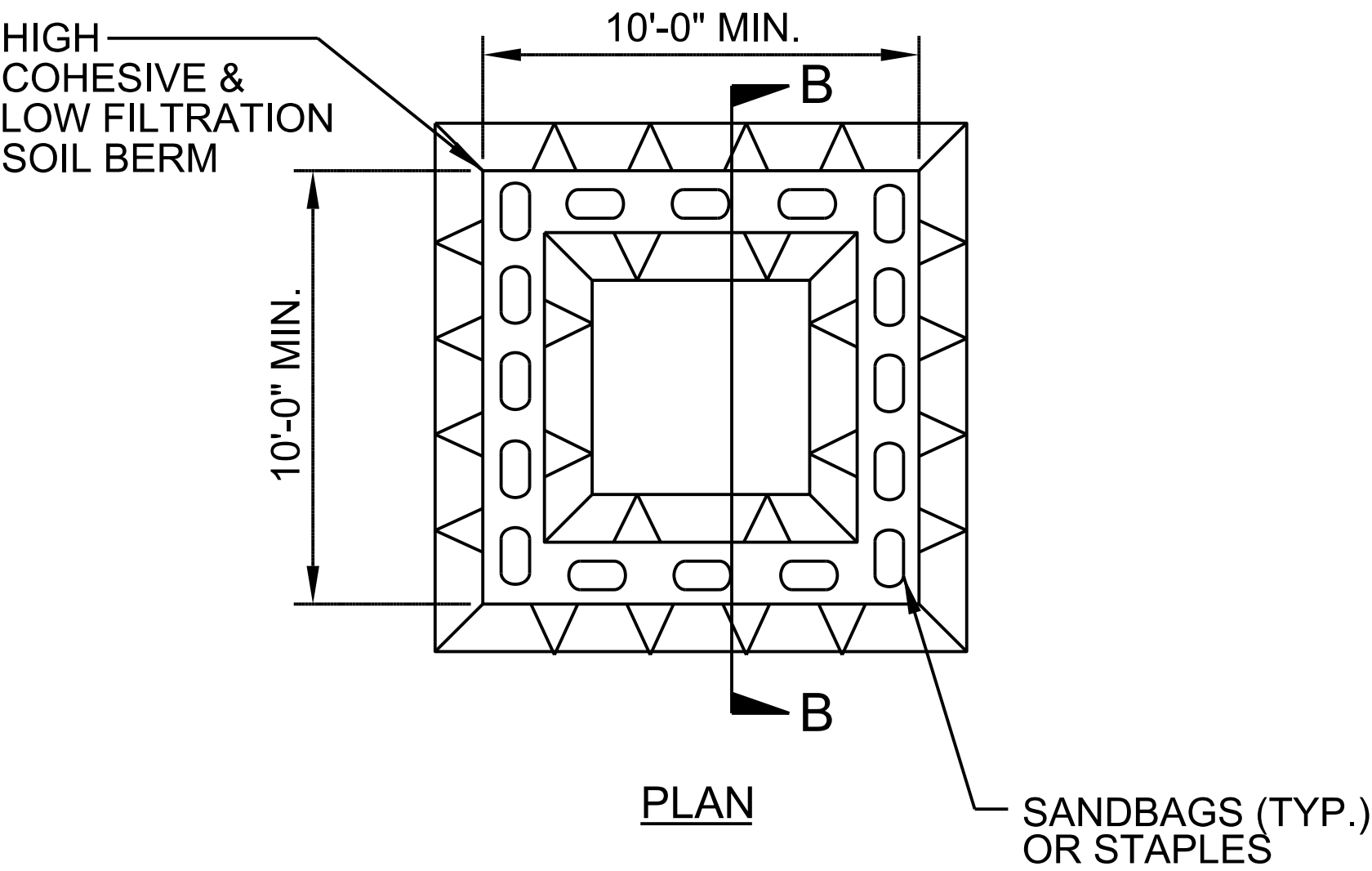
PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

	DETECTED MOVEMENT
	UNDETECTED MOVEMENT (OVERLAP)
	UNSIGNALIZED MOVEMENT
	PEDESTRIAN MOVEMENT

TABLE OF OPERATION				
SIGNAL FACE	PHASE			
	2 + 6	4 + 8	FLASH	
21, 22	G	R	R	
41, 42	R	G	R	
61, 62	R	R		
81, 82	R	G	R	
P21, P22	W	DW	DRK	
P41, P42	DW	W	DRK	
P61, P62	W	DW	DRK	
P81, P82	DW	W	DRK	

DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD
4A	6 X 40	0	2-4-2	-	4	10.0	-	X	-	X	-
8A	6 X 40	0	2-4-2	-	8	10.0	-	X	-	X	-

NOTES

12"

16"

21, 22
41, 42
61, 62
81, 82

P21, P22
P41, P42
P61, P62
P81, P82

MAXTIME TIMING CHART				
FEATURE	PHASE			
	2	4	6	8
Walk *	11	12	11	11
Ped Clear	4	6	5	7
Min Green *	25	7	25	7
Passage *	0.0	2.0	0.0	2.0
Max 1 *	25	20	25	20
Yellow Change	4.0	4.0	4.0	4.0
Red Clear	2.0	2.0	2.0	2.0
Red Revert	2.0	2.0	2.0	2.0
Added Initial *	-	-	-	-
Maximum Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Advance Walk	-	-	-	-
No Lock Detector	-	X	-	X
Vehicle Recall	MIN/PED RECALL	-	MIN/PED RECALL	-
Dual Entry	-	X	-	X

Diagram illustrating the proposed crosswalk and stopbar locations at the intersection of Highway 101 and Highway 102. The diagram shows a four-way intersection with proposed crosswalks and stopbars. Key dimensions include 10' minimum for crosswalk width, 4' for stopbar offset, and 6' for crosswalk offset. Existing features are marked with "Existing" labels.

Traffic Signal Head
Modified Signal Head
Sign
Pedestrian Signal Head
Signal Pole with Guy
Signal Pole with Sidewalk Guy
Inductive Loop Detector
Controller & Cabinet
Junction Box
2-in Underground Conduit
Right of Way
Directional Arrow
Curb Ramp
Type II Signal Pedestal

Prepared in the Offices of

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signal Design Section

750 N. Greenfield Pkwy, Garner, N

SCALE

0

1" = 20'

[illegible]

SEAL

NORTH CAROLINA

PROFESSIONAL

SEAL

043914

ENGINEER

P. NICHOLAS ZINSER

DocuSigned by:
P. Nicholas Zinser 04/27/2026

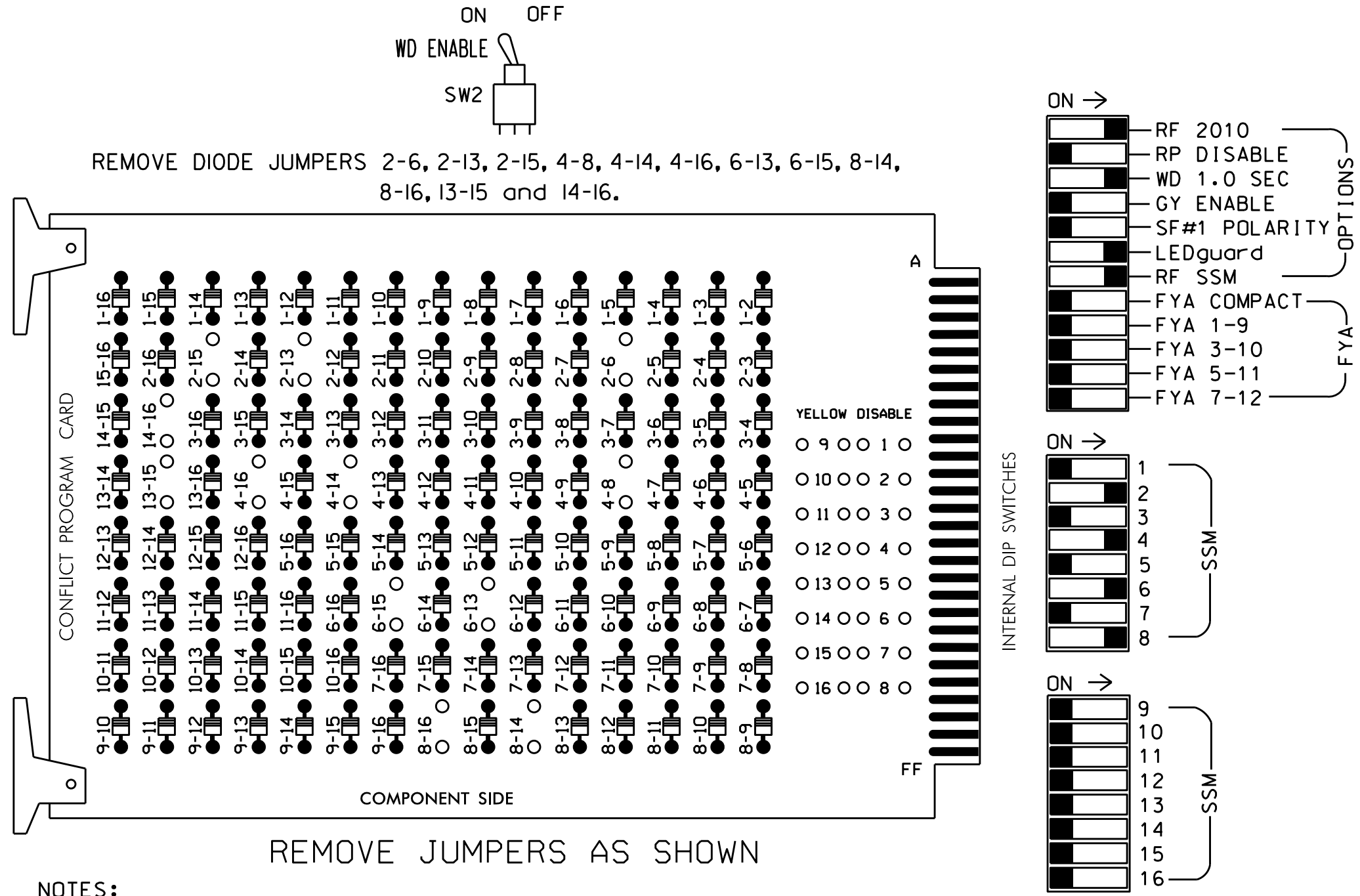
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DATE

SIG. INVENTORY NO. 12-0786

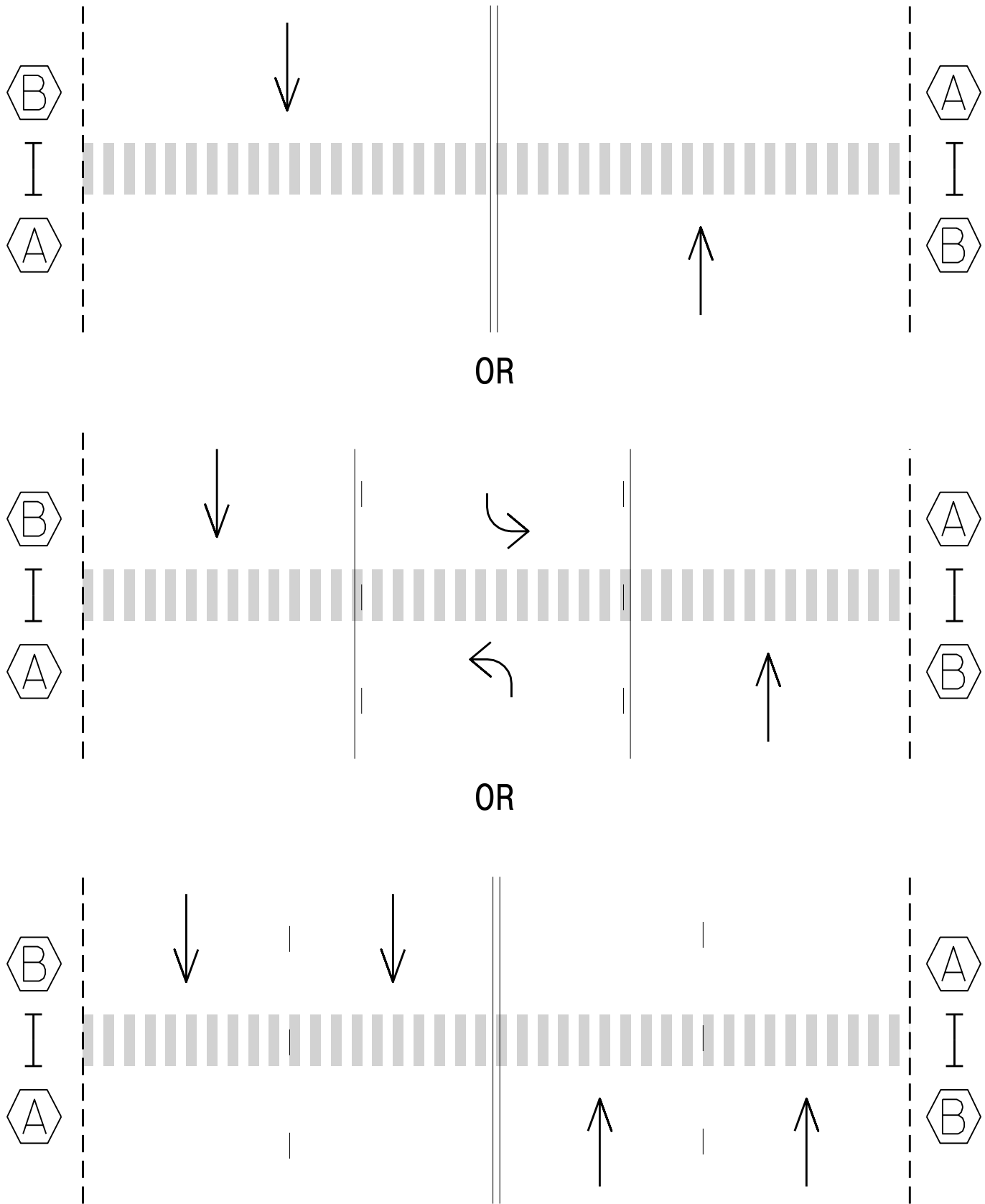
16 CHANNEL CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

