

See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

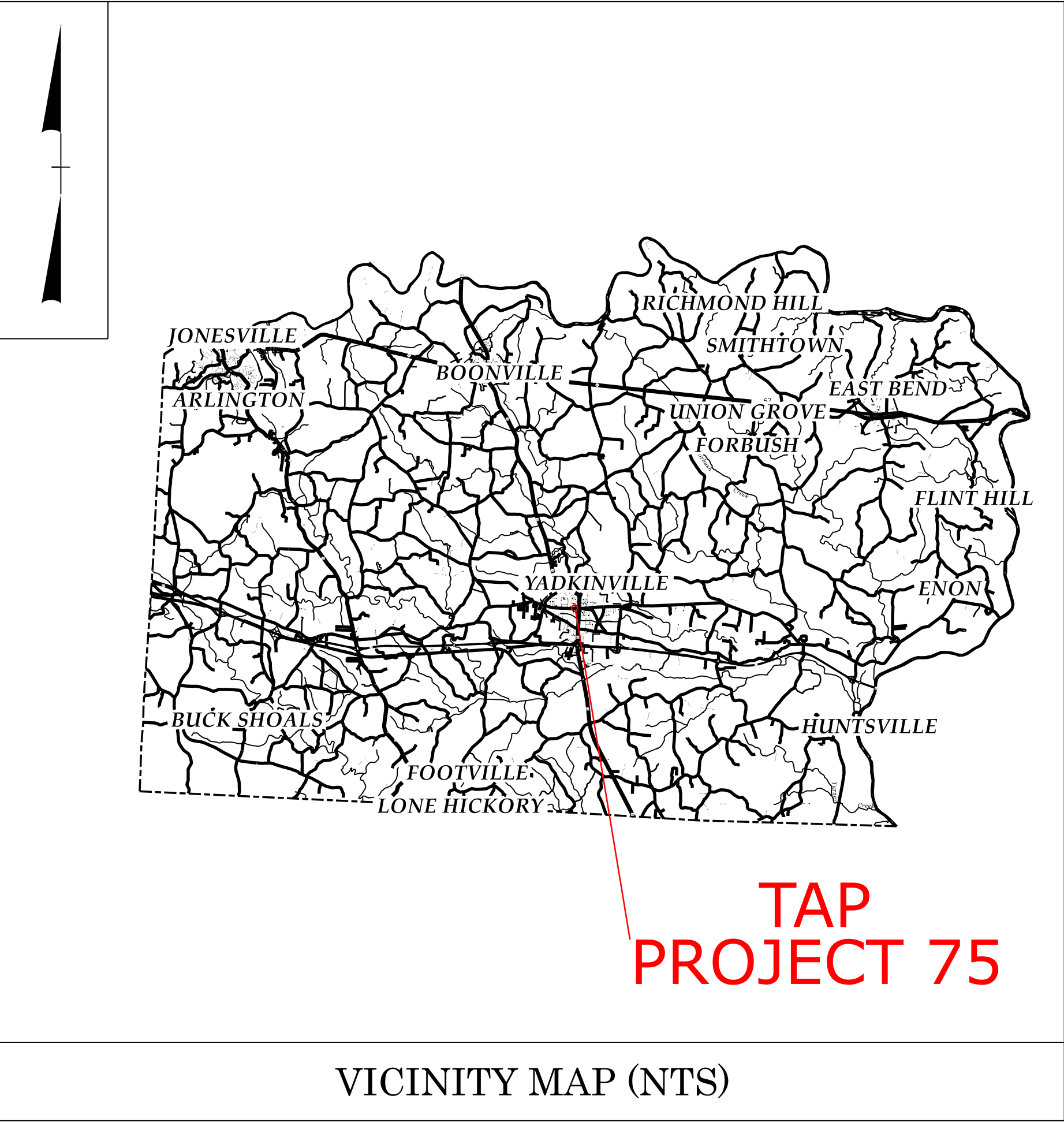
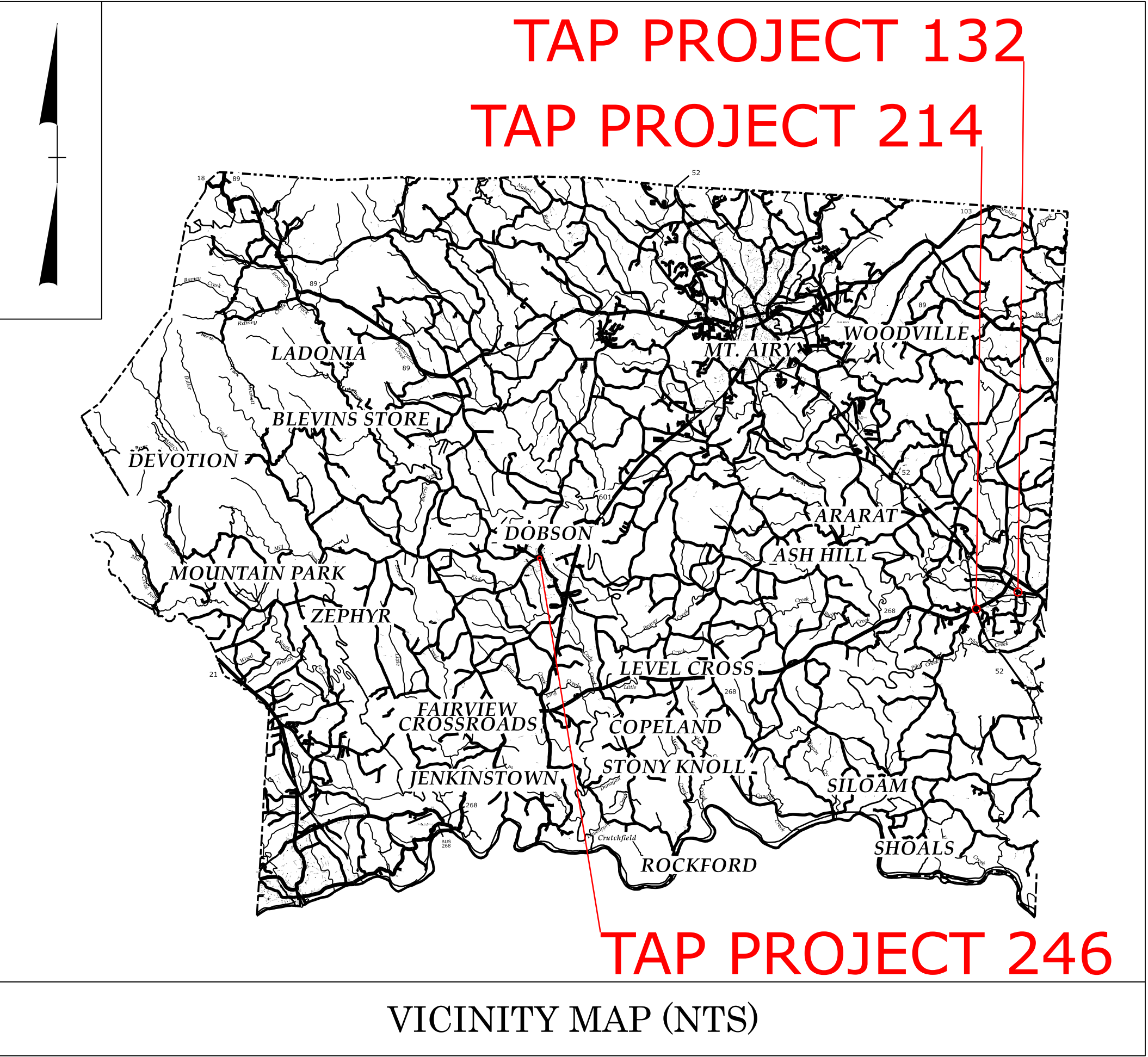
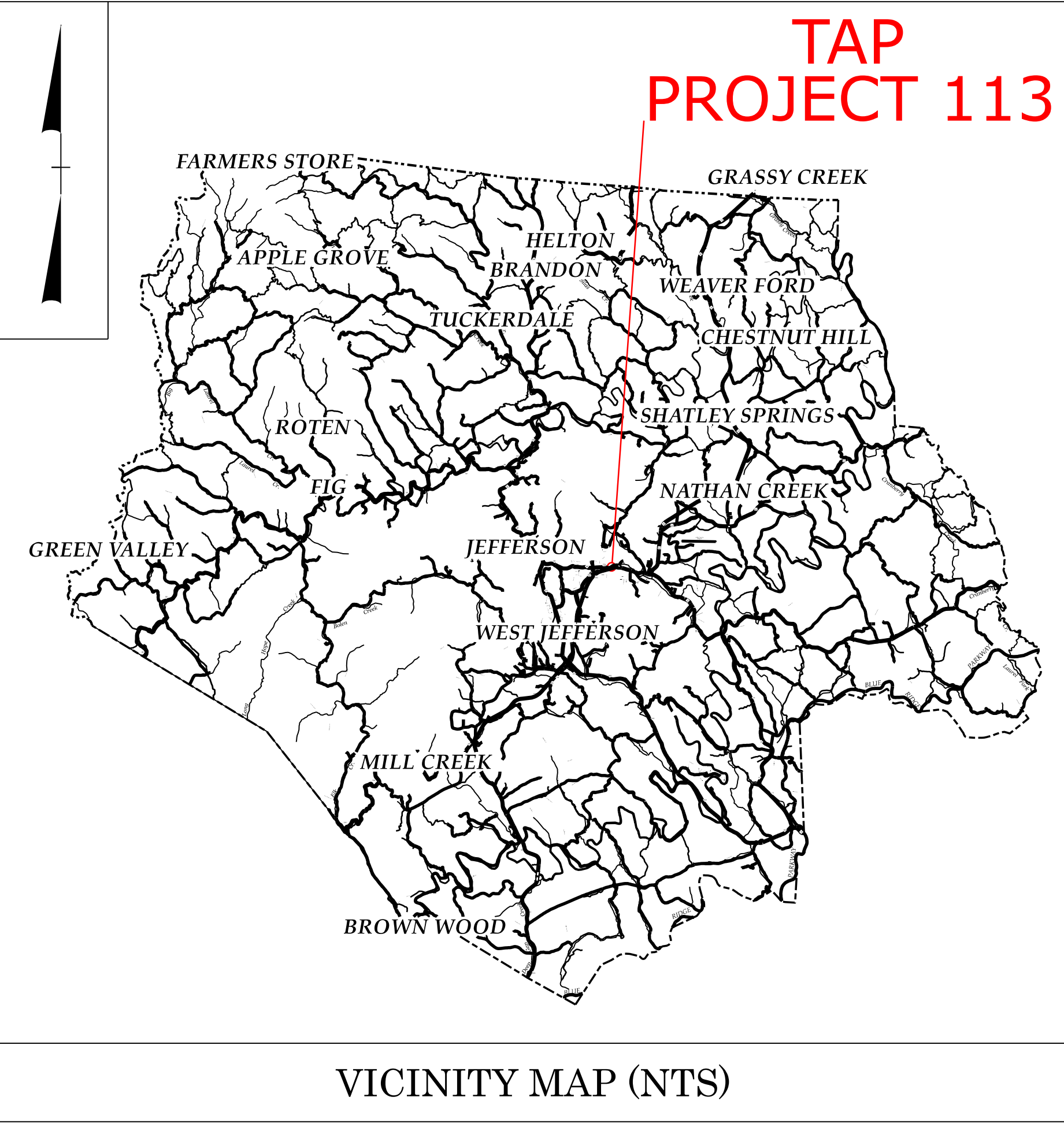
TYPE OF WORK: *INSTALLATION OF PEDESTRIAN SIGNALS AND
CONSTRUCTION OF CONCRETE CURB RAMPS*

STATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031KA	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
52073.11.8	TAPE011		
52073.11.301	TA11301		

ASHE COUNTY

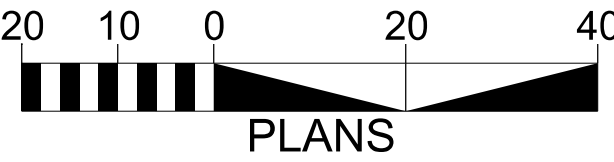
SURRY COUNTY

YADKIN COUNTY



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PROJECT LENGTH

N/A

Prepared in the Office of:
KCI Associates of N.C., P.A.
4800 Falls of Neuse Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:

JOSEPH L. LEWIS, PE
PROJECT ENGINEER

TYLER L. CAREY, PE
PROJECT DESIGN ENGINEER

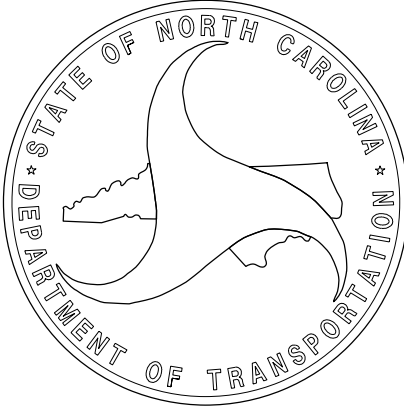
ALEXANDER W. REESE
NCDOT CONTACT

HYDRAULICS ENGINEER

Signed by: *Leah Young* 7/22/2026
P.E.
SIGNATURE: *Leah Young*

ROADWAY DESIGN ENGINEER

Signed by: *Tyler Carey* 7/22/2026
P.E.
SIGNATURE: *Tyler Carey*



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
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1B	TAP 75 SITE MAP
1C	TAP 113 SITE MAP
1D	TAP 132 SITE MAP
1E	TAP 214 SITE MAP
1F	TAP 246 SITE MAP
2C-1 THRU 2C-4	CURB RAMP DETAILS
3D-1	TAP 214 DRAINAGE SUMMARY SHEET
4	TAP 75 SITE LAYOUT SHEET
5	TAP 113 SITE LAYOUT SHEET
6	TAP 132 SITE LAYOUT SHEET
7 THRU 8	TAP 214 SITE LAYOUT SHEET
9	TAP 246 SITE LAYOUT SHEET

GENERAL NOTES

- 1) REFER TO 2024 NCDOT STANDARD DRAWING NO. 848.06 AND/OR 2C SHEETS FOR CURB RAMP INSTALLATION.
- 2) REFER TO 2024 NCDOT STANDARD DRAWING NO. 1205.07 FOR CROSSWALK INSTALLATION.

PAVEMENT MARKING LEGEND

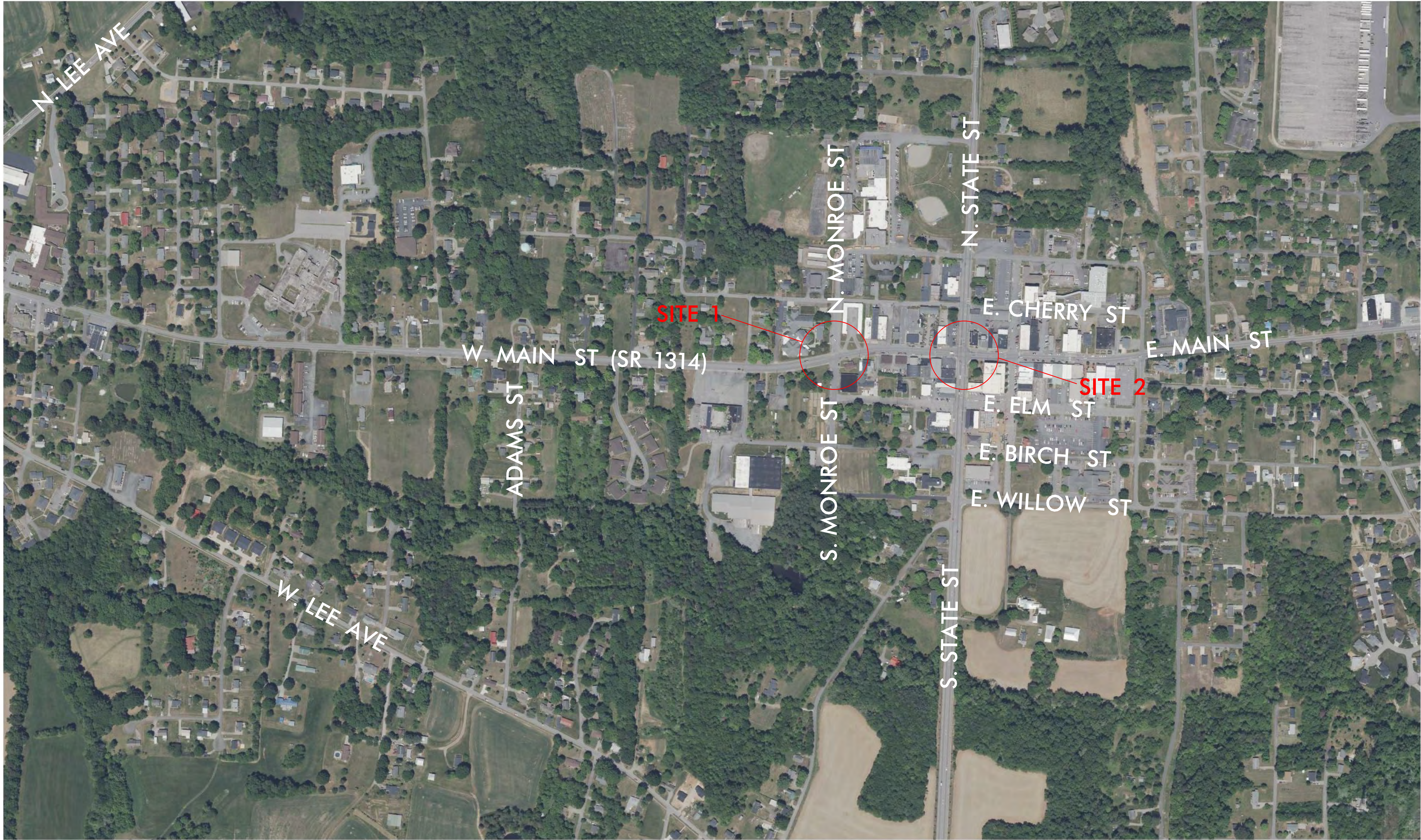
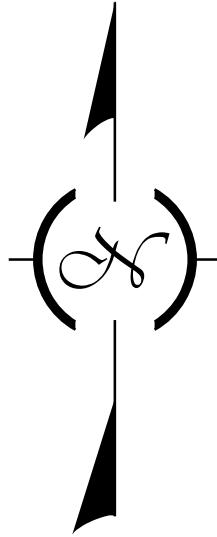
SYMBOL	DESCRIPTION
T13	THERMOPLASTIC YELLOW DOUBLE CENTER LINE (4", 90 MILS)
T46	THERMOPLASTIC WHITE CROSSWALK LINE (8", 90 MILS)
T61	THERMOPLASTIC WHITE STOPBAR (24", 90 MILS)
T62	THERMOPLASTIC WHITE CROSSWALK LINE (24", 90 MILS)

TAP 75 SITE MAP

LOCATION: YADKINVILLE, YADKIN COUNTY

SITE 1 – W. MAIN STREET (SR 1314) AND MONROE STREET. (SEE SHEET 4)

SITE 2 – W. MAIN STREET (SR 1314) AND STATE STREET. (SEE SIGNAL PLANS)



BN-0031KA

1B

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
YADKIN COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

PROFESSIONAL
SEAL
053669
ENGINEER
NEW YORK

Signed
Tyler Cary
7/22/2026

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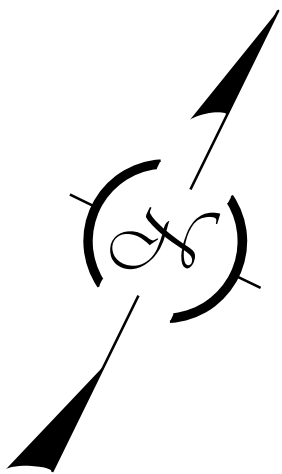
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Raleigh, NC 27609
Phone: (919) 733-4214
NC Firm License No. CA704

TAP 113 SITE MAP

LOCATION: JEFFERSON, ASHE COUNTY
SITE – EAST MAIN STREET. (SEE SHEET 5)



BN-0031KA

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DEPARTMENT OF TRANSPORTATION
ASHE COUNTY

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ROADWAY DESIGN
ENGINEER

Tyler Cary 7/22/2026

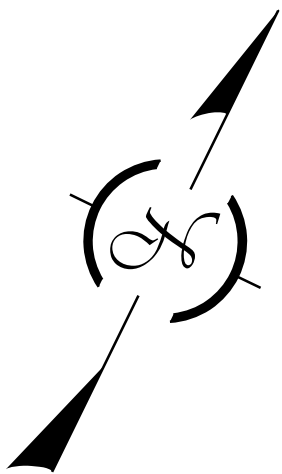
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TAP 132 SITE MAP

LOCATION: PILOT MOUNTAIN, SURRY COUNTY
SITE – W. MAIN STREET / E. MAIN STREET (SR 1962) AND ACADEMY STREET. (SEE SHEET 6)



BN-0031KA

ID

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DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

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ROADWAY DESIGN
ENGINEER

Signer
Tyler Cary 7/22/2026
053669
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PREPARED BY

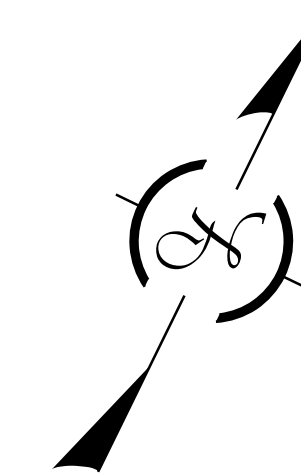
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KCI ASSOCIATES OF N.C., P.A.
4800 Falls of Pine Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-6214
NC Firm License No. CA704

TAP 214 SITE MAP

LOCATION: PILOT MOUNTAIN, SURRY COUNTY

SITE 1 – NC 268 (S. KEY STREET) AT CIRCLE K. (SEE SHEET 7)

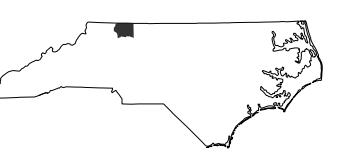
SITE 2 – NC 268 (S. KEY STREET) AT MCDONALD'S. (SEE SHEET 8)



BN-0031KA

1E

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

Signed: Tyler Carey 7/22/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY _____

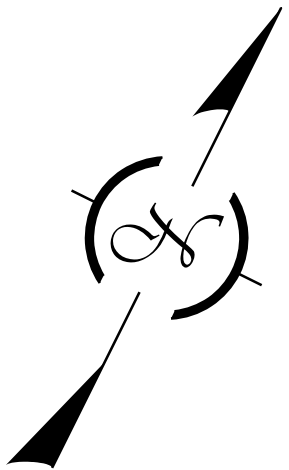


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TAP 246 SITE MAP

LOCATION: DOBSON, SURRY COUNTY

SITE (11-0526) – ATKINS STREET (SR 1100) AND CRUTCHFIELD STREET (SEE SHEET 9)



