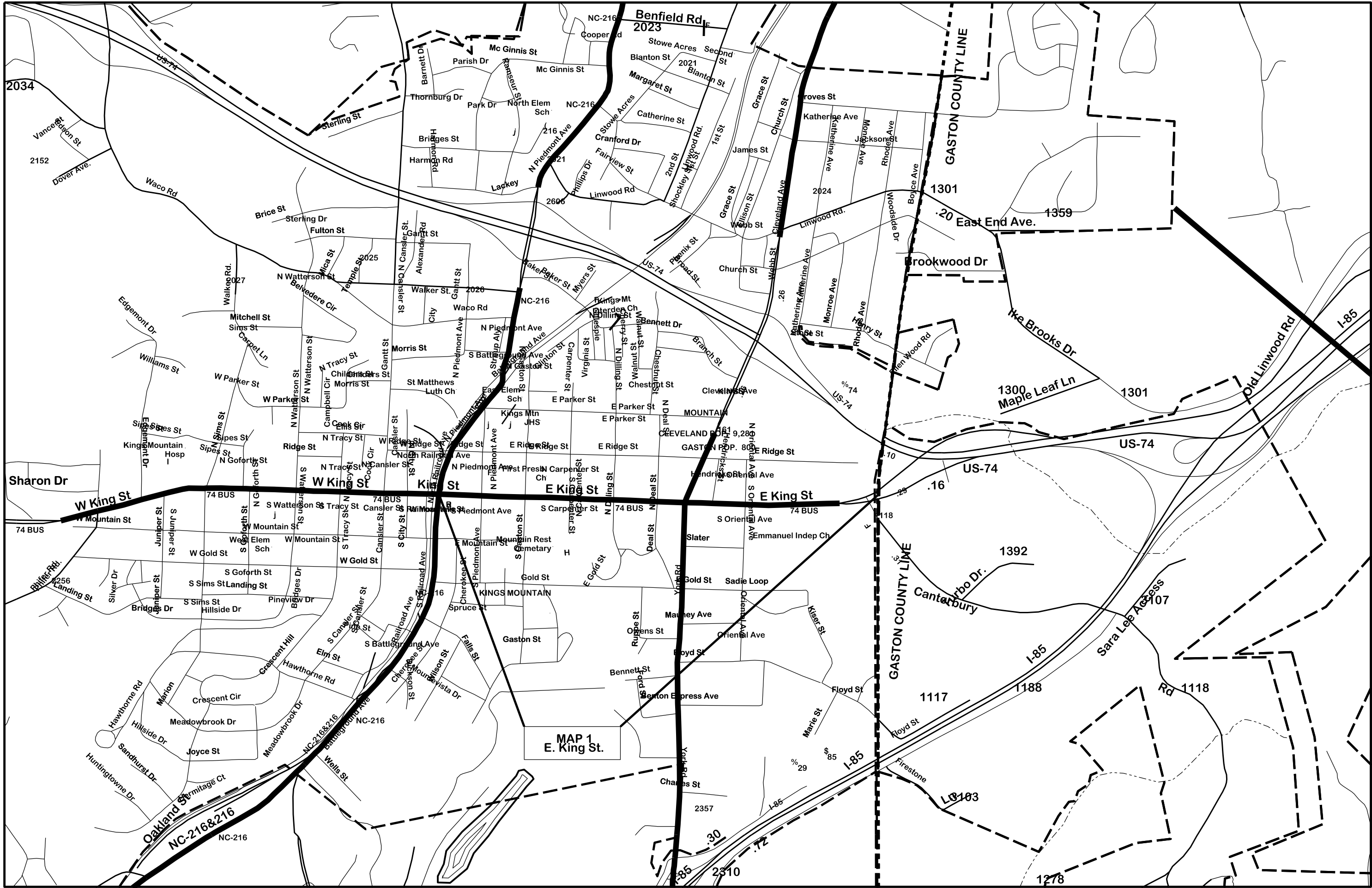


**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

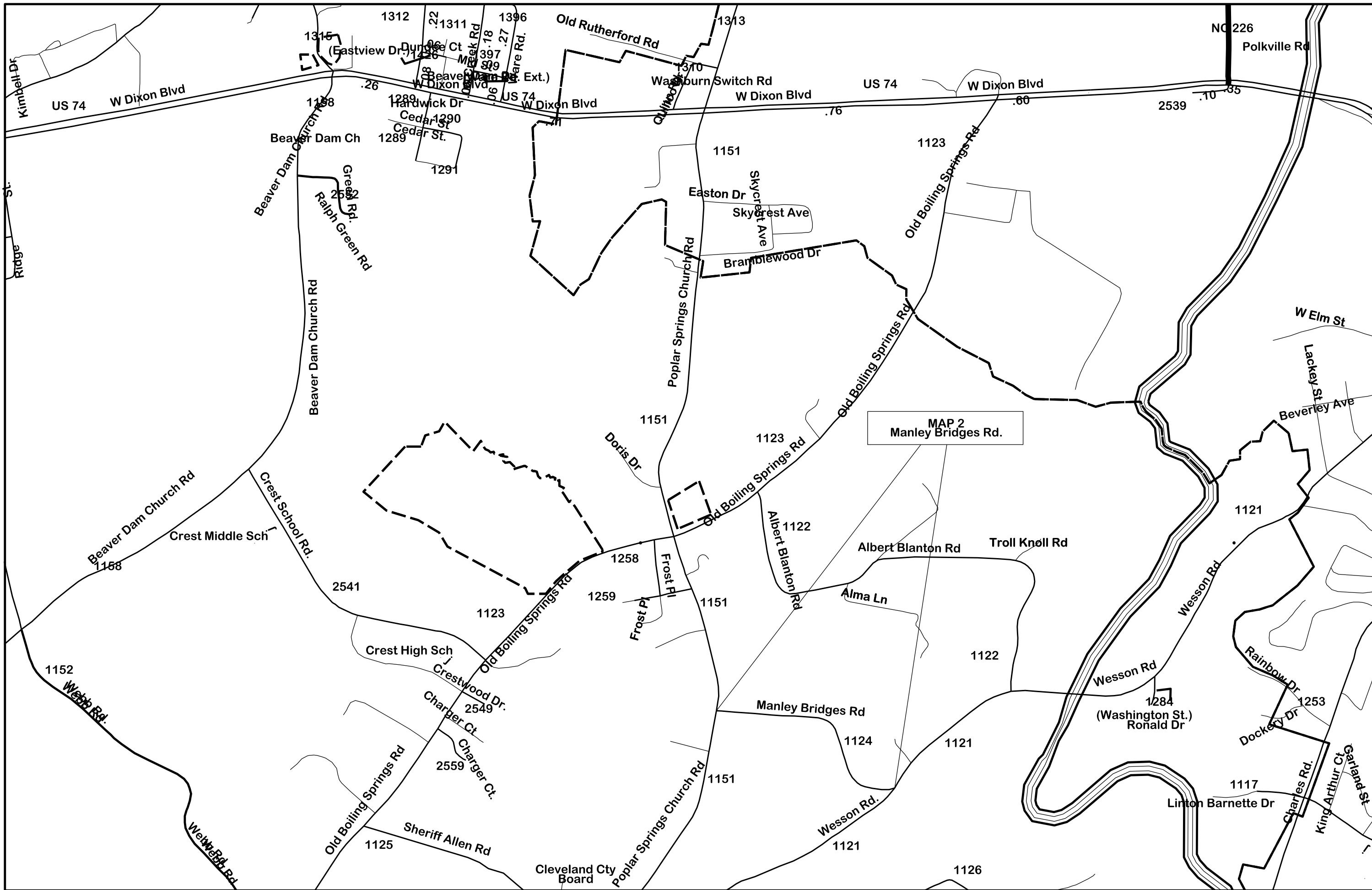
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and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

**This file or an individual page  
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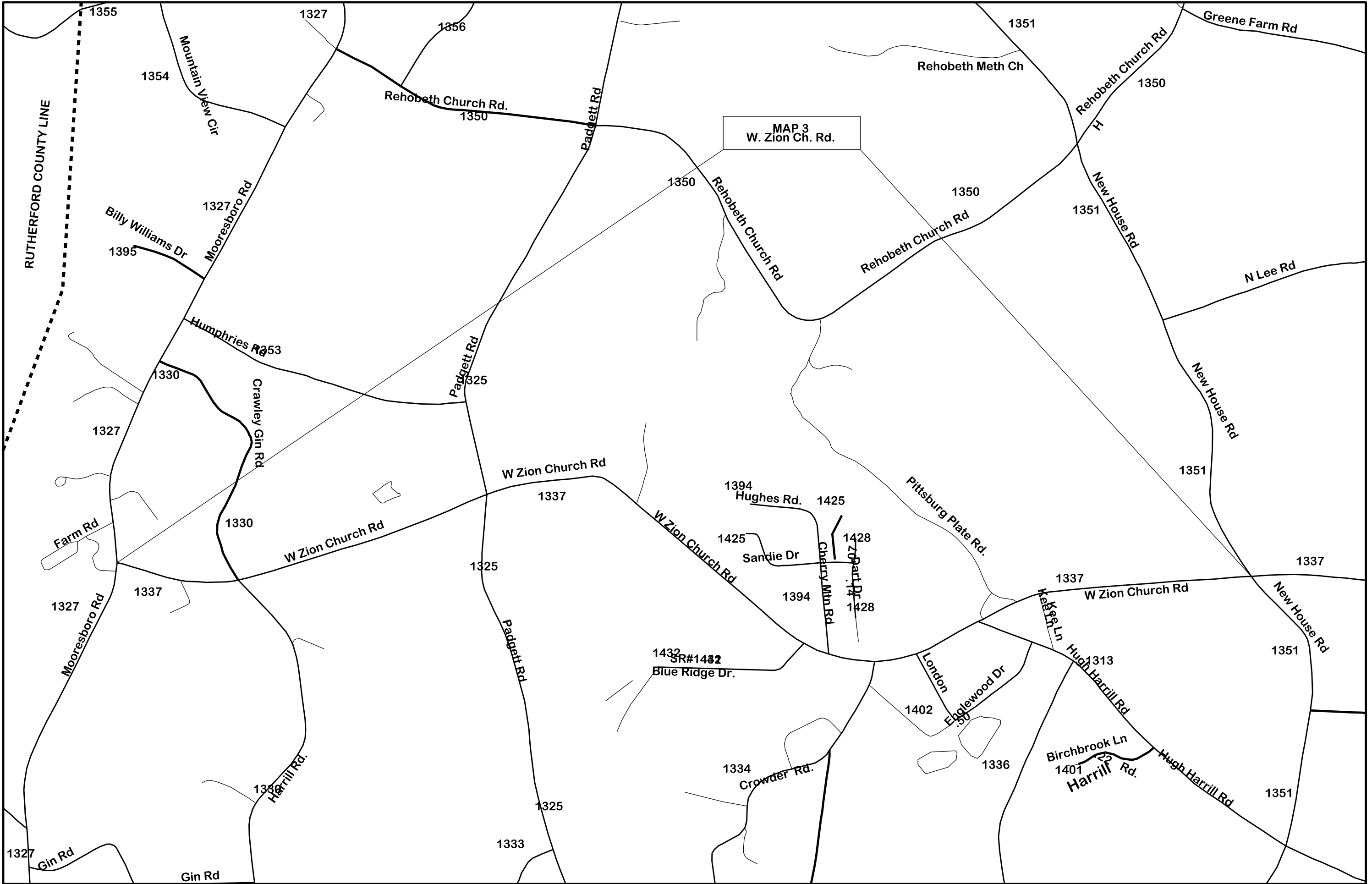