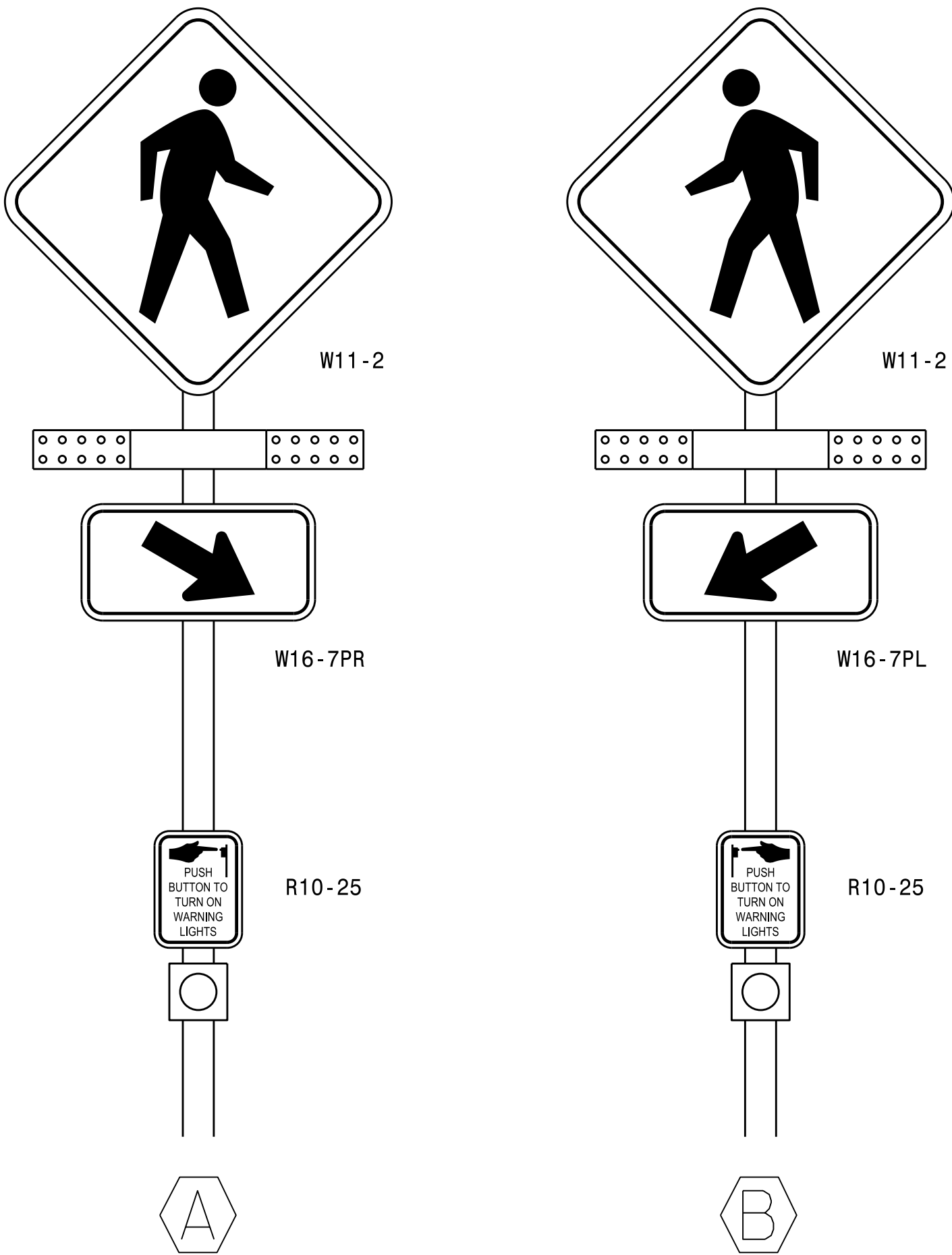


PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	Sig. 2.0

Two to Four Lanes, Undivided



RRFB Sign Detail



Notes

- Design the RRFB in accordance with the 2023 MUTCD, 11th Edition, Chapter 4L: Rectangular Rapid Flashing Beacons. The Rectangular Rapid Flashing Beacon (RRFB) unit associated with a post-mounted sign and plaque should be located between the pedestrian crossing warning (W11-2) sign and the supplemental downward diagonal arrow plaque (W16-7p).
- If needed, a supplemental RRFB with an "AHEAD" (W16-9P) or distance (W16-2P) plaque may be installed on the approach in advance of the crosswalk. The additional RRFB shall be a supplemental to and not a replacement for the RRFB at the actual crosswalk.
- When practical, the RRFB and mounting post on the right side of the road shall be mounted on the approach side of the crosswalk closest to approaching traffic.
- When practical, the RRFB and mounting post on the left side of the road may be mounted on the back of the post for the opposing approach.
- A RRFB on the left side of the roadway or in the median may be individually mounted on the approach side of the crosswalk closest to approaching traffic, or, when practical, may be mounted back to back on the same post and mounted on either side of the crosswalk in the median.
- Locate push button sign (R10-25) and push button to face crosswalk, even if it is mounted on the back side of the sign.
- All RRFB units associated with a given crosswalk (including those with an advance crossing sign) shall, when actuated, simultaneously commence operation of their rapid-flashing indications and shall cease operation simultaneously.
- If an audible information device is used in conjunction with an RRFB, the audible message should be a speech message that says "Warning lights are flashing." The audible message should be spoken twice. The audible information device shall not use vibrotactile or percussive indications.
- For quantitative purposes, a single sided, post mounted RRFB is one assembly unit. A double sided RRFB mounted on the same post is counted as two (2) assemblies.
- For additional information, see Version 24 of the Transportation Systems Management and Operations (TSMO) Unit Project Special Provisions (PSP).

Timing of RRFBs

When actuated, the two yellow indications in each RRFB unit shall flash in a rapidly flashing sequence.

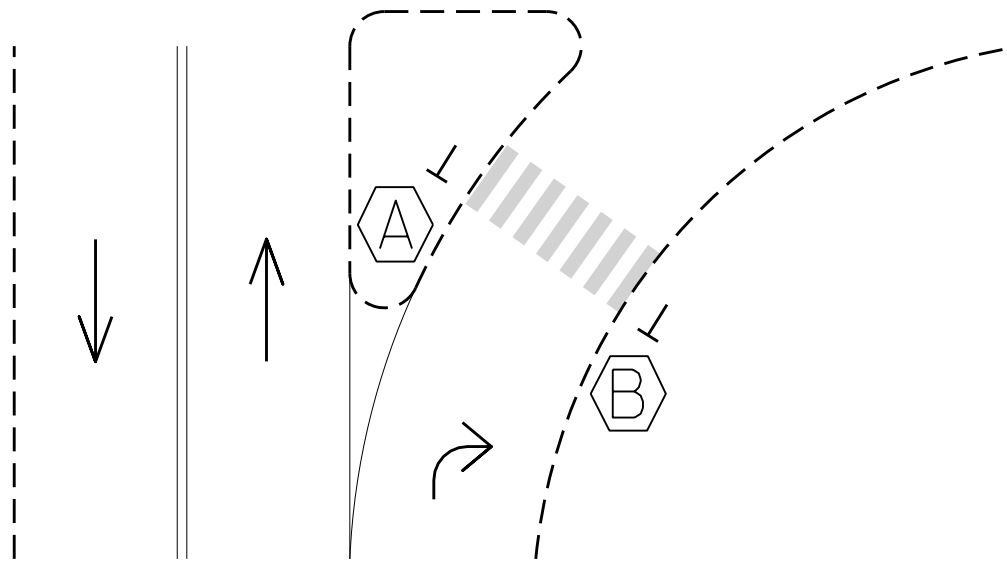
The RRFB shall flashing sequence shall provide enough time for pedestrians to cross from curb to curb. It is recommended to be a minimum of 7 seconds plus the crossing distance (D) divided by 3.5 feet/per sec., rounded up to the next whole second:

$$\text{Flash Time (sec.)} = 7 + D/3.5$$

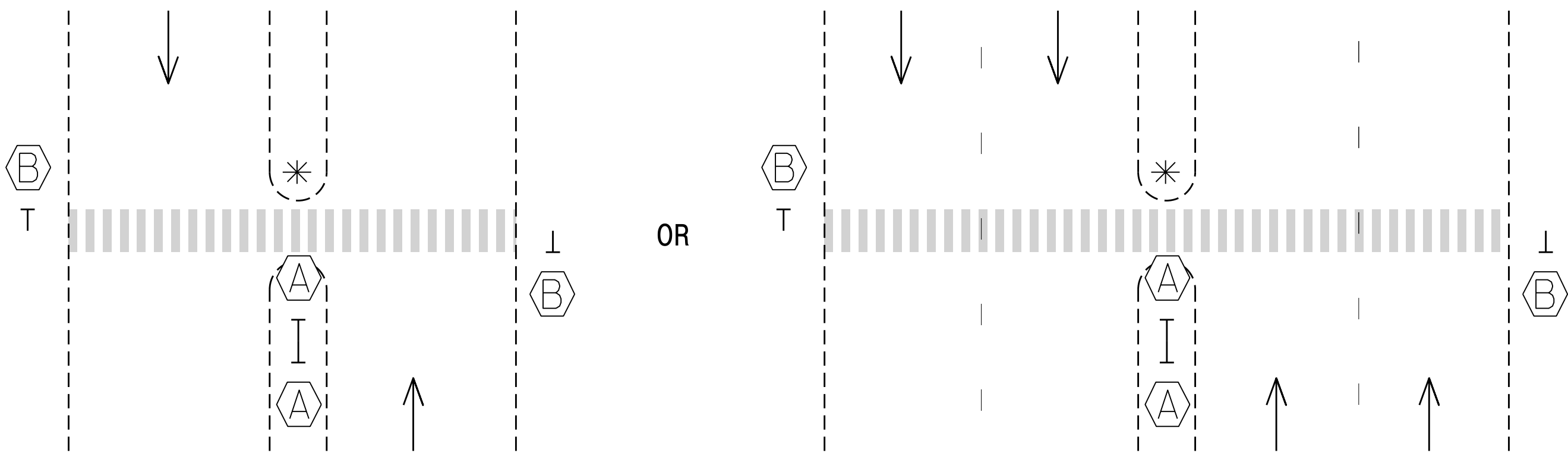
Per Section 4L.03 of the 2023 MUTCD, RRFBs shall provide 75 flashing sequences per minute. During each 800 millisecond flashing sequence, the left and right RRFB indications shall operate using the following sequence:

- The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 250 milliseconds.

Slip Lanes



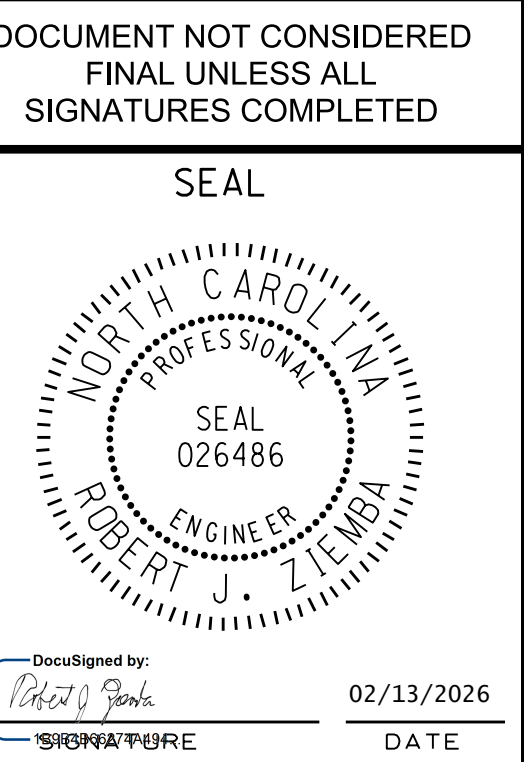
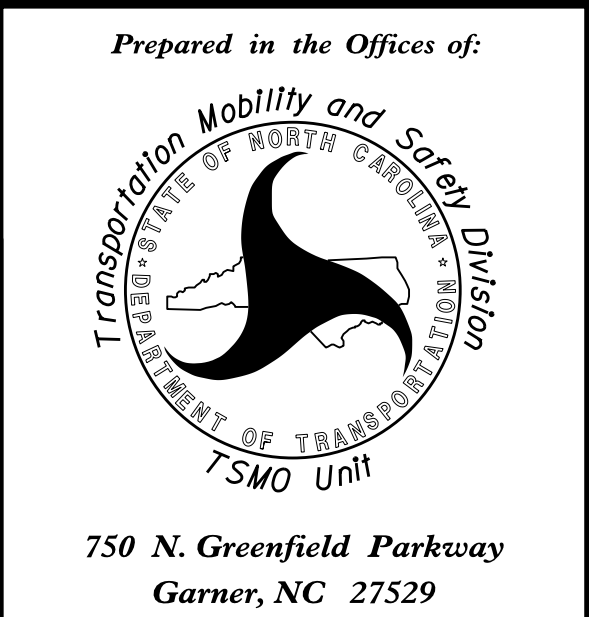
Two or Multi-Lanes, Divided



* See Note 5

* See Note 5

Standard Drawing for
Rectangular Rapid
Flashing Beacon

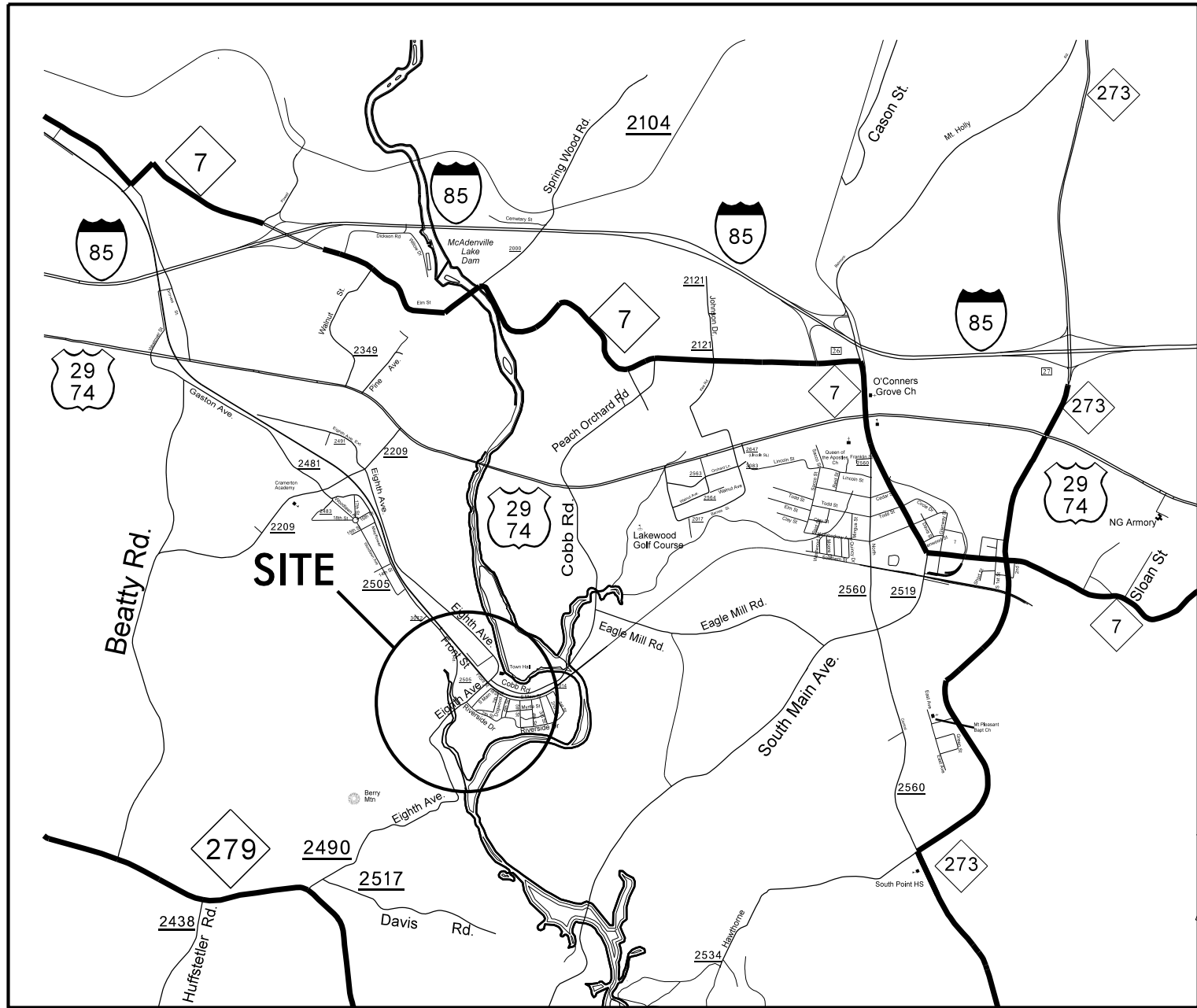


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rtbrackett AT DIM2-345777L

09.08/299

TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets



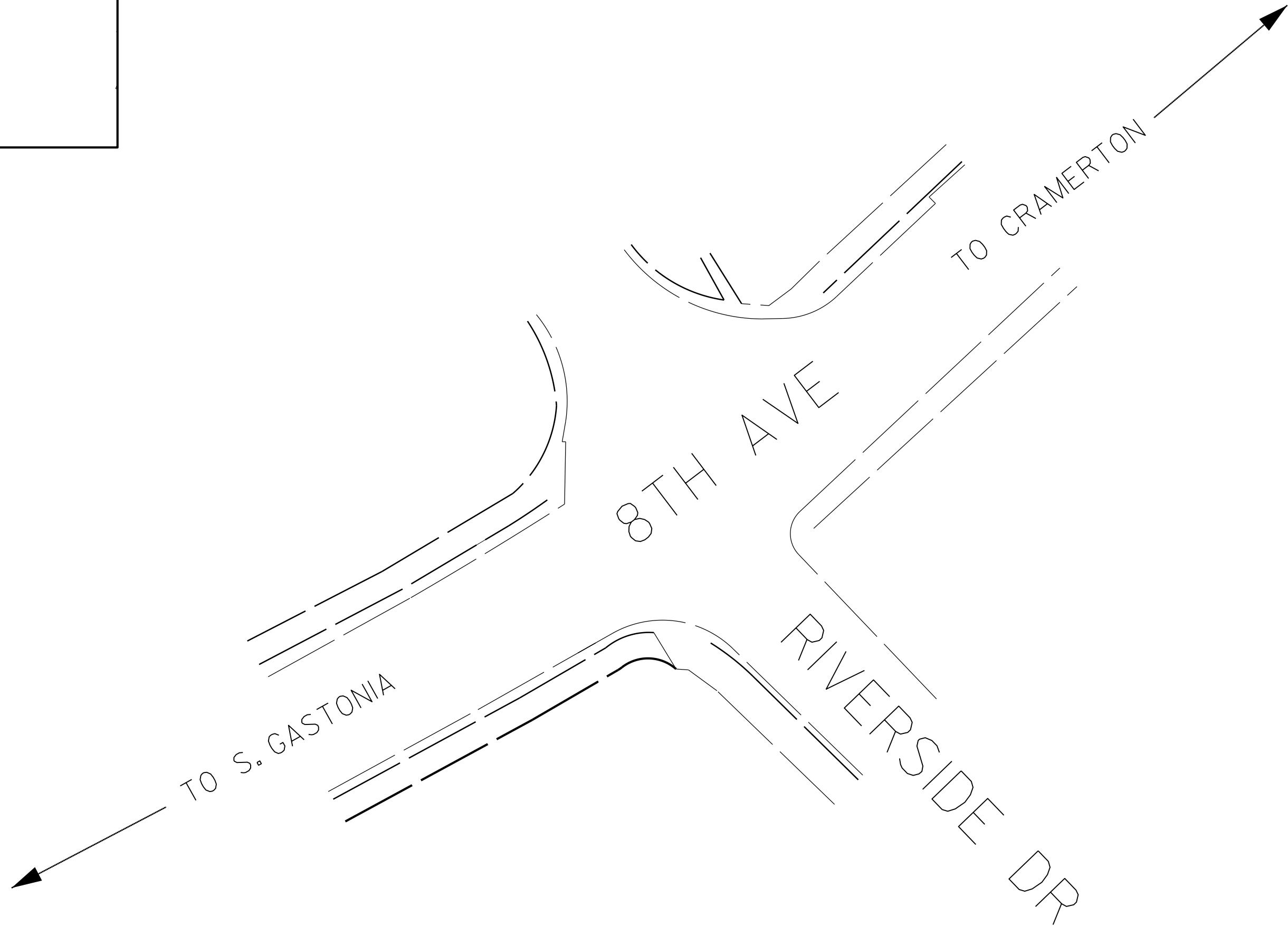
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

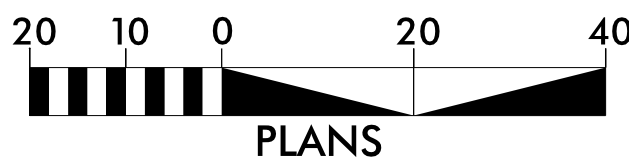
LOCATION: 8TH AVE AND RIVERSIDE DR
TOWN OF CRAMERTON

TYPE OF WORK: ADDING CURB RAMPS AND CROSSWALKS

STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA		1	
STATE PROJ. NO.		F.A. PROJ. NO.	DESCRIPTION	
52073.12.6		TAPE012	P.E.	
52073.12.304		TAPE012	CONST.	