BN-0031KA

IF

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

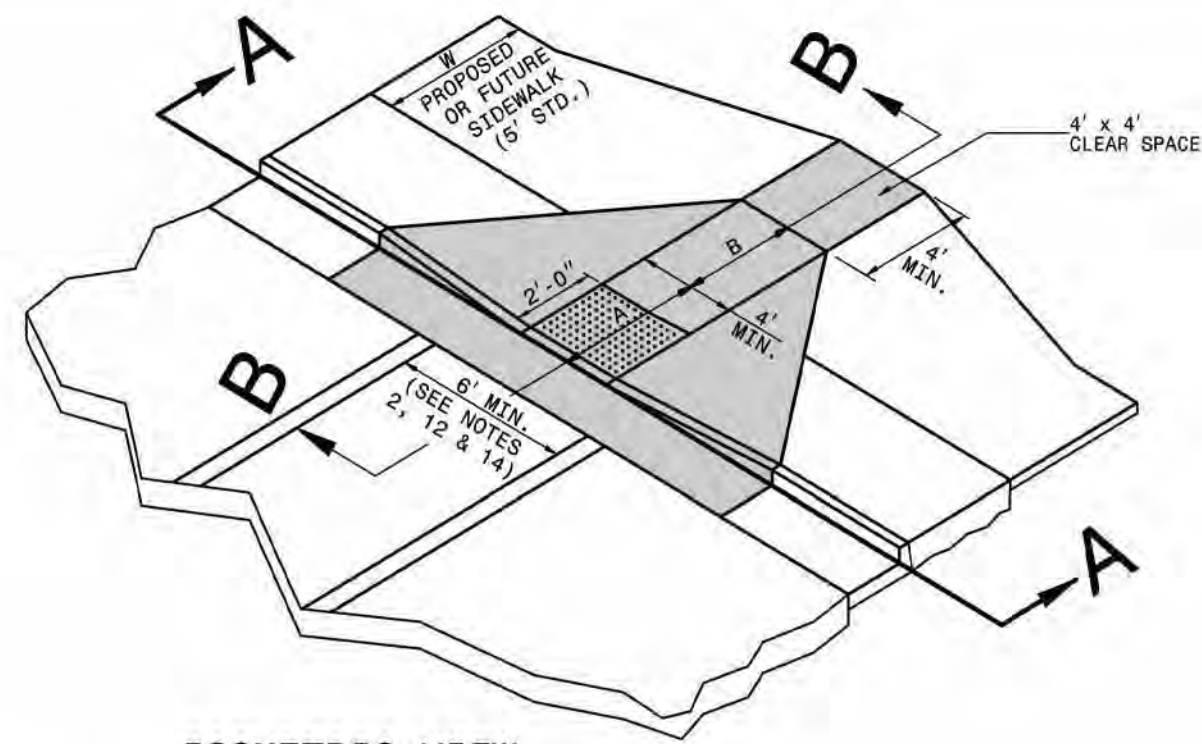
ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

Signed: *Tyler Cary* 7/22/2026
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY

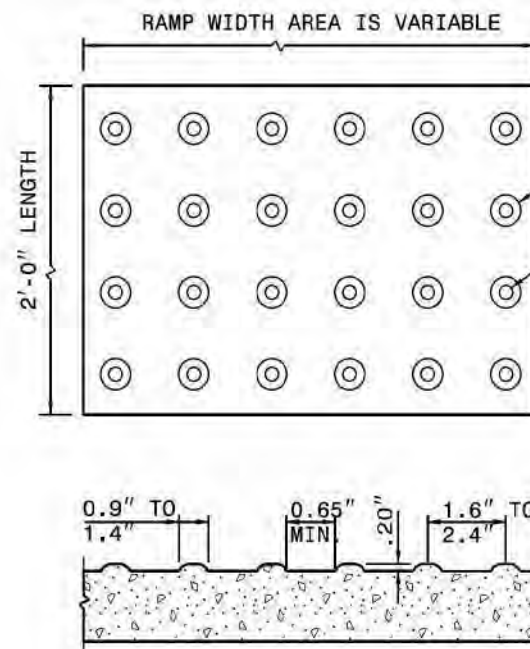
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Raleigh, NC 27609
Phone: (919) 783-6214
NC Firm License No. CA704



ISOMETRIC VIEW

PAY LIMITS FOR CURB RAMP

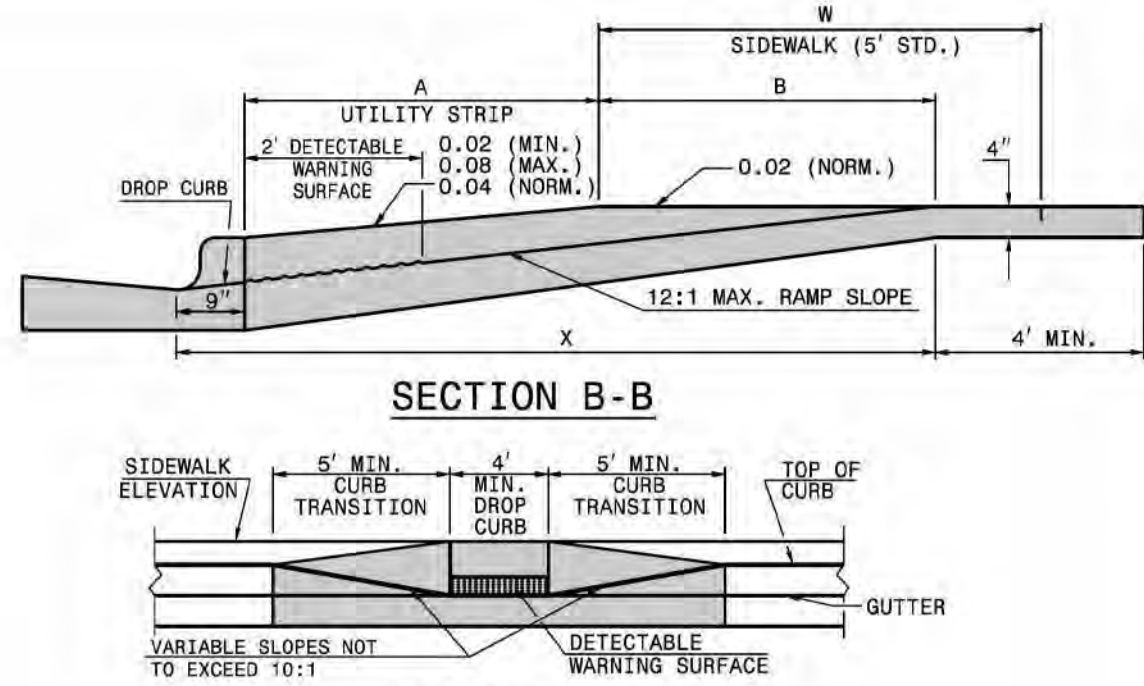
NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



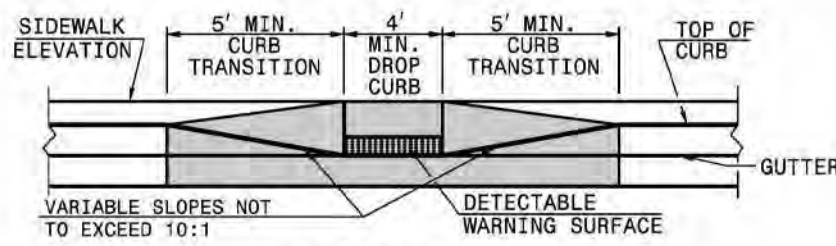
W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'*
7'	0.0'	7.8'	7.3'	6.5'*
8'	0.0'	8.8'	7.3'	6.5'*
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X - (A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

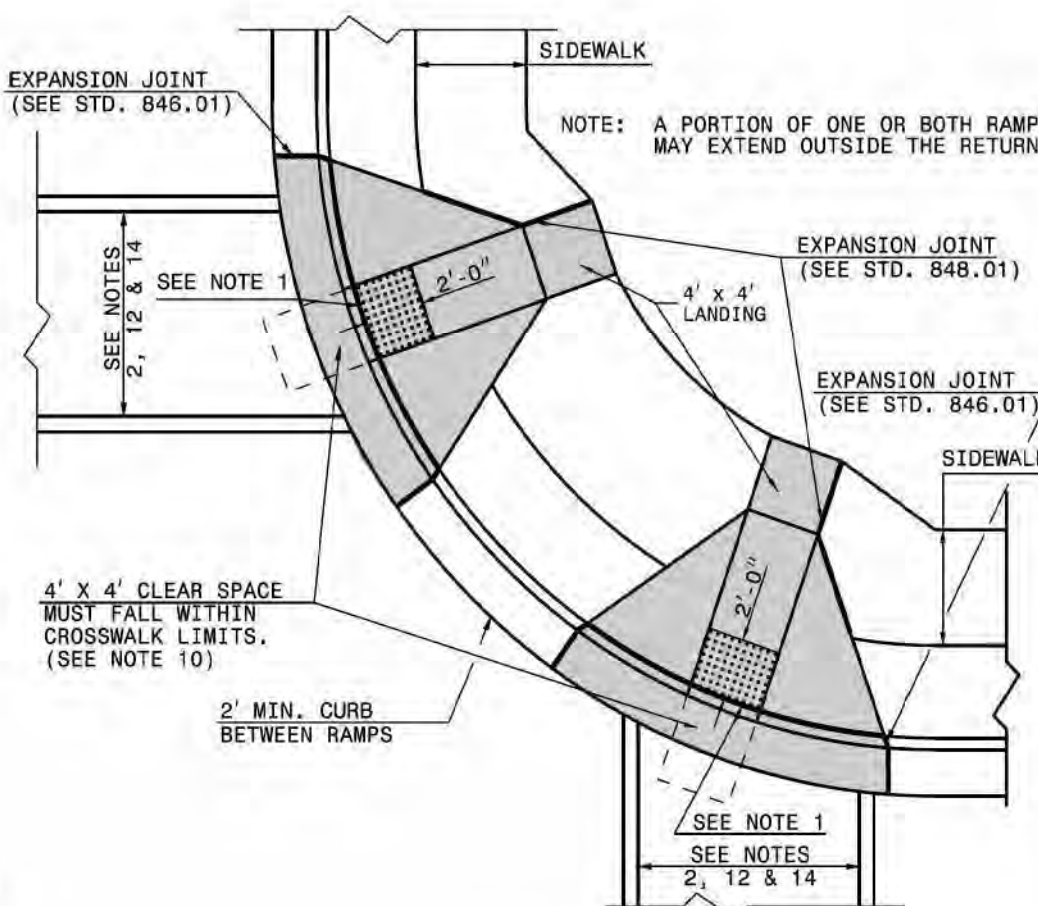
DETECTABLE WARNING SURFACE



SECTION B-B



SECTION A-A



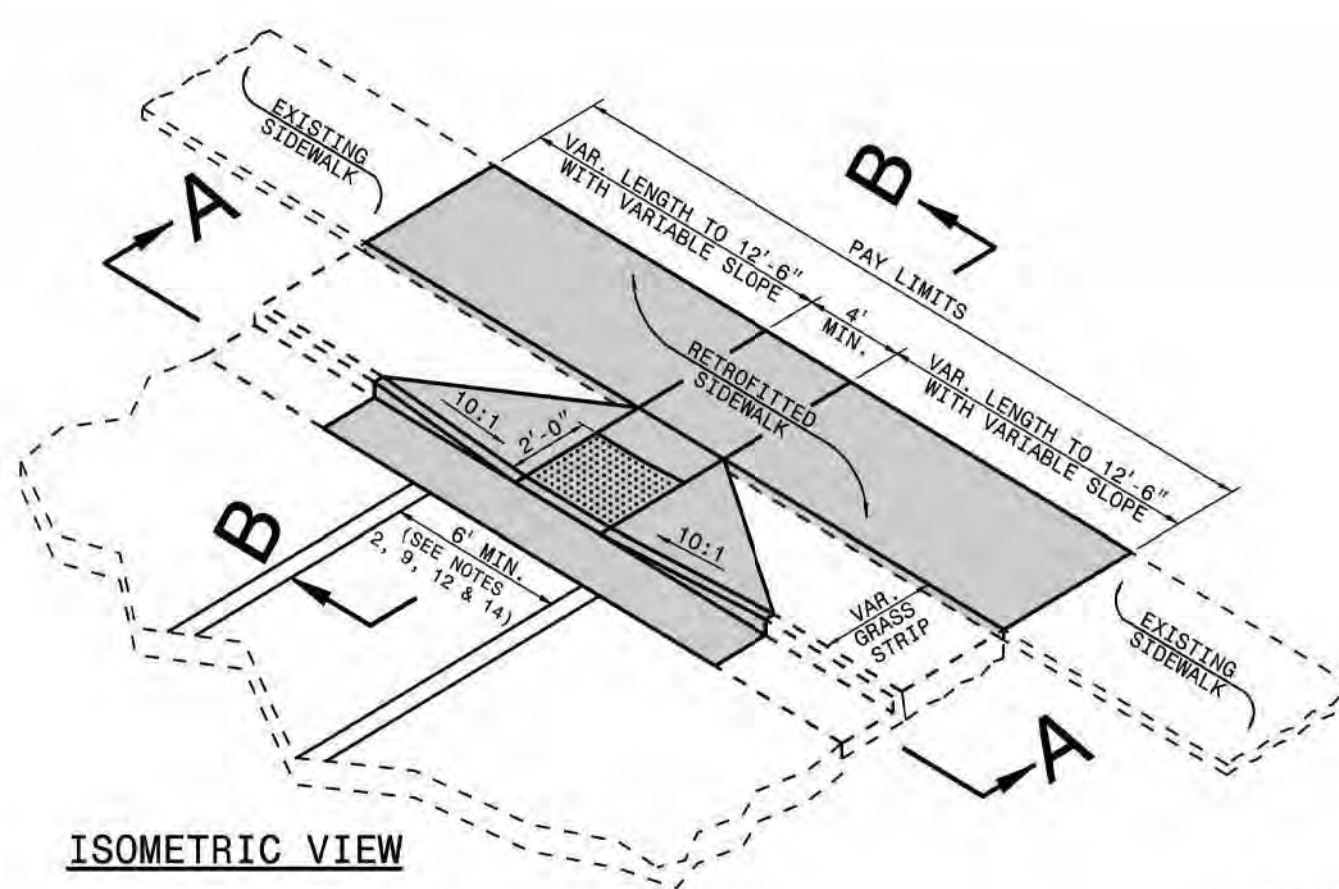
PLAN VIEW

DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

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

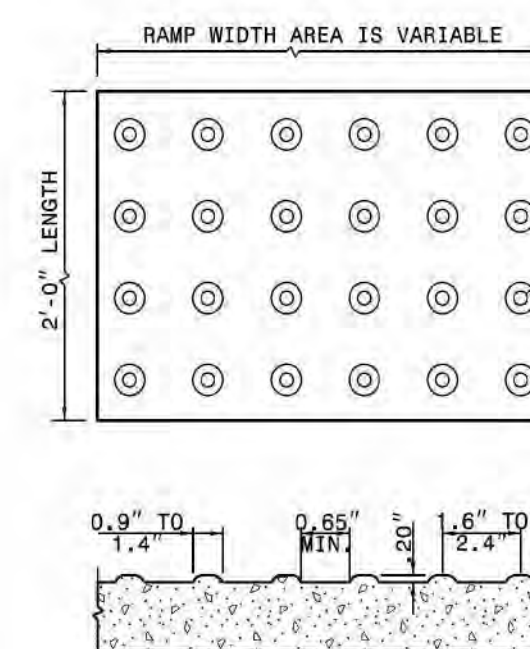
ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 1 OF 13
848.06



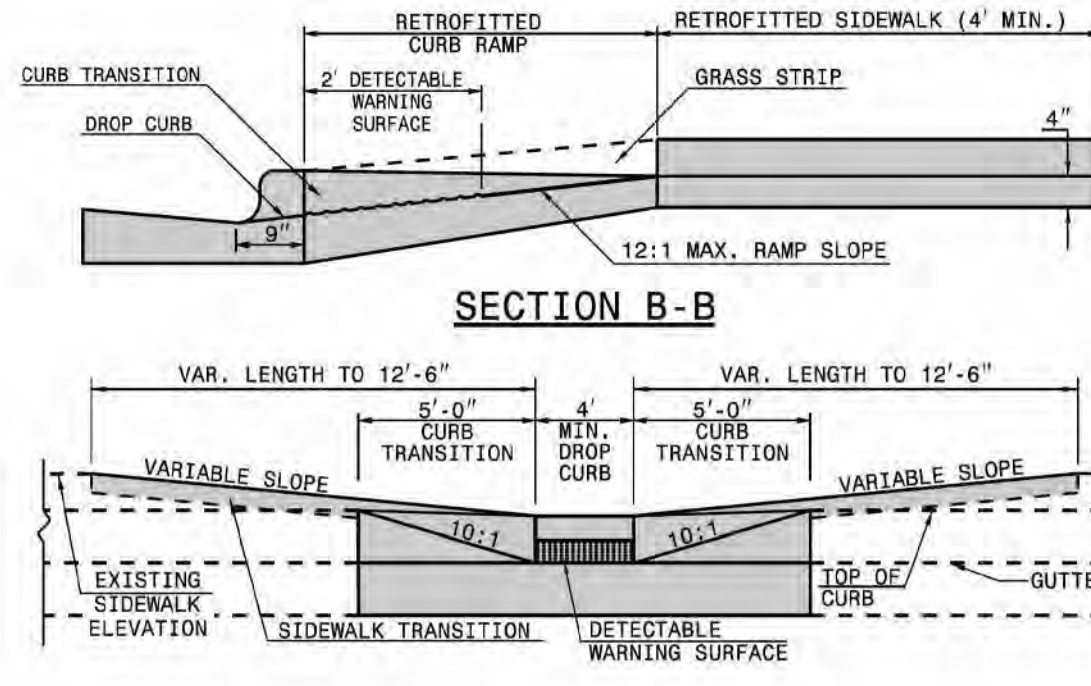
ISOMETRIC VIEW

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.

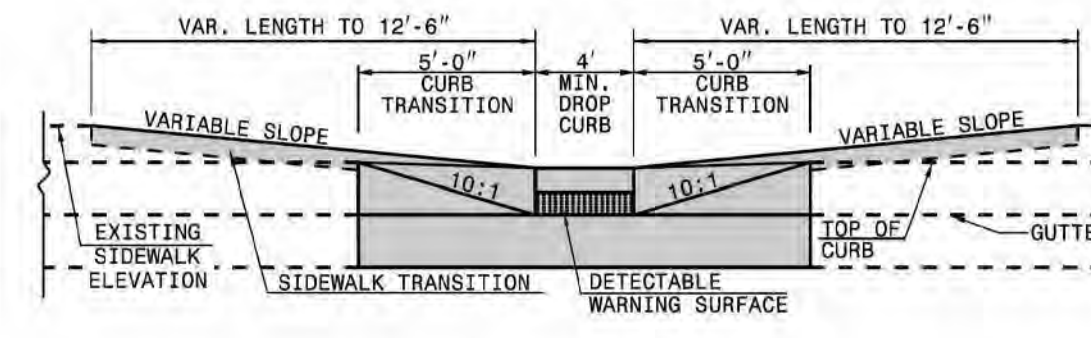


DETECTABLE WARNING SURFACE

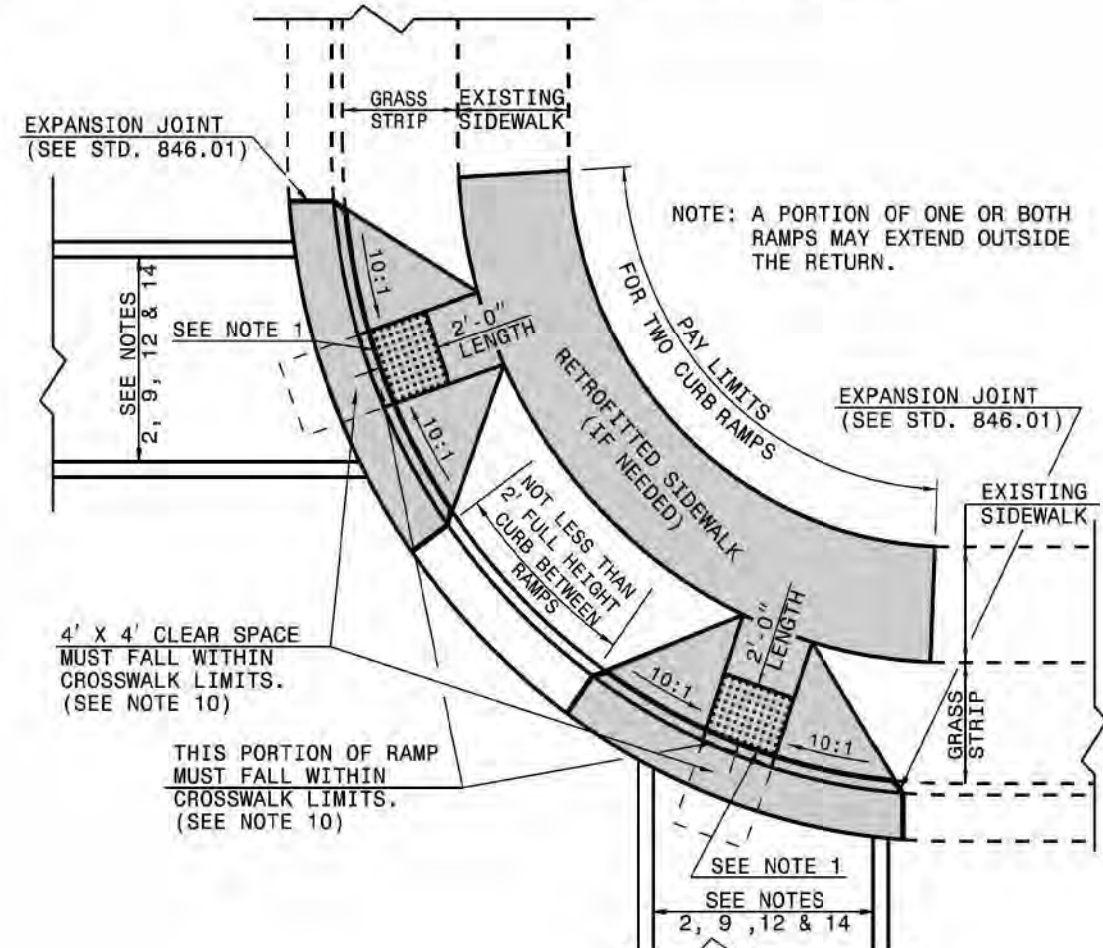
PAY LIMITS OF CURB RAMP



SECTION B-B



SECTION A-A



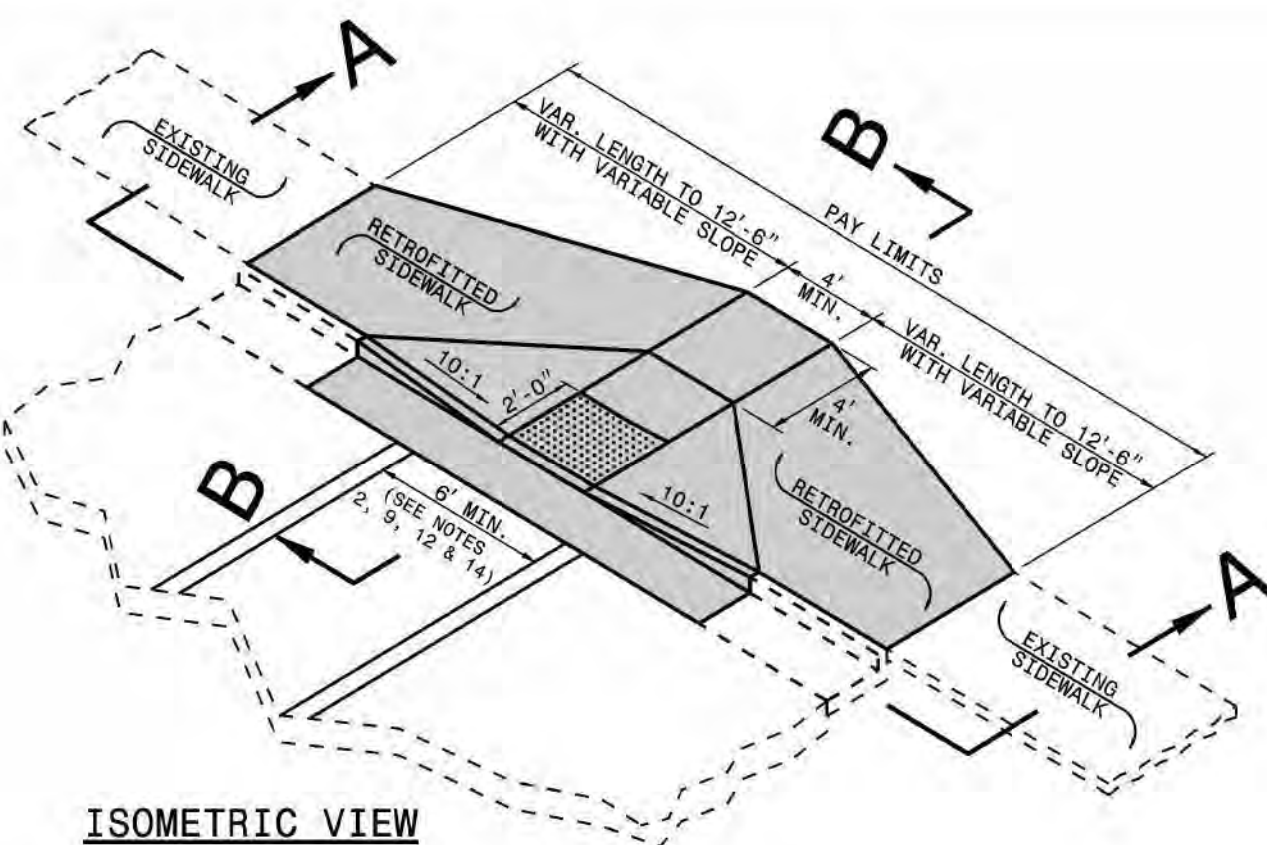
PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