**CLEVELAND COUNTY**  
 2024CPT.12.03.10231  
 2024CPT.12.03.20231

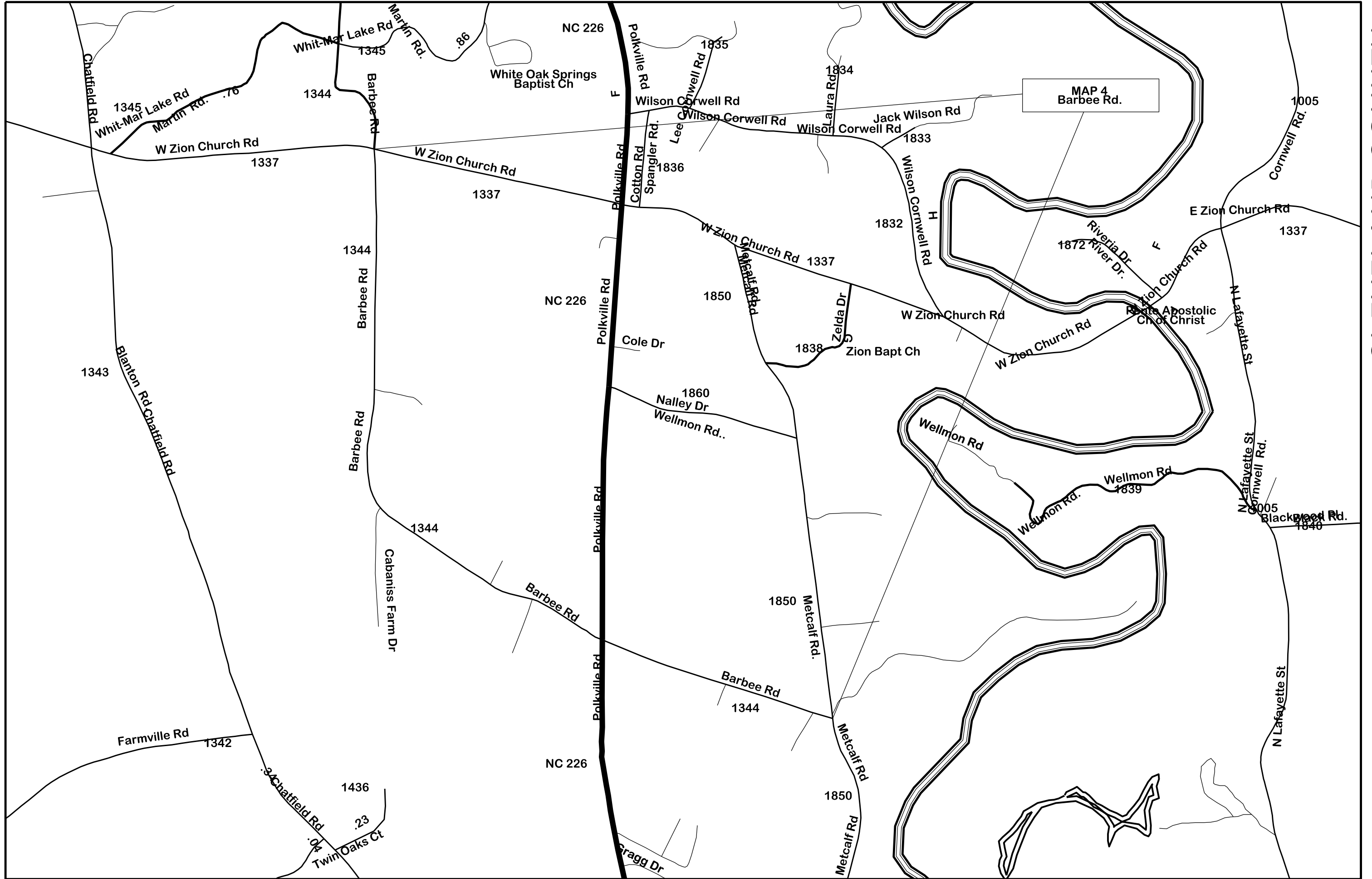




**CLEVELAND COUNTY**  
 2024CPT:12.03.10231  
 2024CPT:12.03.20231

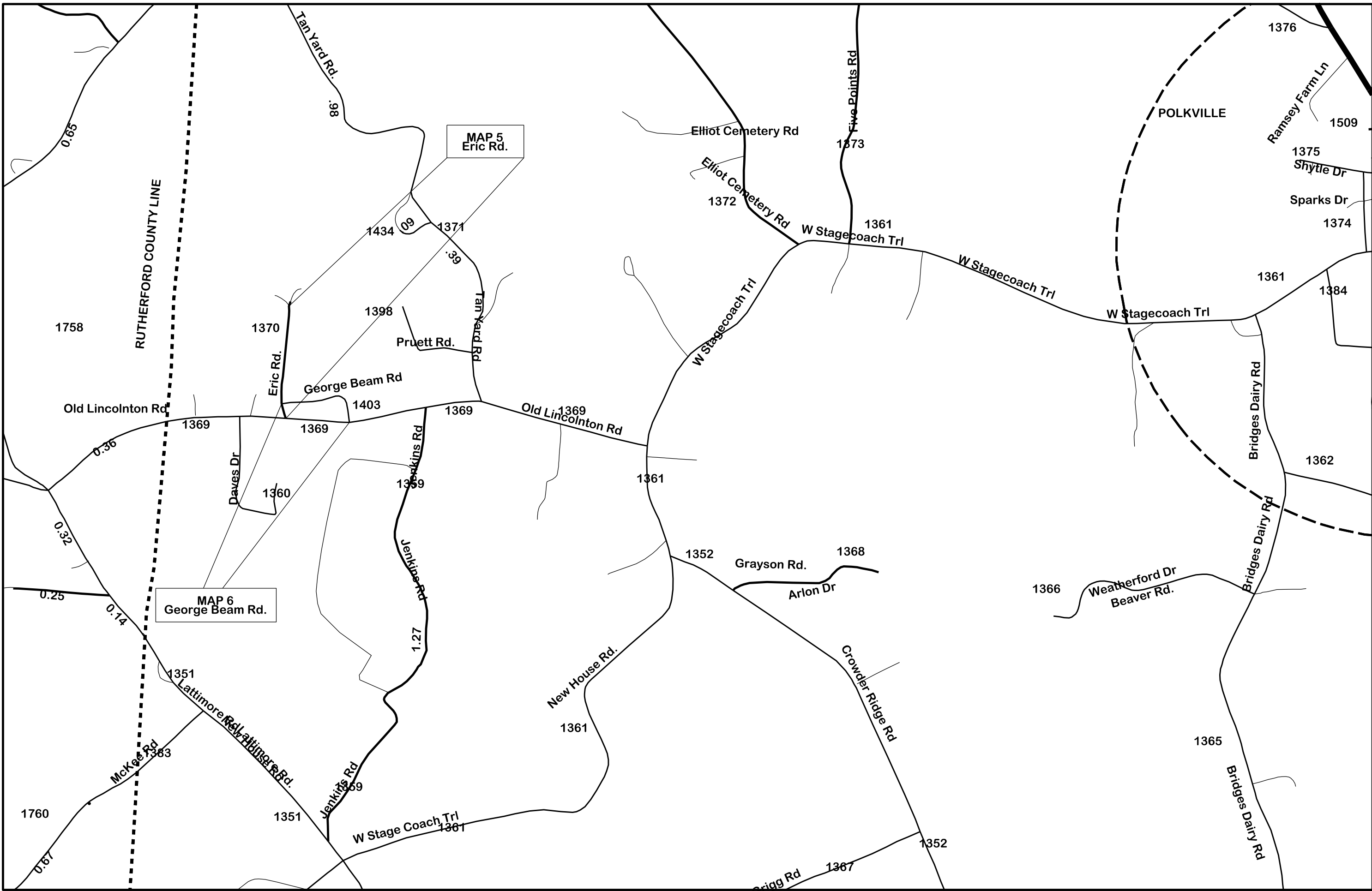


**CLEVELAND COUNTY**  
 2024CPT.12.03.10231  
 2024CPT.12.03.20231



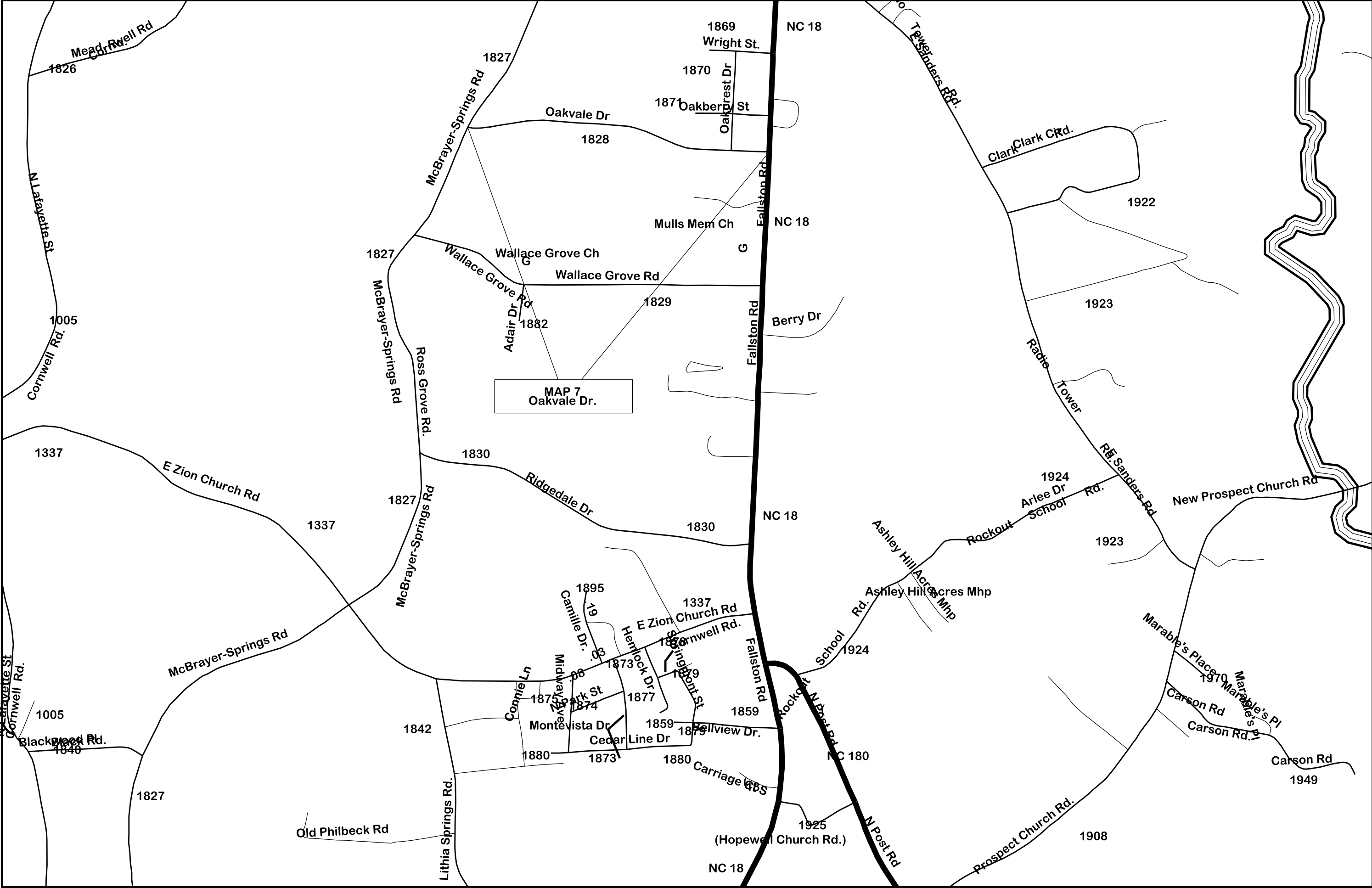
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 2024CPT:12.03.10231  
 2024CPT:12.03.20231





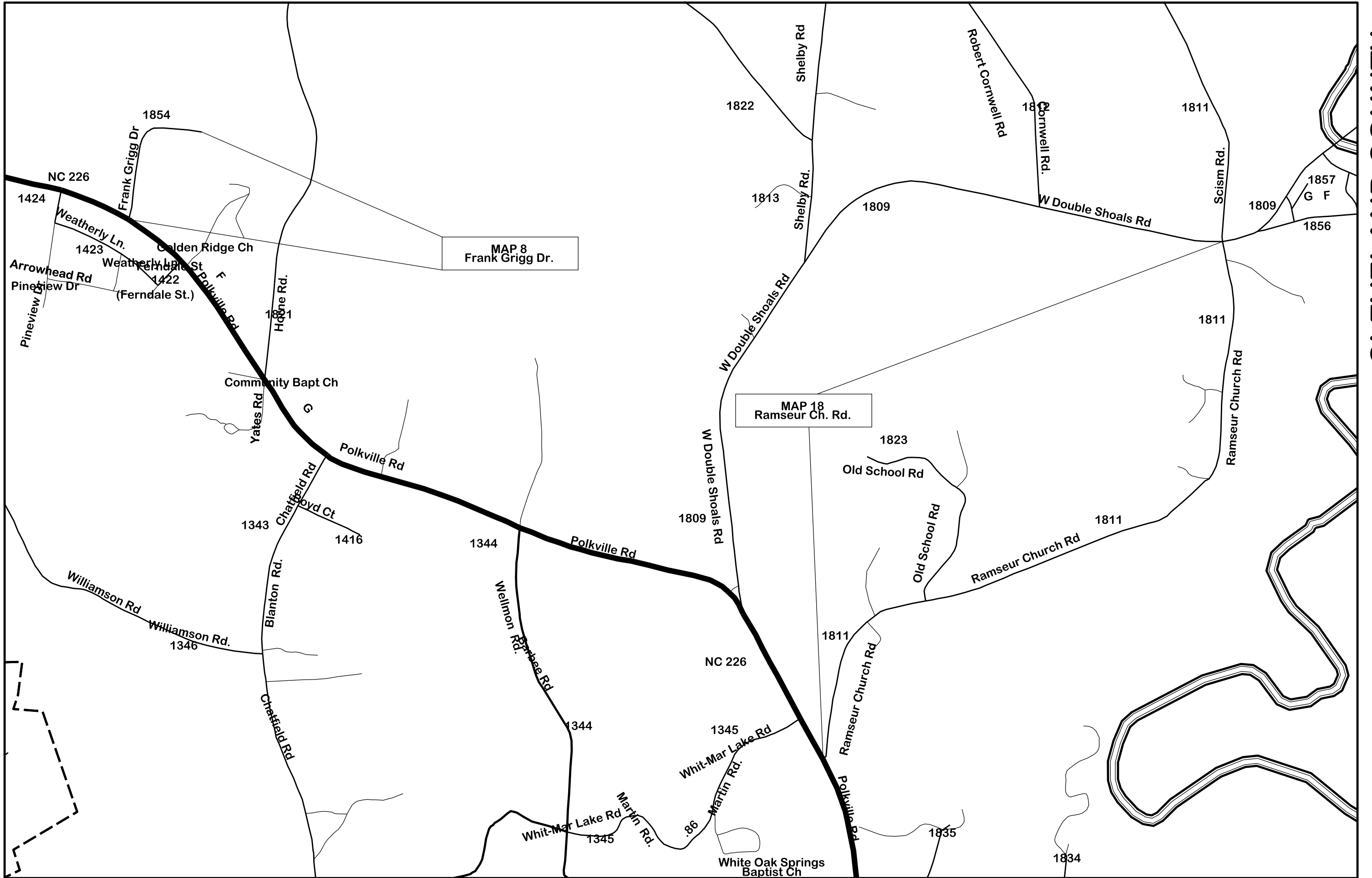
**CLEVELAND COUNTY**  
 2024CPT.12.03.10231  
 2024CPT.12.03.20231





**CLEVELAND COUNTY**  
 2024CPT.12.03.10231  
 2024CPT.12.03.20231





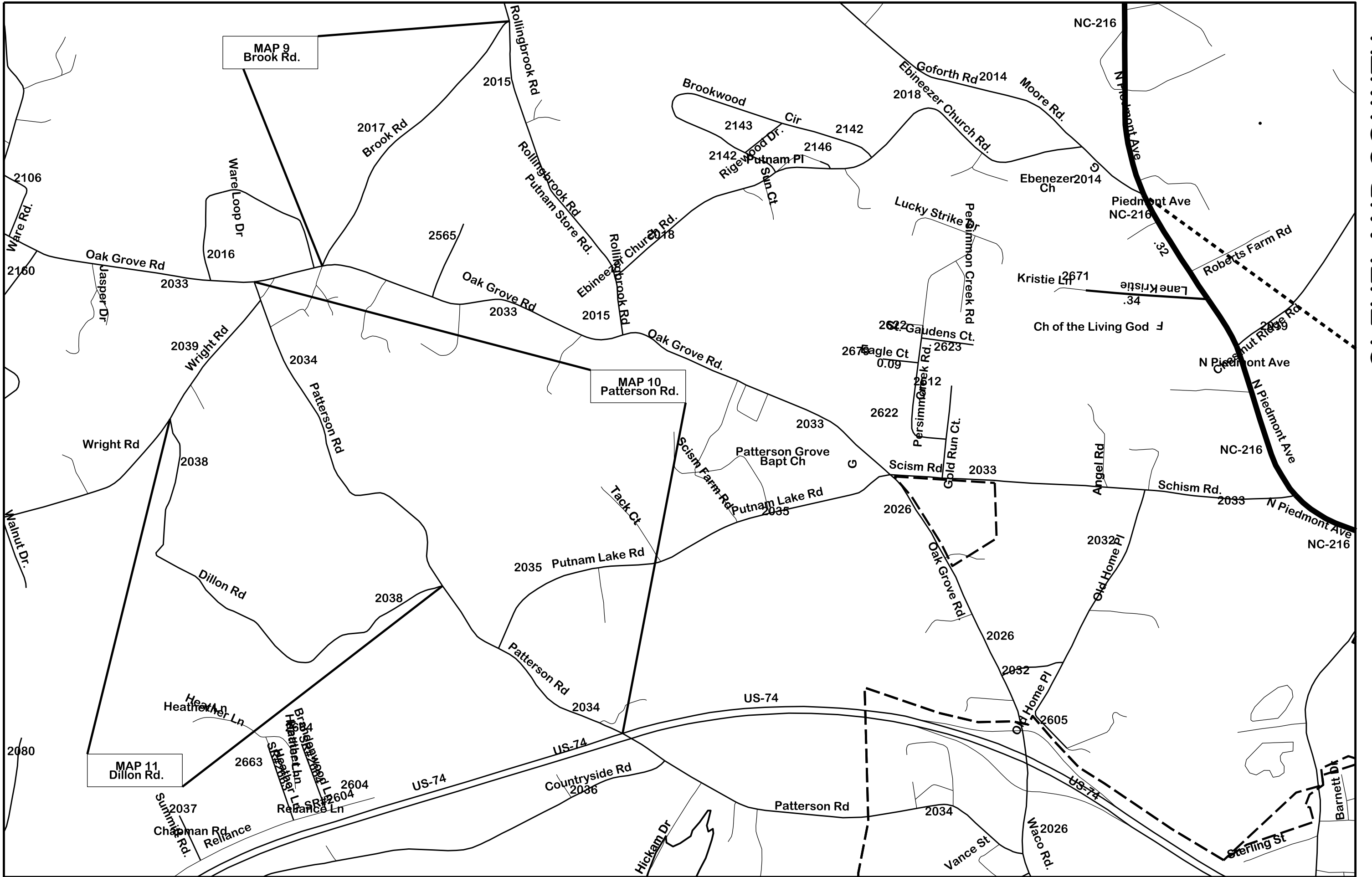
MAP 8  
Frank Grigg Dr.

MAP 18  
Ramsour Ch. Rd.