GRAPHIC SCALES



Prepared In the Office of:
DIVISION OF HIGHWAYS
1710 E. MARION ST., SHELBY NC, 28150

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:

JOSHUA B. WHITE, P.E.
PROJECT ENGINEER

R. TODD BRACKETT
PROJECT DESIGN ENGINEER



08/21/2026

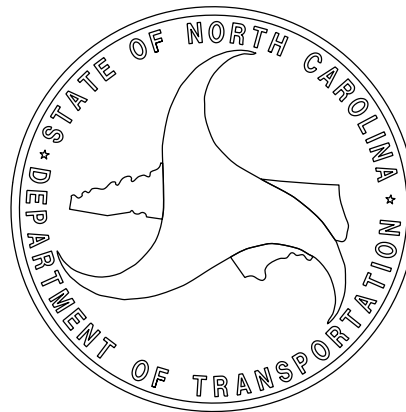
ROADWAY DESIGN

Signed by: ENGINEER

Joshua B. White

SIGNATURE:
F0C9A3DDAD5640C...

P.E.



PROJECT REFERENCE NO.		SHEET NO.	
BN-0031LA		1A	
		ROADWAY DESIGN ENGINEER	
		SEAL 028885 ENGINEER JOSHUA B. WHITE Signed by: Joshua White FOCBA3DDAD5640C... 07/16/2026	
INDEX OF SHEETS		GENERAL NOTES:	
SHEET NUMBER		2024 SPECIFICATIONS	
1		CURB RAMPS	
1A		CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06, & SPECIAL DETAILS. IF FIELD CONDITIONS DICTATE THAT STANDARDS CAN NOT BE MET, CONSTRUCT AN ALTERNATE PAVEMENT MARKING AND SIGNAL PLANS	
4			
TMP-1 THRU TMP-1B			
SIGN-1 THRU SIGN-2			
		2024 ROADWAY ENGLISH STANDARD DRAWINGS	
		The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:	
		STD.NO. TITLE	
		DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
		654.01 Pavement Repairs	
		DIVISION 8 - INCIDENTALS	
		846.01 Concrete Curb, Gutter and Curb & Gutter	
		848D01 Concrete Sidewalk	
		848.06 Curb Ramp - Existing Curb & Gutter	
		1205.07 Pavement Markings	

5/14/99

PROJECT REFERENCE NO.		SHEET NO.	
BN-0031LA		4	
RW SHEET NO.		N/A	
ROADWAY DESIGN ENGINEER			
			
Joshua B. White			
P02883DDAD5868C			
07/16/2026			

REMOVE EXISTING MARKINGS



EXISTING CURB RAMP

8TH AVE

EXISTING CURB RAMP

REMOVE EXISTING MARKINGS

INSTALL HI-VISIBILITY CROSSWALK

CURB RAMP TYPE 2

INSTALL HI-VISIBILITY CROSSWALK

NEW SIDEWALK TIE TO EXISTING

RIVERSIDE DR

8TH AVE

NOTE:

REFER TO 2024 NCDOT STANDARD DRAWING 848.06 AND/OR 2B DETAILS FOR CURB RAMP INSTALLATION.

REFER TO 2024 NCDOT STANDARD DRAWING 1205.07 FOR CROSSWALK INSTALLATION.

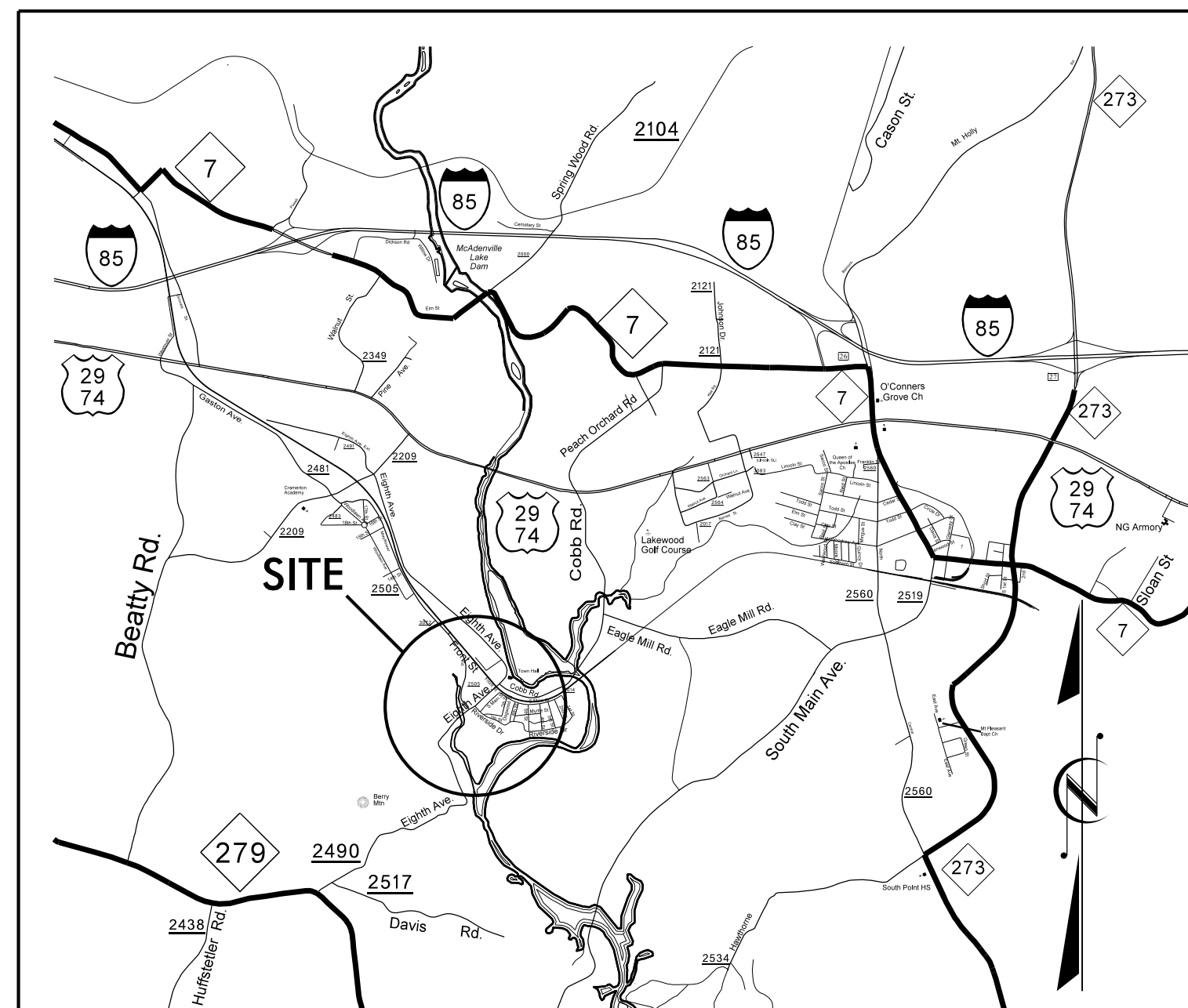
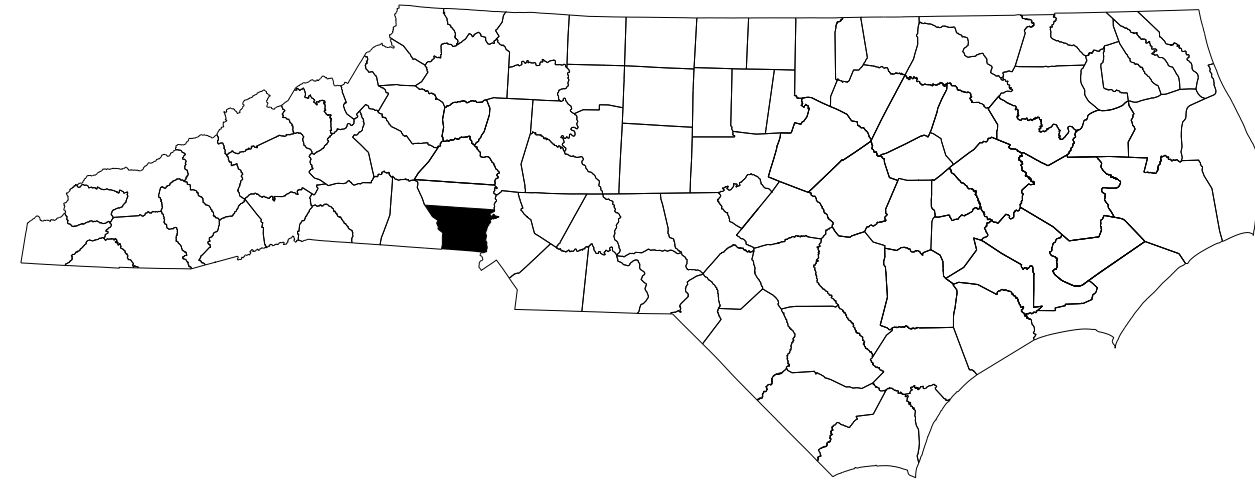
REFER TO 2024 NCDOT STANDARD DRAWING 848DOI FOR SIDEWALK INSTALLATION.

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INGeston
tbrackett

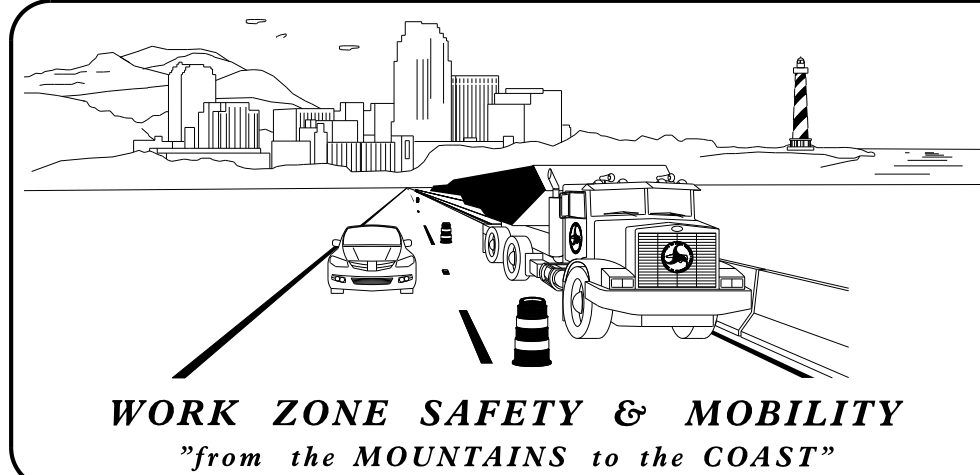
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GASTON COUNTY



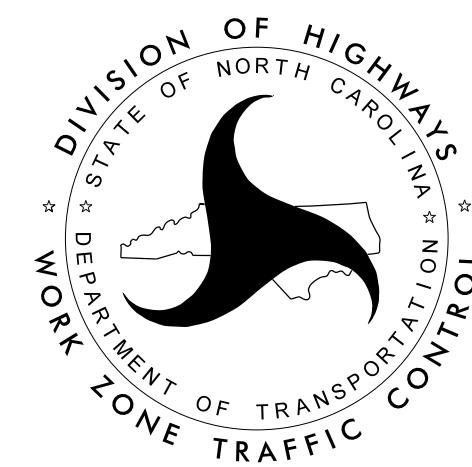
VICINITY MAP - NOT TO SCALE



R. TODD BRACKETT

JOSHUA B. WHITE, PE PLS
PROJECT ENGINEER

R. TODD BRACKETT
PROJECT DESIGN ENGINEER



<u>SHEET NO.</u>	<u>TITLE</u>
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)

SHEET NO.

TMP-1

BN-0031LA

TIP PROJECT:

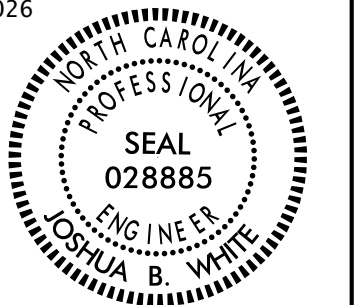
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DATE: _____

Signed by: Joshua White
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07/16/2026

SEAL



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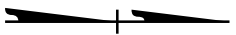
ROADWAY STANDARD DRAWINGS

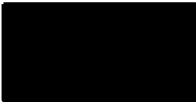
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

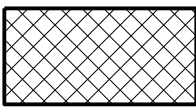
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

 WORK AREA

 REMOVAL

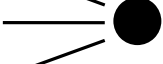
SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW BOARD
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

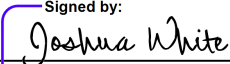
PAVEMENT MARKING SYMBOLS

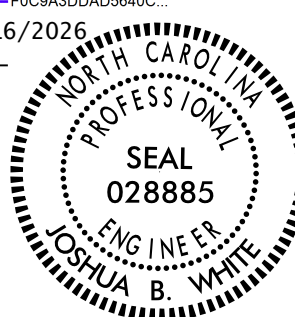
-    PAVEMENT MARKING SYMBOLS

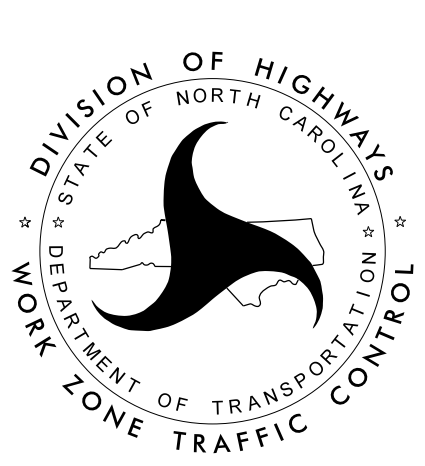
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DATE: _____

SEAL

Signed by:

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07/16/2026





ROADWAY STANDARD
DRAWINGS & LEGEND

GENERAL NOTES / LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ANY ROAD	MONDAY THRU FRIDAY 7:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
ANY ROADS
HOLIDAY
1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31st TO 7:00 JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

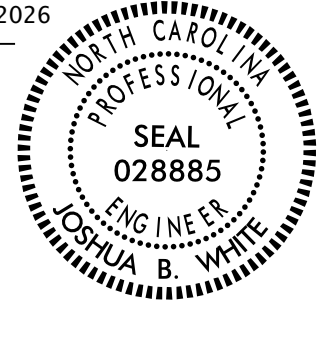
T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

U) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

MANAGEMENT STRATEGIES

ACCESS TO ALL BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES

WORK TO BE COMPLETED WITH THE USE OF TEMPORARY LANE CLOSURES PER STD. 1101.02, ADHERING TO DAY AND TIME RESTRICTIONS IN THE CONTRACT AND THE TRAFFIC CONTROL GENERAL NOTES.

APPROVED: _____ DATE: _____ SEAL	Signed by: <u>Joshua White</u> F0C9A3DDAD5640C... 07/16/2026 		TRANSPORTATION OPERATIONS PLAN
--	---	---	--------------------------------------

I7-AUG-2026 10:00
C:\Users\rtbrackett\Documents\DDC\District 1\Gaston\TAP_SCORED_PROJECTS\12_19_25\22LEIGHTH_AVE\22L8TH_AVE_RIVERSIDE_DR_Sgn_SCN1.dgn
rtbrackett AT DIM2-345777L

09/08/99

TIP PROJECT: BN-0031LA

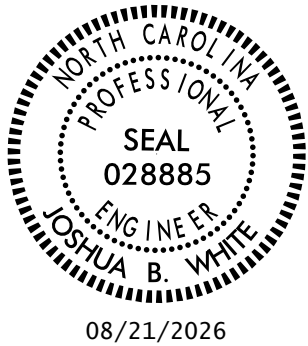
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.
BN-0031LA

SHEET NO.
1

SIGNING PLANS, GASTON COUNTY

LOCATION: INTERSECTION OF 8TH AVE & RIVERSIDE DR.