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

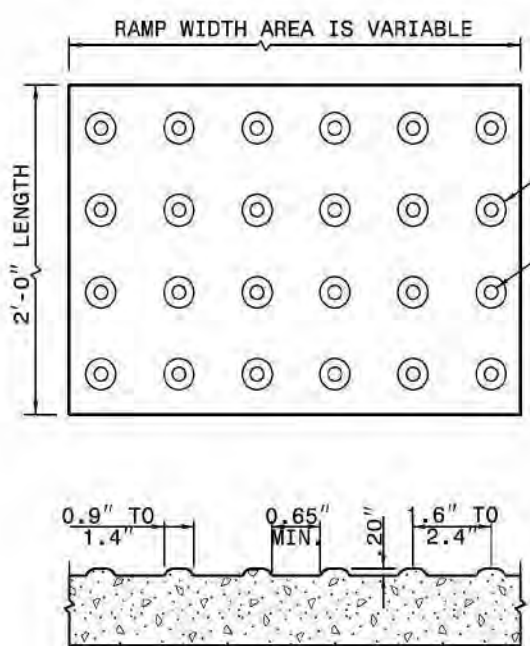
ROADWAY STANDARD DRAWING FOR
CURB RAMP
CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP

SHEET 2 OF 13
848.06



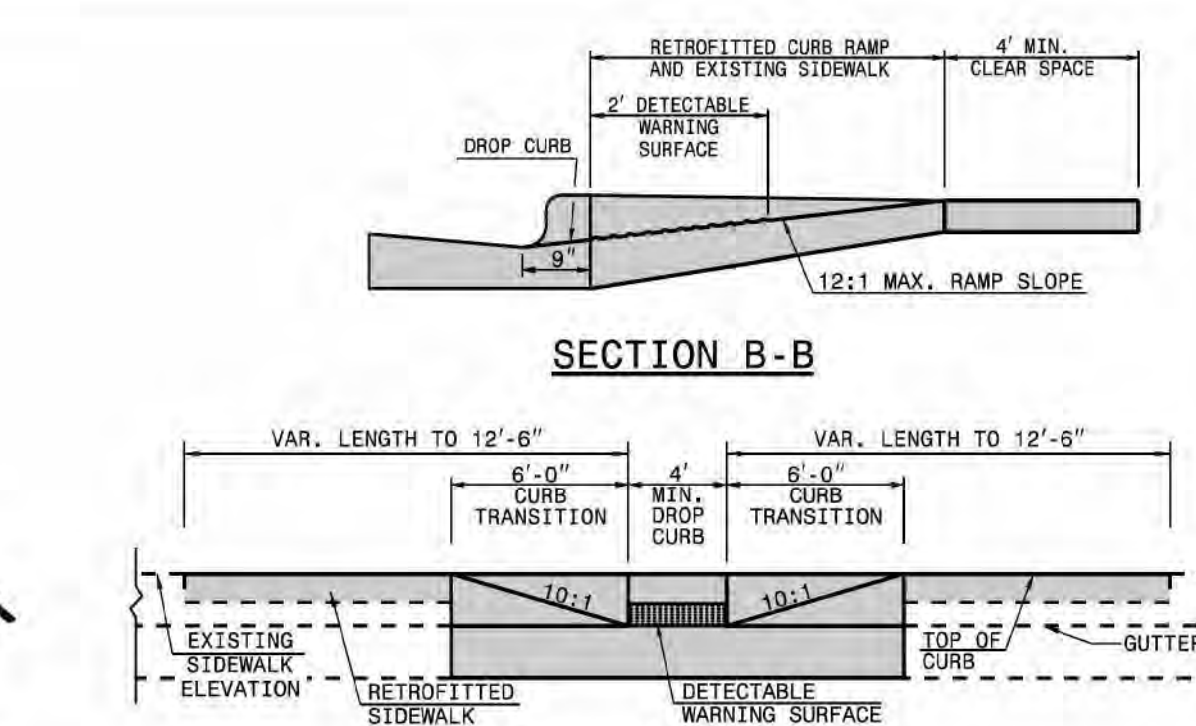
ISOMETRIC VIEW

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.

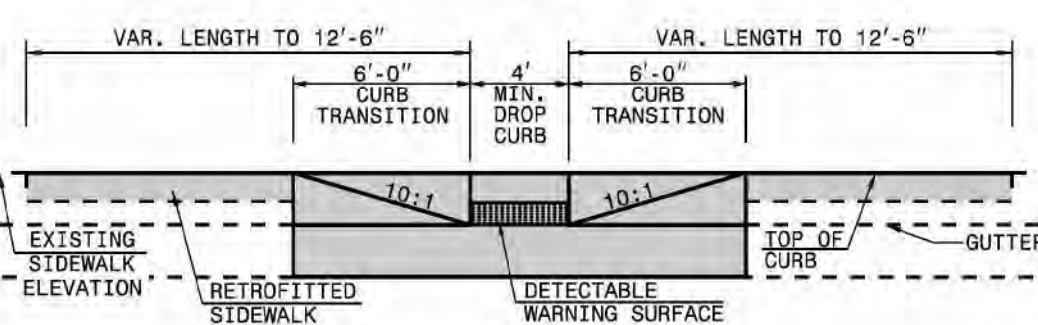


DETECTABLE WARNING SURFACE

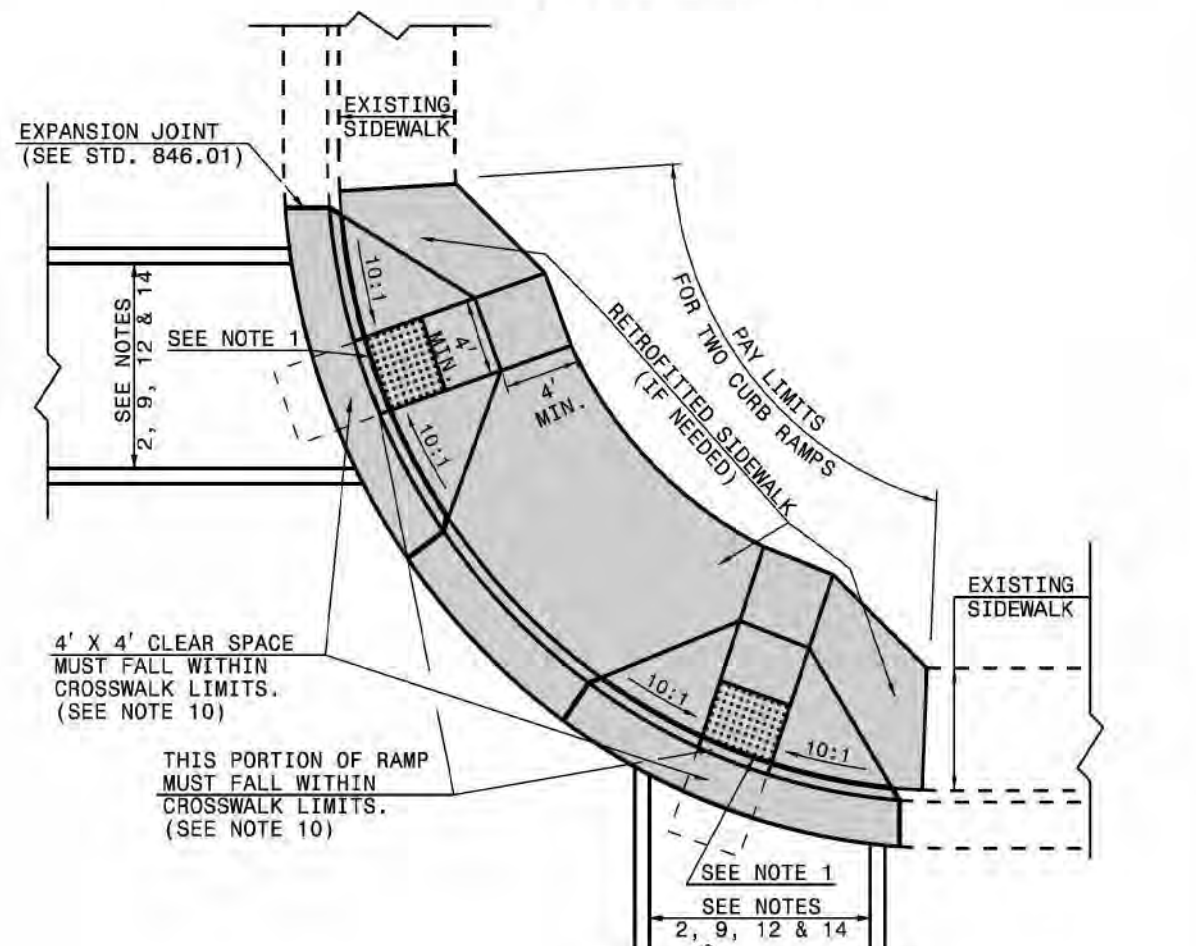
PAY LIMITS OF CURB RAMP



SECTION B-B



SECTION A-A



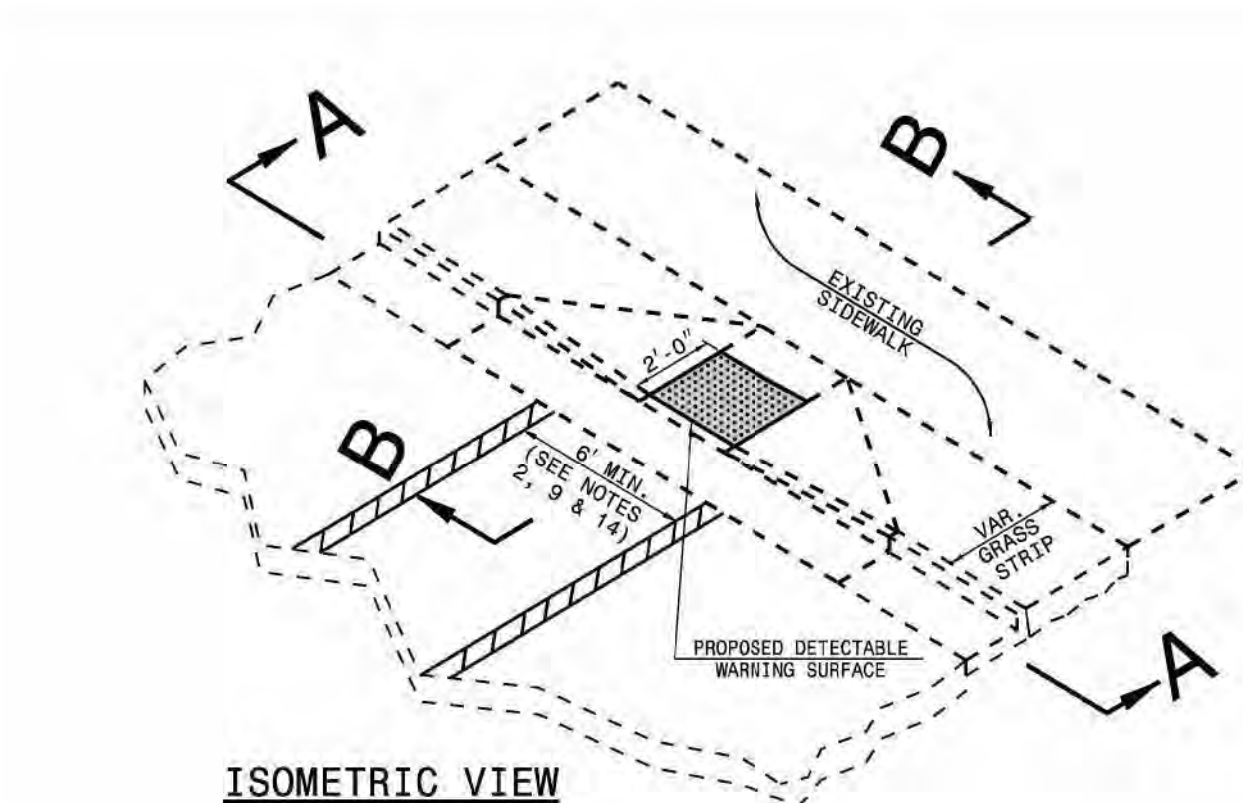
PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

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

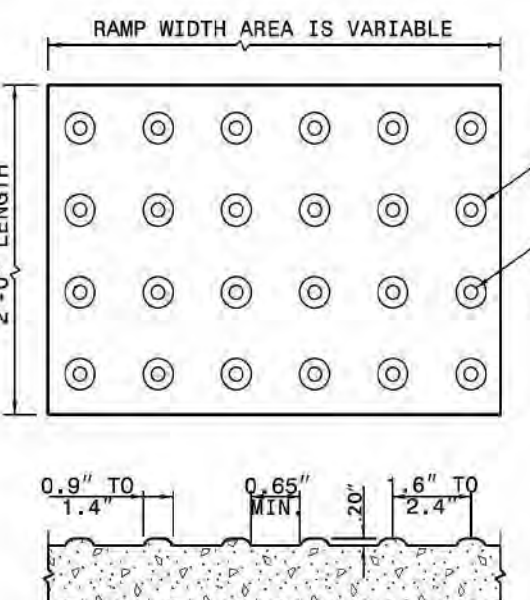
ROADWAY STANDARD DRAWING FOR
CURB RAMP
CURB RAMP AND EXISTING SIDEWALK ADJACENT TO CURB

SHEET 3 OF 13
848.06



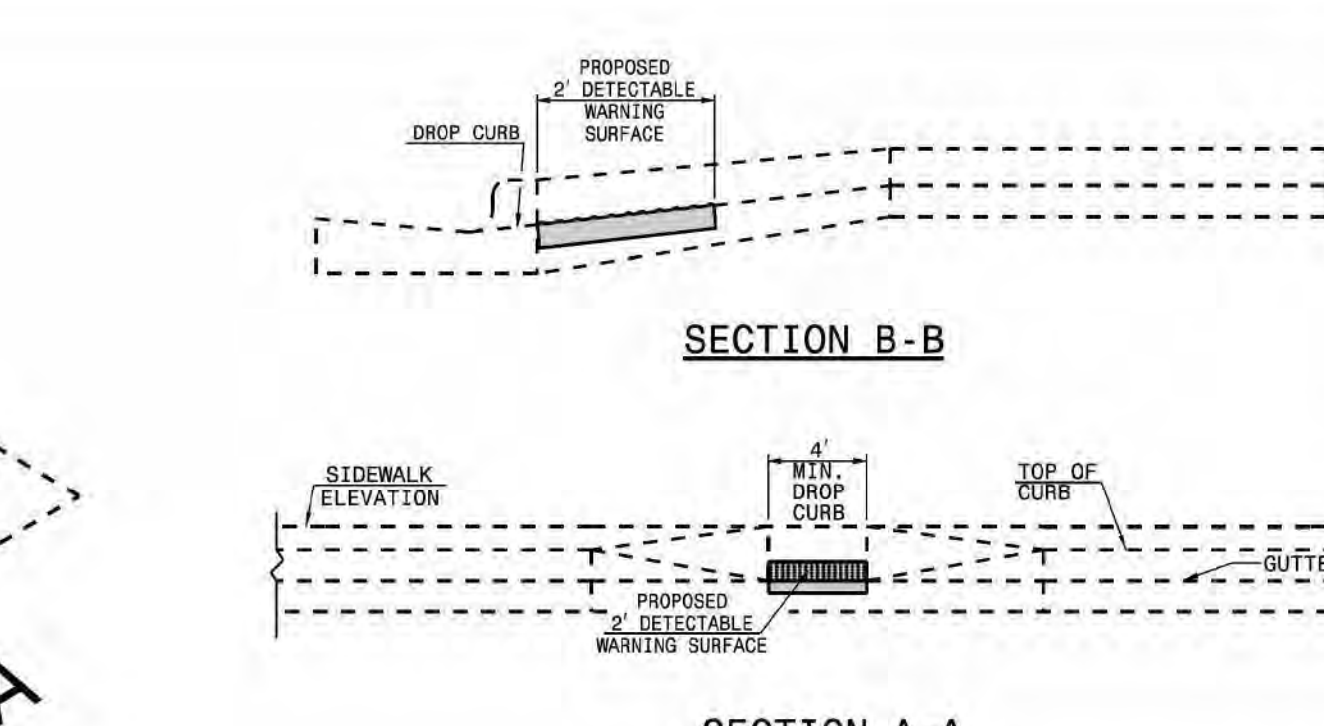
ISOMETRIC VIEW

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.

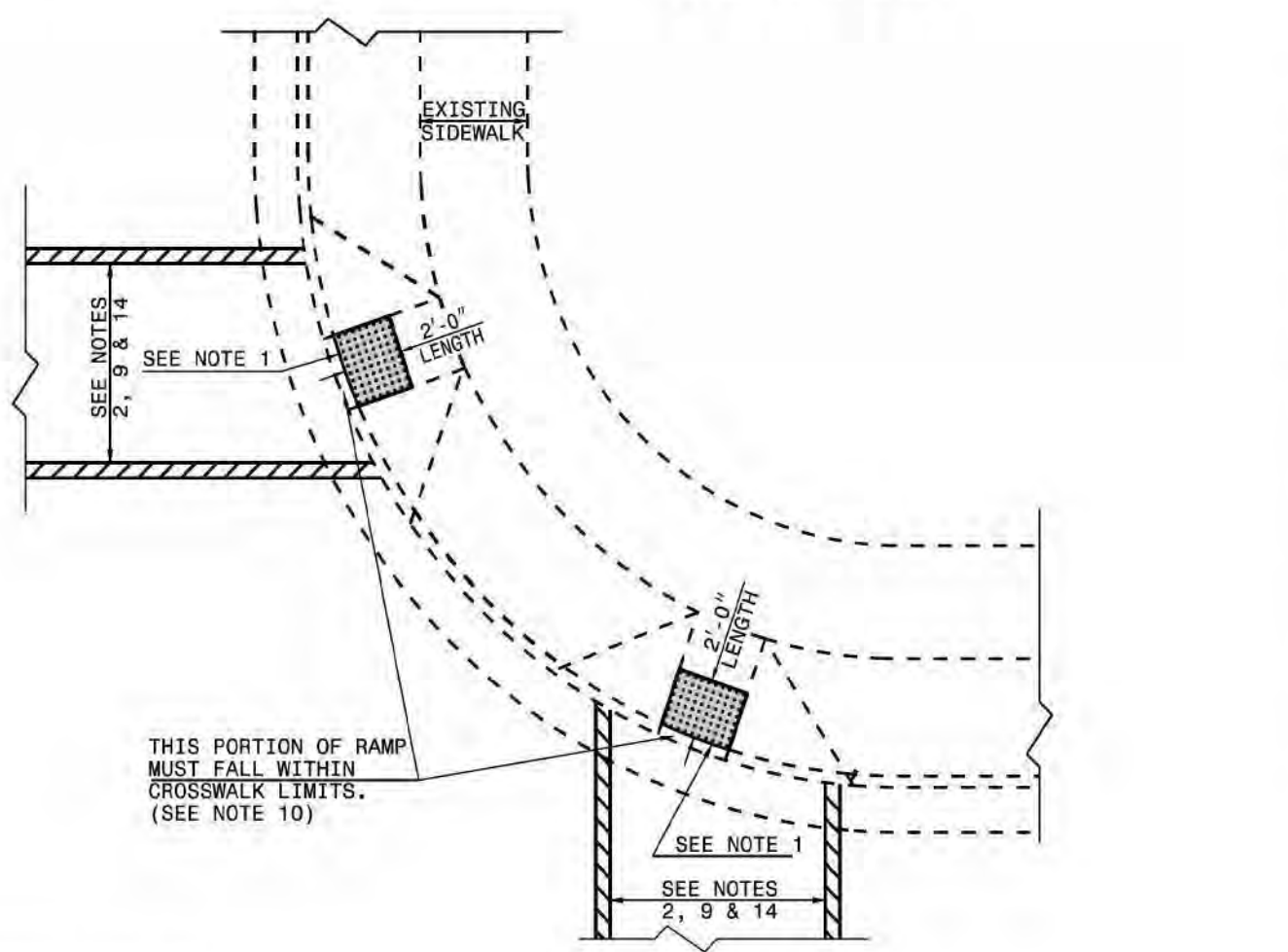


DETECTABLE WARNING SURFACE

PAY LIMITS OF RETROFIT CURB RAMP



SECTION B-B



SECTION A-A



PLAN VIEW

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

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

ROADWAY STANDARD DRAWING FOR
CURB RAMP
RETROFITTING DETECTABLE WARNING SURFACE ONTO EXISTING CURB RAMP

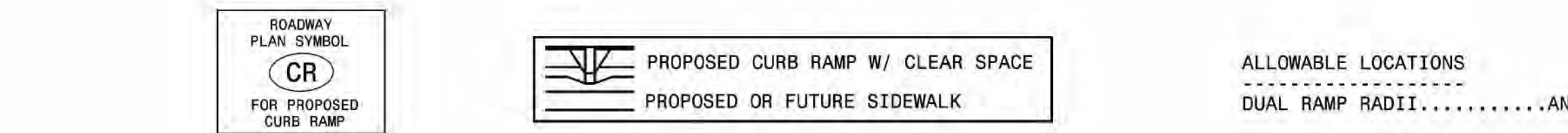
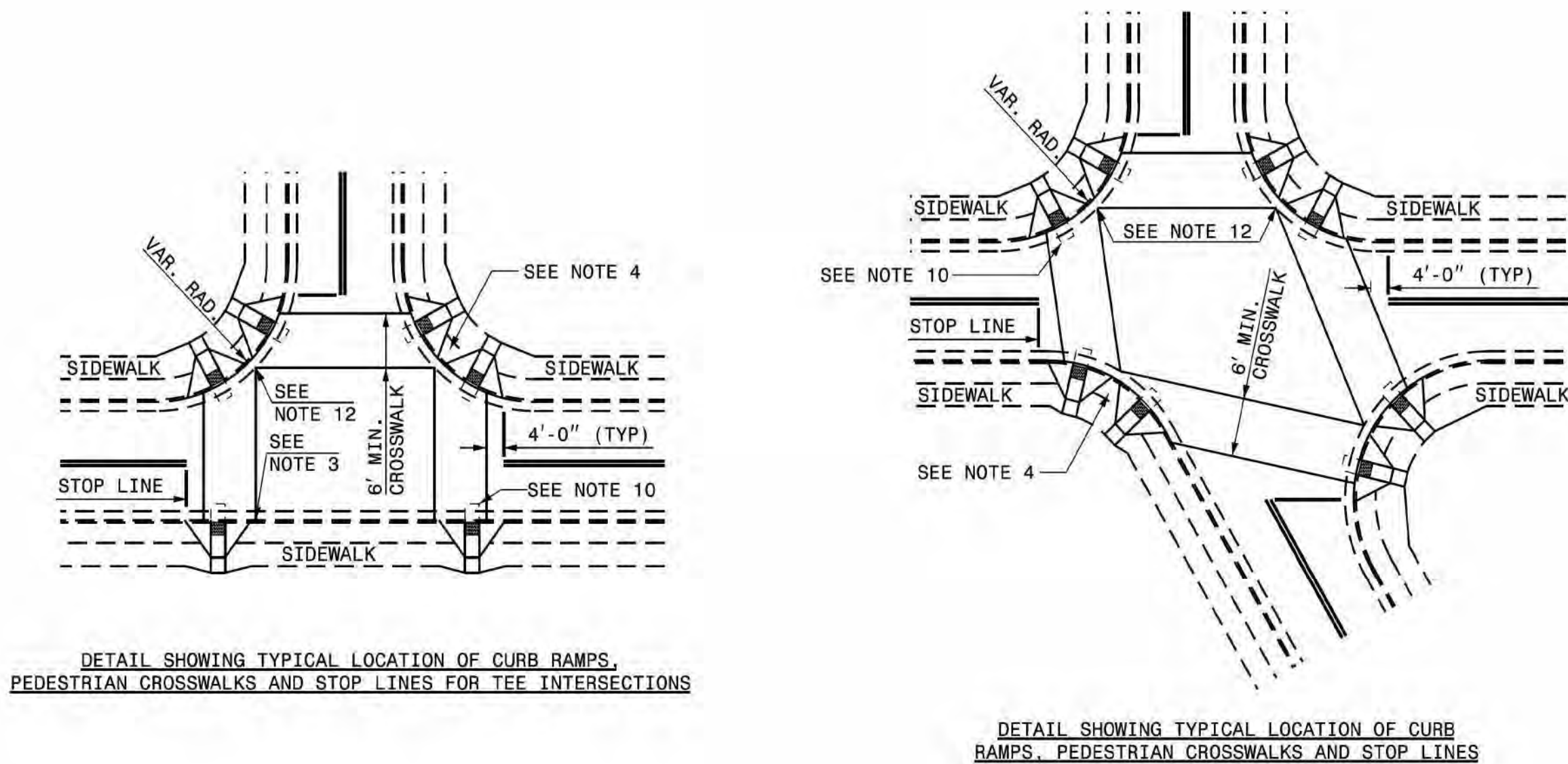
SHEET 4 OF 13
848.06

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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY
ROADWAY DESIGN UNIT

PREPARED BY



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NC Firm License No. C-0704



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DIVISION OF HIGHWAYS
RALEIGH, N.C.