CLEVELAND COUNTY  
2024CPT:12.03.10231  
2024CPT:12.03.20231

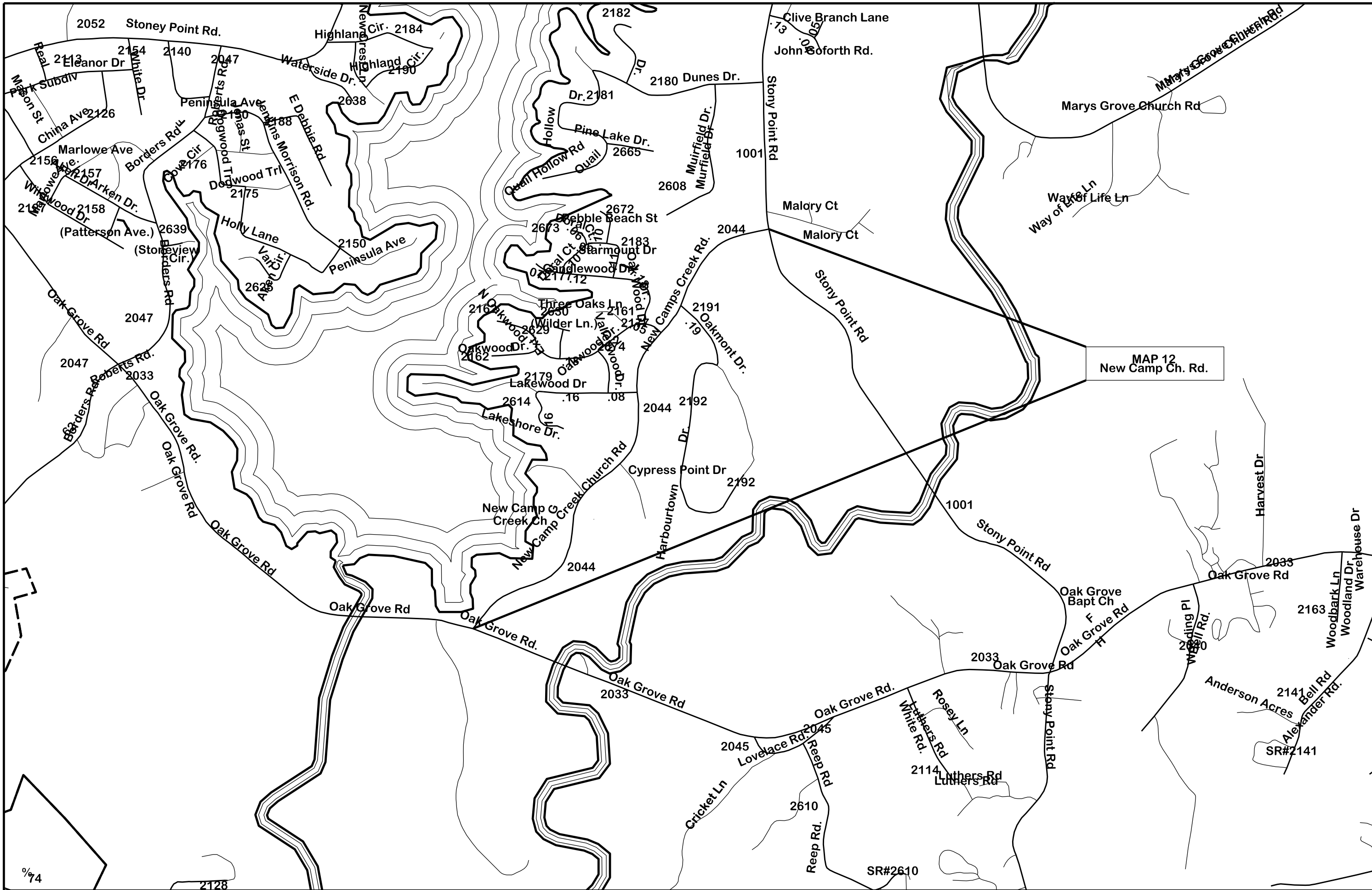






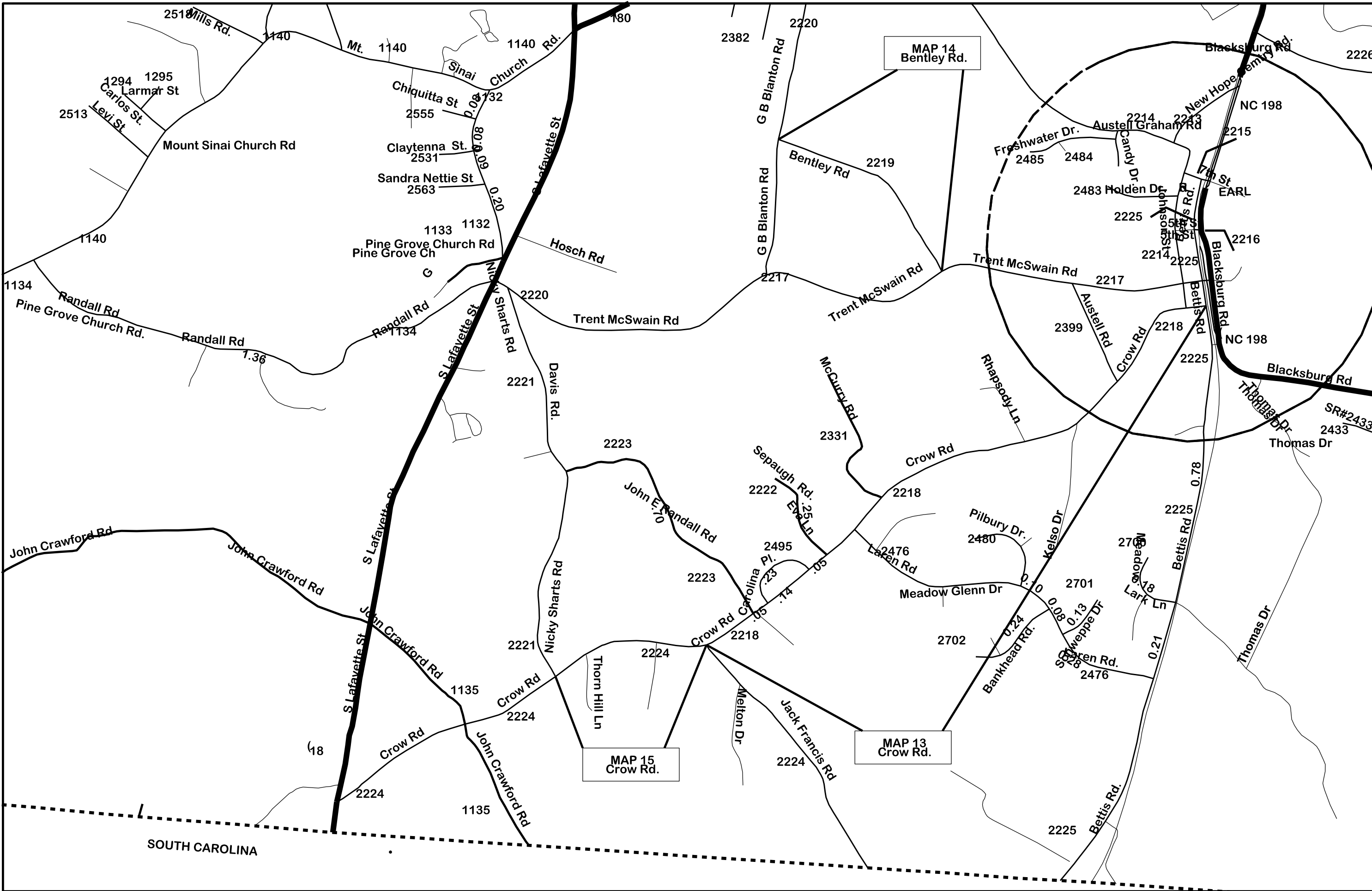
**CLEVELAND COUNTY**  
**2024CPT.12.03.10231**  
**2024CPT.12.03.20231**

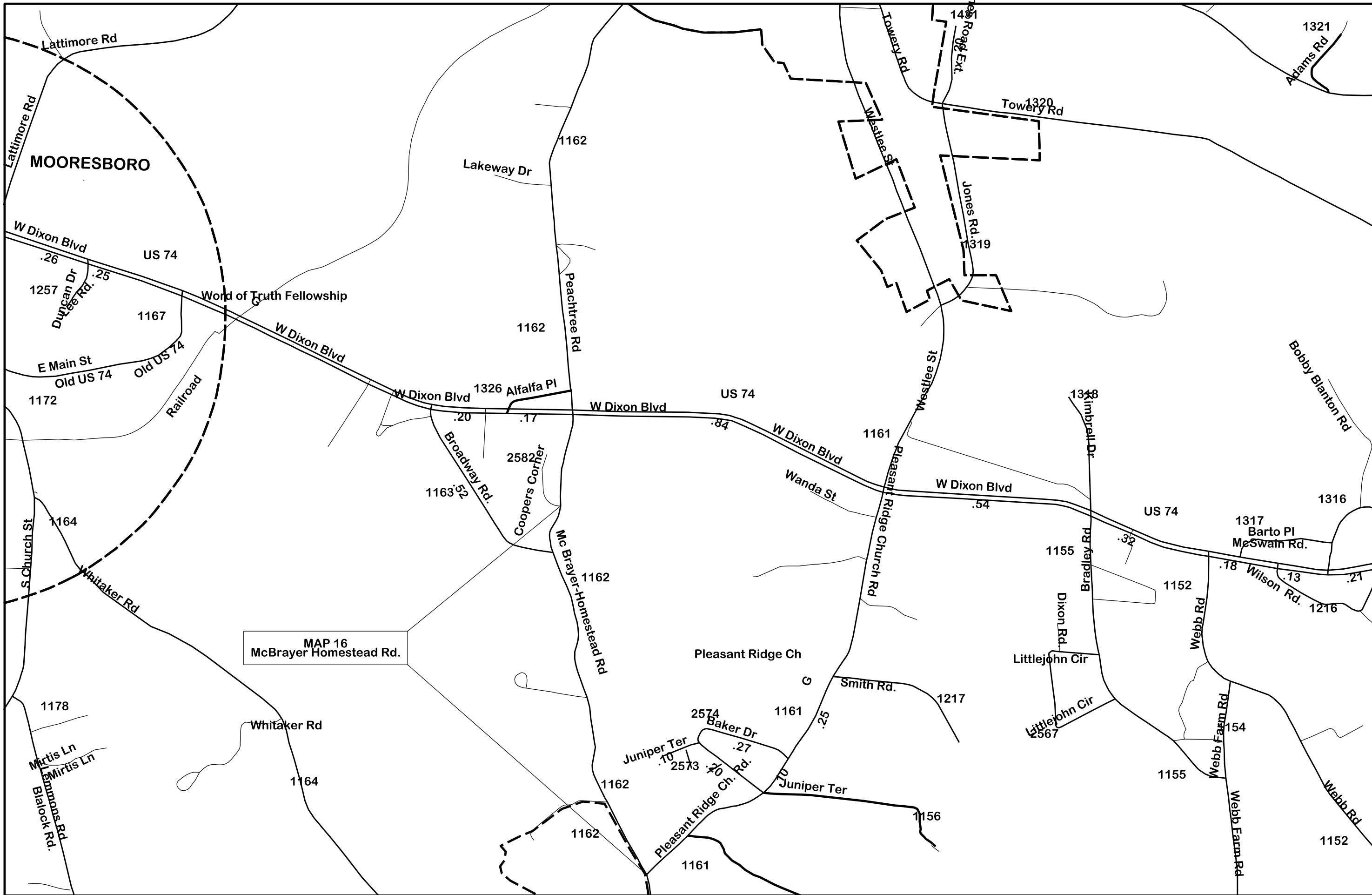




**CLEVELAND COUNTY**  
 2024CPT.12.03.10231  
 2024CPT.12.03.20231

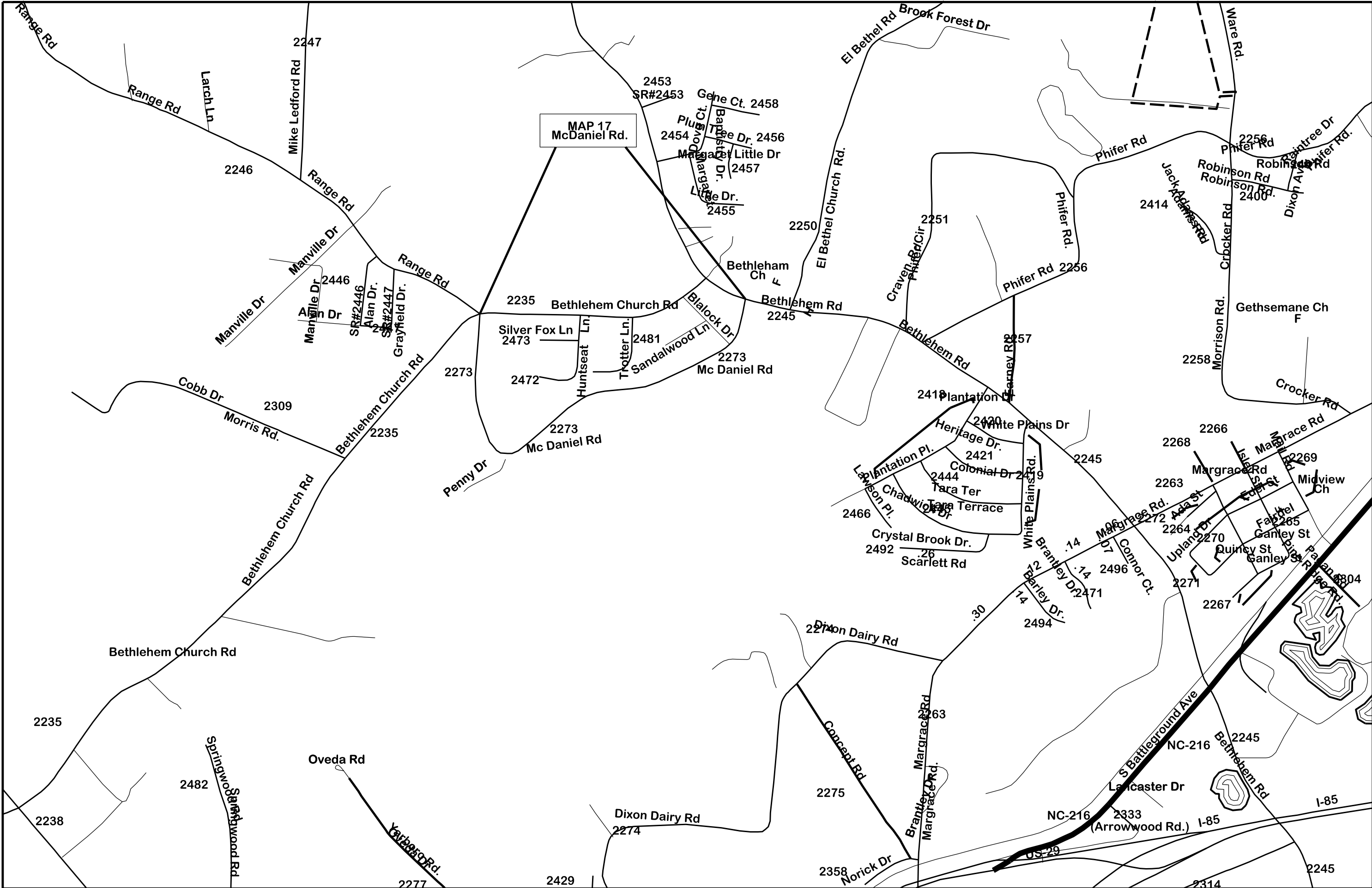






MAP 16  
McBrayer Homestead Rd.

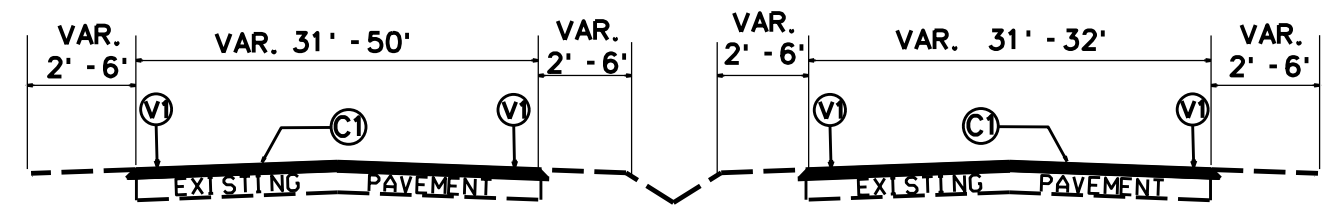




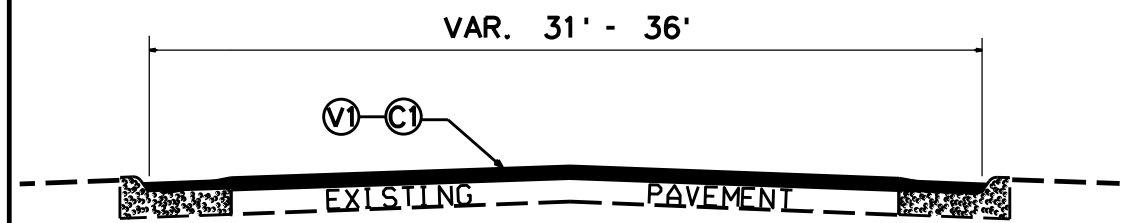
**CLEVELAND COUNTY**  
 2024CPT.12.03.10231  
 2024CPT.12.03.20231

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILL ASPHALT PAVEMENT APPROX. 1-1/2" AS DIRECTED BY ENGINEER
Y	SHOULDER RECONSTRUCTION
Z	INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER.

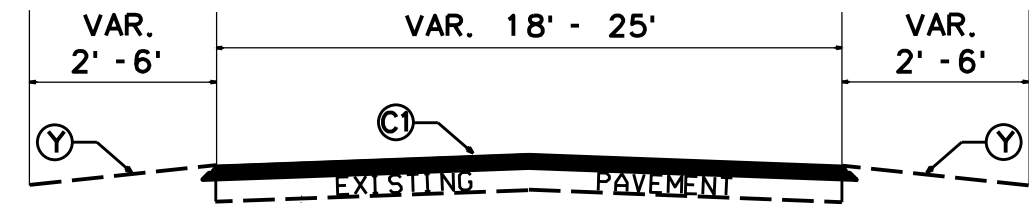
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
	14	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
2024CPT. 12. 03. 10231		
2024CPT. 12. 03. 20231		



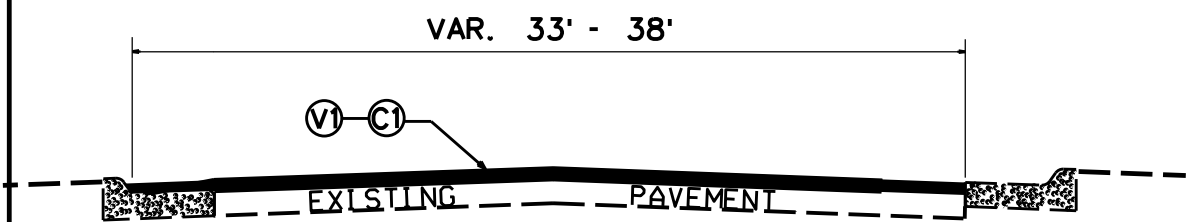
TYPICAL SECTION NO. 4  
(MAP 1)



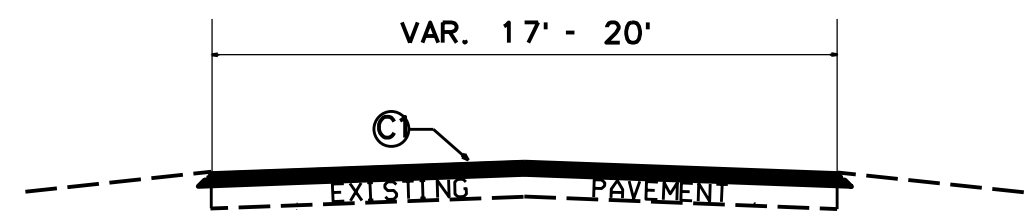
TYPICAL SECTION NO. 1  
(MAPS 1)



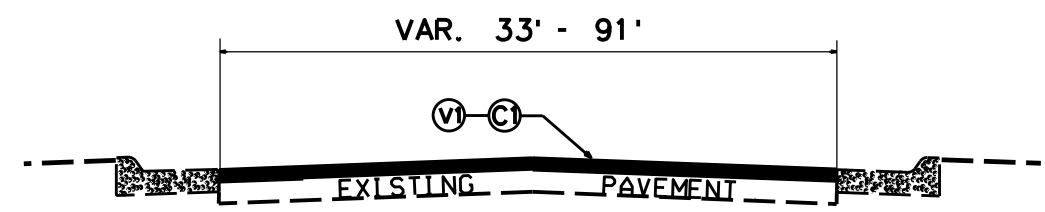
TYPICAL SECTION NO. 5  
(MAPS 3, 12, 13, 15, 16, 18)



TYPICAL SECTION NO. 2  
(MAP 1)



TYPICAL SECTION NO. 6  
(MAPS 2, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17)

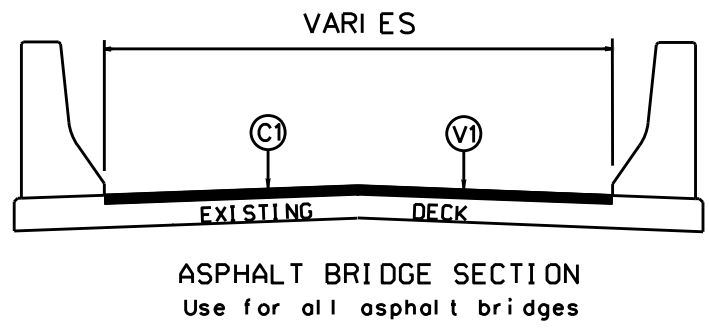


TYPICAL SECTION NO. 3  
(MAPS 1)

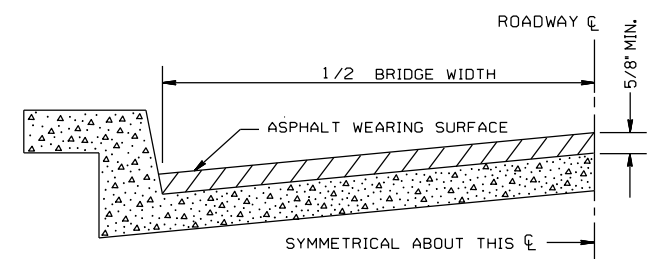
- NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
  2. MILL BRIDGE APPROACHES & RXR APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED.
  3. MILL INTO GUTTER LINE WHERE SHOWN AND AS DIRECTED.
  4. MAINTAIN PROPER CROWN FOR DRAINAGE OF THE ROAD SURFACE.
  5. ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
  6. BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
	15	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
2024CPT. 12. 03. 10231		
2024CPT. 12. 03. 20231		

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILL ASPHALT PAVEMENT APPROX. 1-1/2" AS DIRECTED BY ENGINEER
Y	SHOULDER RECONSTRUCTION
Z	INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER.