Signed by:

FOC9A3DDAD5640C...

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS THEY APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE AR HEREBY CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE D ,E, AND F SIGNS ON U CHANNEL POSTS

GENERAL NOTES

ALL SIGNS FURNISHED BY CONTRACTOR.

WHEN NOT STATIONED OR DIMENSIONED ON PLANS, SEE ROADWAY STANDARD DRAWINGS FOR SPACING REQUIREMENTS, OR FIELD LOCATE BY THE ENGINEER.

THE BACKGROUND FOR TYPE E SIGNS SHALL BE GRADE C REFLECTIVE SHEETING UNLESS OTHERWISE NOTED.

PAY ITEM NOTES

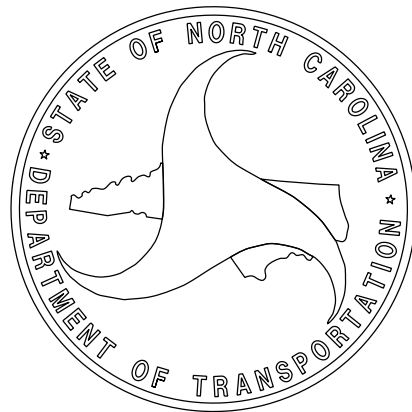
1 SIGN ERECTION, TYPE D, E OR F.

INDEX

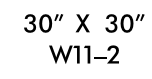
SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE E SIGN SHEET
PSH-4	FINAL SIGNING

SUMMARY OF QUANTITIES

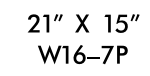
ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000-E	901	CONTRACTOR FURNISHED, TYPE E SIGN SUPPORTS, 3-LB STEEL U-CHANNEL SIGN ERECTION, RELOCATE, TYPE E (GROUND MOUNTED)	20	SF
4072000000-E	903		20	LF
4116100000-E	904		2	EA



QUANTITY REQ'D 2



QUANTITY REQ'D 2



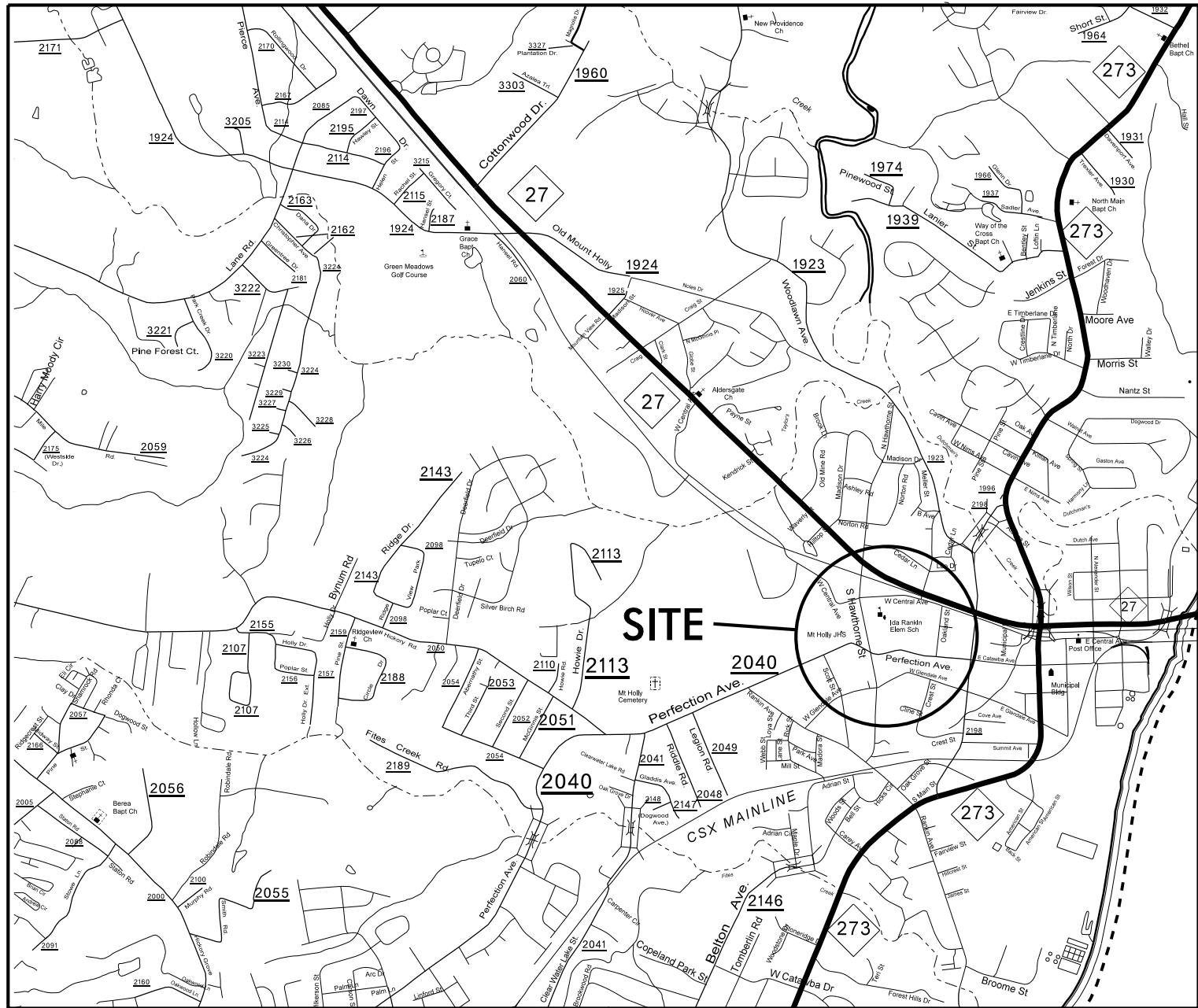
TYPE E SIGNS

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rtbrackett AT DIM2-345777L

09.08/299

TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets



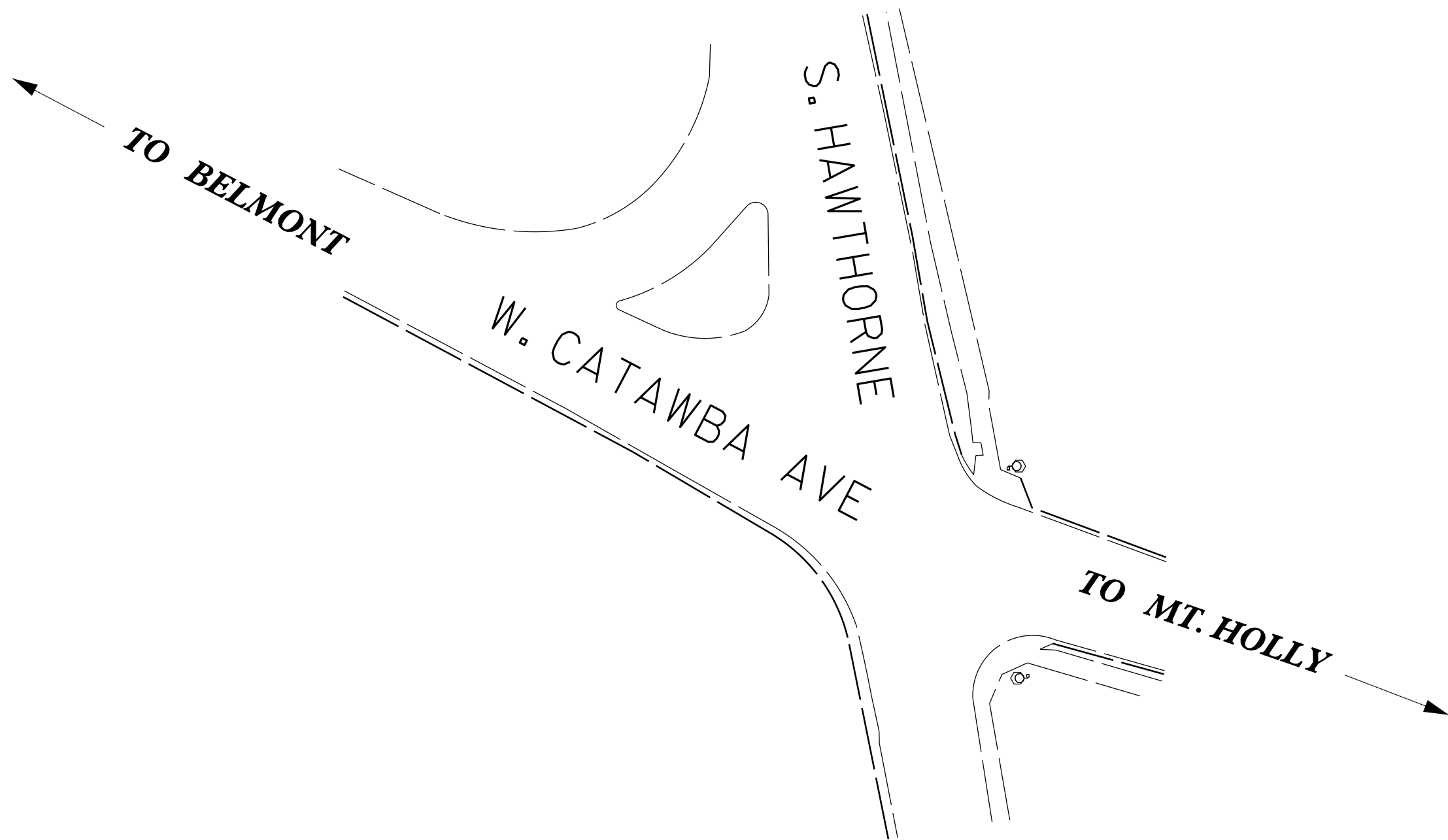
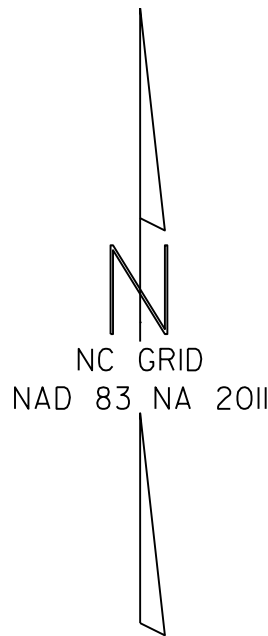
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

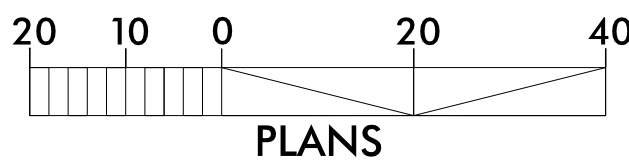
LOCATION: INTERSECTION OF W. CATAWBA AVE (SR 2040)
AND S. HAWTHORNE ST.

TYPE OF WORK: PEDESTRIAN SIGNAL AND CROSSWALK

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
52073.12.6	TAPE012	P.E.	
52073.12.305	TAPE012	CONST.	



GRAPHIC SCALES



Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NA

LETTING DATE:

JOSHUA B. WHITE PE, PLS
PROJECT ENGINEER

R. TODD BRACKETT
PROJECT DESIGN ENGINEER



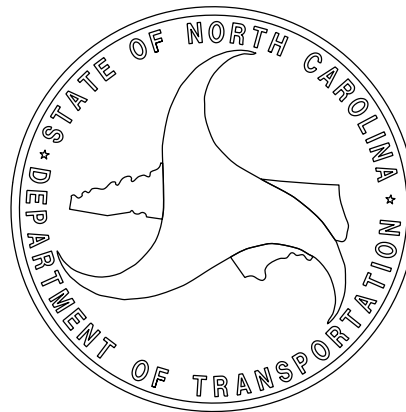
08/21/2026

ROADWAY DESIGN

Signed by: ENGINEER

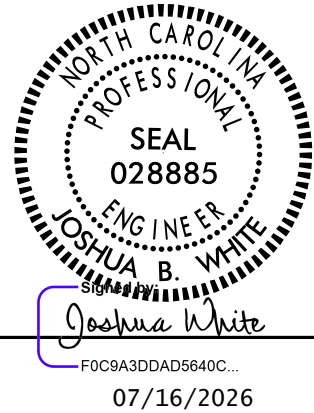
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ctbackett 07/16/2026

8/17/99

		PROJECT REFERENCE NO. BN-0031LA		SHEET NO. 1A	
				ROADWAY DESIGN ENGINEER	
					
INDEX OF SHEETS		GENERAL NOTES:		2024 SPECIFICATIONS	
SHEET NUMBER		SHEET		2024 ROADWAY ENGLISH STANDARD DRAWINGS	
1		TITLE SHEET		The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:	
1A		INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS		STD.NO. TITLE	
4		PLAN SHEETS		DIVISION 6 - ASPHALT BASES AND PAVEMENTS 654.01 Pavement Repairs	
TMP-1 THRU TMP-1B		TRAFFIC MANAGEMENT PLANS		DIVISION 8 - INCIDENTALS 846.01 Concrete Curb, Gutter and Curb & Gutter 848D01 Concrete Sidewalk 848.06 Curb Ramp - Existing Curb & Gutter 1205.07 Pavement Markings	
SIG-1.0 THRU SIG-1.1		SIGNAL PLANS			
		CURB RAMP			
		CURB RAMP ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMP ACCORDANCE WITH STD 848.06, & SPECIAL DETAILS. IF FIELD CONDITIONS DICTATE THAT STANDARDS CAN NOT BE MET, CONSTRUCT AN ALTERNATE CURB RAMP USING DETAILS INCLUDED ON PLANSHEET.			

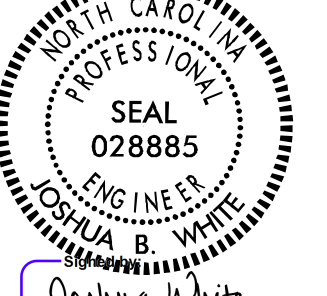
5/14/99

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SCOPED PROJECT 1455
torockett



NOTE:

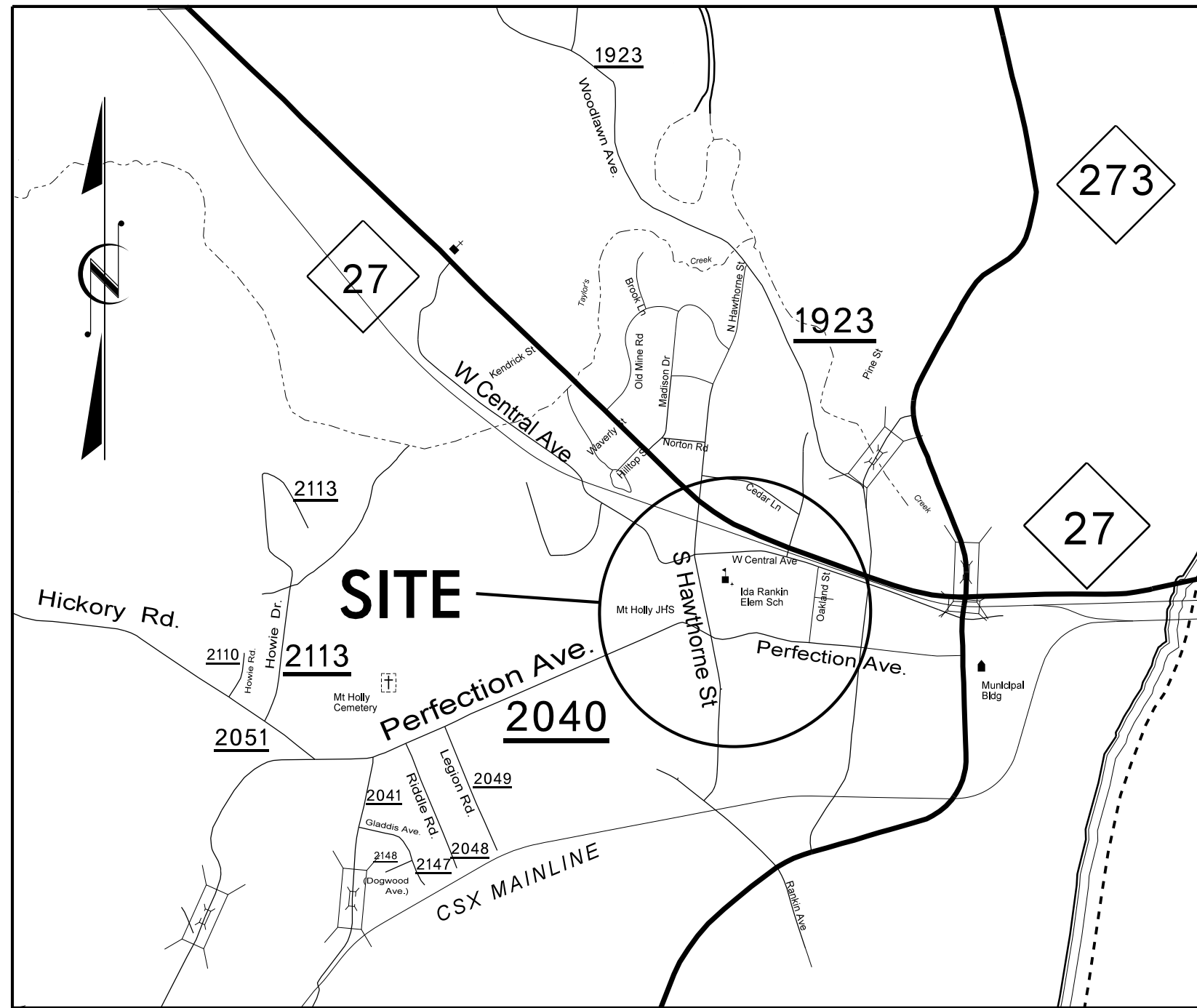
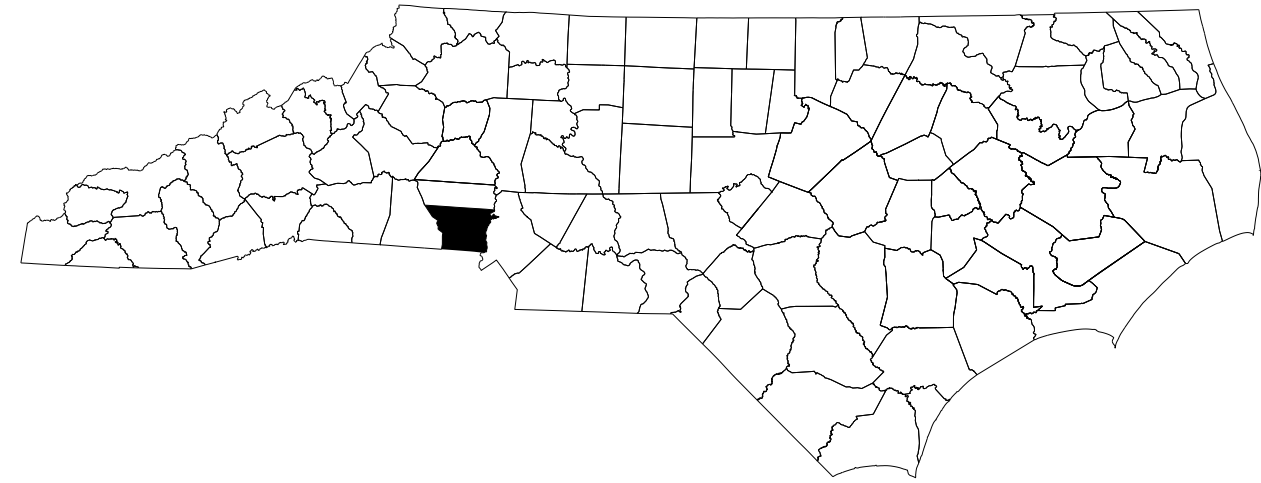
REFER TO 2024 NCDOT STANDARD
DRAWING I205.07
FOR CROSSWALK INSTALLATION

PROJECT REFERENCE NO.	SHEET NO.
BN-003/LA	4
RW SHEET NO.	N/A
ROADWAY DESIGN ENGINEER	
	
Joshua B. White	
07/16/2026	

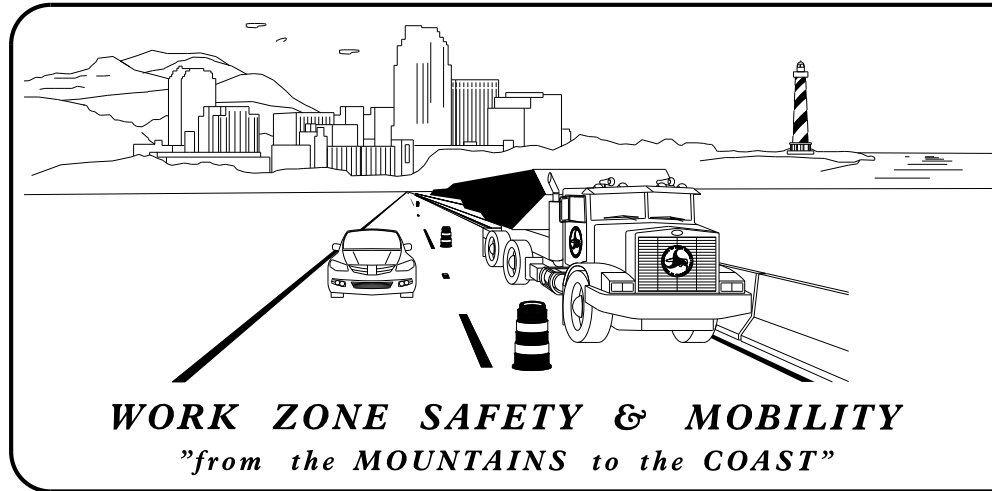
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GASTON COUNTY



VICINITY MAP - NOT TO SCALE



PLANS PREPARED BY:

R. TODD BRACKETT

NCDOT CONTACTS:

JOSHUA B. WHITE, PE PLS
PROJECT ENGINEER

R. TODD BRACKETT
PROJECT DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)

SHEET NO.

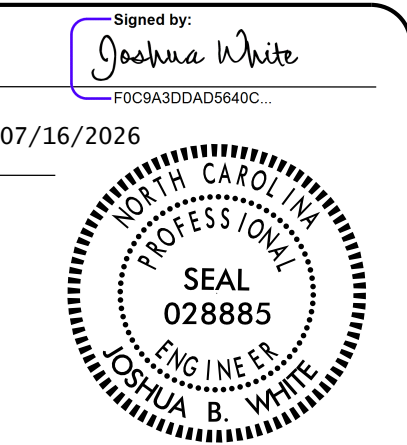
TMP-1

BN-0031LA

TIP PROJECT:

APPROVED:

DATE:



SEAL

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rtbrackett AT DIV2-34577L

ROADWAY STANDARD DRAWINGS

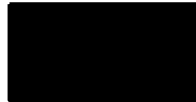
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

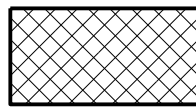
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

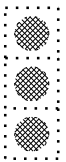
GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

 WORK AREA

 REMOVAL

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW BOARD
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

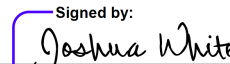
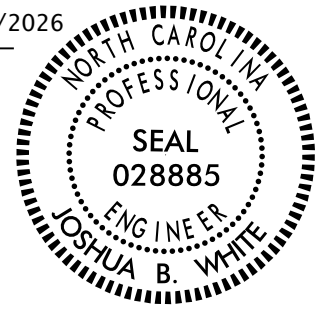
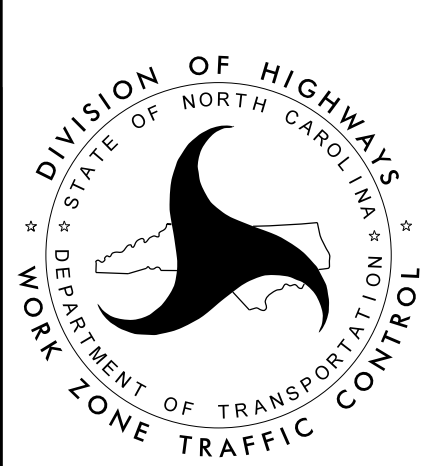
-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

-   
- PAVEMENT MARKING SYMBOLS

APPROVED: _____ DATE: _____ 07/16/2026 SEAL	Signed by:  FOCBA3DDAD5840C 		ROADWAY STANDARD DRAWINGS & LEGEND
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rtbrackett AT DIV2-34577L

GENERAL NOTES / LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ANY ROAD	MONDAY THRU FRIDAY 7:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	
ANY ROADS	
HOLIDAY	
1.	FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2.	FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31 st TO 7:00 JANUARY 2 ND . IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL THE FOLLOWING TUESDAY.
3.	FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
4.	FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5.	FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6.	FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7.	FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8.	FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
C)	DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:
- BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
- BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- K) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

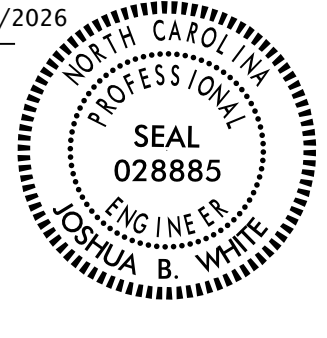
MISCELLANEOUS

- T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- U) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

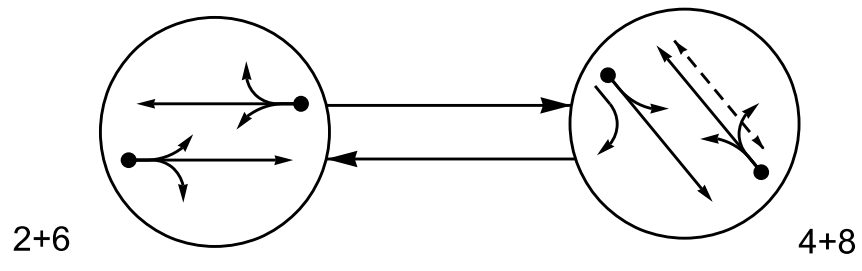
MANAGEMENT STRATEGIES

ACCESS TO ALL BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES

WORK TO BE COMPLETED WITH THE USE OF TEMPORARY LANE CLOSURES PER STD. 1101.02, ADHERING TO DAY AND TIME RESTRICTIONS IN THE CONTRACT AND THE TRAFFIC CONTROL GENERAL NOTES.

APPROVED: _____ DATE: _____ 07/16/2026 SEAL	Signed by: <i>Joshua B. White</i> F0CBA3DDAD8640C 		TRANSPORTATION OPERATIONS PLAN
---	--	---	--------------------------------------

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

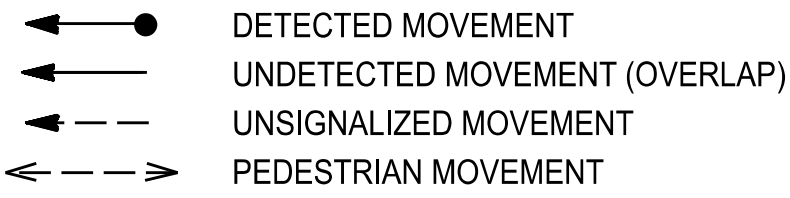


TABLE OF OPERATION

SIGNAL FACE	PHASE		
	2 + 6	4 + 8	F L A S H
21, 22	G	R	R
41, 42	R	G	R
61, 62	G	R	R
81, 82	R	G	R
P81, P82	DW	W	DRK

MAXTIME DETECTOR INSTALLATION CHART

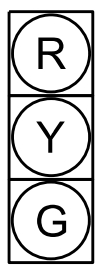
DETECTOR					PROGRAMMING								
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD	
2A	6X40	0	2-4-2	-	2	-	-	X	-	X	-	-	
4A	6X40	0	2-4-2	-	4	-	-	X	-	X	-	-	
6A	6X40	0	2-4-2	-	6	-	-	X	-	X	-	-	
8A	6X40	0	2-4-2	-	8	5.0	-	X	-	X	-	-	

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P81	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Catawba.
P82	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Catawba.

SIGNAL FACE I.D.

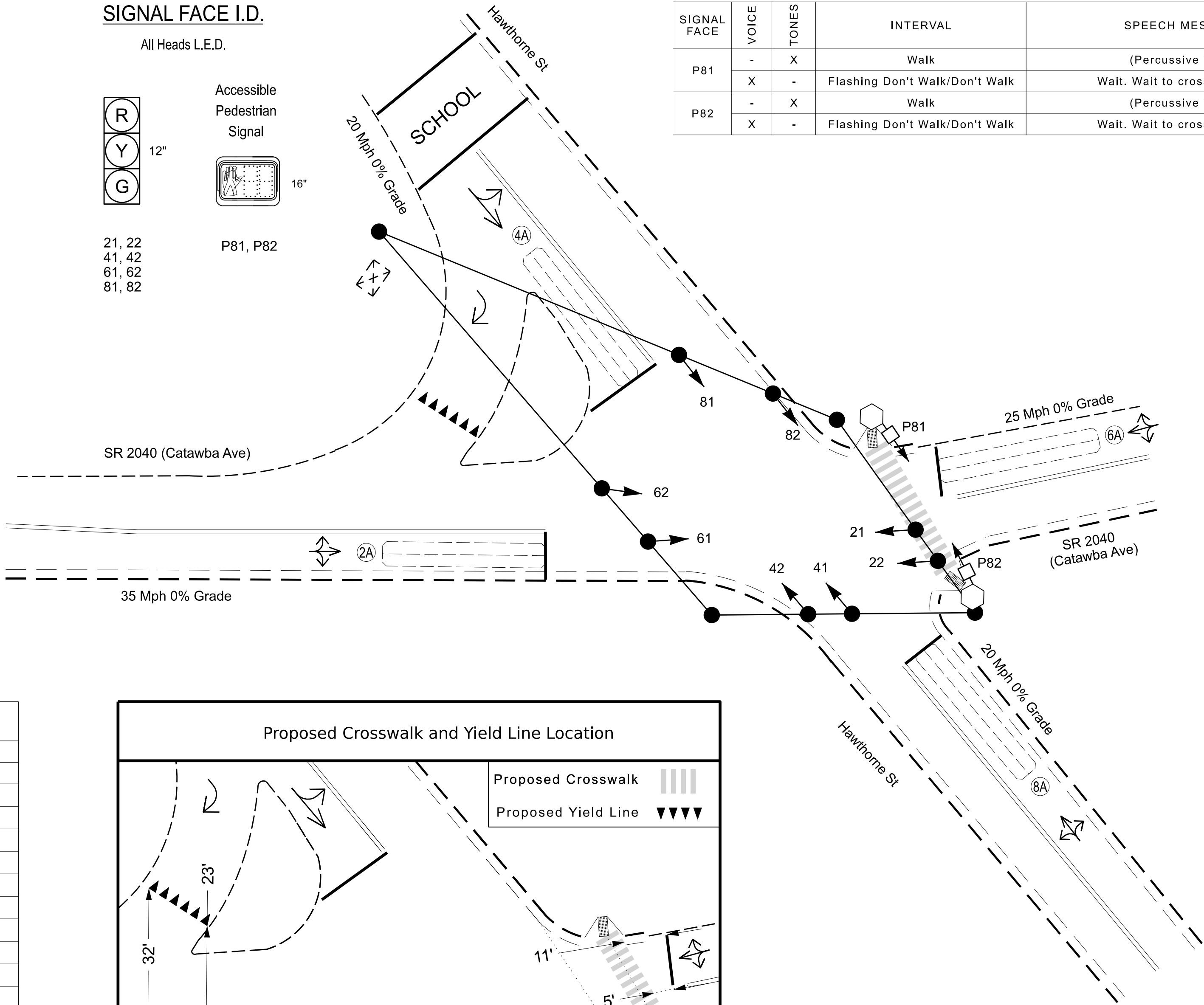
All Heads L.E.D.