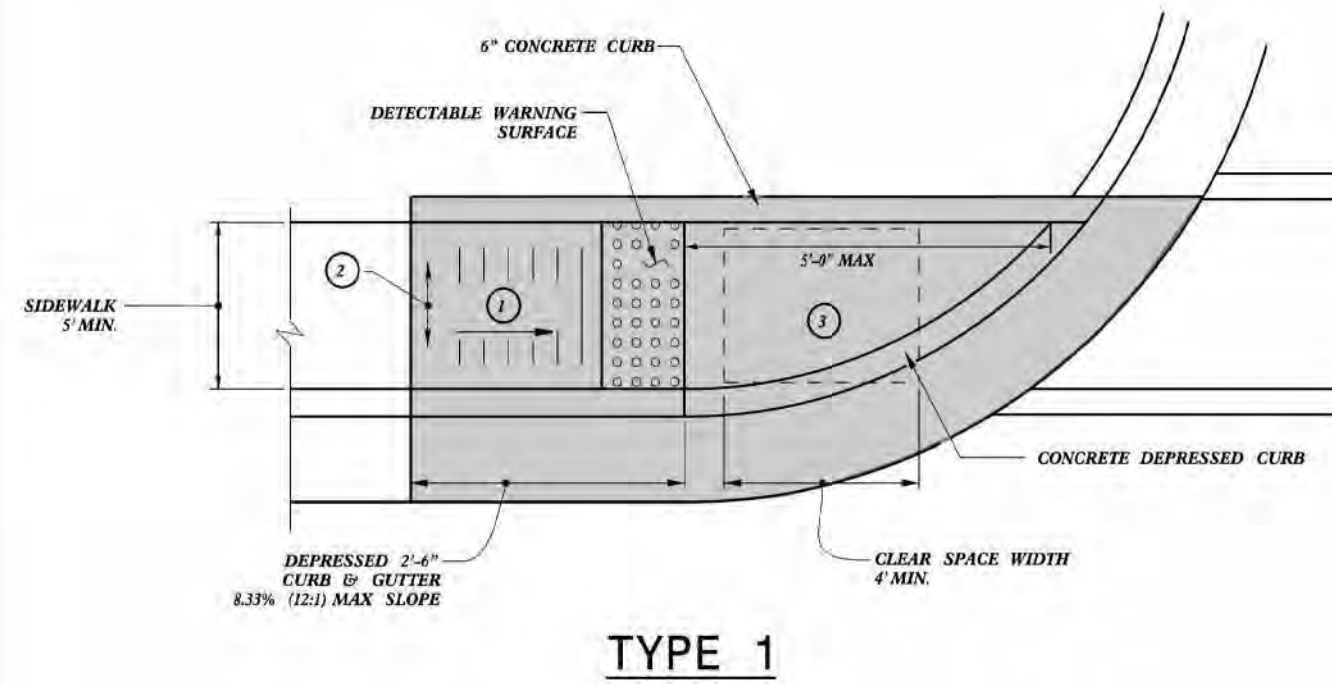
ROADWAY STANDARD DRAWING FOR
CURB RAMP
CURB RAMP LOCATION

SHEET 5 OF 13
848.06

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

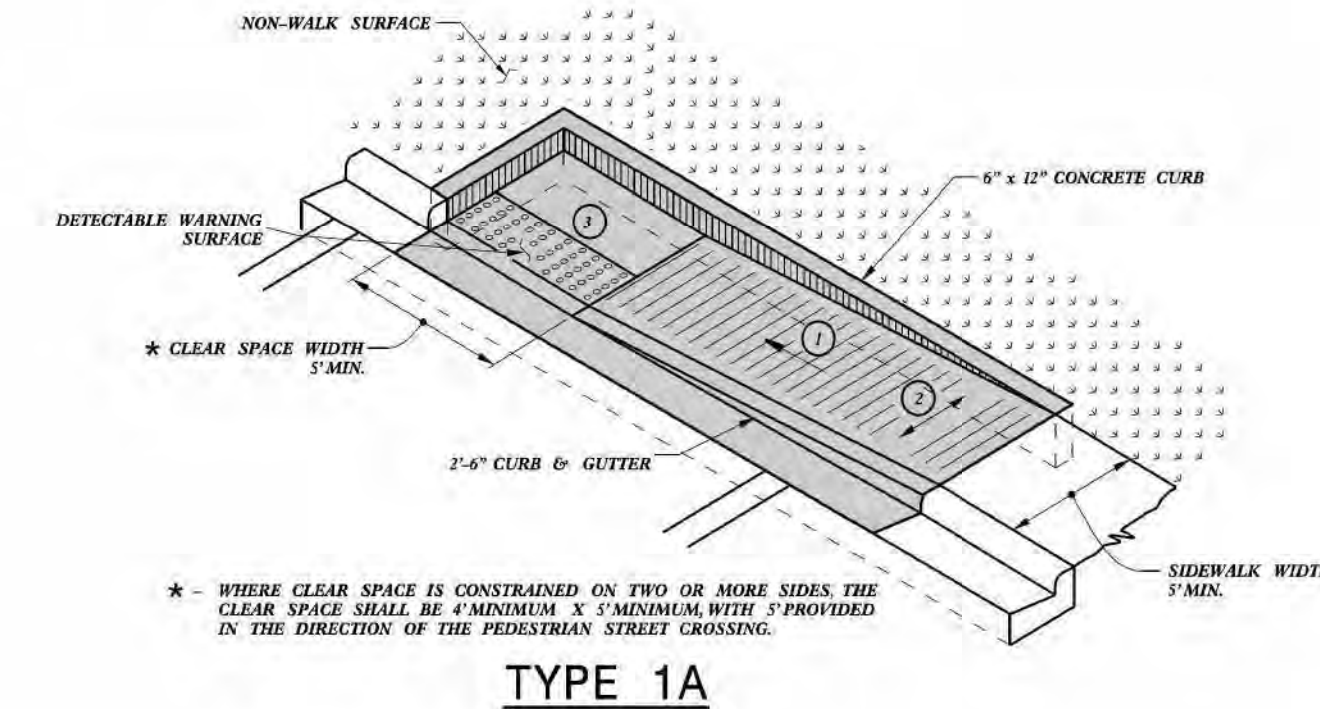
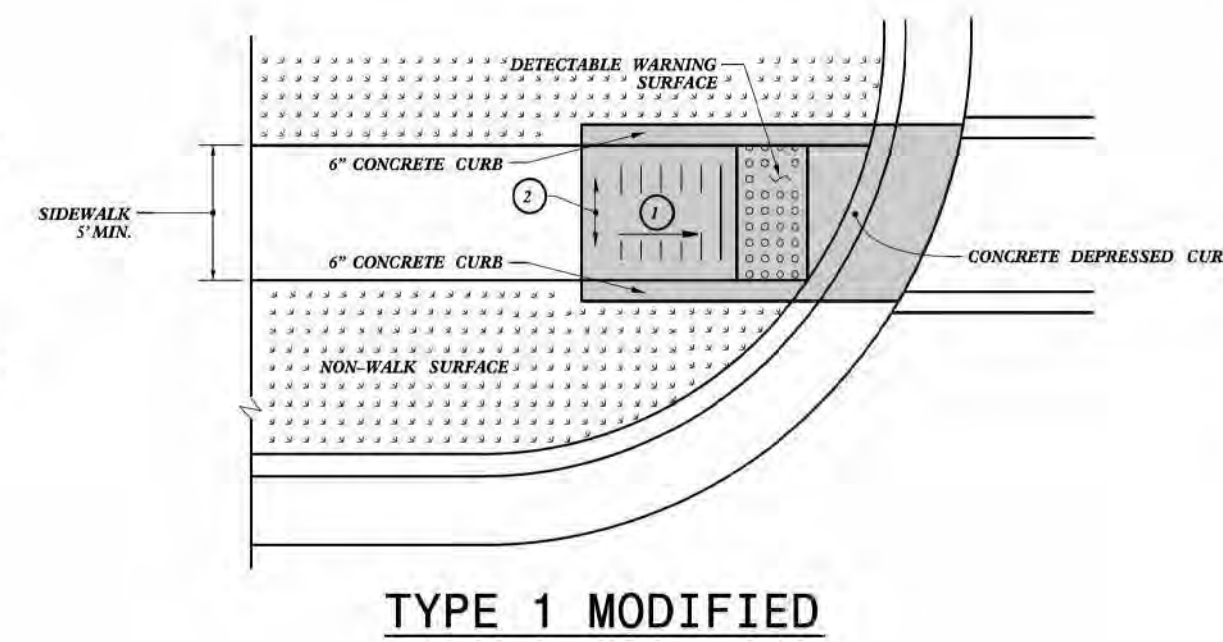
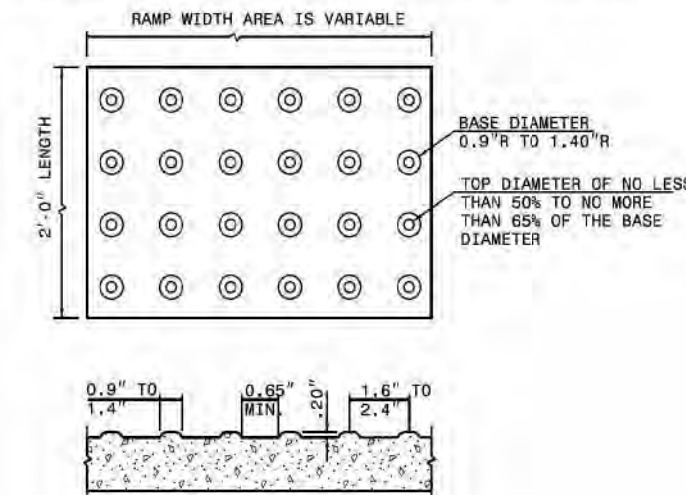
ROADWAY STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP

SHEET 7 OF 13
848.06

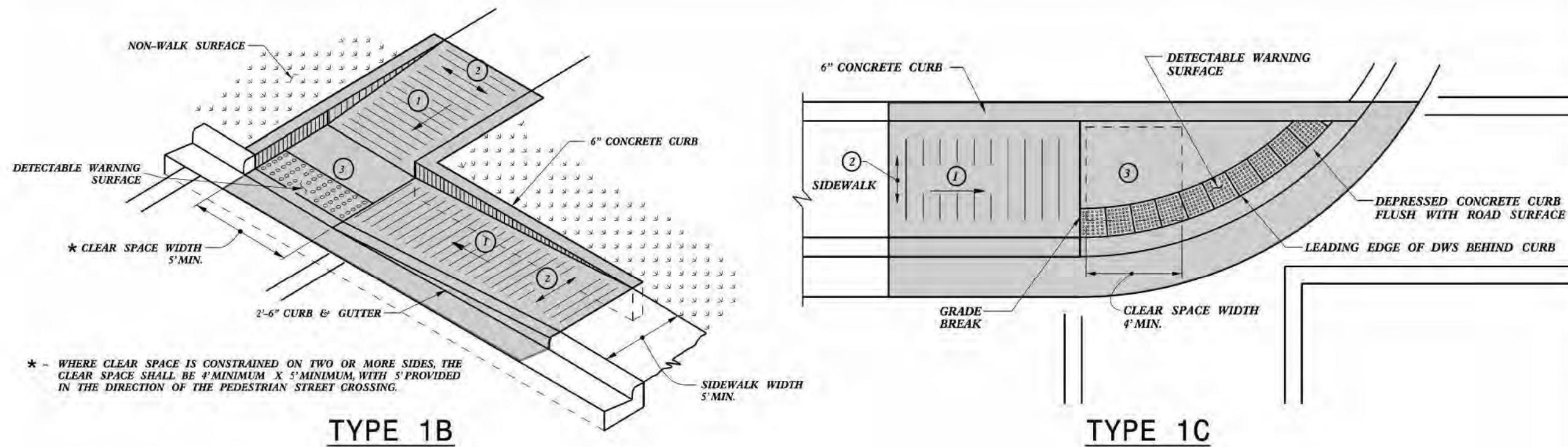


- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%

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.

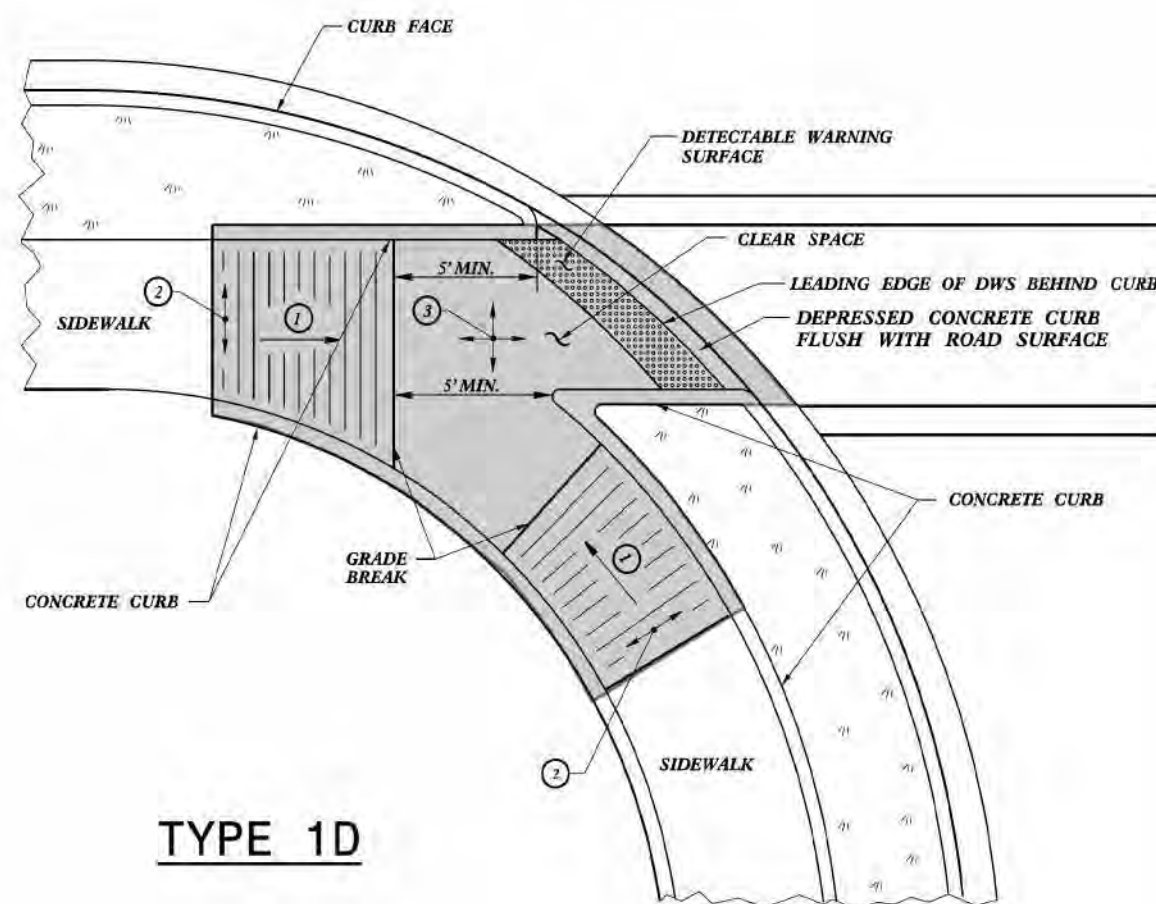
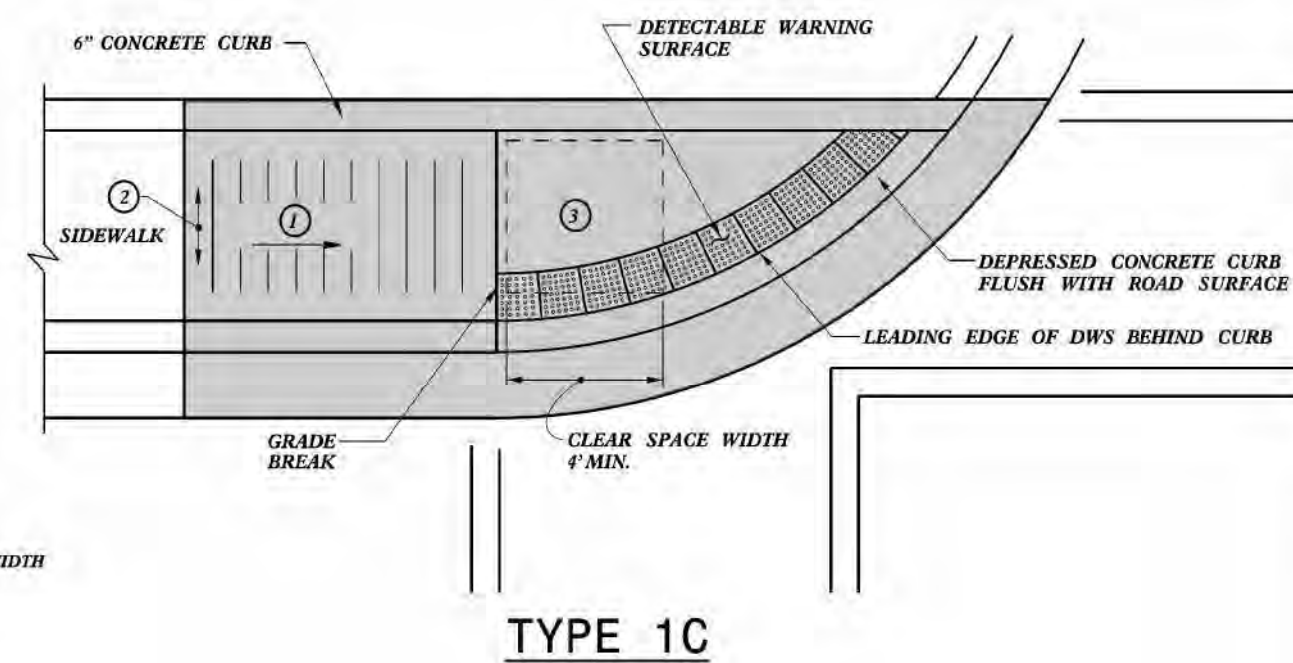
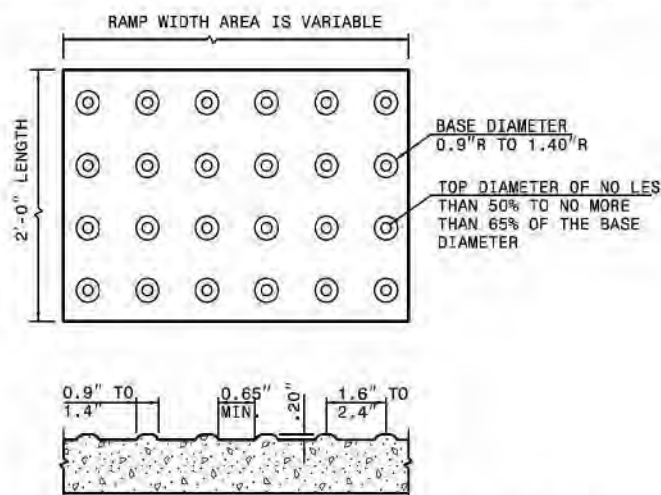