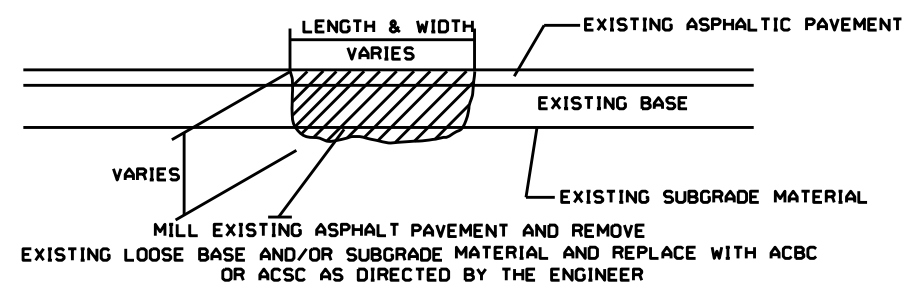


**DETAIL E**  
**BRIDGE HALF TYPICAL SECTION**

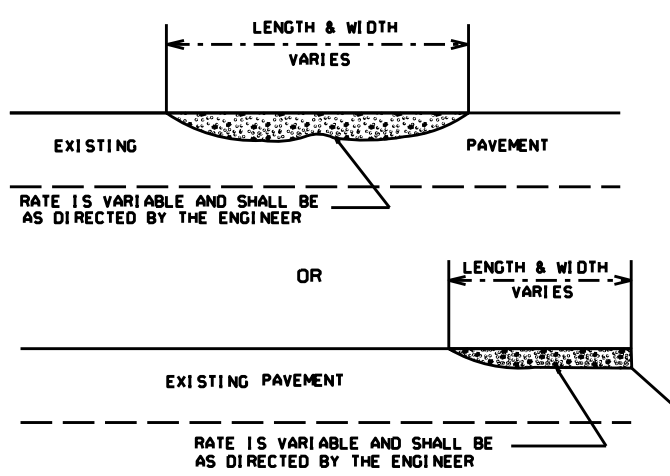
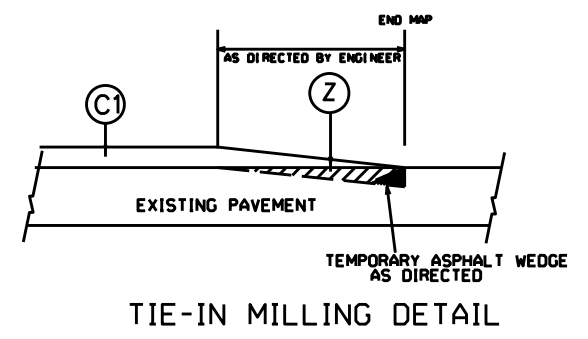
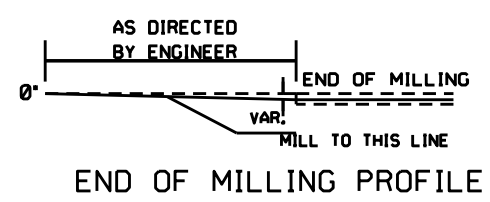
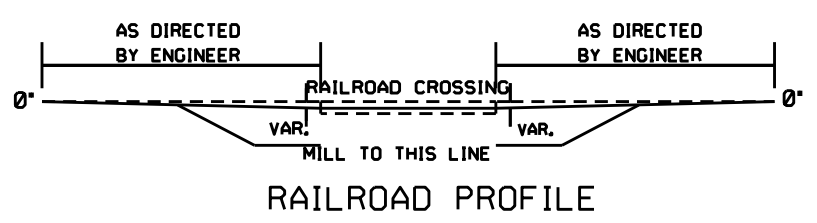
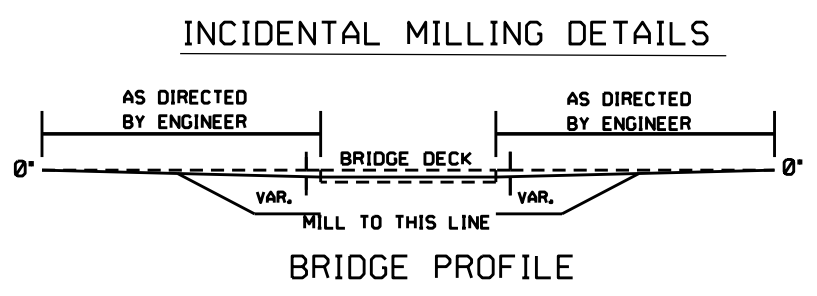


FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

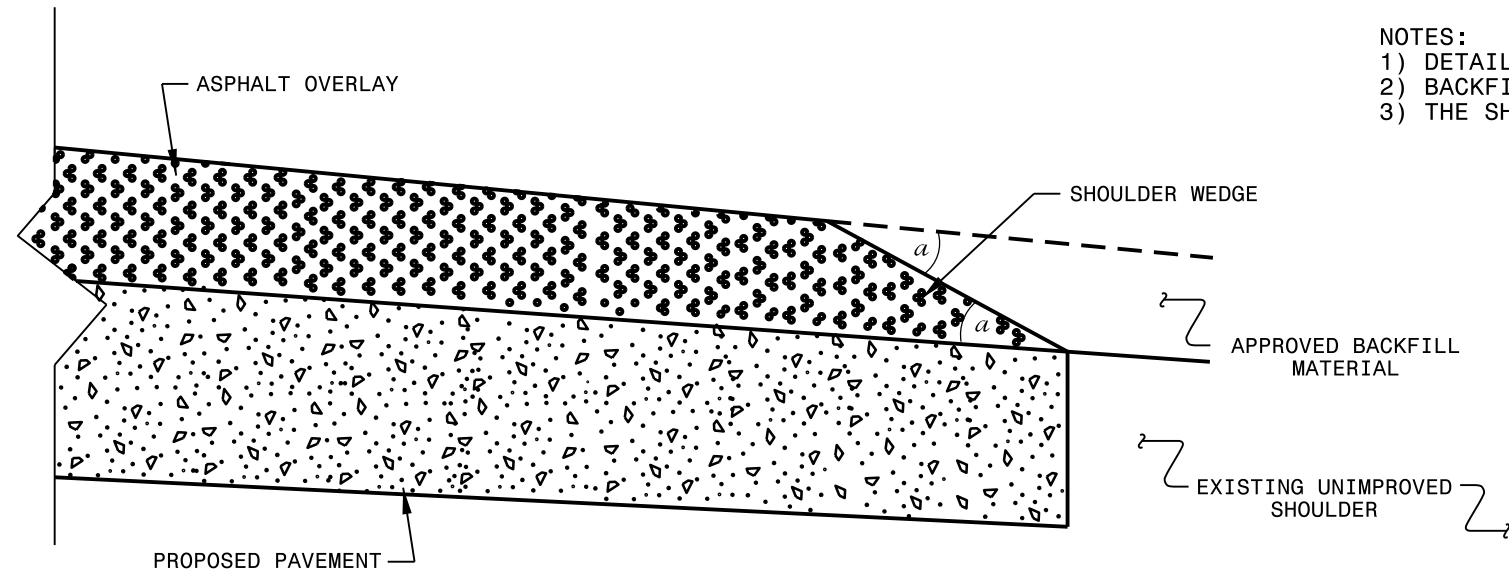


**PATCHING EXISTING PAVEMENT DETAIL**

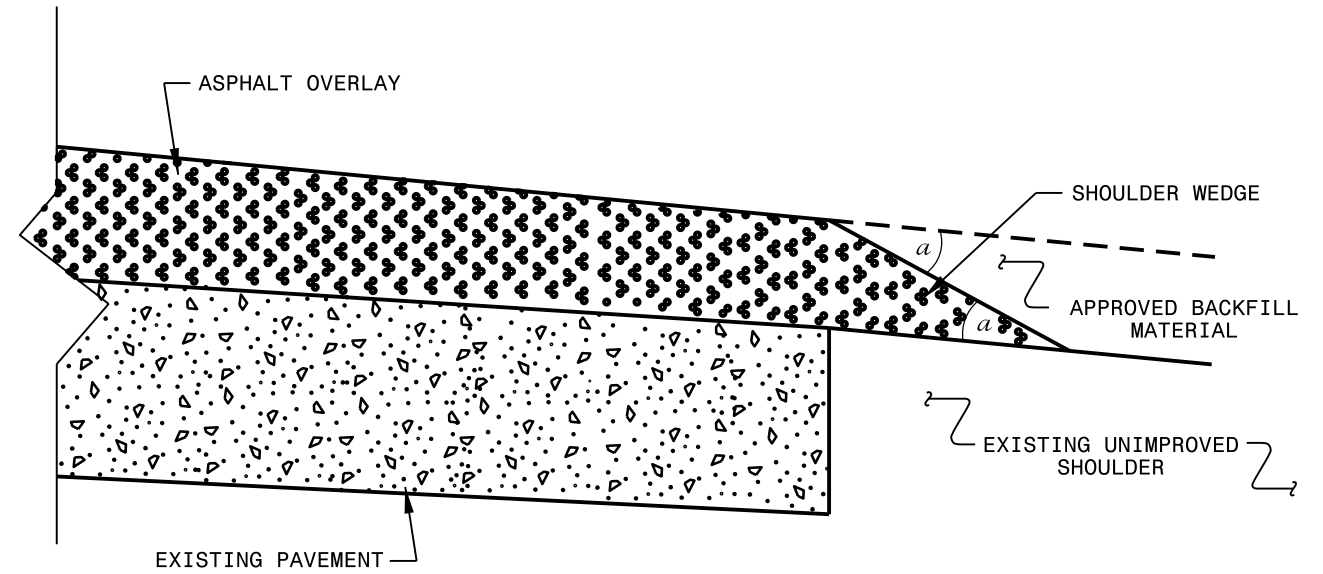


- NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
  2. MILL BRIDGE APPROACHES & RXR APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED.
  3. MILL INTO GUTTER LINE WHERE SHOWN AND AS DIRECTED.
  4. MAINTAIN PROPER CROWN FOR DRAINAGE OF THE ROAD SURFACE.
  5. ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
  6. BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

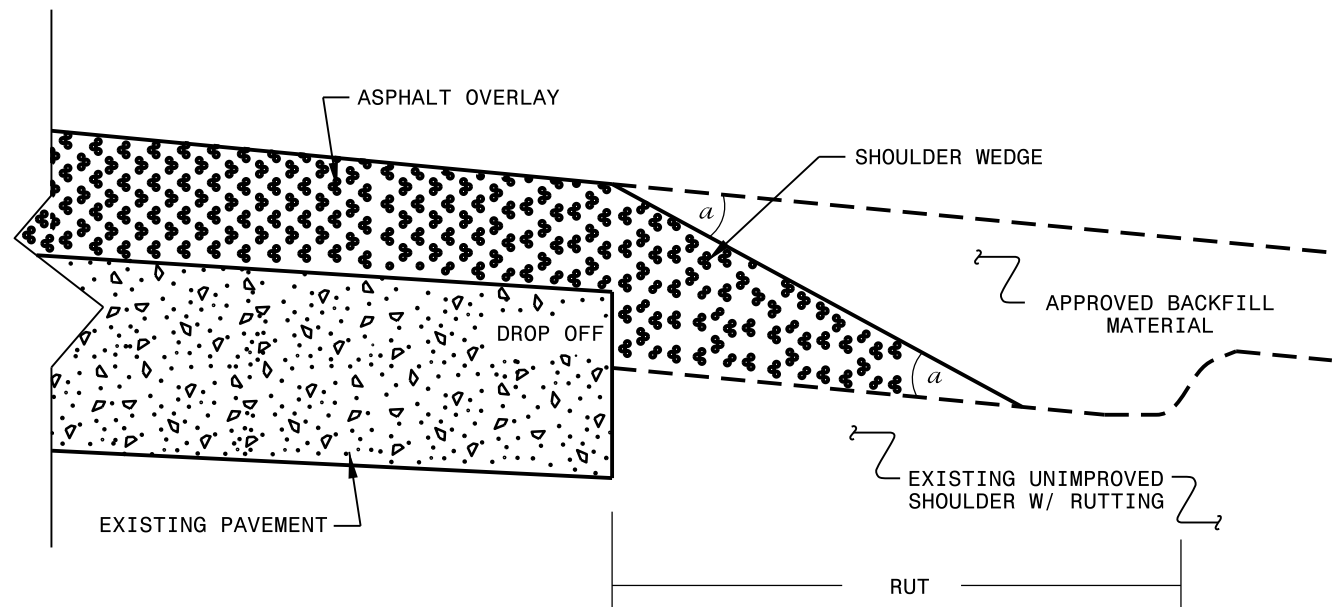
- NOTES:  
 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.  
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ Widening or  
 with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ NO Widening)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

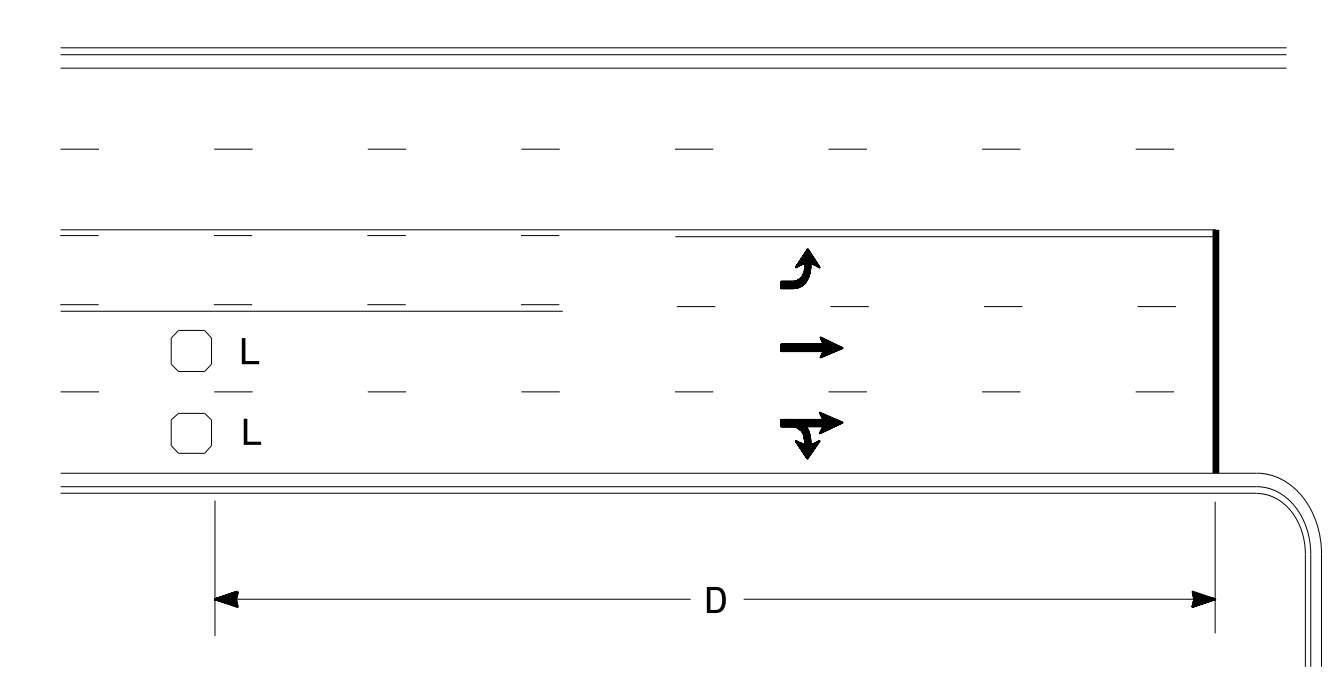
- SHOULDER WEDGE ANGLE = 30°

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>SHOULDER WEDGE DETAILS</b>	
ORIGINAL BY: T.SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 10/16/12
CHECKED BY:	DATE:
FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn	

SYSTEM: 12/11/11 10:00 AM  
 USER: T.SPELL  
 FILE: susr/details/stand/shoulderwedgedetail.dgn