21, 22
41, 42
61, 62
81, 82

Accessible
Pedestrian
Signal

P81, P82



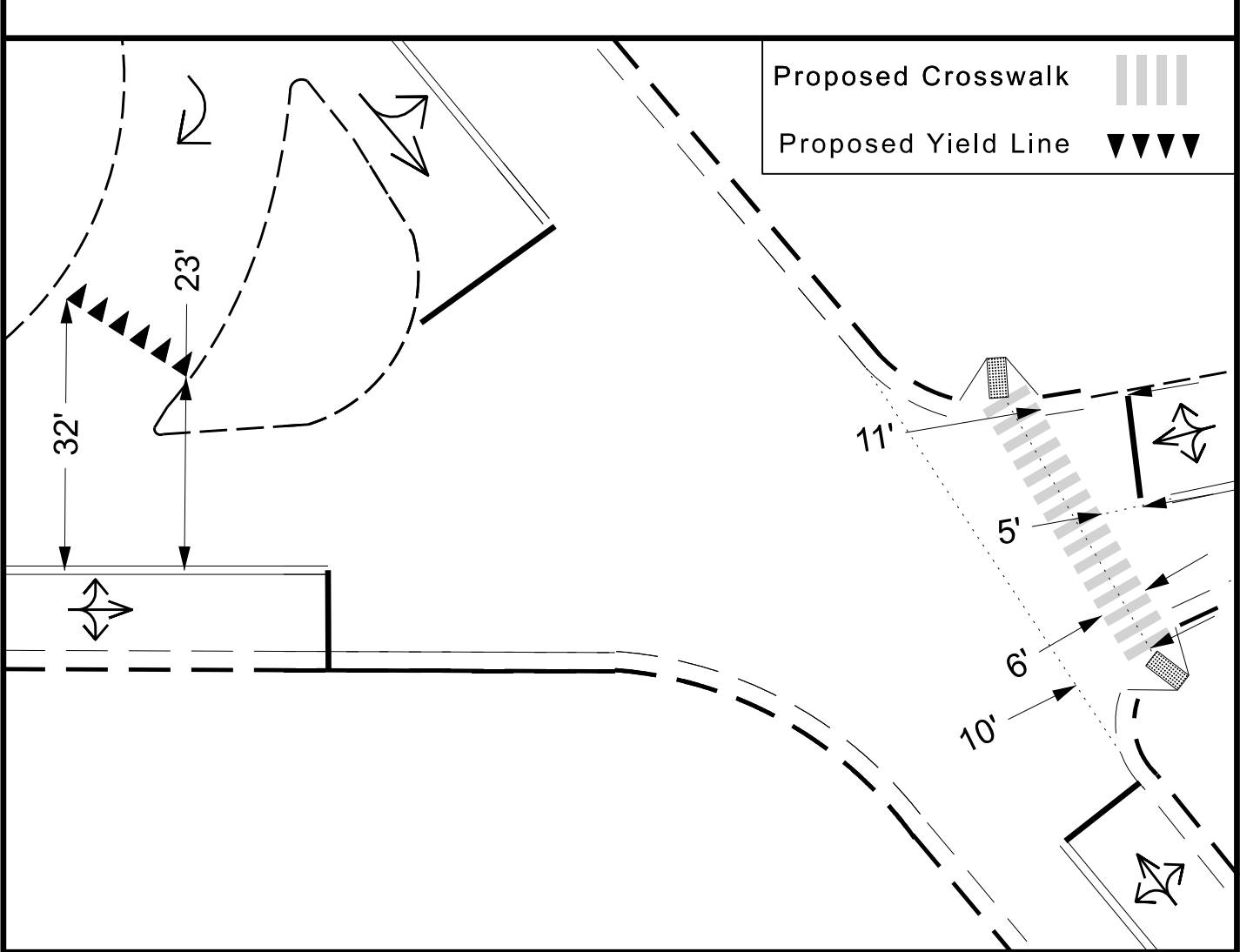
MAXTIME TIMING CHART

FEATURE	PHASE			
	2	4	6	8
Walk *	-	-	-	7
Ped Clear	-	-	-	7
Min Green *	10	7	10	7
Passage *	3.0	2.0	3.0	2.0
Max 1 *	45	20	45	20
Yellow Change	3.2	3.2	3.2	3.2
Red Clear	2.6	2.8	2.6	2.8
Added Initial *	-	-	-	-
Maximum Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Advance Walk	-	-	-	6
Non Lock Detector	-	X	-	X
Vehicle Recall	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	X	-	X
Simultaneous Start **	-	X	-	X

* 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.

** Program phases 4&8 for Simultaneous Start for LPI.

Proposed Crosswalk and Yield Line Location



2 Phase
Fully Actuated
Isolated

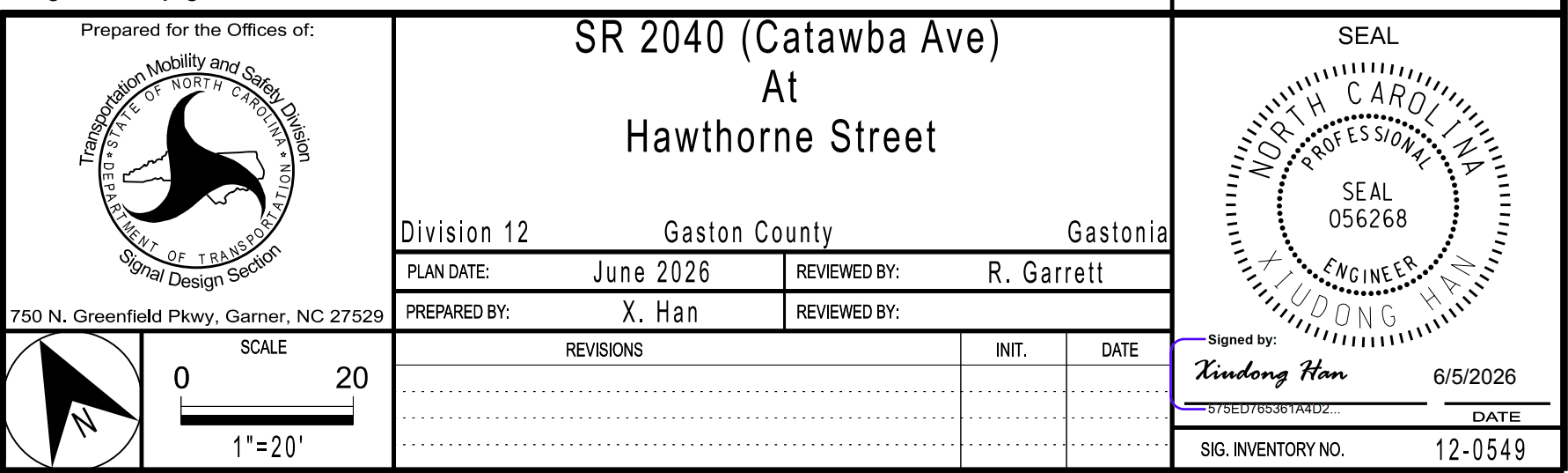
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024, "Standard Specifications for Roads and Structures" dated January 2024, and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website:
<https://connect.ncdot.gov/resources/safety/Pages/TSMO-Design-Resources.aspx>
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
8. Pavement markings are existing unless otherwise shown.

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	
--- x-uc ---	2-in Underground Conduit	--- uc ---
N/A	Right of Way	---
	Directional Arrow	
	Type II Signal Pedestal	
N/A	Curb Ramp	

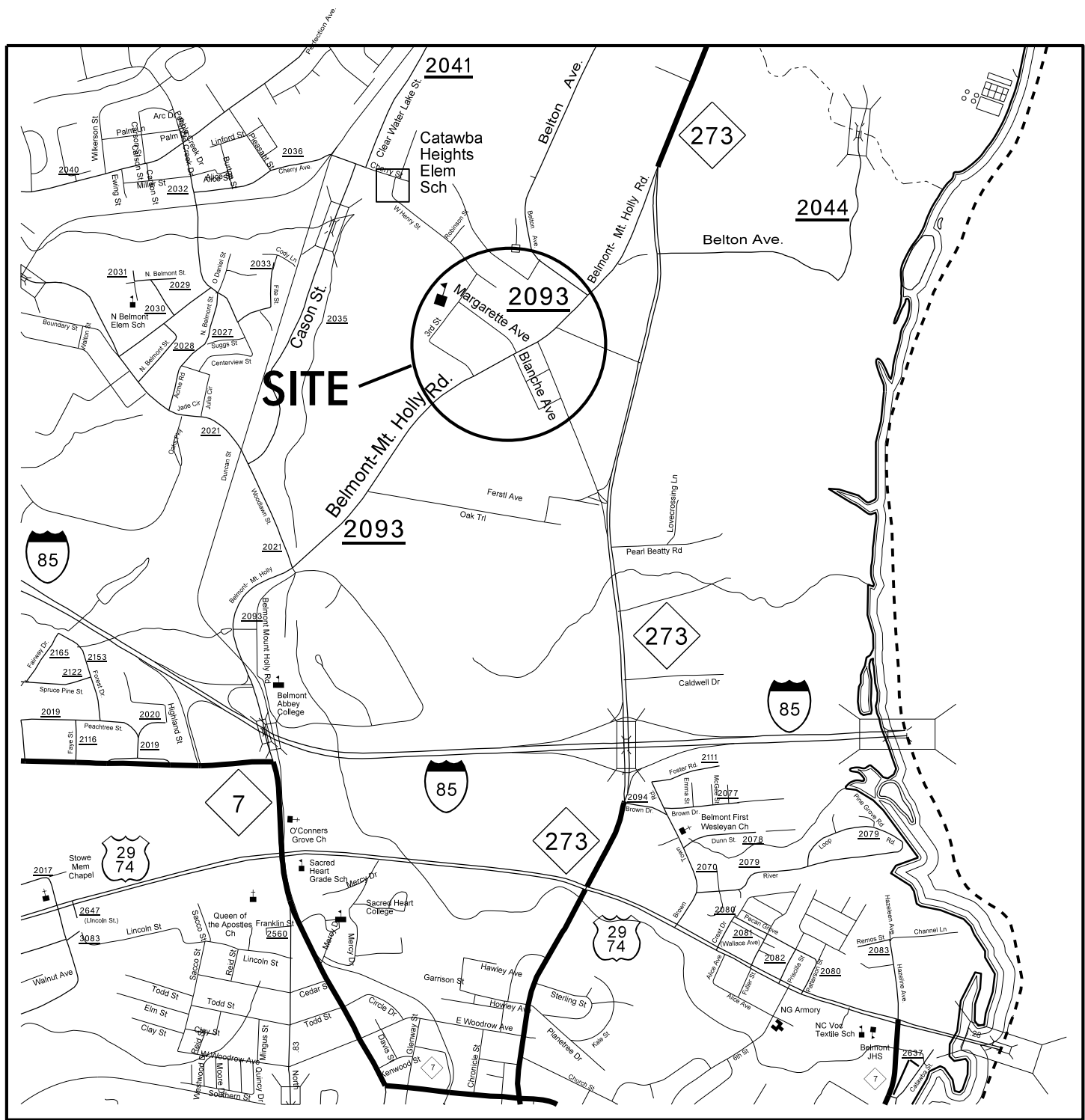
Signal Upgrade



17-AUG-2026 13:47 C:\Users\rtbrackett\Documents\DDC\District 1\Gaston\TAP_SCORED_PROJECTS\12_19_25\285_BLANCHE_AVE&MARGARETTE_AVE\285_BLANCHE_AVE_MARGARETTE_AVE_Rdy_TSH.dgn rtbrackett AT DIM2-345777L

TIP PROJECT: BN-0031LA

See Sheet 1A For Index of Sheets

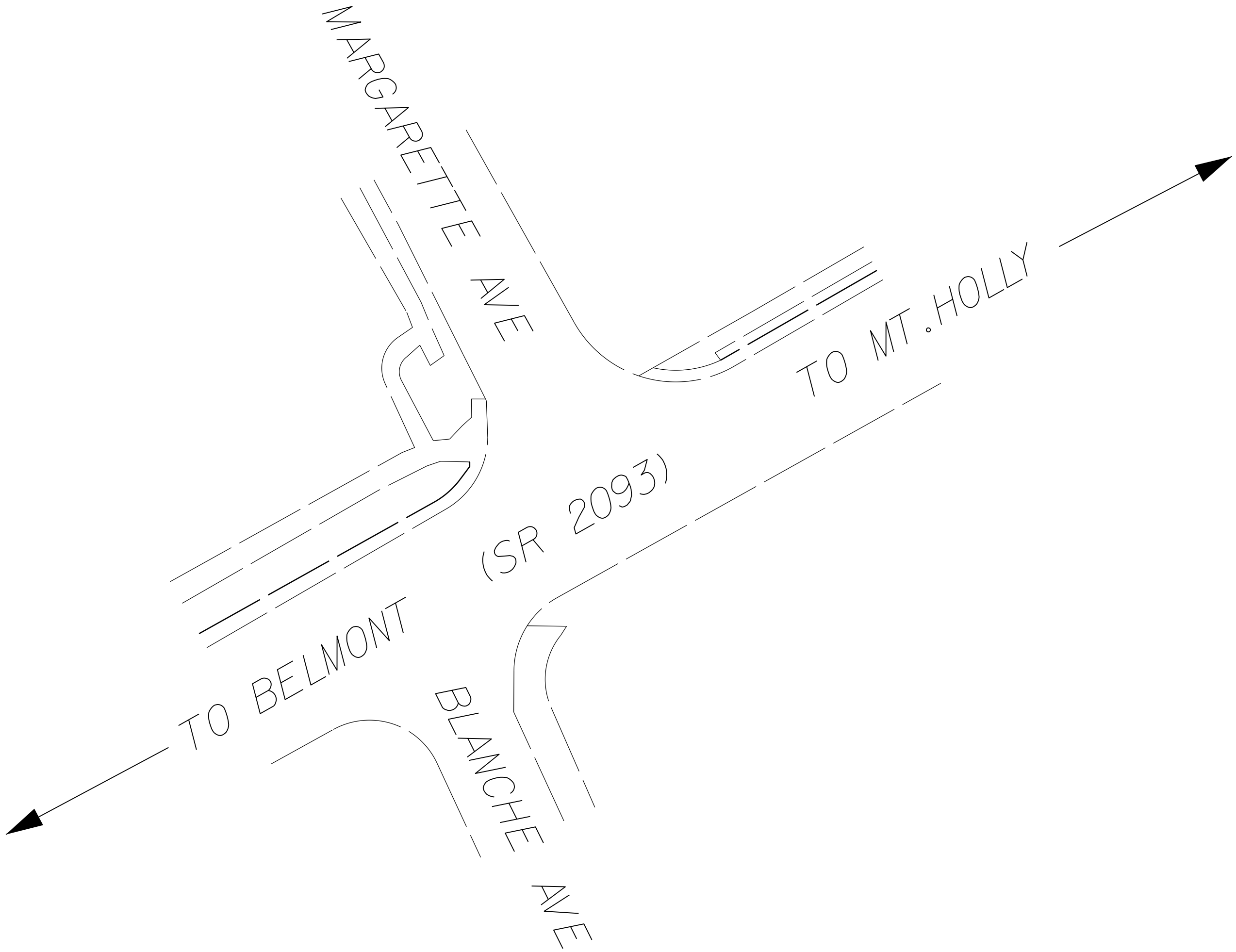


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: MARGARETTE AVE AND BLANCHE AVE
BELMONT MT. HOLLY RD (SR 2093)

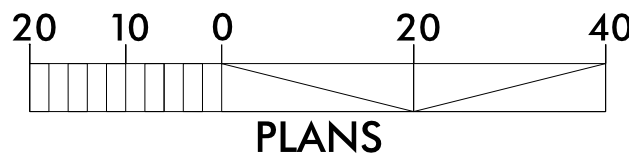
TYPE OF WORK: ADDING CURB RAMPS AND CROSSWALKS



STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	TOTAL SHEETS
N.C.	BN-0031LA		1	
STATE PROJ. NO.		P.A. PROJ. NO.	DESCRIPTION	
52073.12.6		TAPE012	P.E.	
52073.12.306		TAPE012	CONST.	



GRAPHIC SCALES



Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:

JOSHUA B. WHITE PE PLS
PROJECT ENGINEER

R. TODD BRACKETT
PROJECT DESIGN ENGINEER

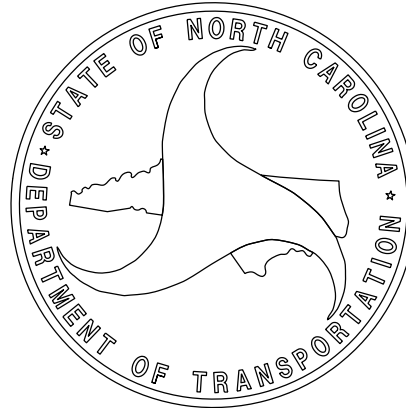


08/21/2026

ROADWAY DESIGN ENGINEER

Signed by: *[Signature]*

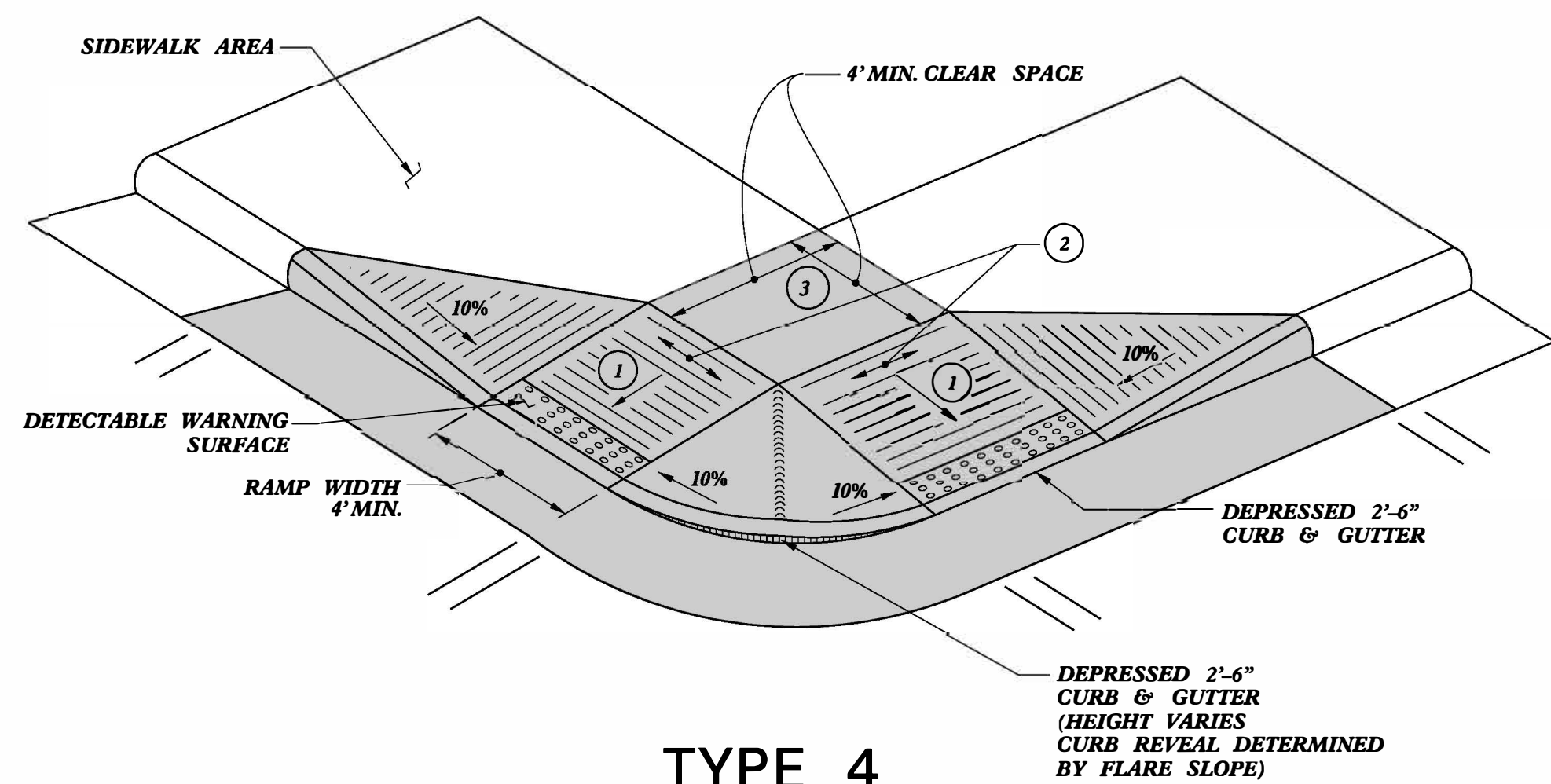
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SIGNATURE:



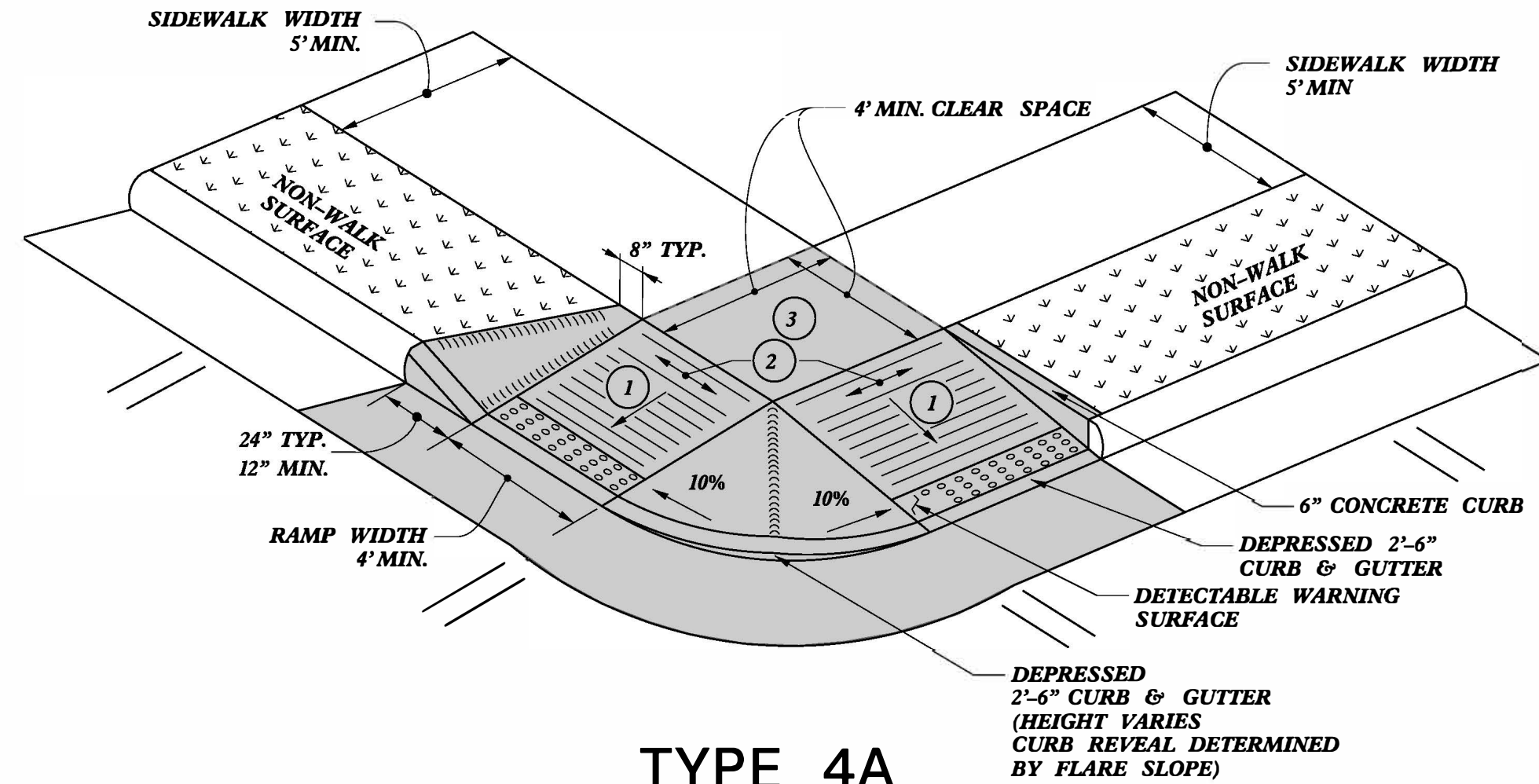
8/17/99

20-JUN-2026 10:04
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cbrackett

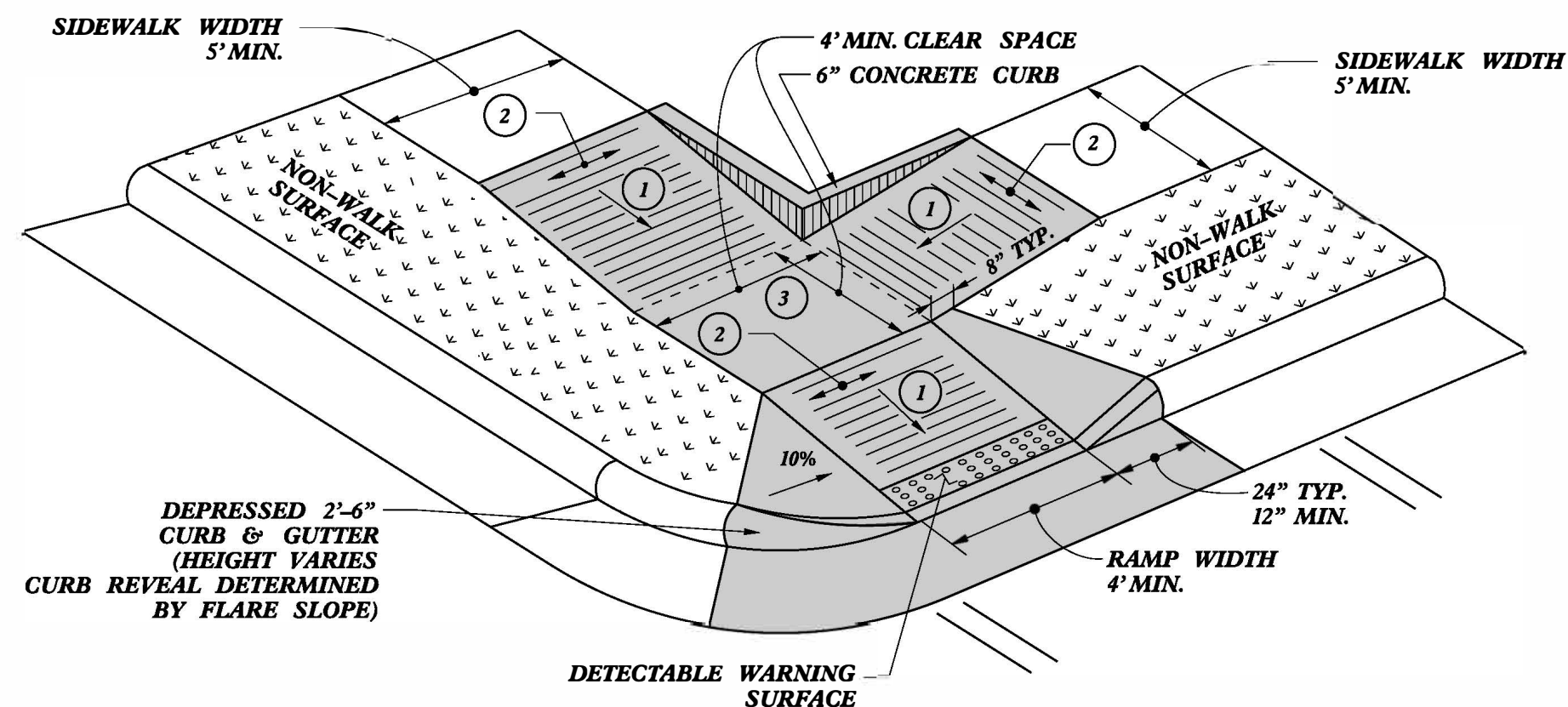
PROJECT REFERENCE NO.		SHEET NO.	
BN-0031LA		1A	
		ROADWAY DESIGN ENGINEER	
		SEAL 028885 NORTH CAROLINA PROFESSIONAL ENGINEER JOSHUA B. WHITE Signed by Joshua White 7/16/2026	
INDEX OF SHEETS		GENERAL NOTES:	
SHEET NUMBER		SHEET	
1		TITLE SHEET	
1A		INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	
2C-1		CURB RAMP DETAILS	
4		PLAN SHEETS	
TMP-1 THRU TMP-1B		TRAFFIC MANAGEMENT PLANS	
SIGN-1 THRU SIGN-2		SIGNING PLANS	
		2024 SPECIFICATIONS	
		2024 ROADWAY ENGLISH STANDARD DRAWINGS	
		The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:	
		STD.NO. TITLE	
		DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
		654.01 Pavement Repairs	
		DIVISION 8 - INCIDENTALS	
		846.01 Concrete Curb, Gutter and Curb & Gutter	
		848D01 Concrete Sidewalk	
		848.06 Curb Ramp - Existing Curb & Gutter	
		1205.07 Pavement Markings	



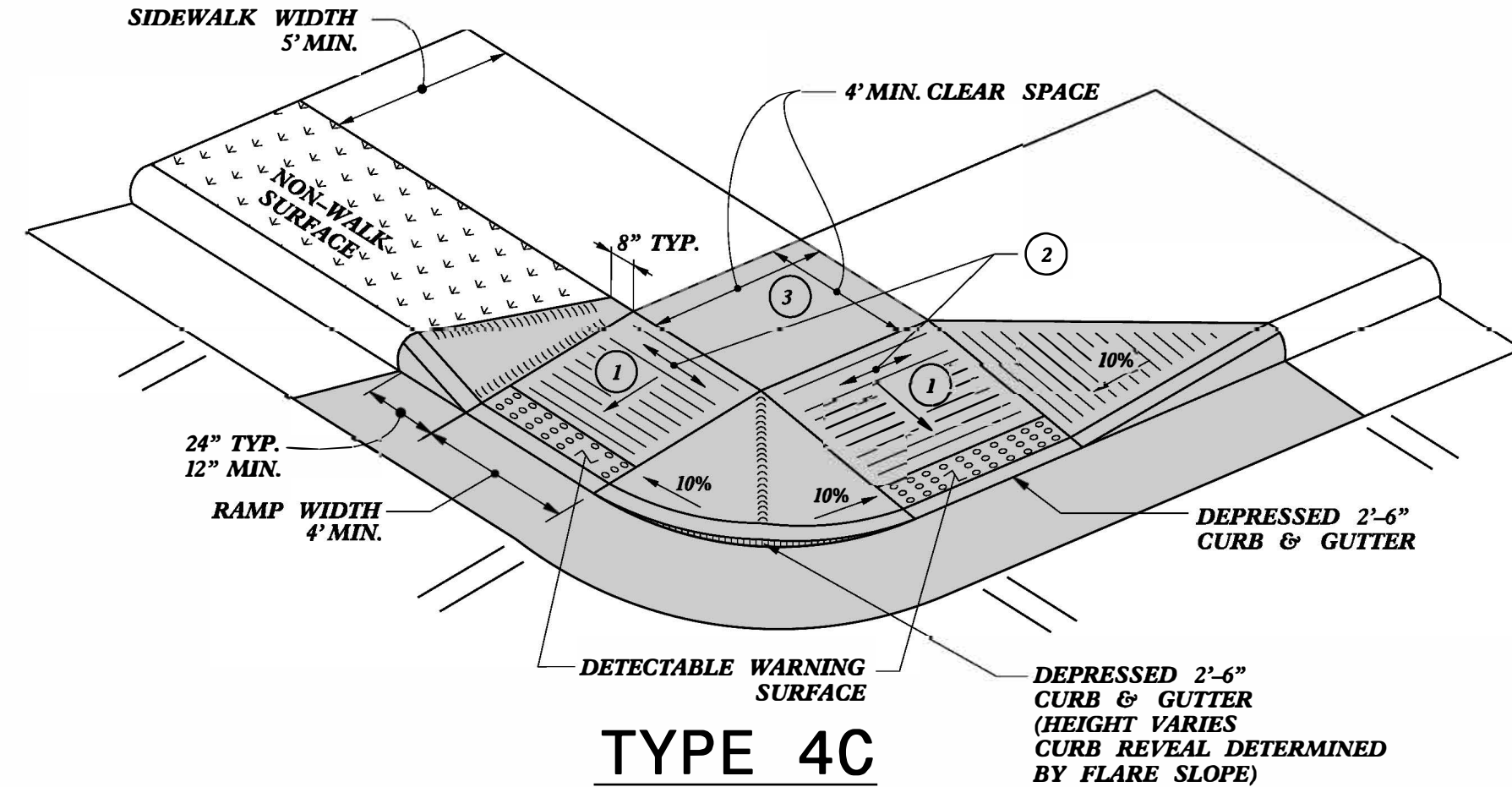
TYPE 4



TYPE 4A

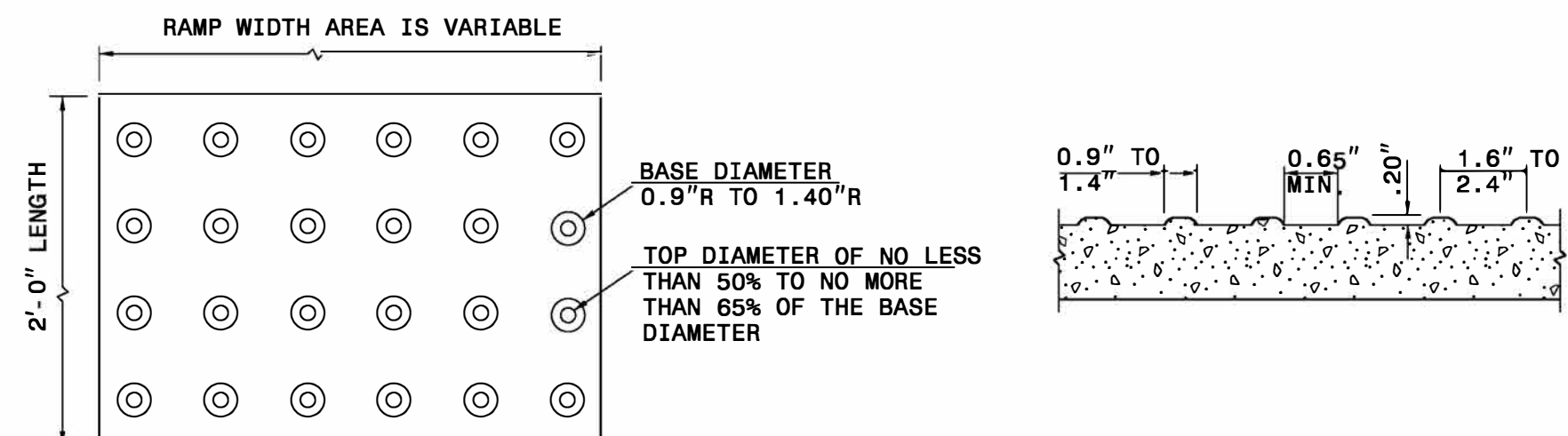


TYPE 4B



TYPE 4C

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.