PAY LIMITS FOR 1 CURB RAMP

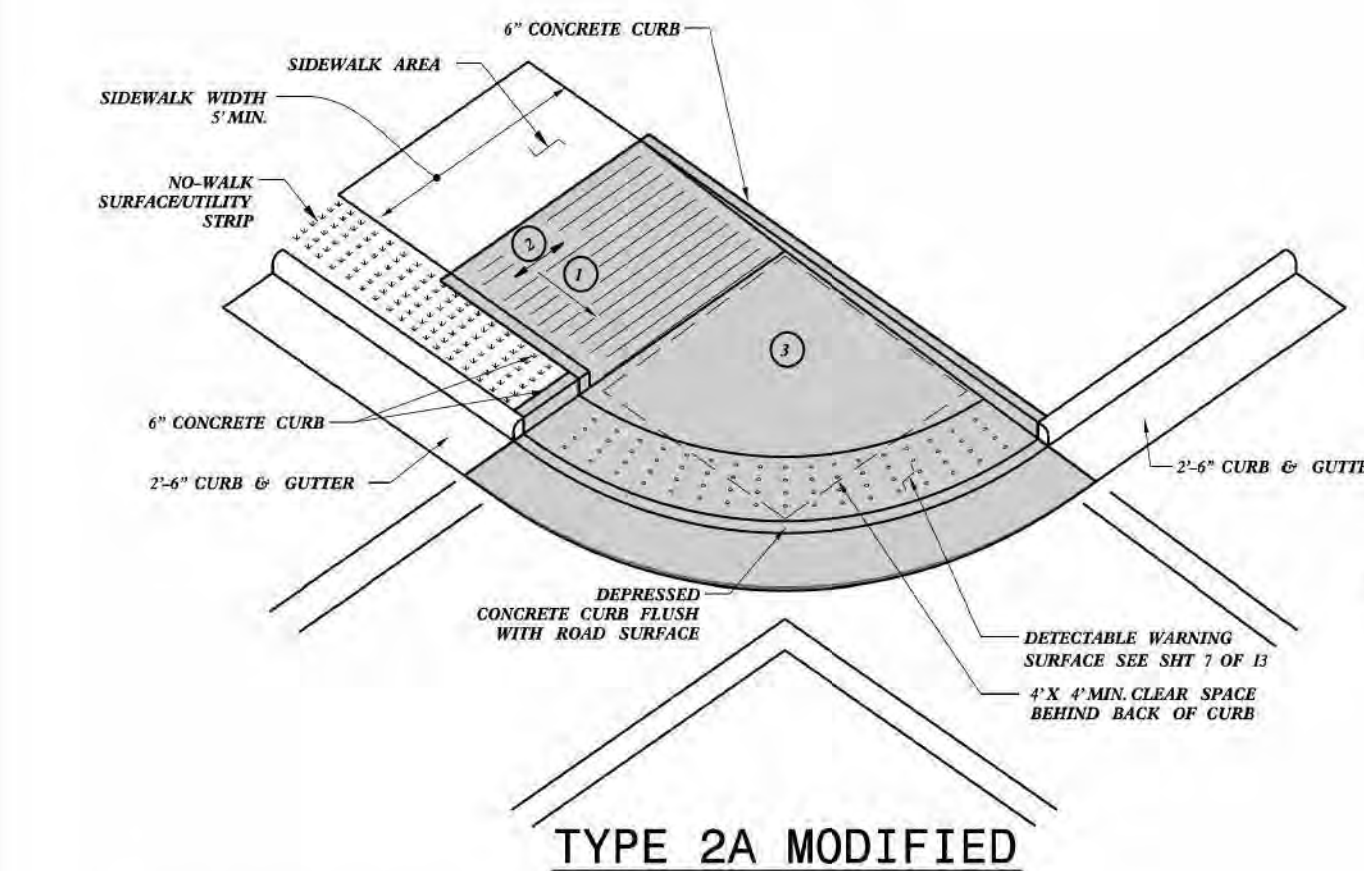
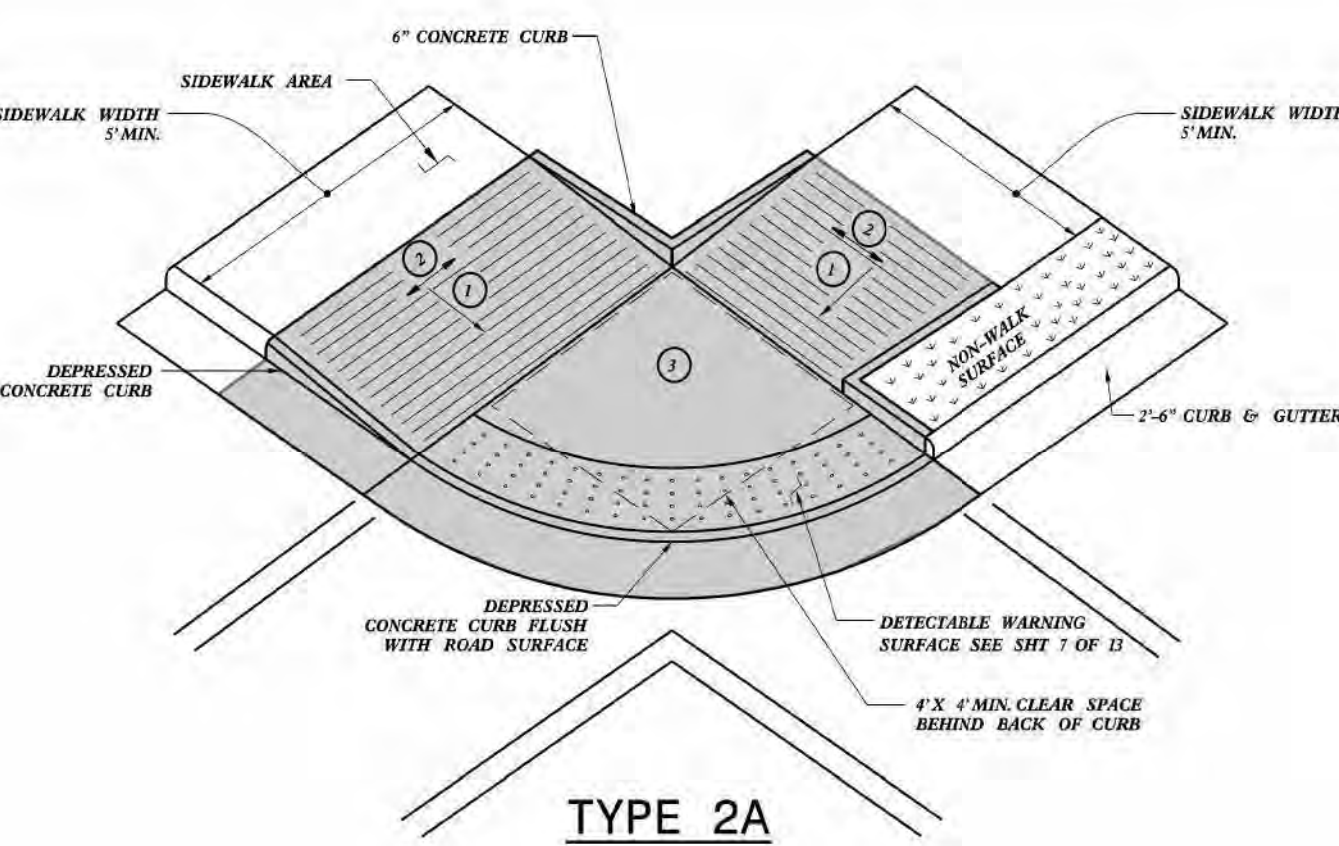
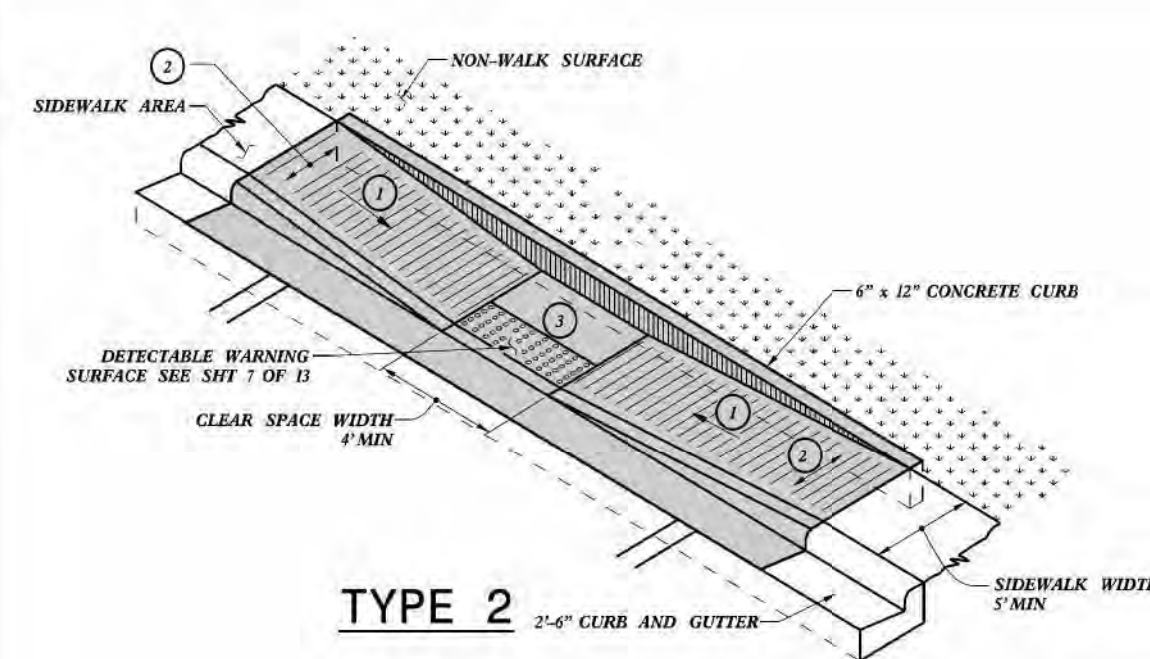


- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%

NOTES:
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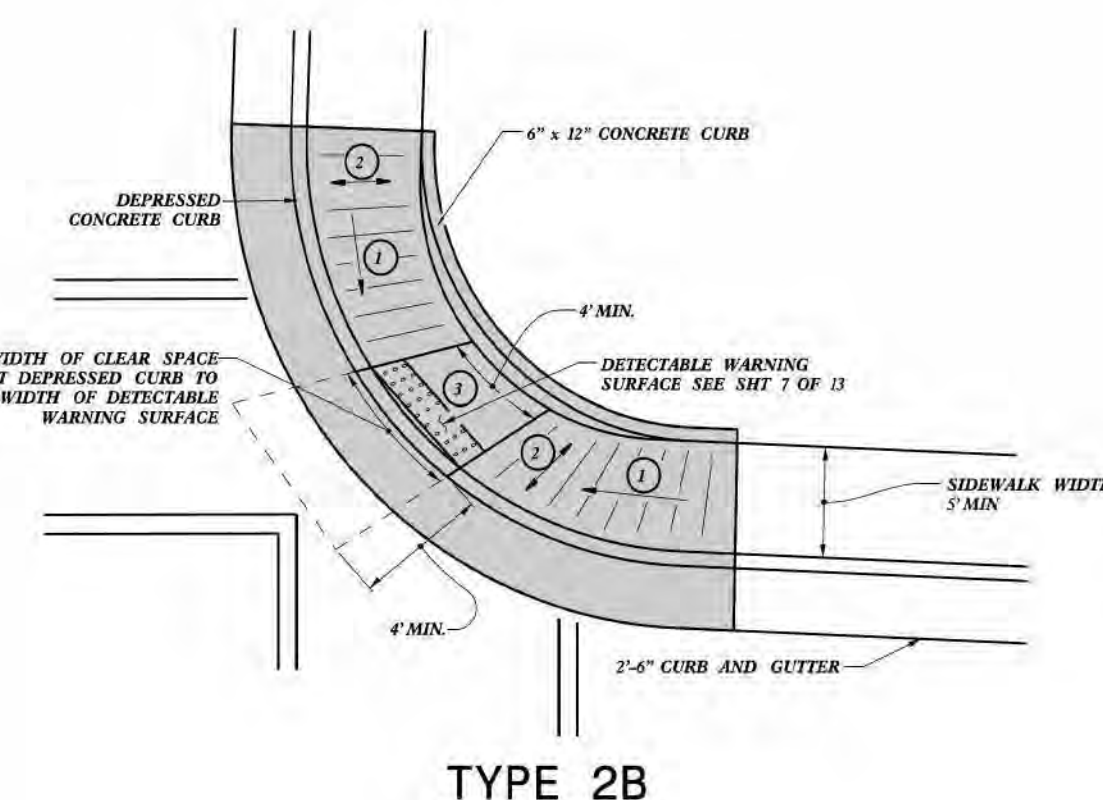


PAY LIMITS FOR 1 CURB RAMP



- 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 STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP

SHEET 6 OF 13
848.06

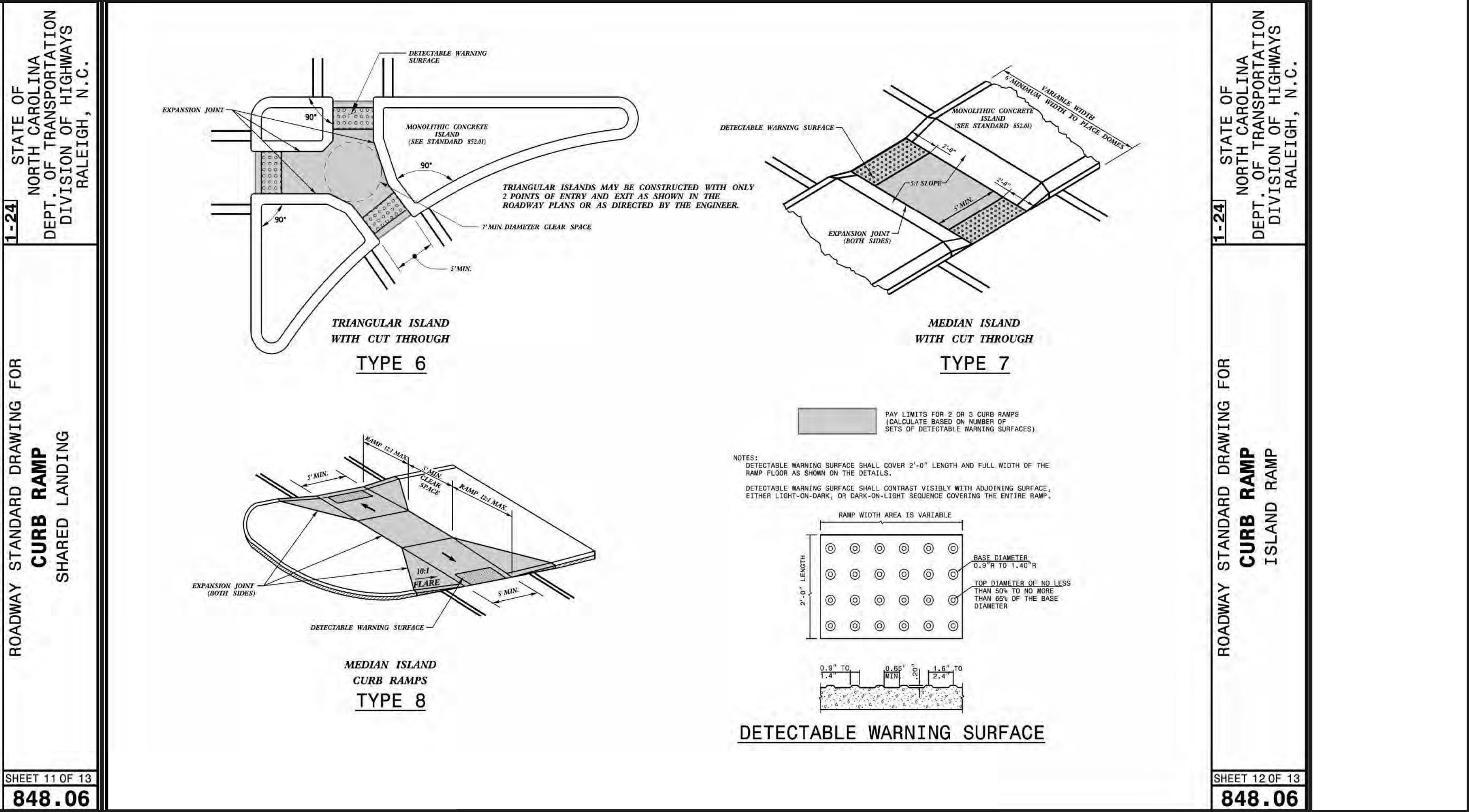
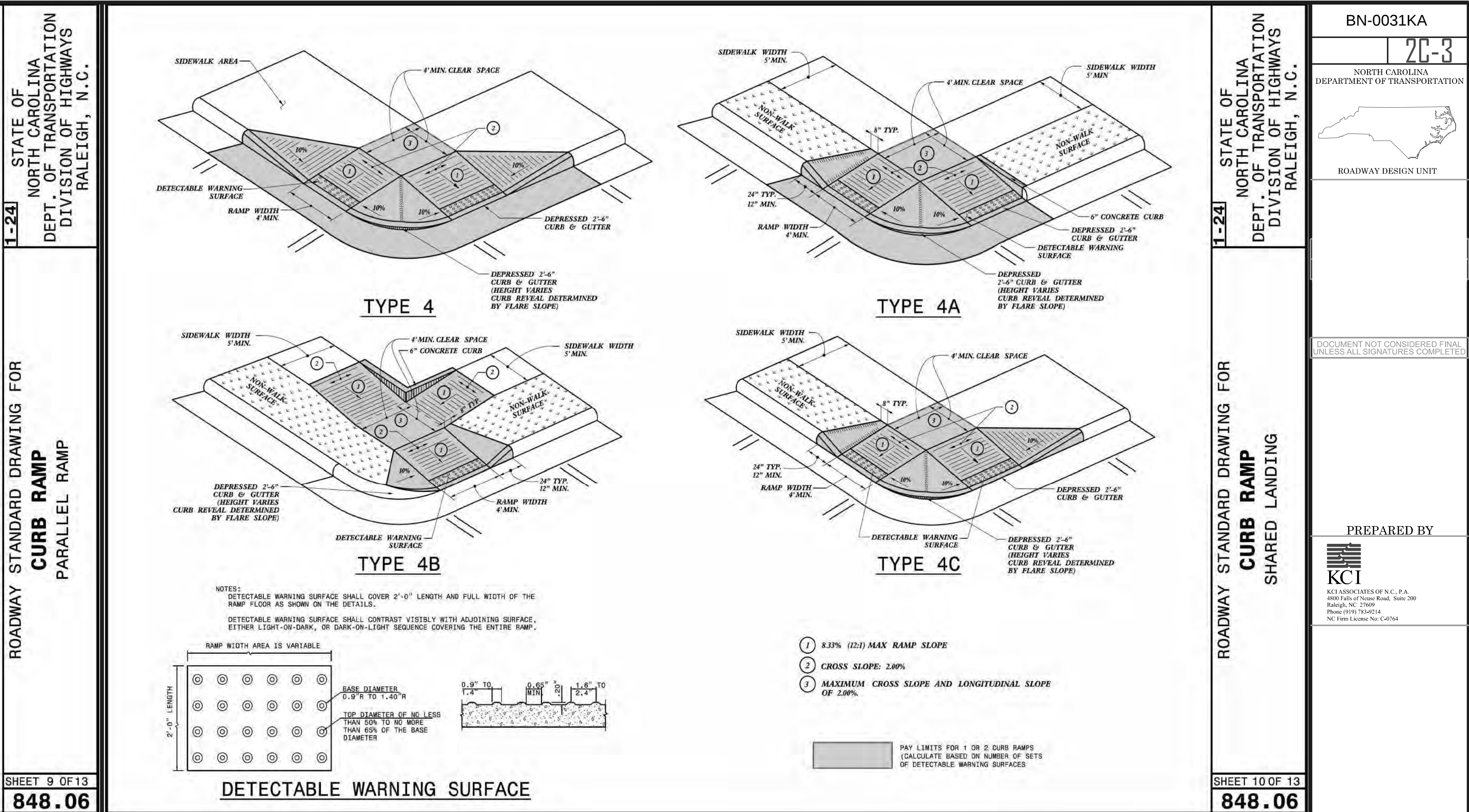
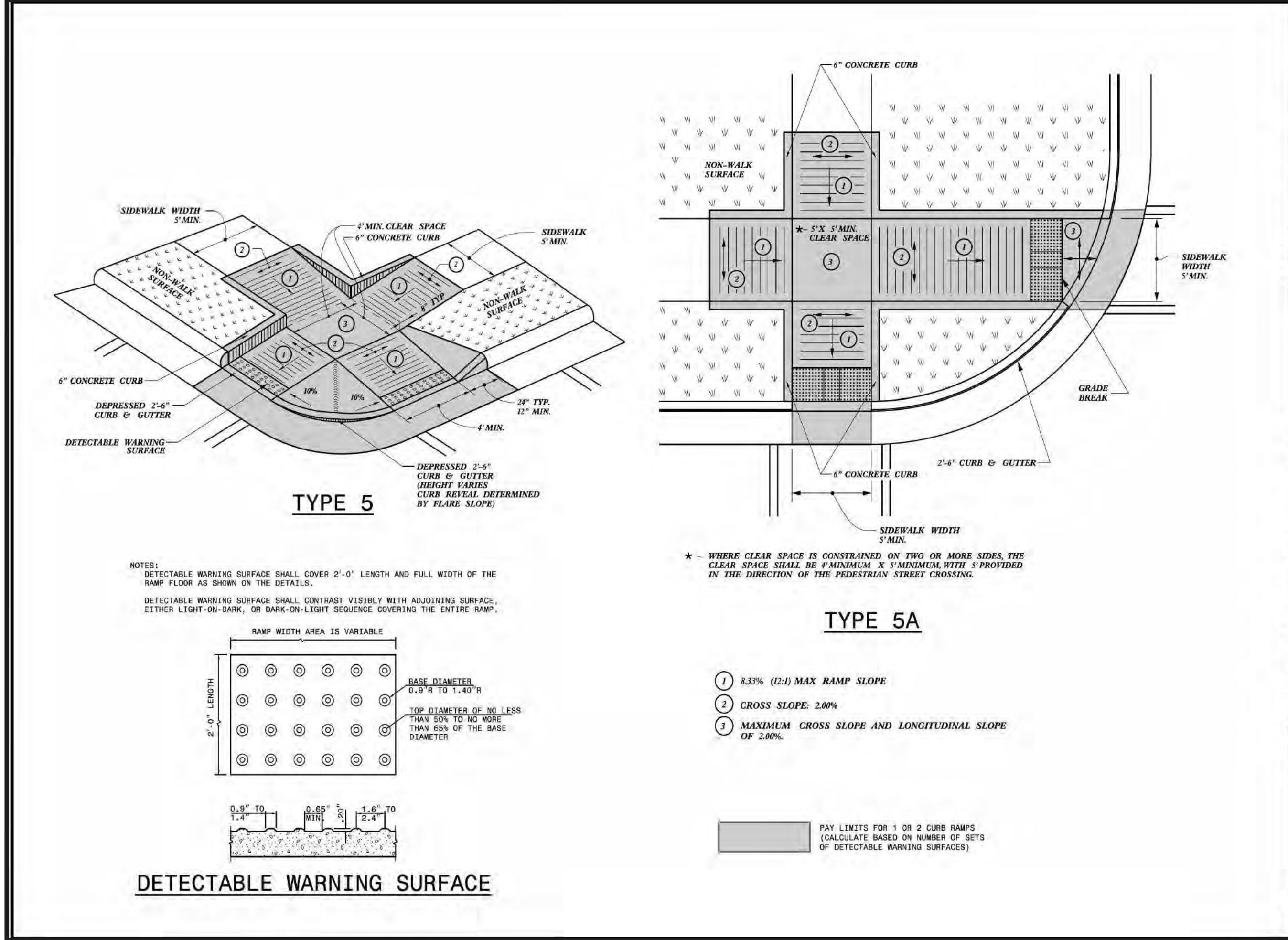
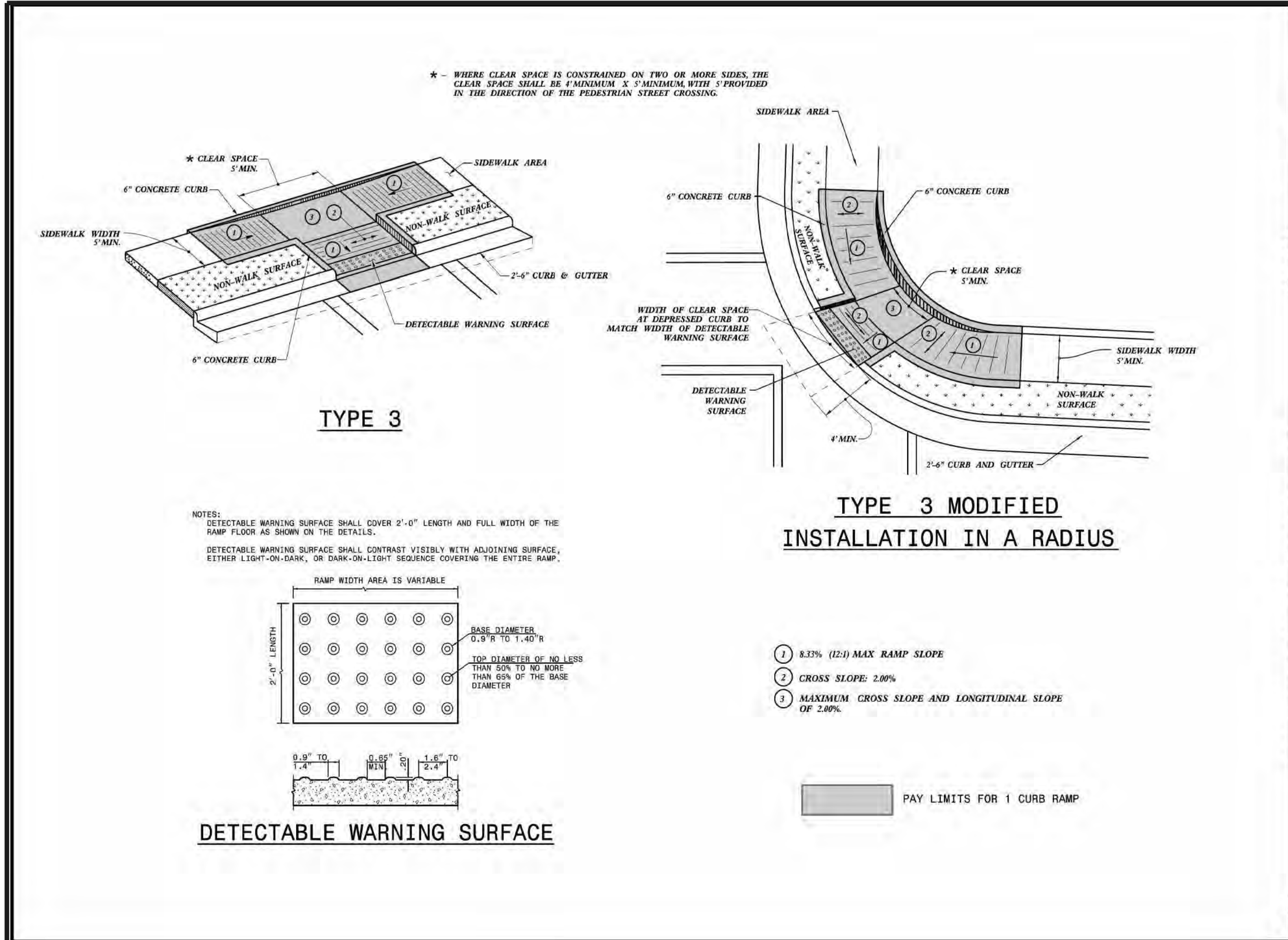
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 8 OF 13
848.06

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UNLESS ALL SIGNATURES COMPLETED