### High Speed Detection (≥40 mph)

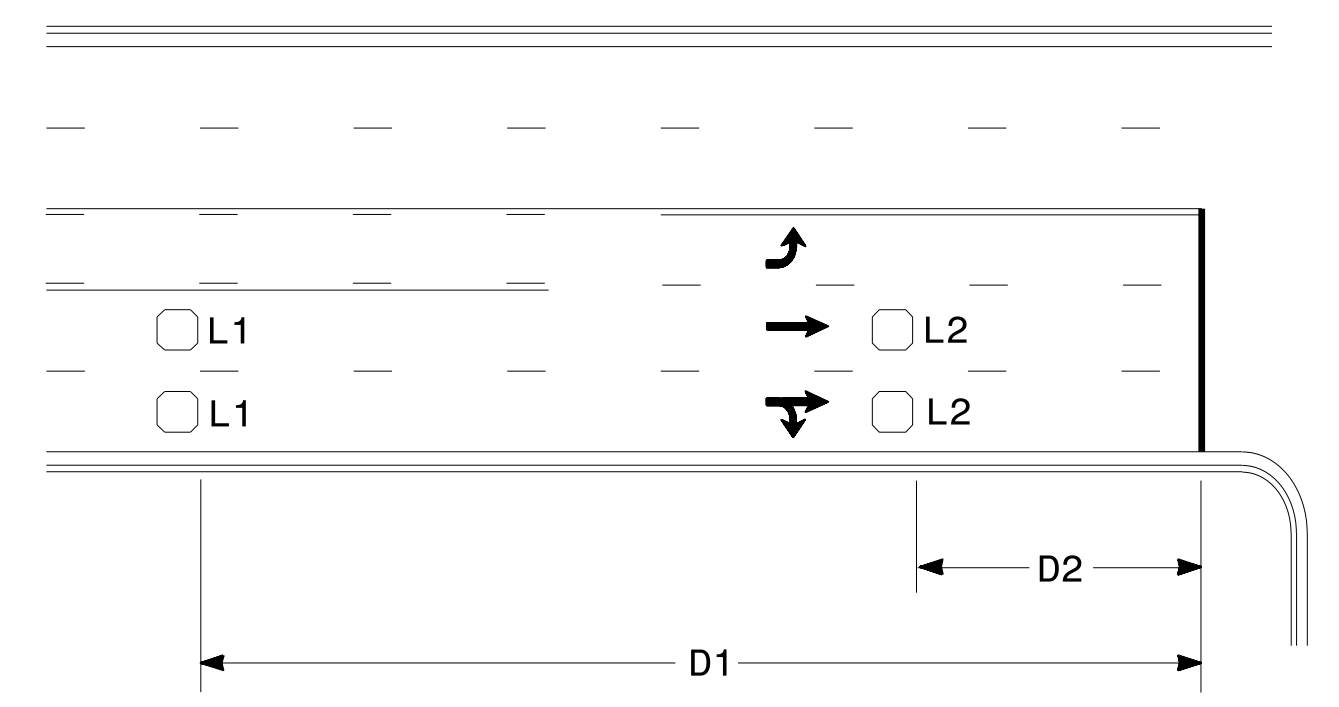


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

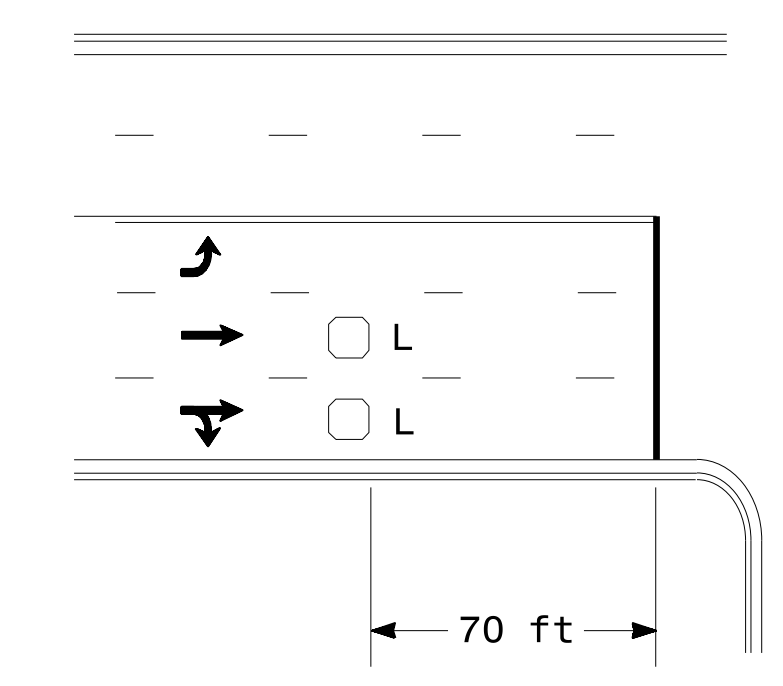


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series  
L2 = 6ft X 6ft  
Wired in series

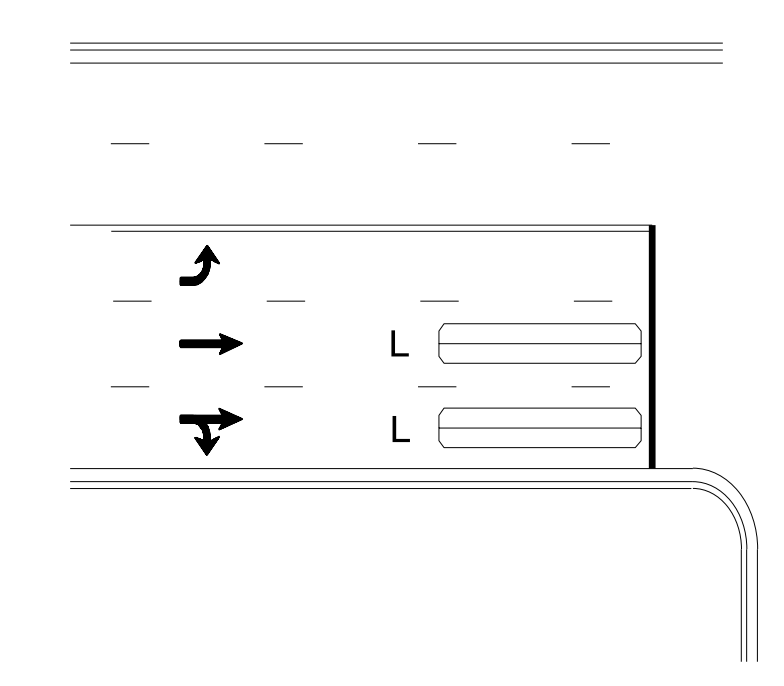
"Stretch" Operation

### Low Speed Detection (≤35 mph)



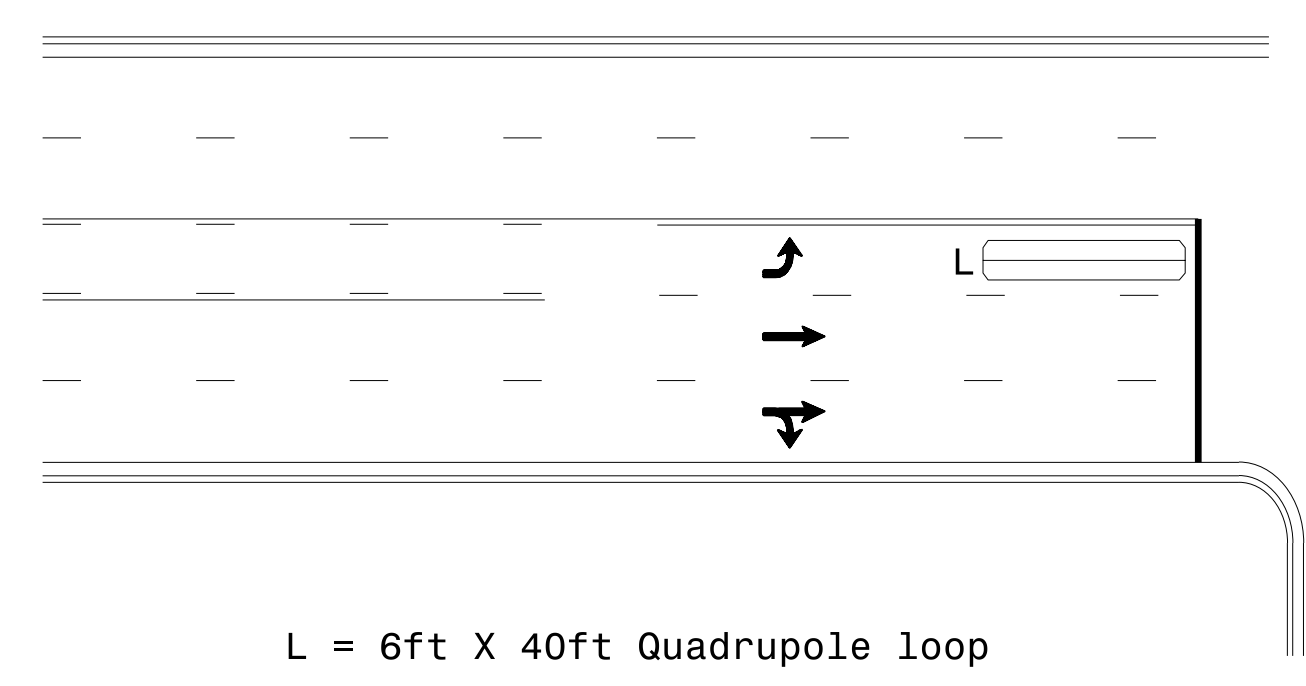
L = 6ft X 6ft  
Wired in series

OR



L = 6ft X 40ft  
Quadrupole loop, wired separately

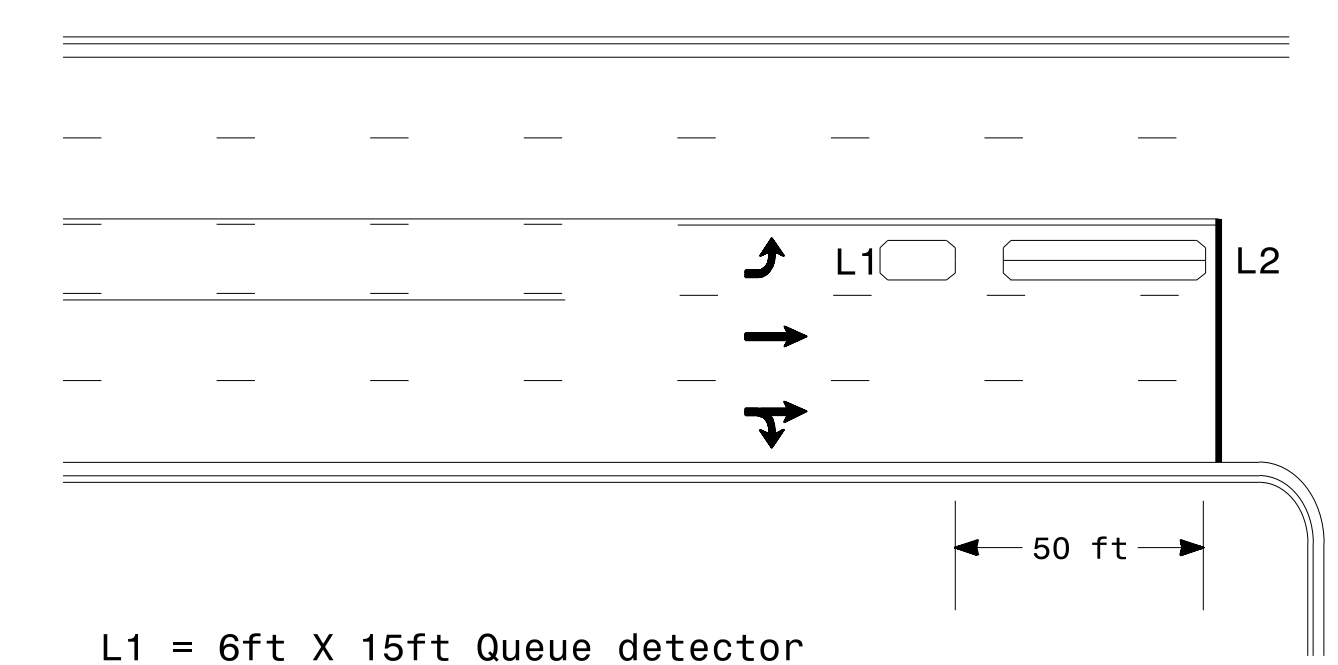
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

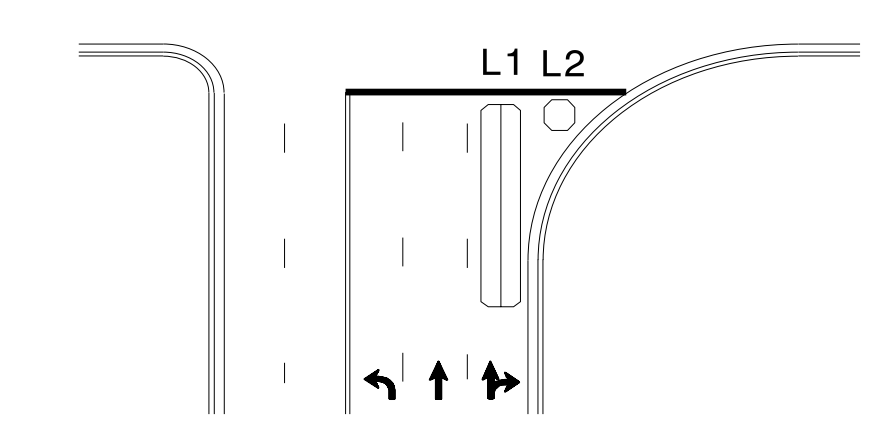
OR



L1 = 6ft X 15ft Queue detector  
L2 = 6ft X 40ft Quadrupole loop

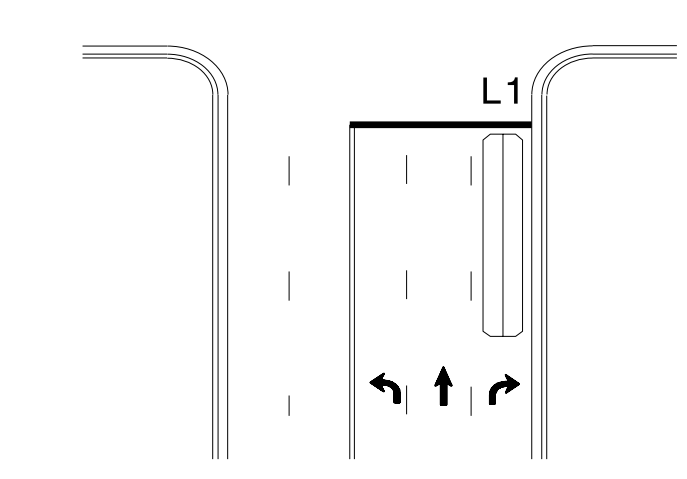
Queue Loop Detection

### Right Turn Lane Detection

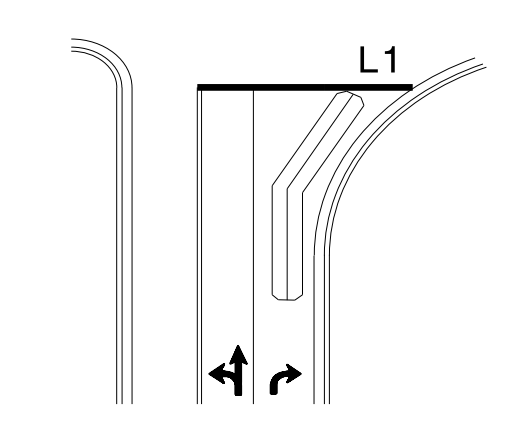


Shared Lane/  
Wide Radius Turn

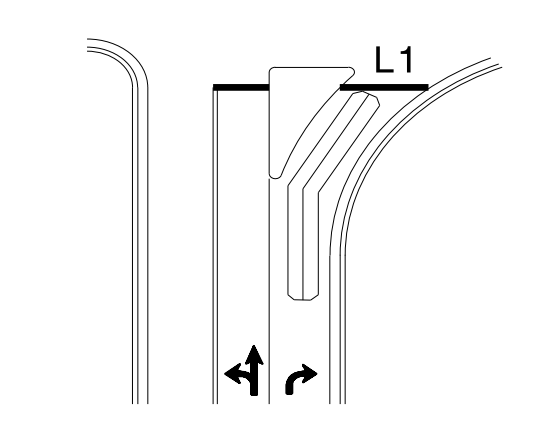
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

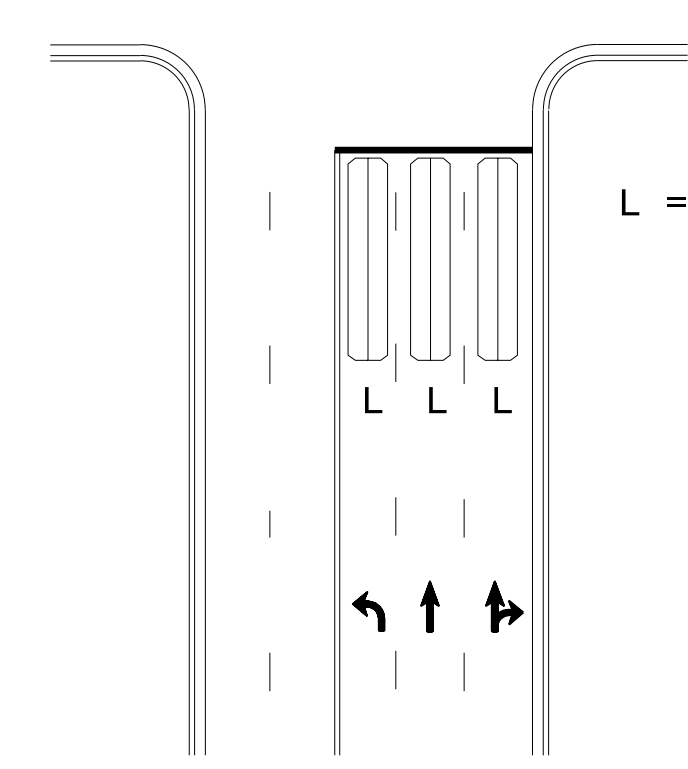


Wide Radius Turn



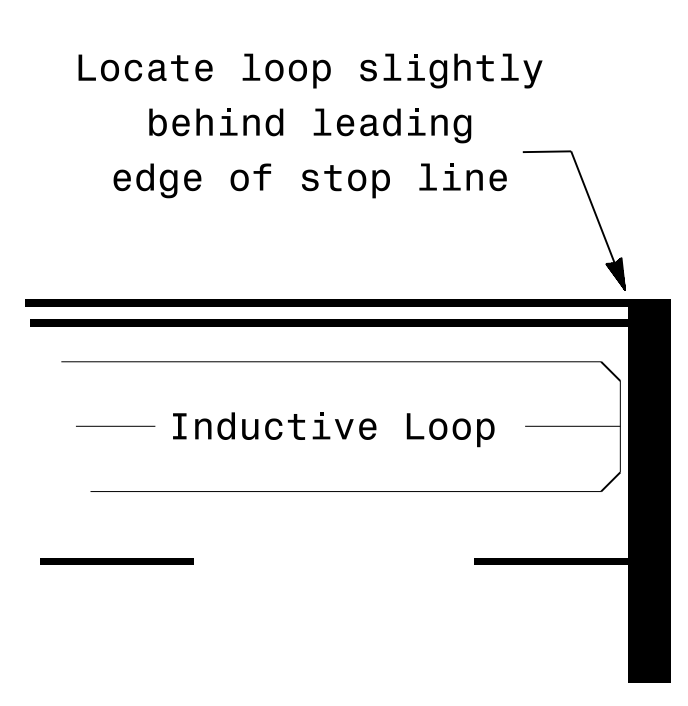
Channelized Turn

### Side Street Detection



L = 6ft X 40ft  
Quadrupole loop  
Wired to separate  
detectors/channels

### Presence Loop Placement at Stop Lines



Locate loop slightly  
behind leading  
edge of stop line

Note:  
Loop may be located in advance  
of stop line under any of the  
following conditions:  
1) stop line is greater than 15'  
from edge of intersecting  
roadway  
2) loop detects a permissive or  
protected/permissive left turn  
3) for an exclusive right turn  
lane