PAY LIMITS FOR 1 OR 2 CURB RAMPS
(CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES)

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CURB RAMP
SHARED LANDING

SHEET 10 OF 13
848D06



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

ORIGINAL BY: S. CALHOUN DATE: 12-22-2023
MODIFIED BY: RTB DATE: 5-8-2026
CHECKED BY: JBV DATE: 5-10-2026
FILE SPEC.: special_details\nmhackler\848D0610.dgn

5/14/99

16-JUL-2026 15:10
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tbrockett

PROJECT REFERENCE NO.	SHEET NO.
BN-0031LA	4
RW SHEET NO.	N/A
ROADWAY DESIGN ENGINEER	
	
Signed By Joshua White F003A300A05640C 07/16/2026	

EXISTING CURB RAMP
DO NOT DISTURB

TIE CURB RAMP TO
EXISTING SIDEWALK

TIE TO EXISTING CURB RAMP
WITH CURB RAMP TYPE
4C (SHEET 2C-1)

Gibson Mortuary Service

REMOVE AND REPLACE
EXISTING CURB RAMP
WITH CURB RAMP
TYPE 1
(848.06)

Belmont Mt Holly Rd

Retro Collectibles
and Thrift
Thrift store

Berckman racing

Ministerio Intl. Luz
Y Poder Al Mundo

DETAIL "A"

DO NOT DISTURB
DRAINAGE STRUCTURE

REMOVE AND REPLACE
EXISTING END OF SIDEWALK
WITH CURB RAMP TYPE 1
(848.06) SEE DETAIL "A"

Hernandez Towing
and Transport

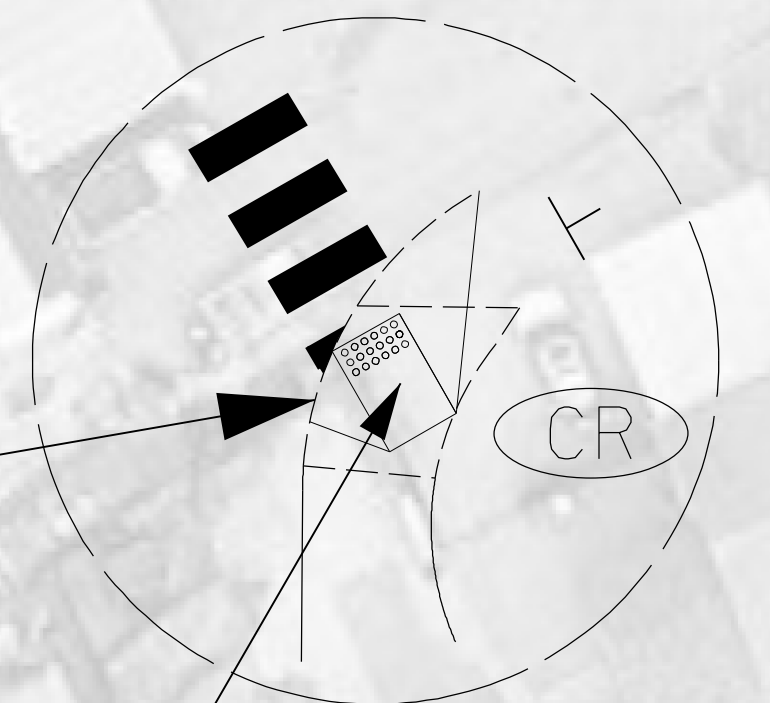
REPLACE SIDEWALK
WITH CURB RAMP
TYPE 1 (848.06)

Rita's Family Rest
Family-

NOTE:

REFER TO 2024 STANDARD DRAWING 848.06
AND/OR 4C DETAILS FOR CURB RAMP
INSTALLATION.

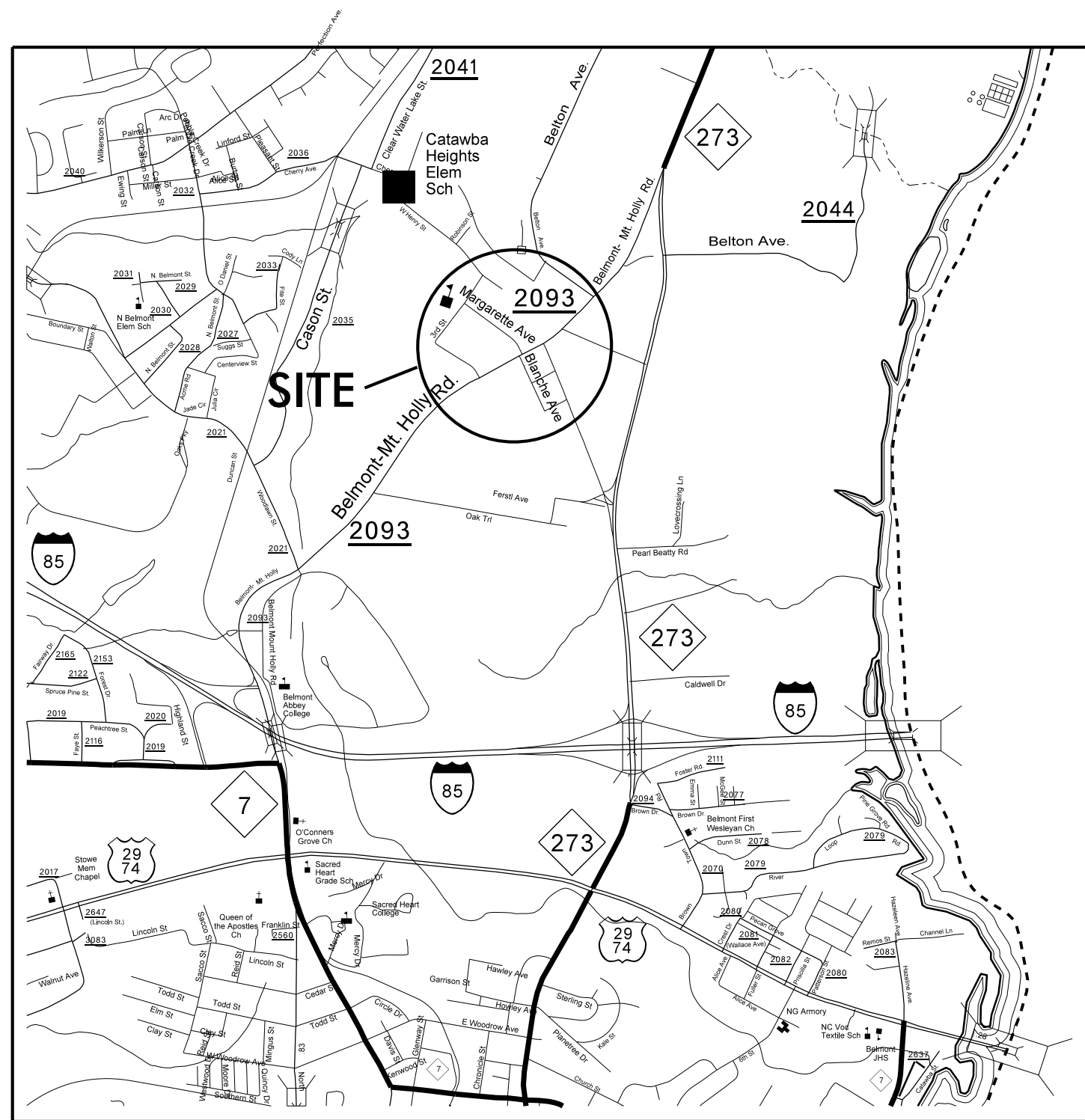
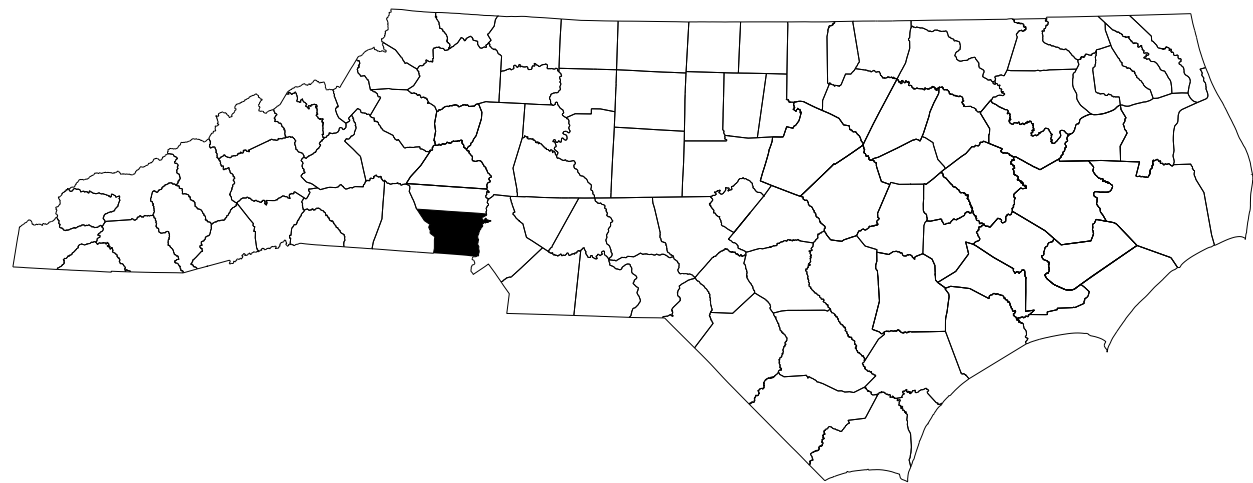
REFER TO 2024 NCDOT STANDARD DRAWING
1205.07 FOR CROSSWALK INSTALLATION.



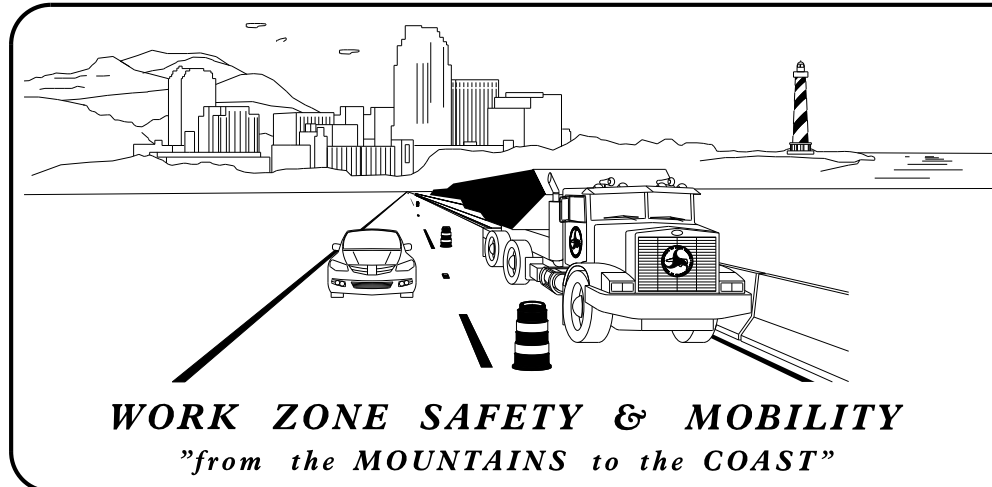
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GASTON COUNTY



VICINITY MAP - NOT TO SCALE



PLANS PREPARED BY:

R. TODD BRACKETT

NCDOT CONTACTS:

JOSHUA B. WHITE, PE, PLS
PROJECT ENGINEER

R. TODD BRACKETT
PROJECT DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)

SHEET NO.

TMP-1

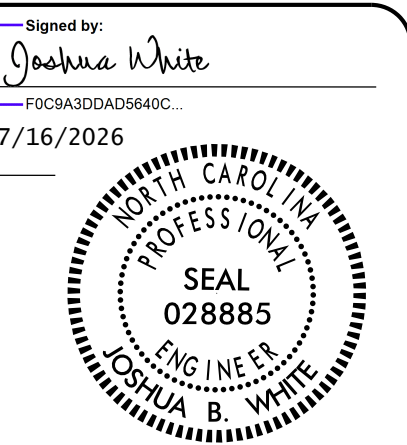
BN-0031LA

TIP PROJECT:

APPROVED:

DATE:

SEAL



30-JUN-2026 10:34
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rtbrackett AT DIV2-34577L

ROADWAY STANDARD DRAWINGS

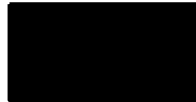
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

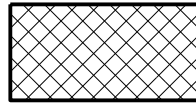
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

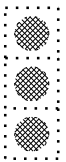
GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

 WORK AREA

 REMOVAL

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW BOARD
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

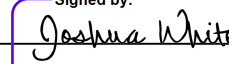
PAVEMENT MARKING SYMBOLS

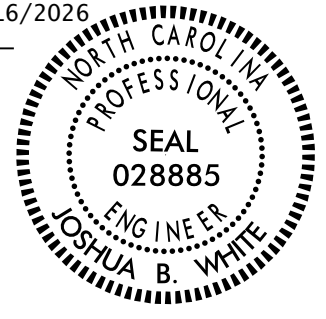
-   
- PAVEMENT MARKING SYMBOLS

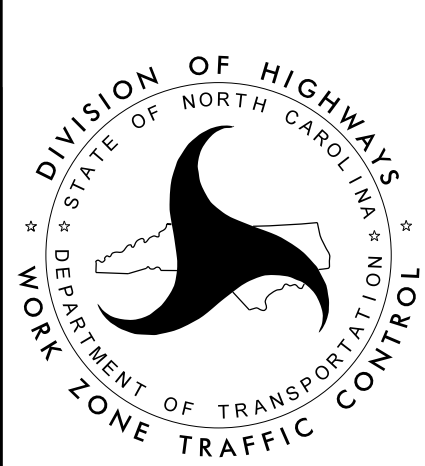
APPROVED: _____

DATE: _____

SEAL

Signed by:

FOCBA30DA05640C
07/16/2026





ROADWAY STANDARD
DRAWINGS & LEGEND

GENERAL NOTES / LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ANY ROAD	MONDAY THRU FRIDAY 7:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
ANY ROADS
HOLIDAY
1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31st TO 7:00 JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

U) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

MANAGEMENT STRATEGIES

ACCESS TO ALL BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES

WORK TO BE COMPLETED WITH THE USE OF TEMPORARY LANE CLOSURES PER STD. 1101.02, ADHERING TO DAY AND TIME RESTRICTIONS IN THE CONTRACT AND THE TRAFFIC CONTROL GENERAL NOTES.

APPROVED: _____ DATE: _____ SEAL	Signed by: Joshua White F0C9A3DDAD5640C 07/16/2026 Professional Engineer Seal 028885 Joshua B. White	Division of Highways State of North Carolina Department of Transportation Work Zone Traffic Control	TRANSPORTATION OPERATIONS PLAN
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17-AUG-2026 13:57 C:\Users\jrbrackett\Documents\DDC\District 1\Gaston\TAP_SCORED_PROJECTS\12_19_25\285_Blanche_Ave&Margarette_Ave\285_Blanche_Ave_Margarette_Ave_Sgn_SGN.Ldgn rbrackett AT DIM2-345777L 09/08/99

TIP PROJECT: BN-0031LA

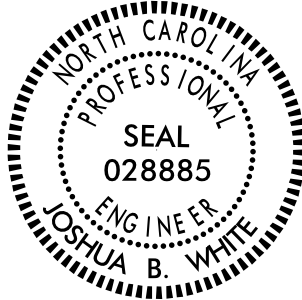
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.
BN-0031LA

SHEET NO.
1

SIGNING PLANS, GASTON COUNTY

LOCATION: INTERSECTION OF BLANCHE AVE. & MARGARETTE AVE.



08/21/2026

Signed by:

Joshua B. White

F0C9A3DDAD5640C...

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS THEY APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE ARE HEREBY CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE D, E, AND F SIGNS ON U CHANNEL POSTS

GENERAL NOTES

ALL SIGNS FURNISHED BY CONTRACTOR.

WHEN NOT STATIONED OR DIMENSIONED ON PLANS, SEE ROADWAY STANDARD DRAWINGS FOR SPACING REQUIREMENTS, OR FIELD LOCATE BY THE ENGINEER.

THE BACKGROUND FOR TYPE E SIGNS SHALL BE GRADE C REFLECTIVE SHEETING UNLESS OTHERWISE NOTED.

PAY ITEM NOTES

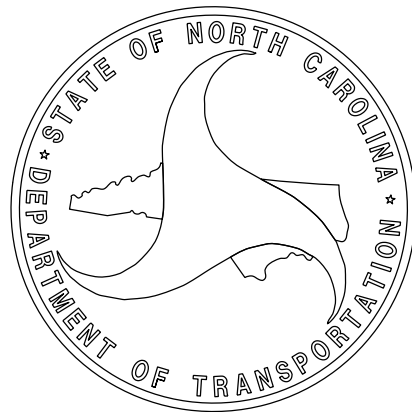
1 SIGN ERECTION, TYPE D, E OR F.

INDEX

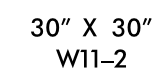
SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE E SIGN SHEET
PSH-4	FINAL SIGNING

SUMMARY OF QUANTITIES

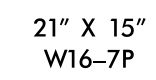
ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000-E	901	CONTRACTOR FURNISHED, TYPE E SIGN SUPPORTS, 3-LB STEEL U-CHANNEL SIGN ERECTION, RELOCATE, TYPE E (GROUND MOUNTED)	20	SF
4072000000-E	903		20	LF
4116100000-E	904		2	EA



QUANTITY REQ'D 2



QUANTITY REQ'D 2



TYPE E SIGNS