PREPARED BY
KCI
KCI ASSOCIATES OF N.C., P.A.
4800 Falls of Peace Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-6214
NC Firm License No. CA0704



1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' FROM THE BACK OF PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT CLEAR SPACES FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT CLEAR SPACES FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. IF CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4' MINIMUM X 5' MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' CLEAR SPACE AT THE TOP OF RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, WHERE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE, OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01.
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. DETECTABLE WARNING SURFACES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
19. DETECTABLE WARNING SURFACES WILL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

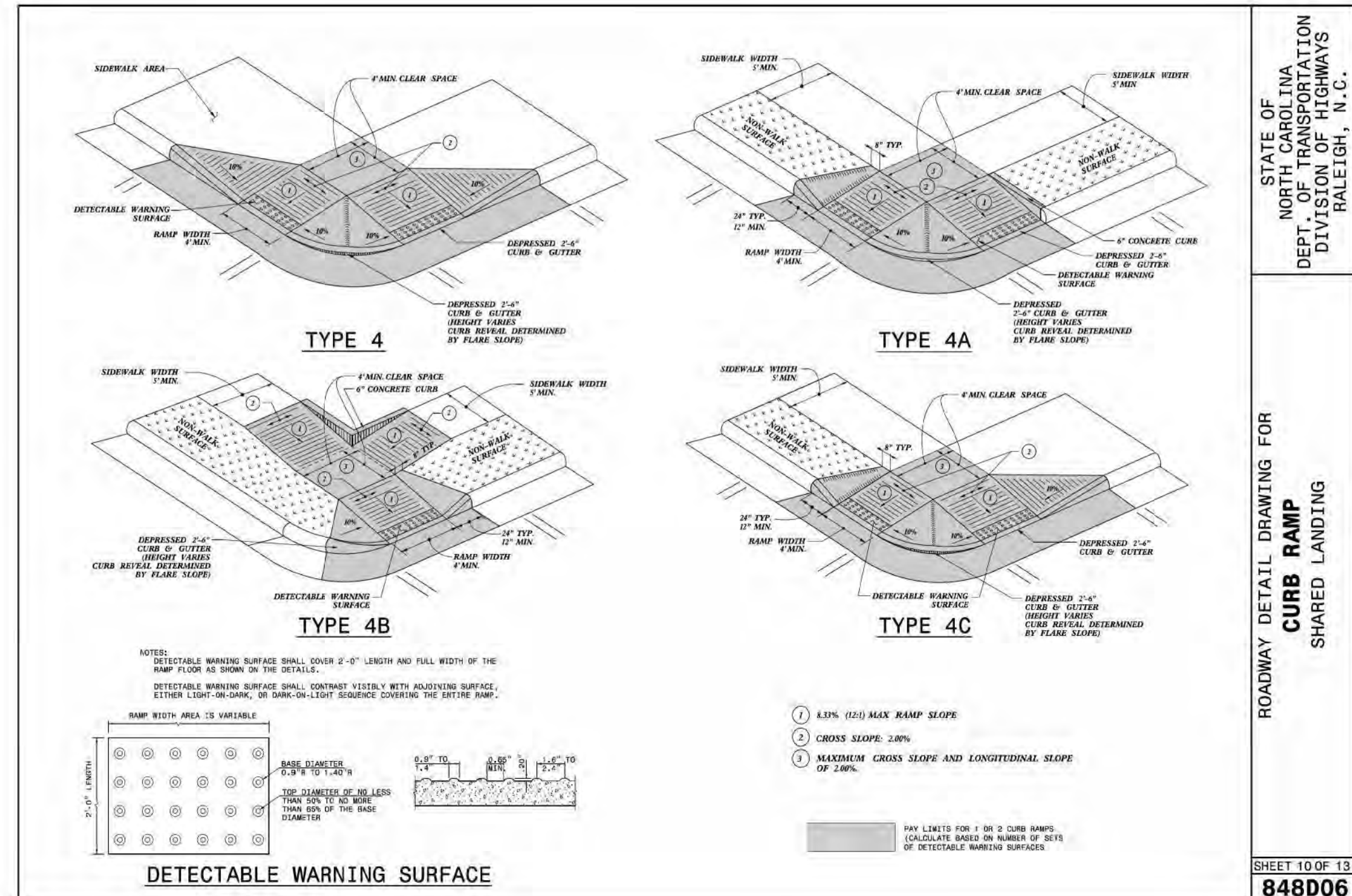
1-24 STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR

CURB RAMP
NOTES

SHEET 13 OF 13

848.06



ROADWAY DETAIL DRAWING FOR CURB RAMP SHARED LANDING	STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
--	--

SHEET 10 OF 13
848D06

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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.: spec[al] details\mhuckler\64820510.dgn

2C-4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION



ROADWAY DESIGN UNIT

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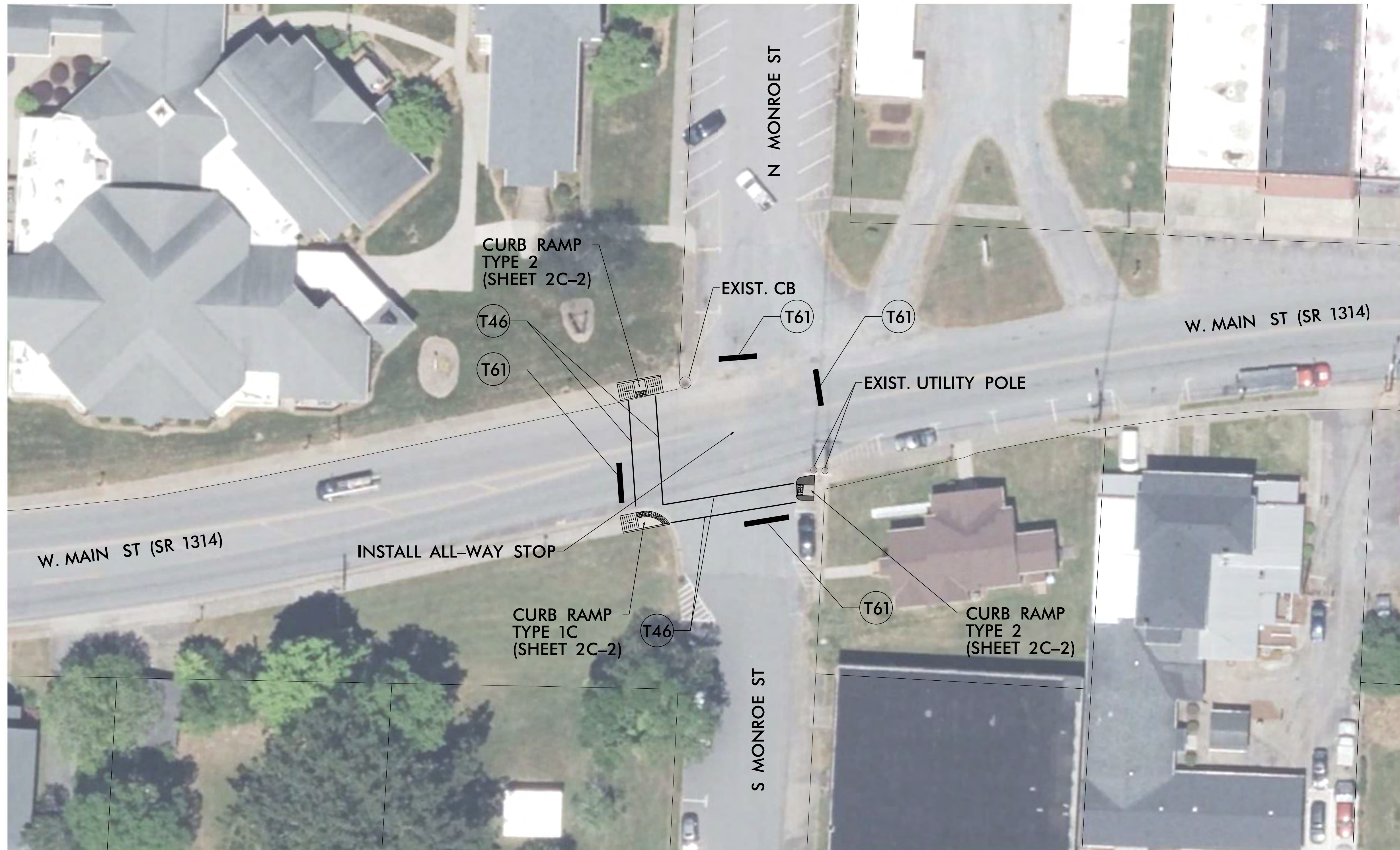
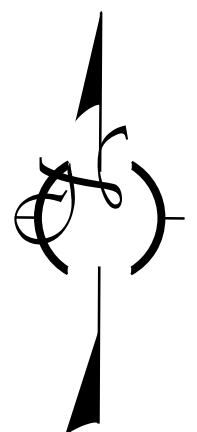
PREPARED BY



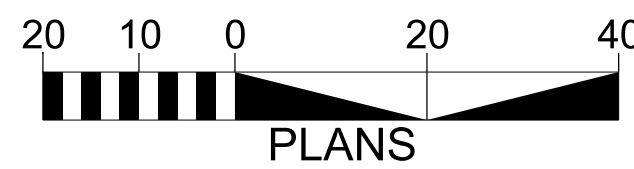
KCI ASSOCIATES OF N.C., P.A.
4800 Falls of Neuse Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

TAP 75 SITE

W. MAIN STREET (SR 1314) AND MONROE STREET



NOTE: DESIGN IS BASED OFF OF AERIAL IMAGERY.



BN-0031KA

4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
YADKIN COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

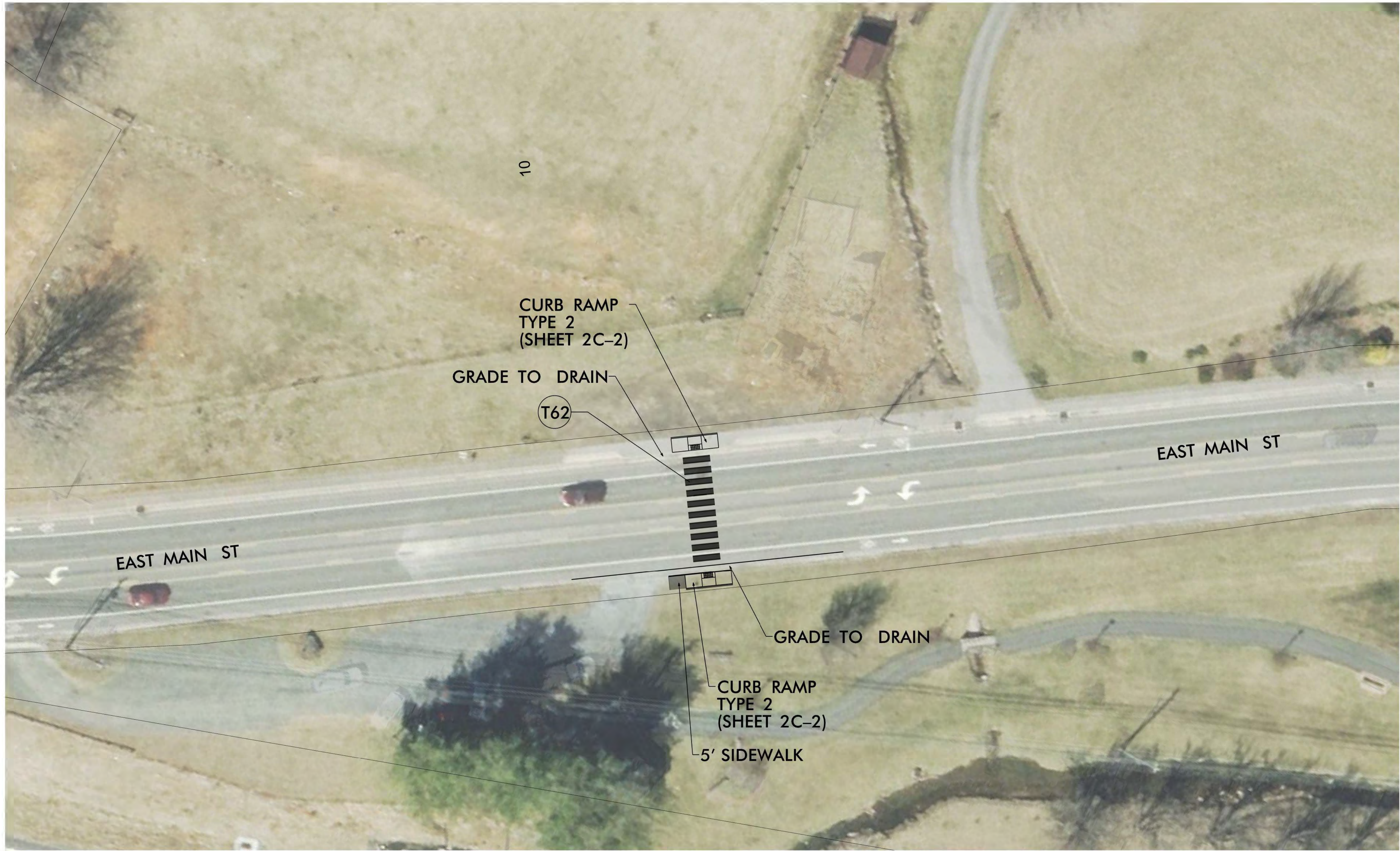
Tyler Lary 7/22/2026
2011EE13880F46F

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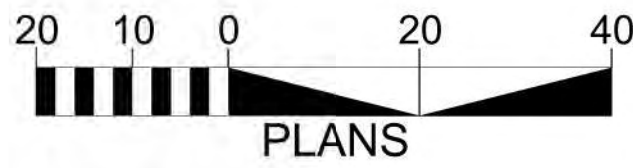
PREPARED BY

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4800 Falls of Peace Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-6214
NC Firm License No. CA704

TAP 113 SITE EAST MAIN STREET



NOTE: DESIGN IS BASED OFF OF AERIAL IMAGERY.



BN-0031KA

5

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHB COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

Tyler Lary 7/22/2026

201EE1880248

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Raleigh, NC 27609
Phone: (919) 733-4214
NC Firm License No. C-0704

TAP 132 SITE

E. MAIN STREET (SR 1962) AND ACADEMY STREET



BN-0031KA

6

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

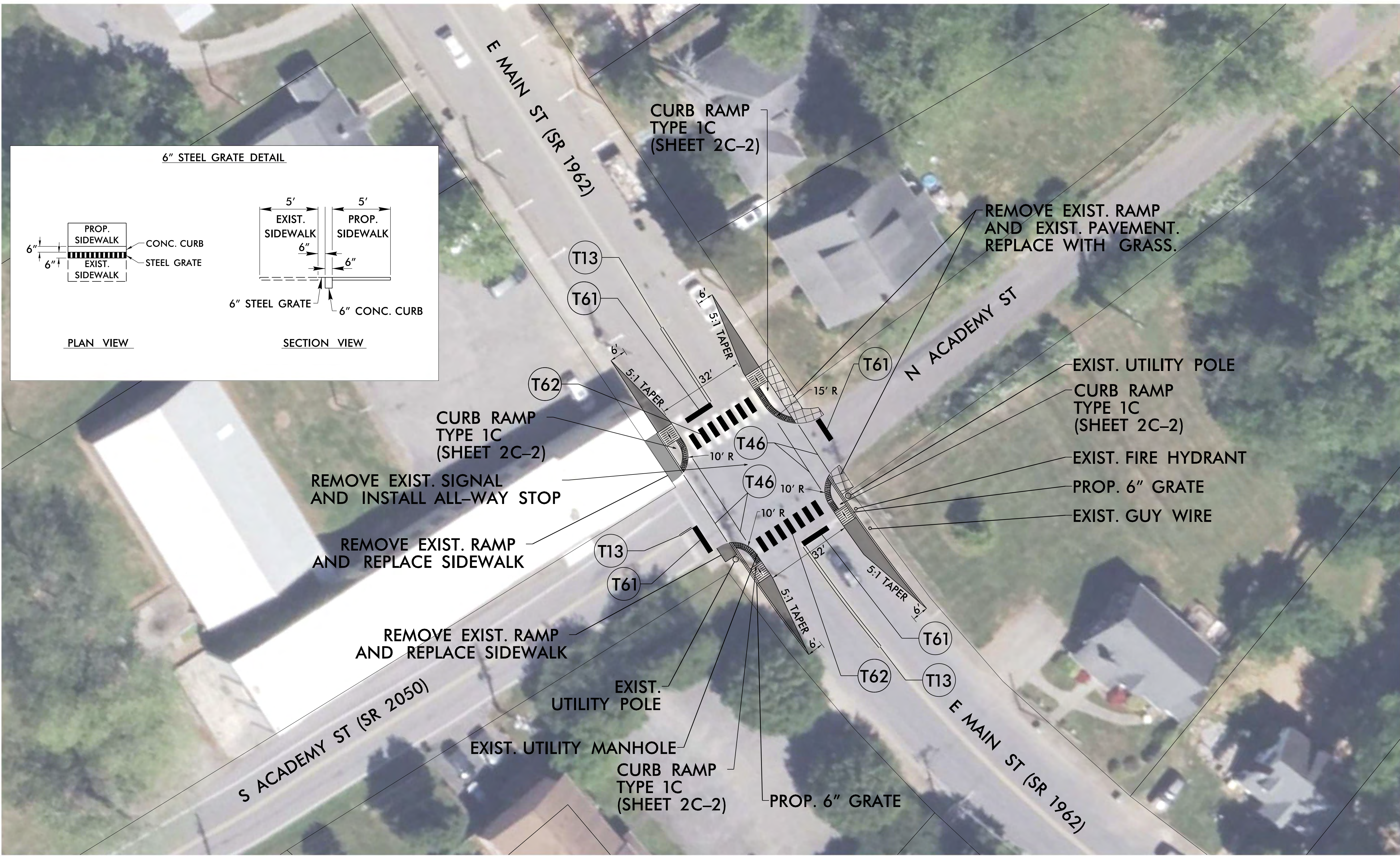
ROADWAY DESIGN
ENGINEER

Tyler Lamy 7/22/2026

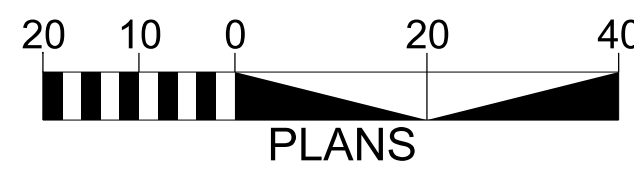
DOCUMENT NOT CONSIDERED FINAL
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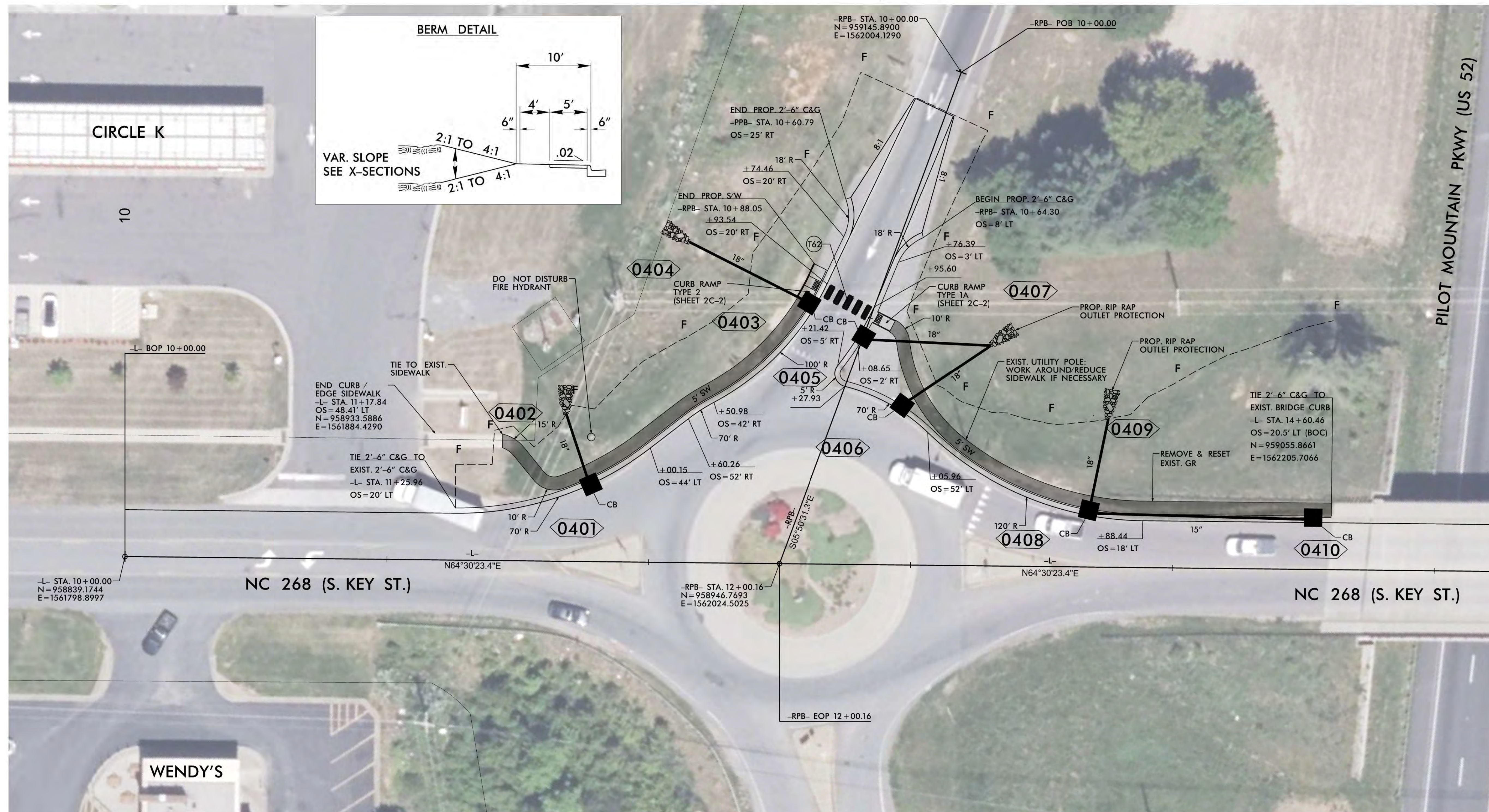
PREPARED BY

KCI ASSOCIATES OF N.C., P.A.
4800 Falls of Peace Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-4214
NC Firm License No. CA7014

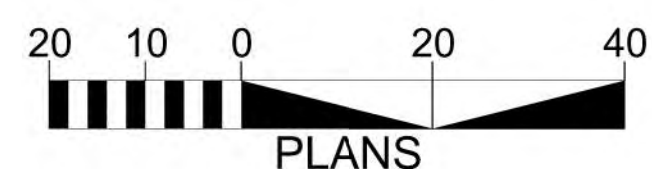


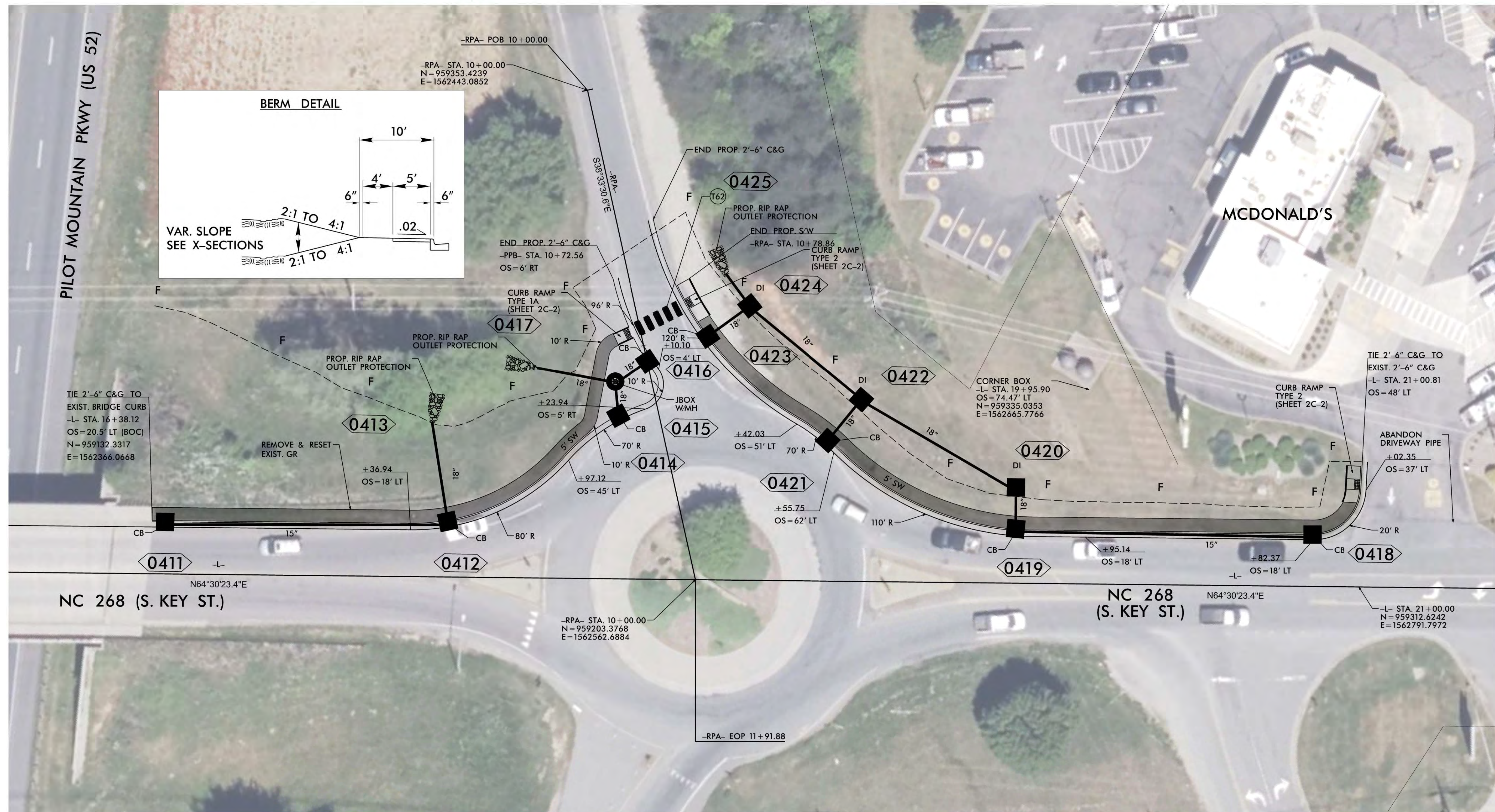
NOTE: DESIGN IS BASED OFF OF AERIAL IMAGERY.