### Recommended Number of Turns

Single 6' X 6' loop  
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns  
6' X 15' Loops:  
Lead-in < 150', use 2 turns  
Lead-in > 150', use 3 turns

750 N. Greenfield Pkwy, Garner, NC 27529

#### Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

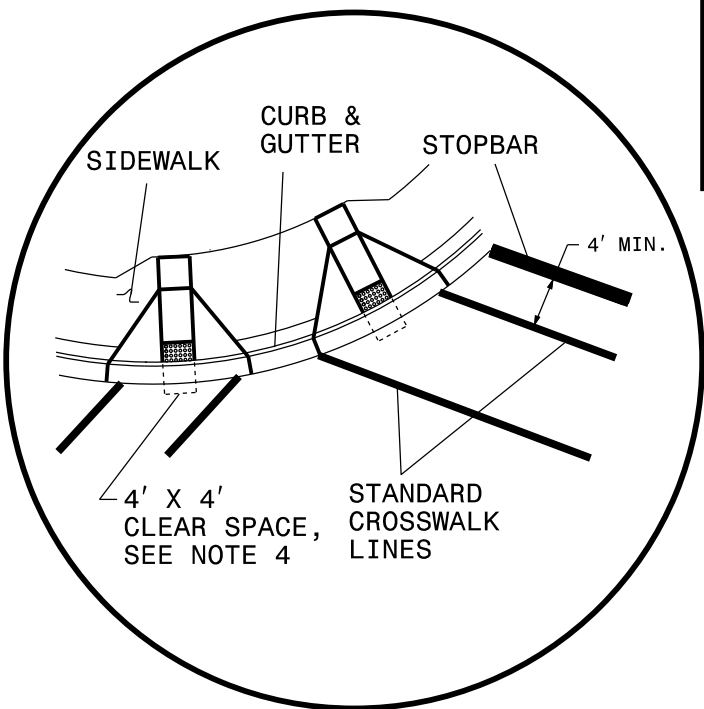
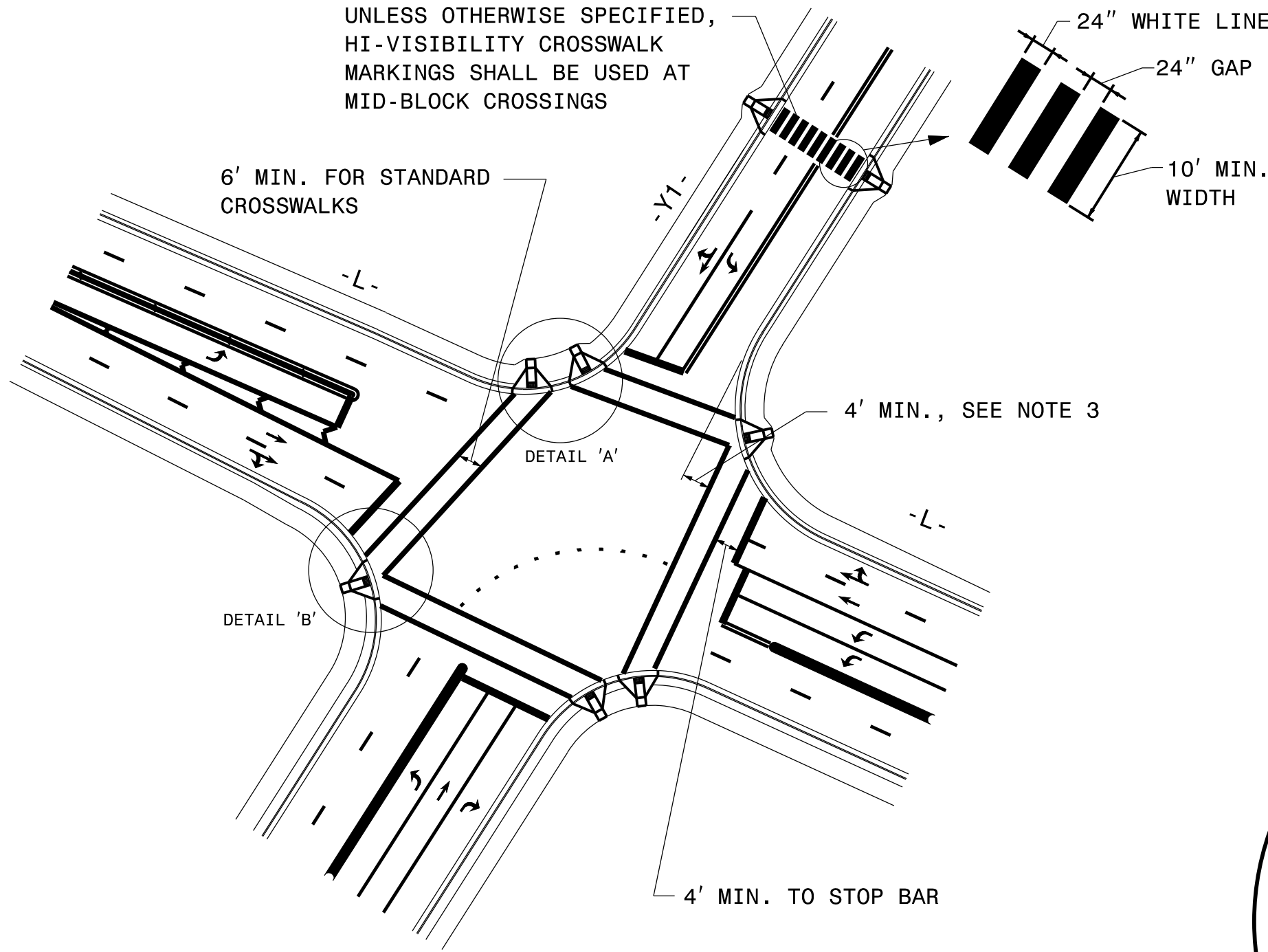
SCALE: N/A

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
PAMELA L. ALEXANDER  
23489

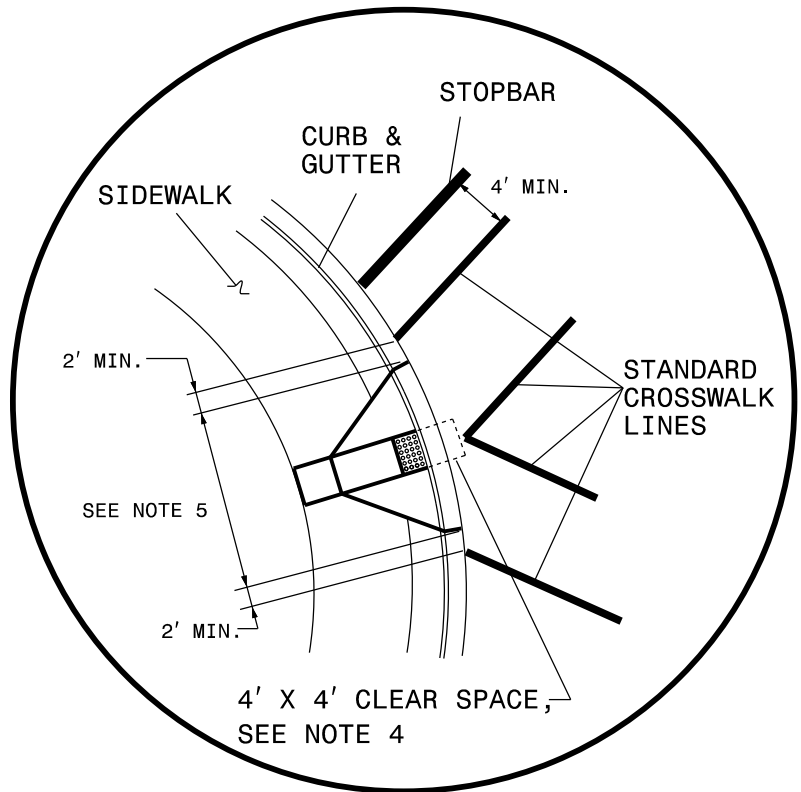
DocuSigned by:  
*P. Alexander*  
1/30/2015 11:30:00 AM  
DATE

SIG. INVENTORY NO.

3D:\4146-2015-12-29  
 S:\4146\4146-TS-Signal\Signal Design\Section\Eastern\Region\loop\ypj\ca\2015.dgn  
 paalexander



DETAIL 'A'- DUAL CURB RAMPS



DETAIL 'B'- SINGLE DIAGONAL CURB RAMP

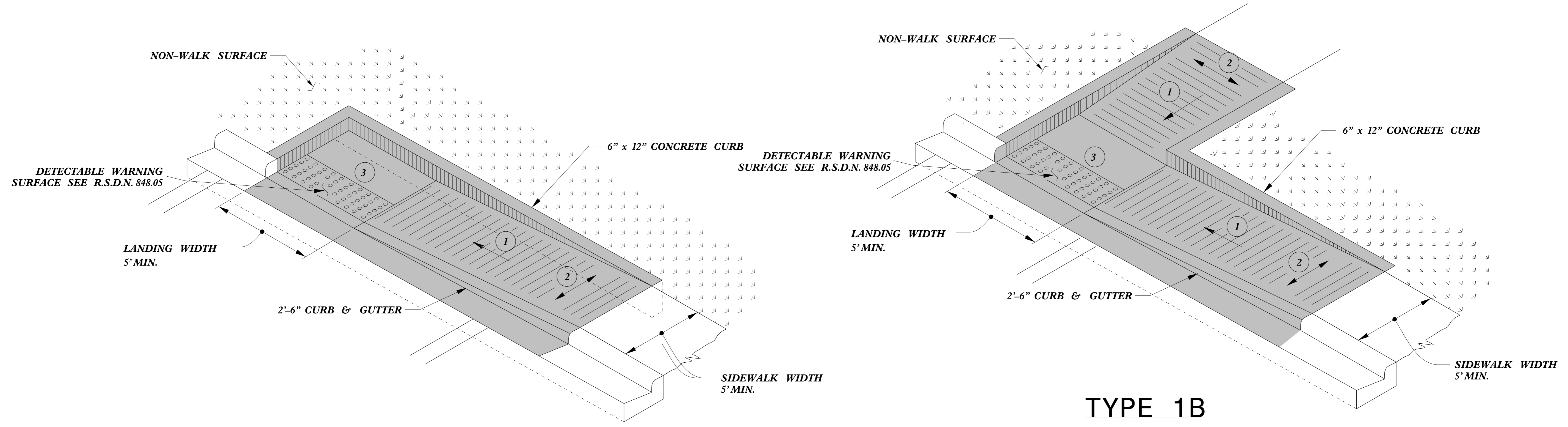
**GUIDANCE DETAIL FOR CROSSWALK MARKINGS**

**NOTES:**

1. USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS NOT STATIONED ON THE DETAIL SHEETS OR WHEN FIELD ADJUSTMENTS REQUIRED MOVING STATIONED MARKINGS AS DIRECTED BY THE ENGINEER. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.
2. THE CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. ONLY INSTALL CROSSWALK MARKINGS WHERE SHOWN ON THE DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALL AS SPECIFIED ON THE DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.
3. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.
4. BEYOND THE BOTTOM GRADE BRAKE, A CLEAR SPACE OF 4' X 4' MINIMUM SHALL BE PROVIDED WITHIN THE MARKINGS.
5. SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2 FEET LONG MINIMUM LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.
6. CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS.

\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DCN\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$

5/14/99

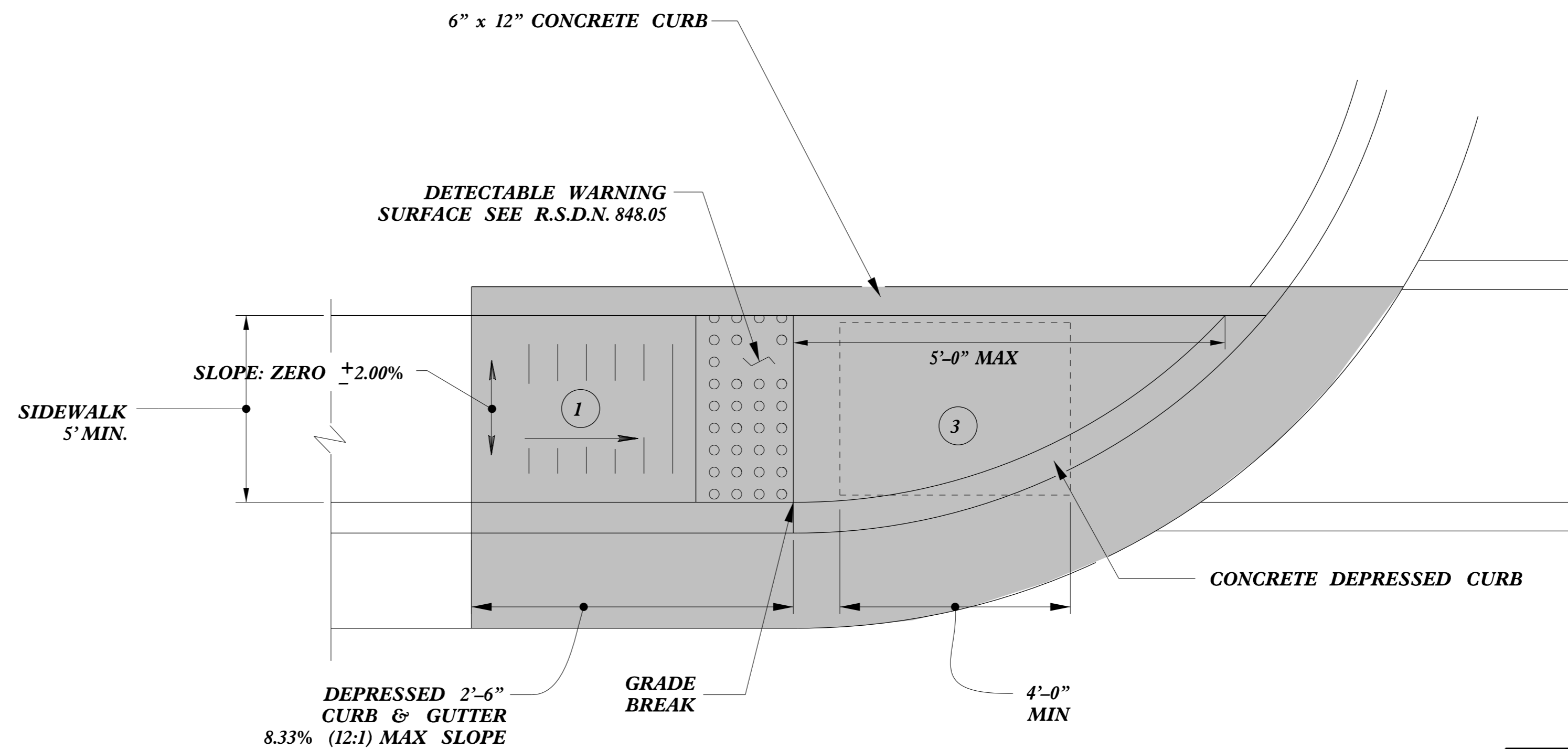


**TYPE 1A**

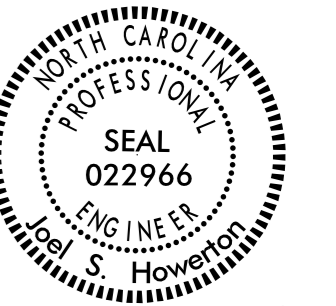
**TYPE 1B**

**PAY LIMITS FOR 1 CURB RAMP**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



**TYPE 1**

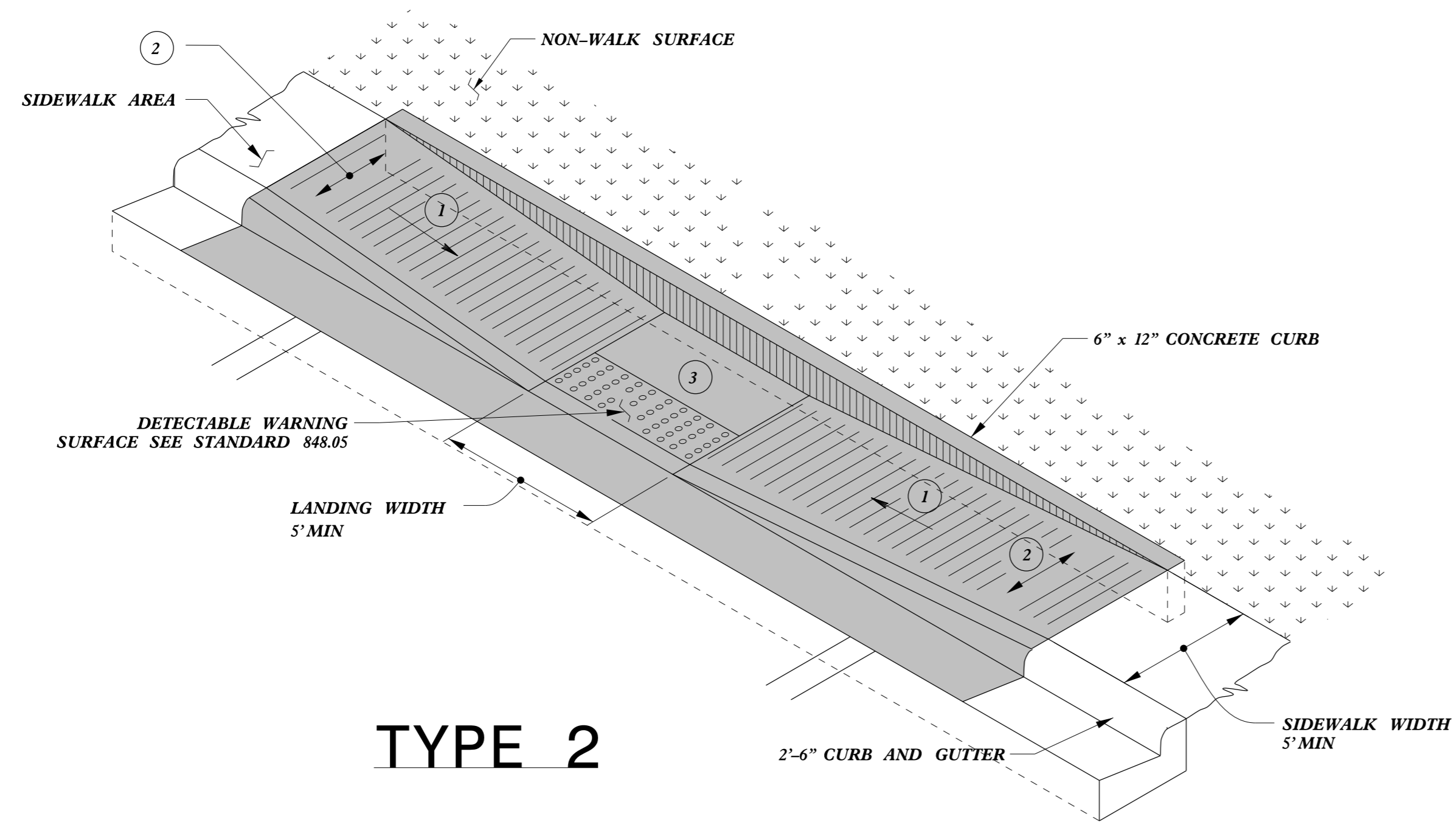


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<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