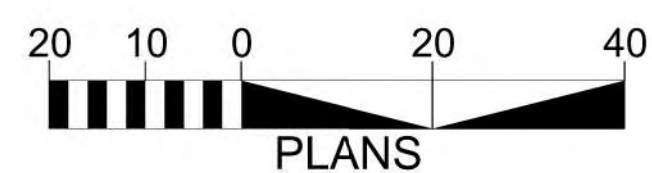


NOTE: DESIGN IS BASED OFF OF AERIAL IMAGERY.



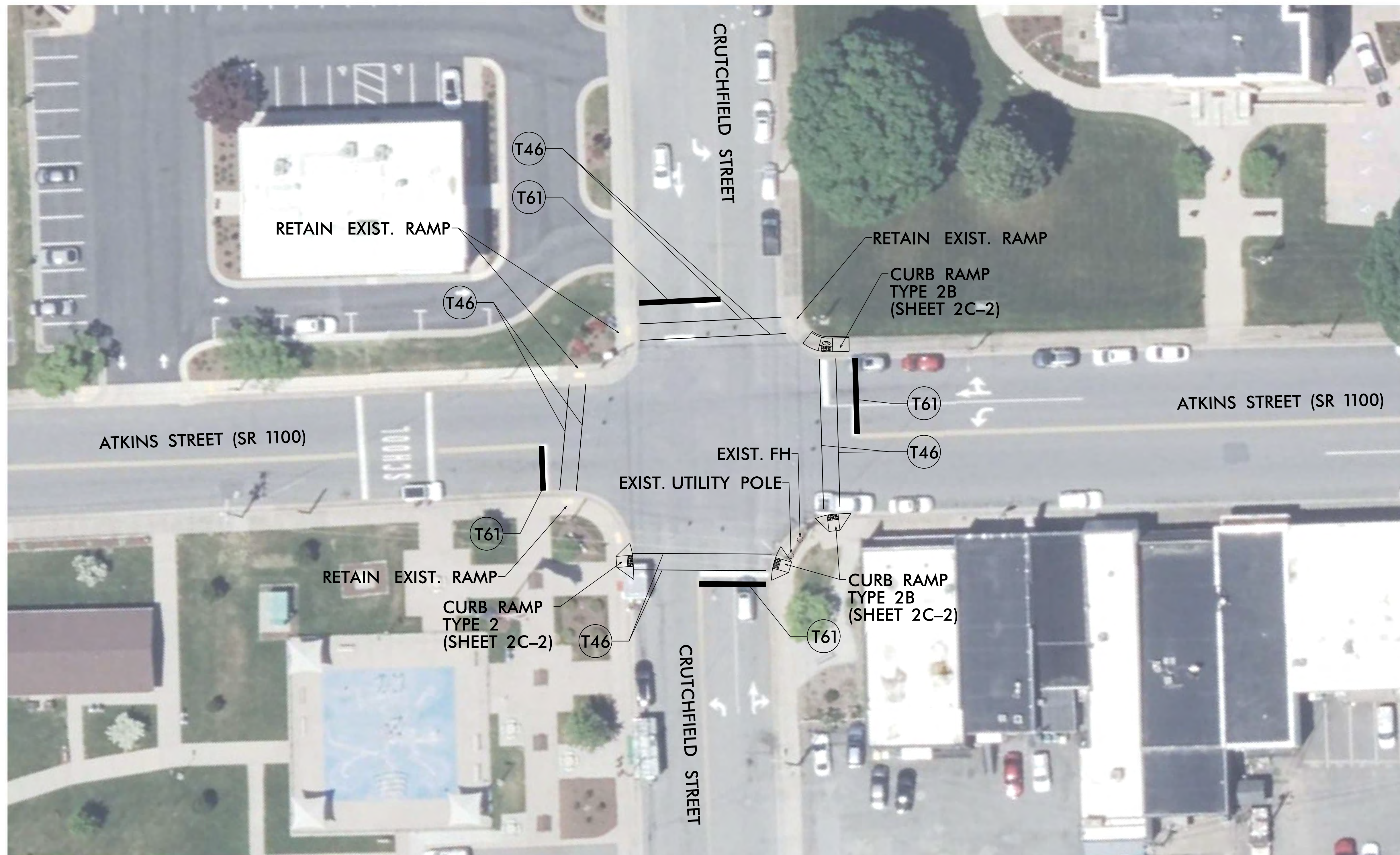


NOTE: DESIGN IS BASED OFF OF AERIAL IMAGERY.

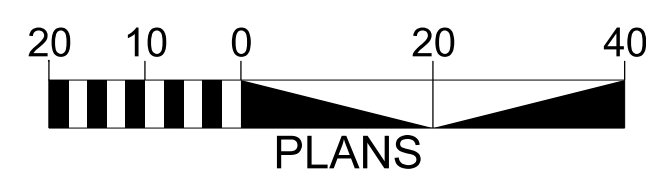


TAP 246 (11-0526)

ATKINS STREET (SR 1100) AND CRUTCHFIELD STREET



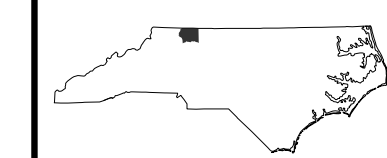
NOTE: DESIGN IS BASED OFF OF AERIAL IMAGERY.



BN-0031KA

9

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER



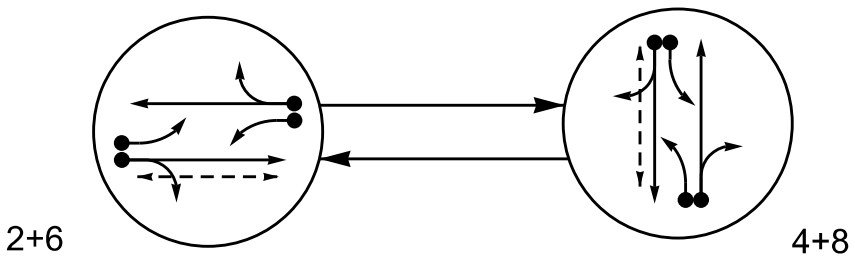
Signed by
Tyler Lany
12/20/2026
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PREPARED BY

KCI
KCI ASSOCIATES OF N.C., P.A.
4800 Falls of Peace Road, Suite 200
Raleigh, NC 27609
Phone: (919) 783-6214
NC Firm License No. CA704

PROJECT REFERENCE NO.	SHEET NO.
TAP	Sig.1.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

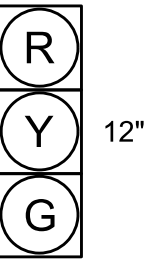
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE		
	2 + 6	4 + 8	F L A H
21, 22	G	R	R
41, 42	R	G	R
61, 62	G	R	R
81, 82	R	G	R
P21, P22	W	DWDRK	
P41, P42	DW	W DRK	

SIGNAL FACE I.D.

All Heads L.E.D.



21, 22

41, 42

61, 62

81, 82

P21, P22

P41, P42

MAXTIME DETECTOR INSTALLATION CHART

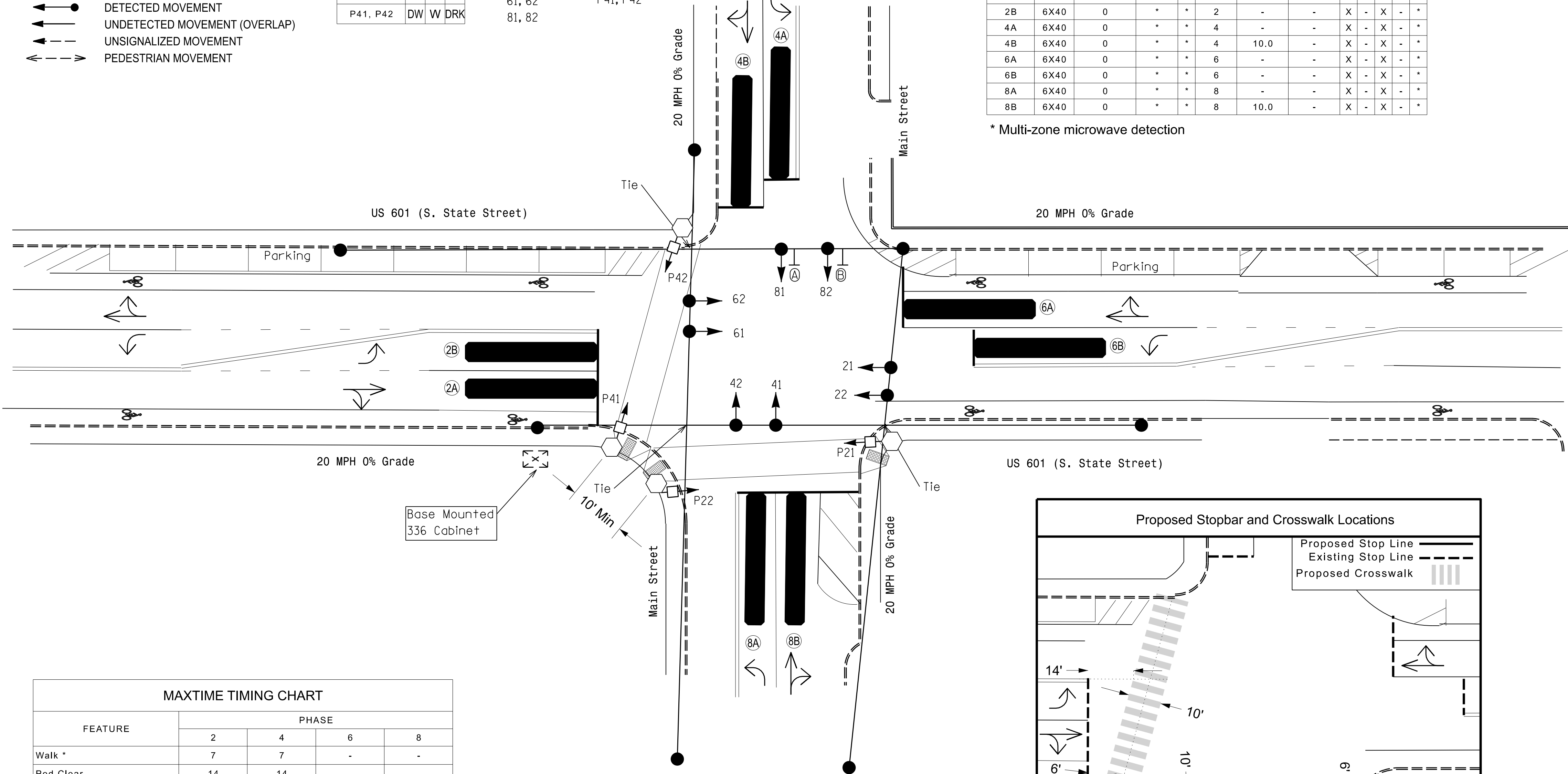
DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD
2A	6X40	0	*	*	2	-	-	X	-	X	*
2B	6X40	0	*	*	2	-	-	X	-	X	*
4A	6X40	0	*	*	4	-	-	X	-	X	*
4B	6X40	0	*	*	4	10.0	-	X	-	X	*
6A	6X40	0	*	*	6	-	-	X	-	X	*
6B	6X40	0	*	*	6	-	-	X	-	X	*
8A	6X40	0	*	*	8	-	-	X	-	X	*
8B	6X40	0	*	*	8	10.0	-	X	-	X	*

* Multi-zone microwave detection

2 Phase
Fully Actuated
Time Based System

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.
- Renumber existing signal heads numbered #11, 12, 13, 14, 23, and 24 to 41, 42, 81, 82, 61, and 62 respectively.
- Set all detector units to presence mode.
- Install new 2070LX controller in existing cabinet.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
- This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



MAXTIME TIMING CHART

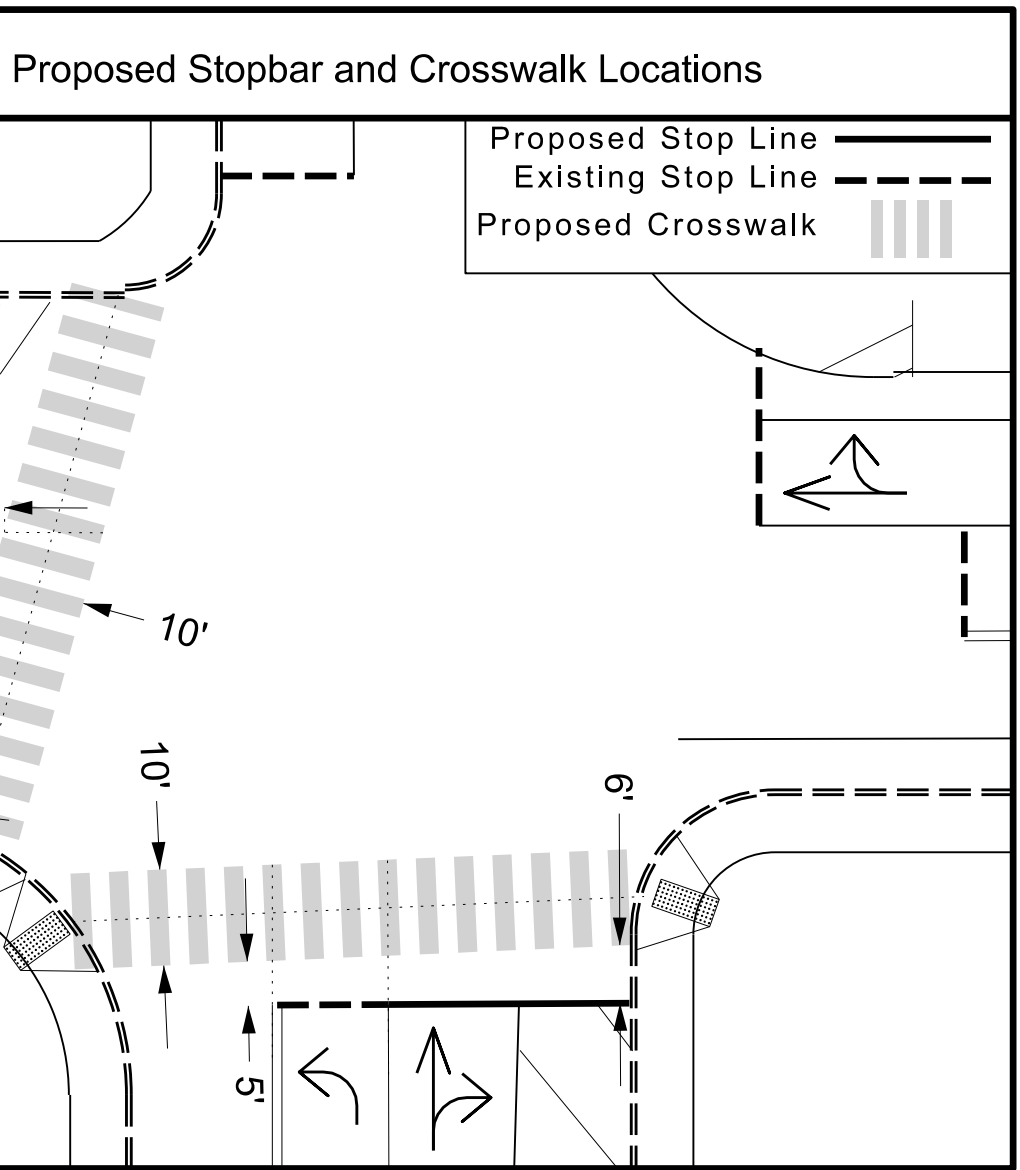
FEATURE	PHASE			
	2	4	6	8
Walk *	7	7	-	-
Ped Clear	14	14	-	-
Min Green *	10	7	10	7
Passage *	3.0	2.0	3.0	2.0
Max 1 *	30	30	30	30
Yellow Change	3.0	3.0	3.0	3.0
Red Clear	3.4	3.0	3.4	3.0
Added Initial *	-	-	-	-
Maximum Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Advance Walk	6	7	-	-
Non Lock Detector	-	X	-	X
Vehicle Recall	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	X	-	X
Simultaneous Start **	X	X	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 2&6 and 4&8 for Simultaneous Start for LPI.

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 Main Street.
P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Main Street.
P41	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross State Street.
P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross State Street.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button and Sign	
	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	
	Left Arrow "ONLY" Sign (R3-5L)	
	Combined Through and Right Arrow Sign (R3-6R)	
	Type II Signal Pedestal	
	Non-Intrusive Detection Zone	
	Curb Ramp	

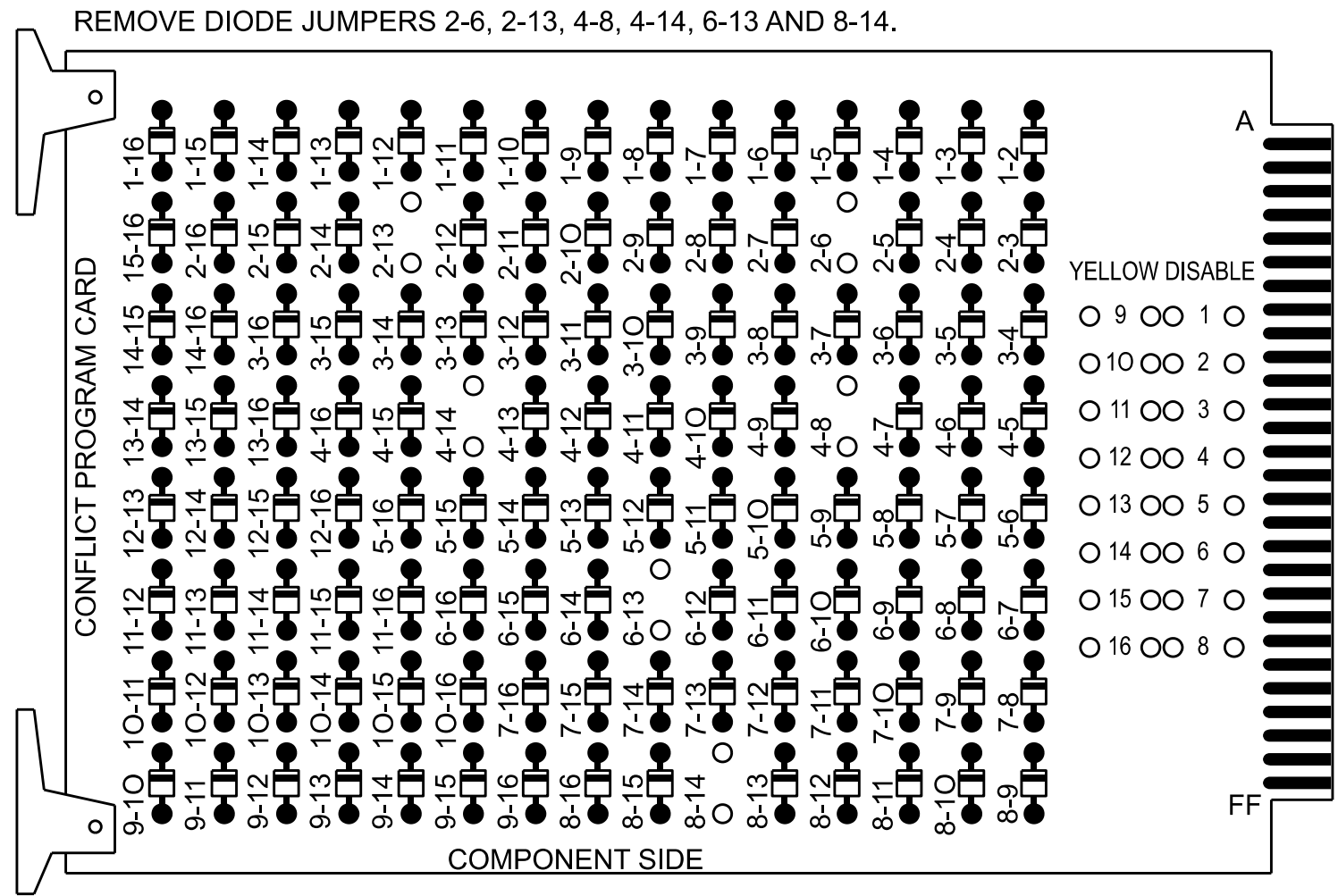
Signal Upgrade

Prepared for the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529		US 601 (S. State Street) at Main Street		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Division 11		Yadkin County		Yadkinville	
PLAN DATE: June 2026		REVIEWED BY: R. Garrett		SEAL 056268	
PREPARED BY: X. Han		REVIEWED BY:		SIGNED BY: 6/3/2026	
REVISIONS		INIT.		DATE	
0		1"		20'	
SCALE		SIG. INVENTORY NO.		11-0916	

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

16 CHANNEL CONFLICT MONITOR
PROGRAMMING DETAIL

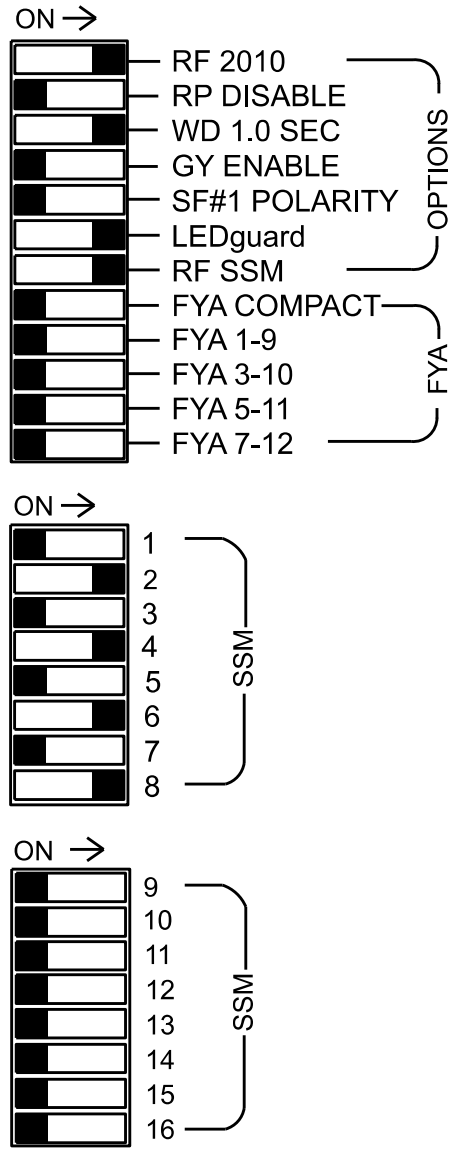
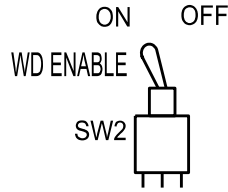
(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.



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.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1, 3, 5, 7, 9, 10, 11, 12, 13, 14, 15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 4 and 8 for Dual Entry.
- Program phases, 2, 4, 6 and 8 for Simultaneous Start.
- Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....336
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....12
Load Switches Used.....S2, S2P, S4, S4P, S6, S8
Phases Used.....2, 2PED, 4, 4PED, 6, 8
Overlaps.....NOT USED

PROJECT REFERENCE NO.	SHEET NO.
TAP	Sig. 1.1

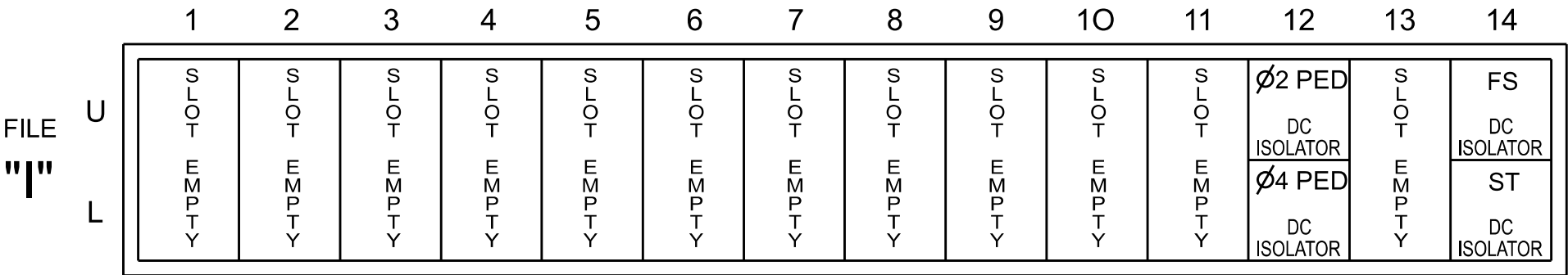
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	P21, P22	NU	41,42	P41, P42	NU	61,62	NU	NU	81,82	NU
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												
			113			104						
			115			106						

NU = Not Used

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	-	-	-	*	38	2			X		X	
2B	-	-	-	*	39	2			X		X	
4A	-	-	-	*	44	4			X		X	
4B	-	-	-	*	45	4	10.0		X		X	
6A	-	-	-	*	54	6			X		X	
6B	-	-	-	*	55	6			X		X	
8A	-	-	-	*	60	8			X		X	
8B	-	-	-	*	61	8	10.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB22-9,10	I12U	67	33	2	PED 2	NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOT I12.					
P41,P42	TB24-9,10	I12L	69	35	4	PED 4						

* For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on this sheet.

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

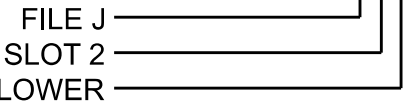
COUNTDOWN PEDESTRIAN SIGNAL OPERATION

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.

SDLC NON-INTRUSIVE DETECTION CHART

Input Point	DETECTOR RACK #3		DETECTOR RACK #4	
	Det # (Index)	Detector Zone	Det # (Index)	Detector Zone
1	33	NU	49	NU
2	34	NU	50	NU
3	35	NU	51	NU
4	36	NU	52	NU
5	37	NU	53	NU
6	38	2A	54	6A
7	39	2B	55	6B
8	40	NU	56	NU
9	41	NU	57	NU
10	42	NU	58	NU
11	43	NU	59	NU
12	44	4A	60	8A
13	45	4B	61	8B
14	46	NU	62	NU
15	47	NU	63	NU
16	48	NU	64	NU

INPUT FILE POSITION LEGEND: J2L



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-0916
DESIGNED: June 2026
SEALED: 06/03/2026
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:	US 601 (S. State Street) at Main Street	DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Prepared for the Offices of:	Division 11 Yadkin County Yadkinville	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER JAMES O. DEATON SEAL 07438
	PLAN DATE: May 2026 REVIEWED BY: J O Deaton PREPARED BY: M W Yalch REVIEWED BY:	DocuSigned by: James O. Deaton 6/4/2026 OFF BACKSHEET DATE SIG. INVENTORY NO. 11-0916
750 N. Greenfield Pkwy, Garner, NC 27529	REVISIONS INIT. DATE	

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

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

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☒ Disable TS2 Cabinet Alarms

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

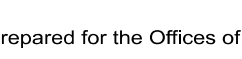
StartUp Clearance Hold	All Red Flash Exit Time
6	6

1. Install push buttons and APS equipment per manufacturer's instructions.
2. Provide a dedicated cable to each push button per manufacturer's instructions.
3. 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.
4. 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.
5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
6. 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.
7. 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.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-0916
DESIGNED: June 2026
SEALED: 06/03/2026
REVISED: N/A

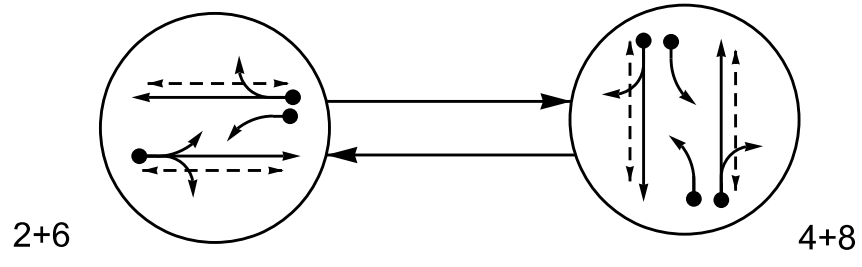


Electrical Detail - Sheet 2 of 2

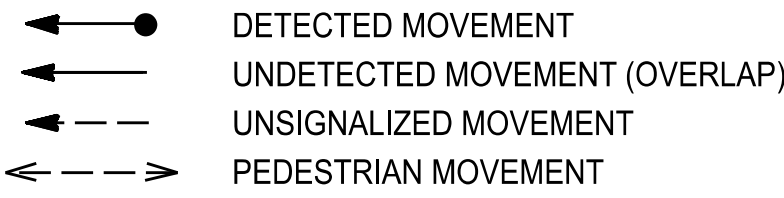
Electrical and Programming Details For:	US 601 (S. State Street) at Main Street	SEAL 																																	
Prepared for the Offices of: 	<table style="width: 100%;"> <tr> <td style="text-align: left;">Division 11</td> <td style="text-align: center;">Yadkin County</td> <td style="text-align: right;">Yadkinville</td> </tr> <tr> <td style="text-align: left;">PLAN DATE:</td> <td style="text-align: center;">May 2026</td> <td style="text-align: right;">REVIEWED BY: J O Deaton</td> </tr> <tr> <td style="text-align: left;">PREPARED BY:</td> <td style="text-align: center;">M W Yalch</td> <td style="text-align: right;">REVIEWED BY:</td> </tr> </table>	Division 11	Yadkin County	Yadkinville	PLAN DATE:	May 2026	REVIEWED BY: J O Deaton	PREPARED BY:	M W Yalch	REVIEWED BY:	DocuSigned by: <i>James O. Deaton</i> 6/4/2026																								
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PLAN DATE:	May 2026	REVIEWED BY: J O Deaton																																	
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	<table style="width: 100%;"> <thead> <tr> <th style="width: 50%;">REVISONS</th> <th style="width: 20%;">INT.</th> <th style="width: 30%;">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>	REVISONS	INT.	DATE																															NOT PROCEEDING... DATE SIG. INVENTORY NO. 11-0916
REVISONS	INT.	DATE																																	

750 N. Greenfield Pkwy. Garner, NC 27529

PHASING DIAGRAM



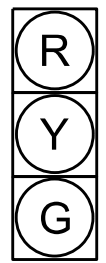
PHASING DIAGRAM DETECTION LEGEND



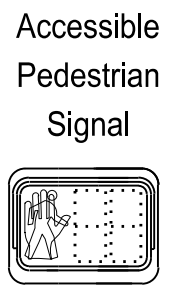
SIGNAL FACE	PHASE		
	2+6	4+8	FLASH
2l, 22	G	R	R
4l, 42	R	G	R
6l, 62	G	R	R
8l, 82	R	G	R
P2l, P22	W	DW	DRK
P4l, P42	DW	W	DRK
P6l, P62	W	DW	DRK
P8l, P82	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



2l,22
4l,42
6l,62
8l,82



P2l,P22
P4l,P42
P6l,P62
P8l,P82

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING					
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURN	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DURING GREEN
2A	6X40	0	*	*	2	-	-	X	-	X
4A	6X40	0	*	*	4	3.0	-	X	-	X
4B	6X40	0	*	*	4	10.0	-	X	-	X
6A	6X40	0	*	*	6	-	-	X	-	X
6B	6X40	0	*	*	6	-	-	X	-	X
8A	6X40	0	*	*	8	3.0	-	X	-	X
8B	6X40	0	*	*	8	10.0	-	X	-	X

* Multi-zone microwave detection

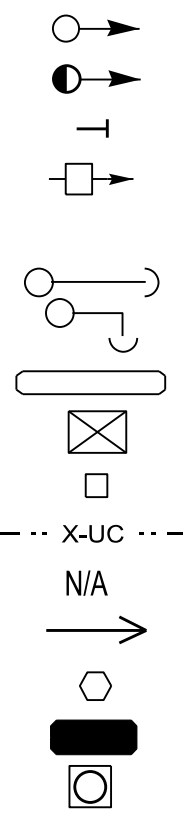
2 Phase
Fully Actuated
Isolated

NOTES

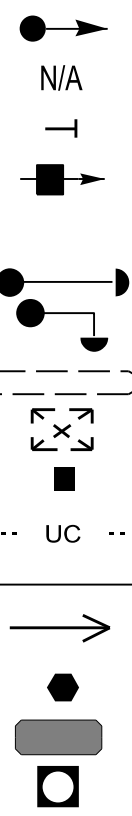
- Refer to "Roadway Standard Drawings NCDOT" dated January 2024, "Standard Specifications for Roads and Structures" dated January 2024, and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website:
<https://connect.ncdot.gov/resources/safety/Pages/TSMO-Design-Resources.aspx>
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
- This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- See Roadway Design Plans for crosswalk and curb ramp locations.

LEGEND

PROPOSED



EXISTING



MAXTIME TIMING CHART

FEATURE	PHASE			
	2	4	6	8
Walk *	7	7	7	7
Ped Clear	12	14	14	9
Min Green *	10	7	10	7
Passage *	3.0	2.0	3.0	2.0
Max 1 *	30	30	30	30
Yellow Change	4.0	4.0	4.0	4.0
Red Clear	3.4	2.6	3.4	2.6
Added Initial *	-	-	-	-
Maximum Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Advance Walk	7	7	7	7
Non Lock Detector	-	X	-	X
Vehicle Recall	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	X	-	X
Simultaneous Start **	X	X	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.

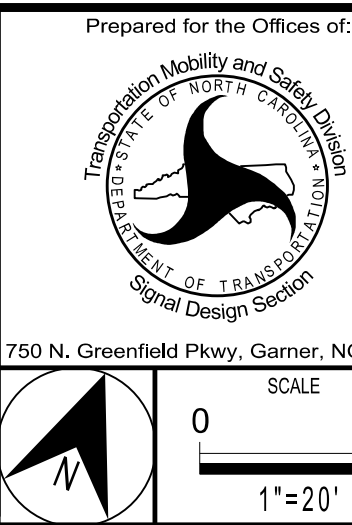
** Program phases 2&6 and 4&8 for Simultaneous Start for LPI.

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 Crutchfield Street.
P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Crutchfield Street.
P41	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkins Street.
P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkins Street.
P61	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Crutchfield Street.
P62	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Crutchfield Street.
P81	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkins Street.
P82	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkins Street.

Signal Upgrade

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



SR 1100 (ATKINS STREET)
At
CRUTCHFIELD STREET

Division 11 Surry County Dobson

PLAN DATE: May 2026 REVIEWED BY: R. Garrett

PREPARED BY: X. Han REVIEWED BY:

REVISIONS INIT. DATE

SIG. INVENTORY NO. 11-0526

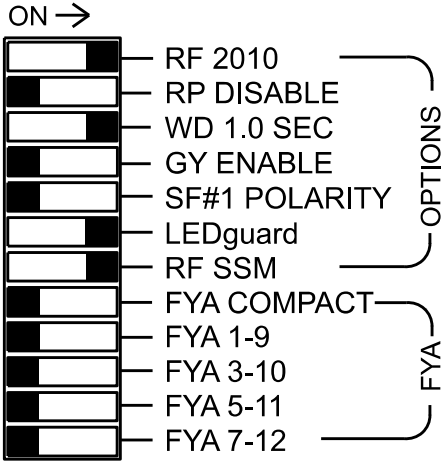
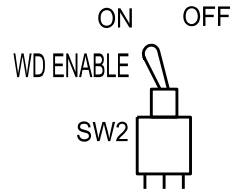
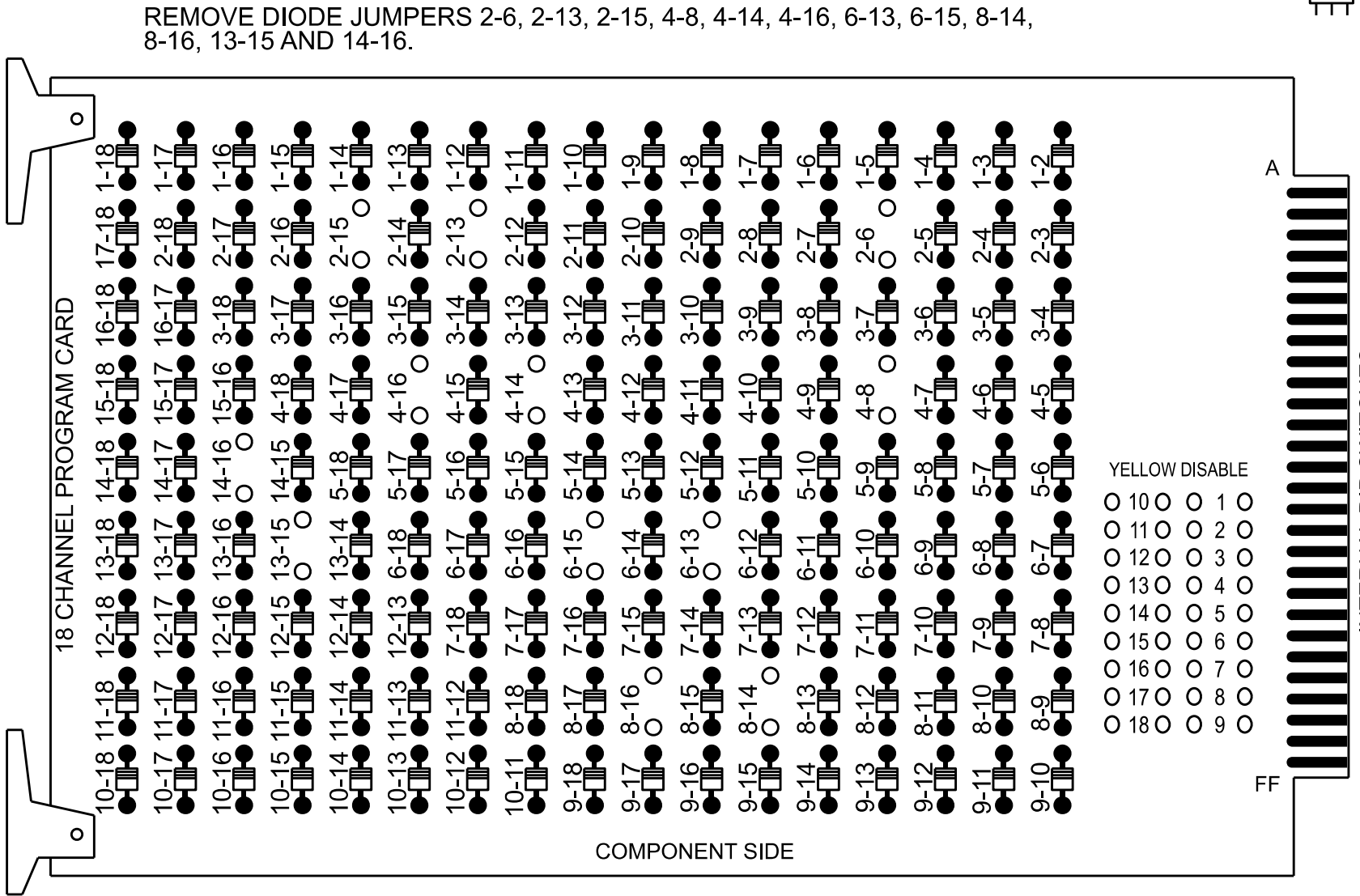
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED



4-JUL-2026 2:14:48
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11/11-0526/110526.sm.dwg
11/11-0526/110526.sm.dwg

18 CHANNEL CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



■ = DENOTES POSITION OF SWITCH

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.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

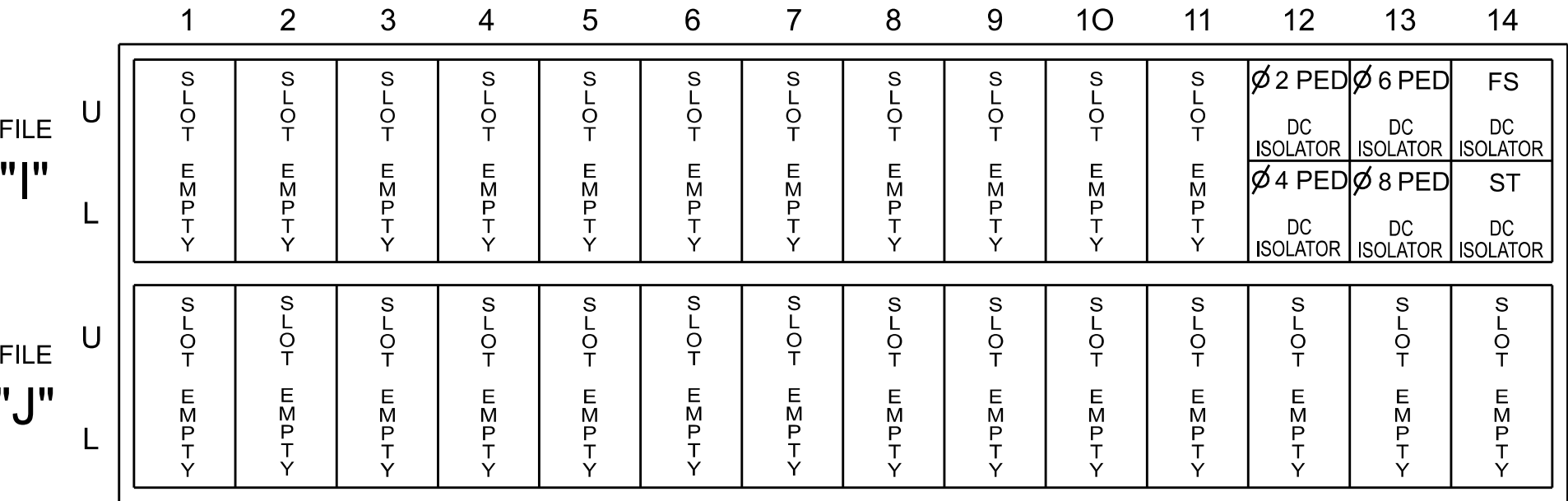
- To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
- Program phases 4 and 8 for Dual Entry.
- Program phases 2, 4, 6 and 8 for Simultaneous Start.
- Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

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, S6, S8, S9, S11, S12
Phases Used.....2, 2PED, 4, 4PED, 6, 6PED, 8, 8PED
Overlaps.....NOT USED

INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE
ST = STOP TIME

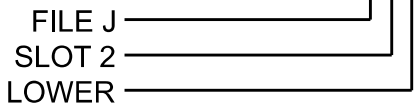
INPUT FILE CONNECTION & PROGRAMMING CHART

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	-	-	-	*	38	2			X		X	
4A	-	-	-	*	44	4	3.0		X		X	
4B	-	-	-	*	45	4	10.0		X		X	
6A	-	-	-	*	54	6			X		X	
6B	-	-	-	*	55	6			X		X	
8A	-	-	-	*	60	8	3.0		X		X	
8B	-	-	-	*	61	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.

*For Input Point numbers, see SDLC Non-Intrusive Detection Chart detail on this sheet.

INPUT FILE POSITION LEGEND: J2L



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	21,22	P21, P22	NU	41,42	P41, P42	NU	61,62	P61, P62	NU	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																		
YELLOW ARROW																		
FLASHING YELLOW ARROW																		
GREEN ARROW																		
Hand icon			113			104			119			110						
Walking person icon			115			106			121			112						

NU = Not Used

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.

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

Electrical Detail - Sheet 1 of 2

Electrical and Programming Details For:		SR 1100 (Atkins Street) at Crutchfield Street		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared for the Offices of:		Division 11 Surry County Dobson		SEAL NORTH CAROLINA PROFESSIONAL SEAL 07438 ENGINEER JAMES O. DEATON	
PLAN DATE: May 2026		REVIEWED BY: J O Deaton		DocuSigned by: James O. Deaton 6/4/2026	
PREPARED BY: M W Yalch		REVIEWED BY:		OFF BACKSHEET DATE	
REVISIONS		INIT.		DATE	
750 N. Greenfield Pkwy, Garner, NC 27529				SIC INVENTORY NO. 11-0526	

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-0526
DESIGNED: May 2026
SEALED: 06/03/2026
REVISED: N/A

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

4-JUL-2026 2:14:49
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HONG

SPECIAL DETECTION IO MODULE PROGRAMMING

The Enhanced Out of Pavement Detection requires adjustments to the IO Modules in use. Follow the programming instructions below to ensure desired operation.

Front Panel
Main Menu >Controller >More >Advanced IO >IO Modules

Web Interface
Home >Controller >Advanced IO >Cabinet Configuration >IO Modules

IO Module	Type	Fault Response
1	Caltrans 332	Default
2	TS2 DR3 BIU	Default
3	TS2 DR4 BIU	Default
4	TS2 MMU	Default

Advanced Cabinet Options

☒ Disable TS2 Cabinet Alarms

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

PROJECT REFERENCE NO.	SHEET NO.
TAP	Sig. 1.2

ACCESSIBLE PEDESTRIAN SIGNAL (APS)
INSTALLATION NOTES

1. Install push buttons and APS equipment per manufacturer's instructions.
2. Provide a dedicated cable to each push button per manufacturer's instructions.
3. 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.
4. 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.
5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
6. 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.
7. 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.

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

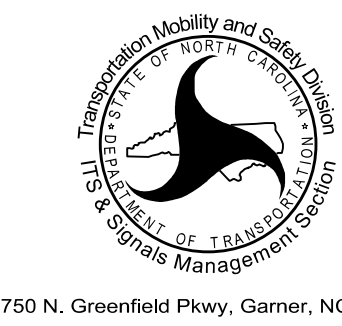
Unit Flash Parameters

All Red Flash Exit Time
6

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-0526
DESIGNED: May 2026
SEALED: 06/03/2026
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 2 of 2

Electrical and Programming Details For:		SR 1100 (Atkins Street) at Crutchfield Street		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared for the Offices of:		Division 11 Surry County Dobson		SEAL NORTH CAROLINA PROFESSIONAL SEAL 07438 ENGINEER JAMES O. DEATON	
		PLAN DATE: May 2026 PREPARED BY: M W Yalch REVIEWED BY: J O Deaton		DocuSigned by: <i>James O. Deaton</i> 6/4/2026	
750 N. Greenfield Pkwy, Garner, NC 27529		REVISIONS		INIT. DATE	
				SIG. INVENTORY NO. 11-0526	