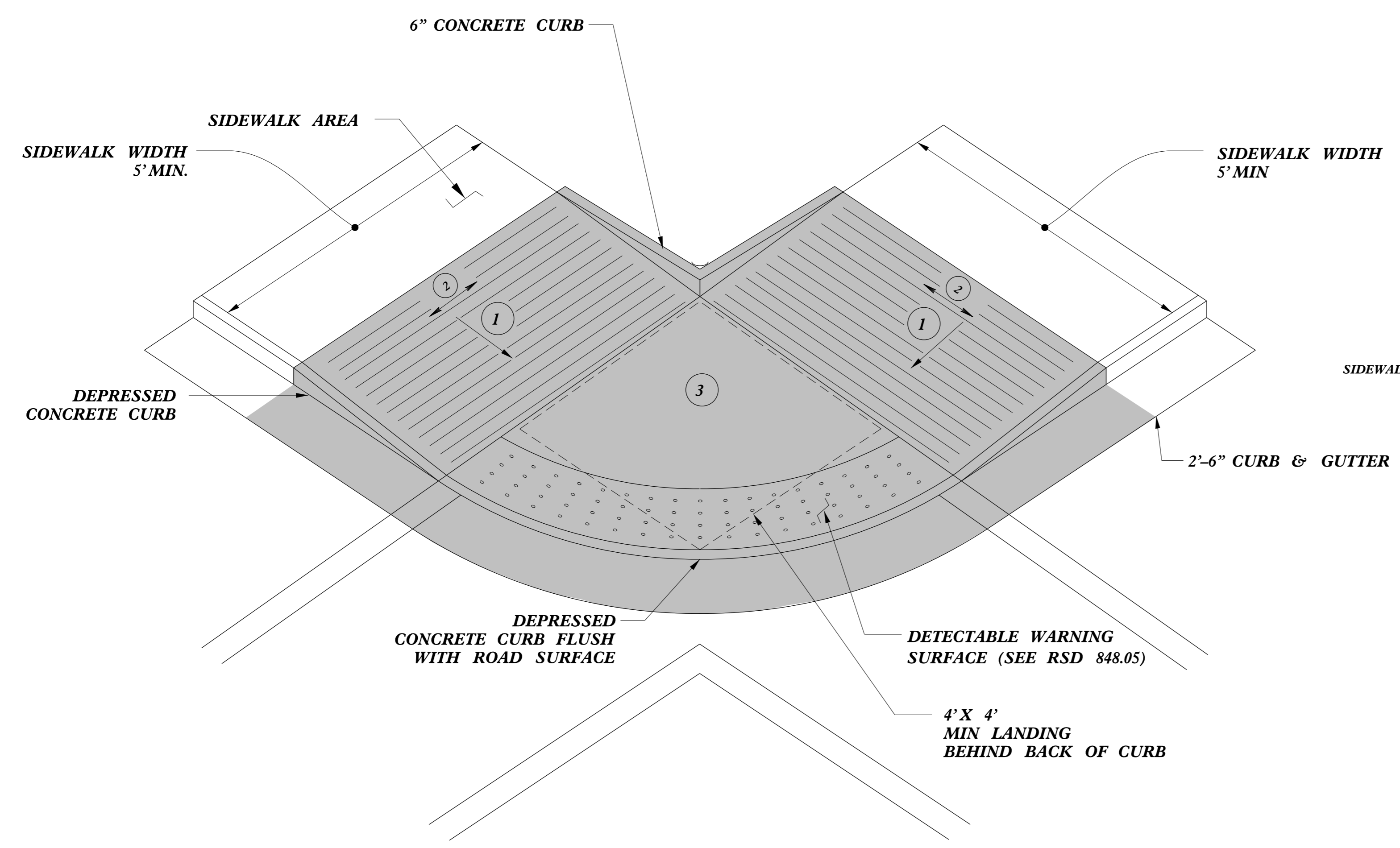
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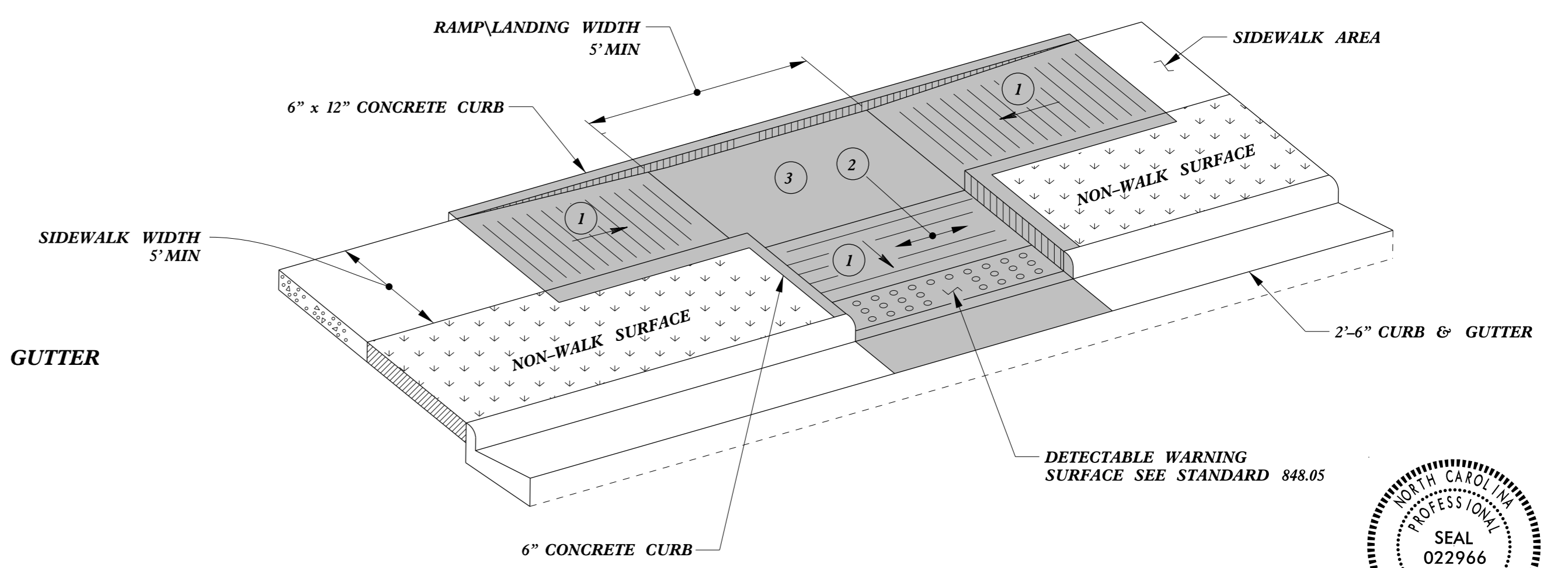
**TYPE 2**

**PAY LIMITS FOR 1 CURB RAMP**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



**TYPE 2A**



**TYPE 3**



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

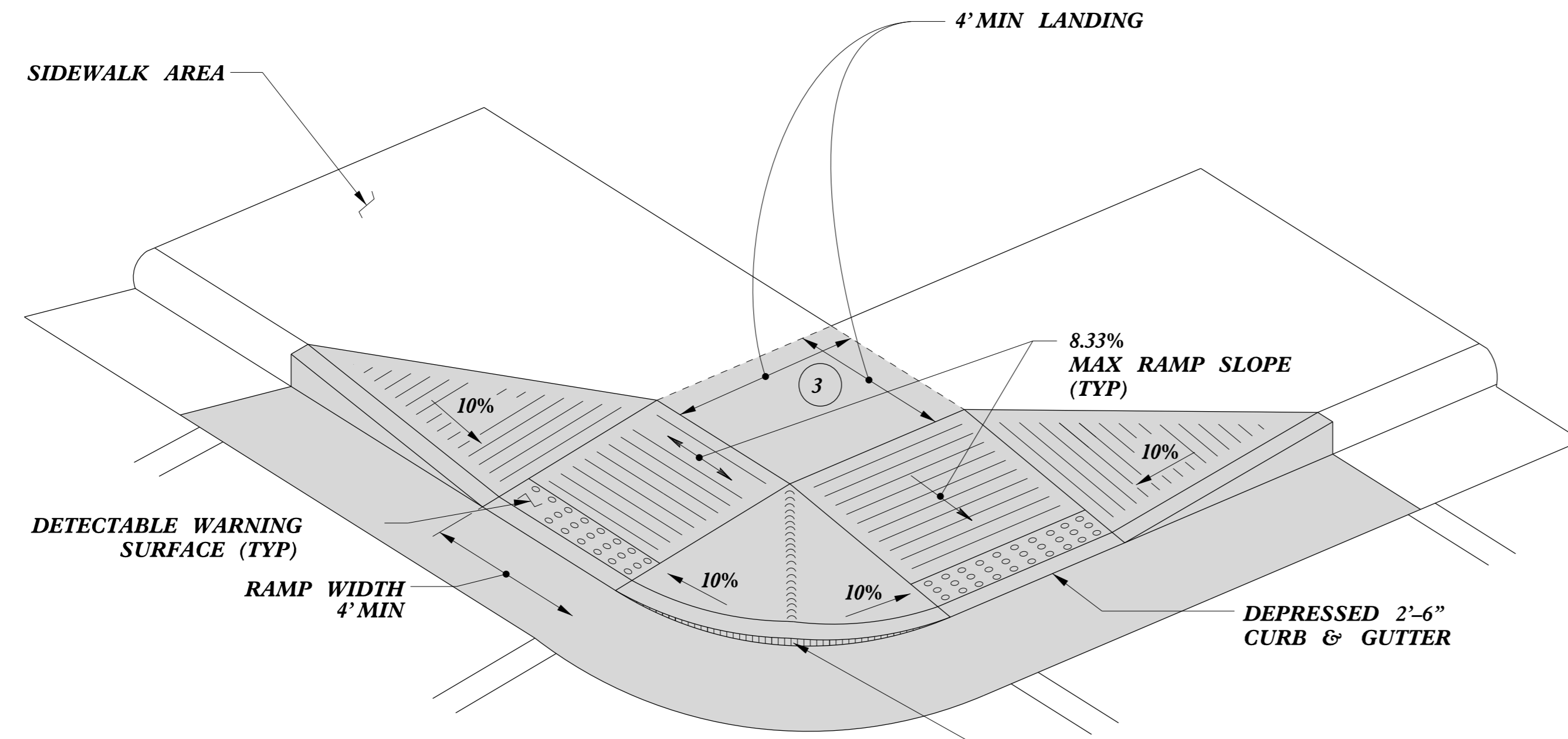
**CONTRACT STANDARDS  
AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**CURB RAMPS**  
Parallel Ramps

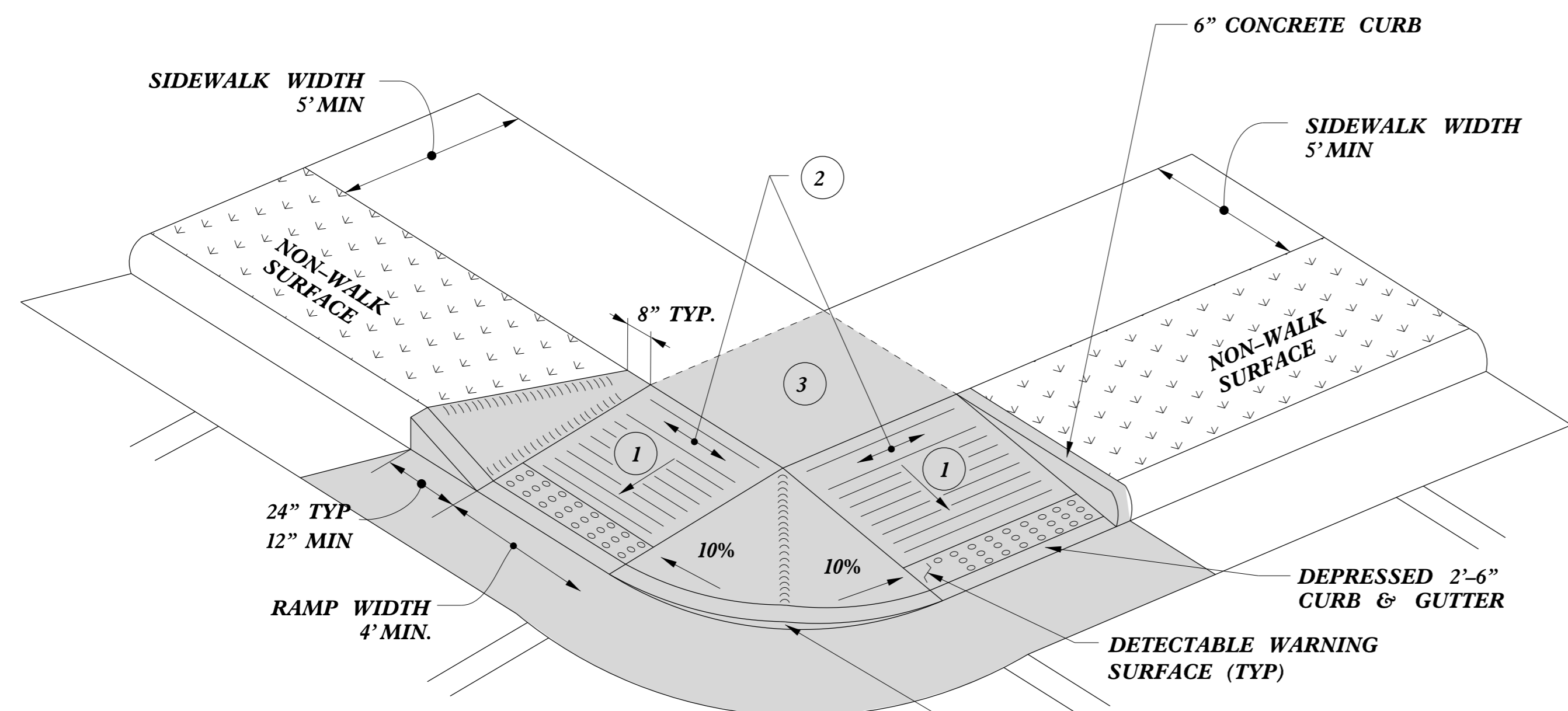
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
 MODIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
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REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

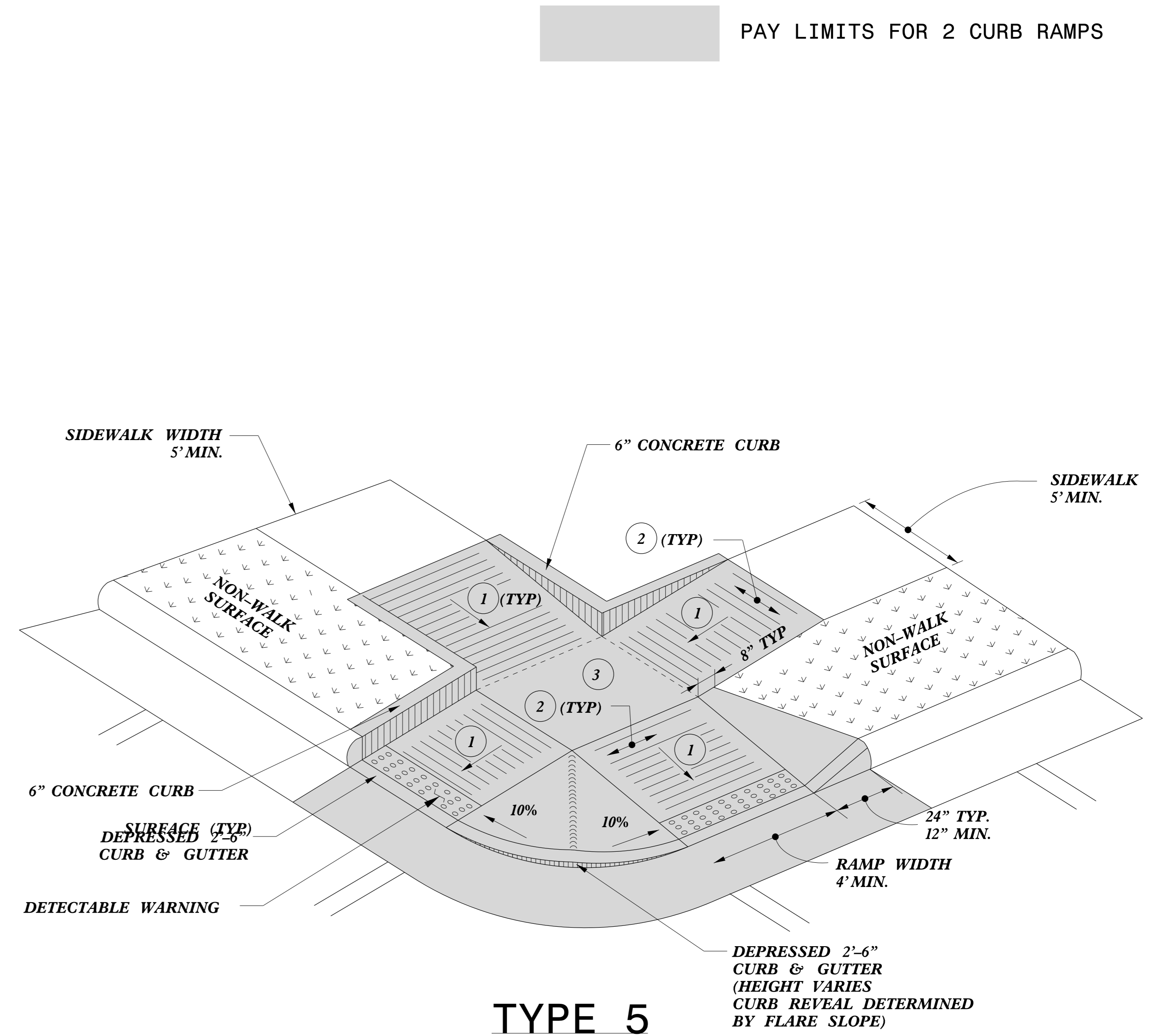
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**TYPE 4**



**TYPE 4A**



**TYPE 5**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

**CURB RAMPS**  
Shared Landing

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
MODIFIED BY: DATE:  
CHECKED BY: DATE:  
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99  
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PROJECT NO.	SHEET NO.	TOTAL NO.
2024CPT.12.03.10231,		
2024CPT.12.03.20231		

**SUMMARY OF QUANTITIES**

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	0255000000-E	1220000000-E	1245000000-E	1297000000-E	1330000000-E	1523000000-E	1524000000-E	1575000000-E	1704000000-E	2605000000-N	2815000000-N	2830000000-N	2845000000-N	5225000000-N	2846000000-N	7324000000-N	7444000000-E	7456000000-E									
												AGGREGATE SHOULDER BORROW	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	1 1/2" MILLING	INCIDENTAL MILLING	SURFACE COURSE, \$9.5C	LEVELING COURSE, \$9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	CONCRETE CURB RAMPS	ADJ. OF DROP INLET	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	PORTABLE LIGHTING	ADJ. OF OVERSIZED MANHOLES	JUNCTION BOX (STANDARD SIZE)	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)									
											MI	FT	TON	TONS	SMI	SY	SY	TONS	TONS	TONS	TONS	EA	EA	EA	EA	EA	EA	EA	EA	EA								
2024CPT.12.03.10231	Cleveland	1	US-74 BUS / E. KING STREET	FROM GASTON CL TO NC-216	1 2 3 4	3 3 3 4	MU	NO	NO	0.91 0.12 0.10 0.04	VAR. 31-36 VAR. 33-38 VAR. 33-91 VAR. 78-82						27,724	2,107	100	140	200	9	3	30	10	1	1	3	3,000	1,200								
<b>TOTAL FOR PROJ NO. 2024CPT.12.03.10231</b>											<b>1.17</b>							<b>27,724</b>	<b>2,107</b>	<b>100</b>	<b>140</b>	<b>200</b>	<b>9</b>	<b>3</b>	<b>30</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>3,000</b>	<b>1,200</b>							
2024CPT.12.03.20231	Cleveland	2	SR-1124 / MANLEY BRIDGES RD	FROM SR-1151 POPLAR SPRINGS RD TO SR-1121 WESSON RD	6	2	2WU	NO	NO	0.57	19		34			100	591	80	47	160																		
2024CPT.12.03.20231	Cleveland	3	SR-1337 / W. ZION CHURCH RD	FROM SR-1327 MOOREBORO RD TO SR-1351 NEW HOUSE RD	5	2	2WU	NO	NO	3.22	VAR. 20-22	1,127	193	6.44		150	3,775	569	292	751																		
2024CPT.12.03.20231	Cleveland	4	SR-1344 / BARBEE RD	FROM SR-1337 W. ZION CH. RD. TO SR-1850 METCALF RD	6	2	2WU	NO	NO	2.26	VAR. 19-20		520		215	2,380	200	182	618																			
2024CPT.12.03.20231	Cleveland	5	SR-1370 / ERIC RD	FROM SR-1369 OLD LINCOLN RD TO DEAD END	6	2	2WU	NO	NO	0.29	VAR. 17-18		17		25	277	33	21	50																			
2024CPT.12.03.20231	Cleveland	6	SR-1403 / GEORGE BEAM RD	FROM SR-1370 ERIC RD TO SR-1369 OLD LINCOLN RD	6	2	2WU	NO	NO	0.22	18		15		25	197	10	14	29																			
2024CPT.12.03.20231	Cleveland	7	SR-1828 / OAKVALE DR	FROM NC-18 TO SR-1827 MCBRAYER SPRINGS RD	6	2	2WU	NO	NO	0.79	20		20		115	862	40	58	90																			
2024CPT.12.03.20231	Cleveland	8	SR-1854 / FRANK GRIGG DR	FROM NC-226 TO DEAD END	6	2	2WU	NO	NO	0.37	18		20		25	330	16	24	66																			
2024CPT.12.03.20231	Cleveland	9	SR-2017 / BROOK RD	FROM SR-2033 OAK GROVE RD TO SR-2015 ROLLINGBROOK RD	6	2	2WU	NO	NO	0.82	20		55		115	895	65	63	140																			
2024CPT.12.03.20231	Cleveland	10	SR-2034 / PATTERSON RD	US-74 BRIDGE TO SR-2033 OAK GROVE RD	6	2	2WU	NO	NO	1.64	18		162		486	1,896	252	150	492																			
2024CPT.12.03.20231	Cleveland	11	SR-2038 / DILLON RD	FROM SR-2039 PATTERSON RD. TO SR-2039 WRIGHT RD.	6	2	2WU	NO	NO	1.28	19		60		70	1,327	75	92	199																			
2024CPT.12.03.20231	Cleveland	12	SR-2044 / NEW CAMP CREEK CH RD	FROM SR-2033 OAK GROVE RD TO SR-1001 STONEY POINT RD	5	2	2WU	NO	NO	1.39	25	487	50	2.78	150	1,893	434	169	662																			
2024CPT.12.03.20231	Cleveland	13	SR-2218 / CROW RD	FROM SR-2224 JACK FRANCIS RD TO SR-2225 BETTIS RD	5	2	2WU	NO	NO	1.62	VAR. 18-20	576	91	3.24	198	1,706	257	135	409																			
2024CPT.12.03.20231	Cleveland	14	SR-2219 / BENTLEY RD	FROM SR-2220 GB BLANTON RD TO SR-2217 TRENT MCSWAIN RD	6	2	2WU	NO	NO	0.58	18		20		413	570	185	78	706																			
2024CPT.12.03.20231	Cleveland	15	SR-2224 / CROW RD	FROM SR-2221 NICKEY SHARTS RD TO SR-2224 JACK FRANCIS RD	5	2	2WU	NO	NO	0.42	20	147	40	0.84	35	458	55	35	92																			
2024CPT.12.03.20231	Cleveland	16	SR-1162 / MCBRAYER HOMESTEAD	FROM SR-2582 COOPERS CORNER TO SR-1161 PLEASANT RIDGE CH. RD.	5	2	2WU	NO	NO	1.03	20	361	30	2.06	528	1,124	102	87	315																			
2024CPT.12.03.20231	Cleveland	17	SR-2273 / MCDANIEL RD	FROM SR-2245 BETHLEHEM RD TO SR-2235 BETHLEHEM CH. RD	6	2	2WU	NO	NO	1.18	19		51		115	1,223	98	87	196																			
2024CPT.12.03.20231	Cleveland	18	SR-1811 / RAMSEUR CHURCH RD	FROM SR-1809 W. DBL SHOALS RD TO NC-226	5	2	2WU	NO	NO	2	19	700	30	4.00	528	2,073	312	164	477																			
<b>TOTAL FOR PROJ NO. 2024CPT.12.03.20231</b>											<b>19.68</b>		<b>3,398</b>	<b>1,408</b>	<b>19.36</b>		<b>3,293</b>	<b>21,577</b>	<b>2,783</b>	<b>1,698</b>	<b>5,452</b>																	
<b>GRAND TOTAL</b>											<b>20.85</b>		<b>3,398</b>	<b>1,408</b>	<b>19.36</b>	<b>27,724</b>	<b>3,293</b>	<b>23,684</b>	<b>2,883</b>	<b>1,838</b>	<b>5,652</b>	<b>9</b>	<b>3</b>	<b>30</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>3,000</b>	<b>1,200</b>								

PROJECT NO.	SHEET NO.	TOTAL NO.
2024CPT.12.03.10231,		
2024CPT.12.03.20231		

### THERMOPLASTIC AND PAINT QUANTITIES

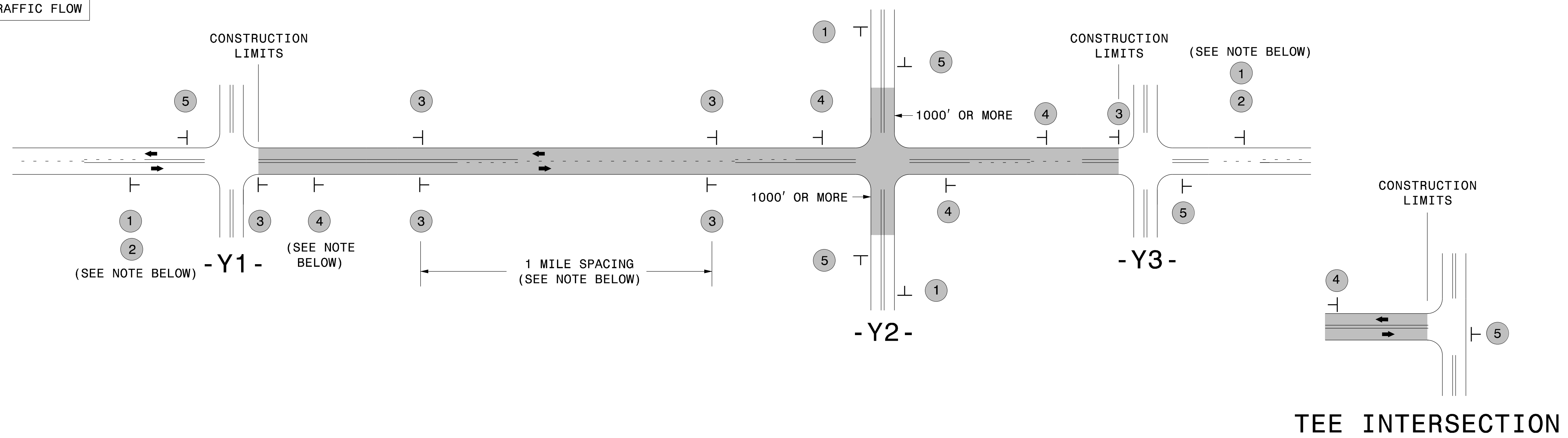
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4447000000-E	4457000000-N	4510000000-N	4685000000-E				4695000000-E			4709000000-E			4725000000-E			4810000000-E		4845000000-N	4905100000-N
										WORK ZONE ADV/GEN WARNING SIGNS	PEDESTRIAN CHANNELIZING DEVICES	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	24" X 90 M WHITE THERMO	THERMO LT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO RT ARROW 90 M	4" YELLOW PAINT	4" WHITE PAINT	PAINT LT ARROW	NON-CAST IRON SNOW PLOWABLE MARKERS						
									MI	FT	SF	LF	LS	HR	LF	LF	LF	LF	EA	EA	EA	LF	LF	EA	EA					
2024CPT.12.03.10231	Cleveland	1	US-74 BUS / E. KING STREET	FROM GASTON CL TO NC-216	1 2 3 4	3 3 3 4	MU	0.91 0.12 0.10 0.04	VAR. 31-36 VAR. 33-38 VAR. 33-91 VAR. 78-82	500	40	*	100	2,450	15,580	1,200	310	47	15	2	15,400	1,000	32	186						
<b>TOTAL FOR PROJ NO. 2024CPT.12.03.10231</b>									<b>1.17</b>		<b>500</b>	<b>40</b>	<b>*</b>	<b>100</b>	<b>2,450</b>	<b>15,580</b>	<b>1,200</b>	<b>310</b>	<b>47</b>	<b>15</b>	<b>2</b>	<b>15,400</b>	<b>1,000</b>	<b>32</b>	<b>186</b>					
															<b>18,030</b>				<b>64</b>			<b>16,400</b>								
2024CPT.12.03.20231	Cleveland	2	SR-1124 / MANLEY BRIDGES RD	FROM SR-1151 POPLAR SPRINGS RD TO SR-1121 WESSON RD	6	2	2WU	0.57	19	84												12,159	12,159							
2024CPT.12.03.20231	Cleveland	3	SR-1337 / W. ZION CHURCH RD	FROM SR-1327 MOORESBO RO RD TO SR-1351 NEW HOUSE RD	5	2	2WU	3.22	VAR. 20-22	244												42,504	69,294							
2024CPT.12.03.20231	Cleveland	4	SR-1344 / BARBEE RD	FROM SR-1337 W. ZION CH. RD. TO SR-1850 METCALF RD	6	2		2.26	VAR. 19-20	276												44,832	48,635							
2024CPT.12.03.20231	Cleveland	5	SR-1370 / ERIC RD	FROM SR-1369 OLD LINCOLNTON RD TO DEAD END	6	2	2WU	0.29	VAR. 17-18	84												6,241	6,241							
2024CPT.12.03.20231	Cleveland	6	SR-1403 / GEORGE BEAM RD	FROM SR-1370 ERIC RD TO SR-1369 OLD LINCOLNTON RD	6	2	2WU	0.22	18	84												4,734	4,734							
2024CPT.12.03.20231	Cleveland	7	SR-1828 / OAKVALE DR	FROM NC-18 TO SR-1827 MCBRAYER SPRINGS RD	6	2	2WU	0.79	20	132												14,428	17,001							
2024CPT.12.03.20231	Cleveland	8	SR-1854 / FRANK GRIGG DR	FROM NC-226 TO DEAD END	6	2	2WU	0.37	18	84																				
2024CPT.12.03.20231	Cleveland	9	SR-2017 / BROOK RD	FROM SR-2033 OAK GROVE RD TO SR-2015 ROLLINGBROOK RD	6	2	2WU	0.82	20	84												17,646	17,646							
2024CPT.12.03.20231	Cleveland	10	SR-2034 / PATTERSON RD	US-74 BRIDGE TO SR-2033 OAK GROVE RD	6	2	2WU	1.64	18	148												34,636	34,637							
2024CPT.12.03.20231	Cleveland	11	SR-2038 / DILLON RD	FROM SR-2039 PATTERSON RD. TO SR-2039 WRIGHT RD.	6	2	2WU	1.28	19	116												27,438	27,438							
2024CPT.12.03.20231	Cleveland	12	SR-2044 / NEW CAMP CREEK CH RD	FROM SR-2033 OAK GROVE RD TO SR-1001 STONEY POINT RD	5	2	2WU	1.39	25	116					50							29,357	29,357							
2024CPT.12.03.20231	Cleveland	13	SR-2218 / CROW RD	FROM SR-2224 JACK FRANCIS RD TO SR-2225 BETTIS RD	5	2	2WU	1.62	VAR. 18-20	116												34,798	34,798							
2024CPT.12.03.20231	Cleveland	14	SR-2219 / BENTLEY RD	FROM SR-2220 GB BLANTON RD TO SR-2217 TRENT MCSWAIN RD	6	2	2WU	0.58	18	84												12,374	12,374							
2024CPT.12.03.20231	Cleveland	15	SR-2224 / CROW RD	FROM SR-2221 NICKEY SHARTS RD TO SR-2224 JACK FRANCIS RD	5	2	2WU	0.42	20	84												8,871	8,871							
2024CPT.12.03.20231	Cleveland	16	SR-1162 / MCBRAYER HOMESTEAD	FROM SR-2582 COOPERS CORNER TO SR-1161 PLEASANT RIDGE CH. RD.	5	2	2WU	1.03	20	116												13,596	22,166	69						
2024CPT.12.03.20231	Cleveland	17	SR-2273 / MCDANIEL RD	FROM SR-2245 BETHLEHEM RD TO SR-2235 BETHLEHEM CH. RD	6	2	2WU	1.18	19	116												25,394	25,394							
2024CPT.12.03.20231	Cleveland	18	SR-1811 / RAMSEUR CHURCH RD	FROM SR-1809 W. DBL SHOALS RD TO NC-226	5	2	2WU	2	19	116												36,400	43,040							
<b>TOTAL FOR PROJ NO. 2024CPT.12.03.20231</b>									<b>19.68</b>		<b>2,084</b>		<b>*</b>				<b>50</b>						<b>365,408</b>	<b>413,785</b>		<b>69</b>				
																						<b>779,193</b>								
<b>GRAND TOTAL</b>									<b>20.85</b>		<b>2,584</b>	<b>40</b>	<b>1</b>	<b>100</b>	<b>2,450</b>	<b>15,580</b>	<b>1,250</b>	<b>310</b>	<b>47</b>	<b>15</b>	<b>2</b>	<b>380,808</b>	<b>414,785</b>	<b>32</b>	<b>255</b>					
															<b>18,030</b>				<b>64</b>			<b>795,593</b>								

# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┃ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

<b>SIGNING NOTES AND PLACEMENT PER DIRECTION</b>	1	 <small>W20-1 48" X 48"</small>	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	
	2	 <small>W7-3aP 24" X 18"</small>	#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3	 <small>SP 13107 48" X 48"</small>	- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	4	 <small>SP 13106 48" X 48"</small>	- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5	 <small>G20-2 A 48" X 24"</small>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

**NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:**

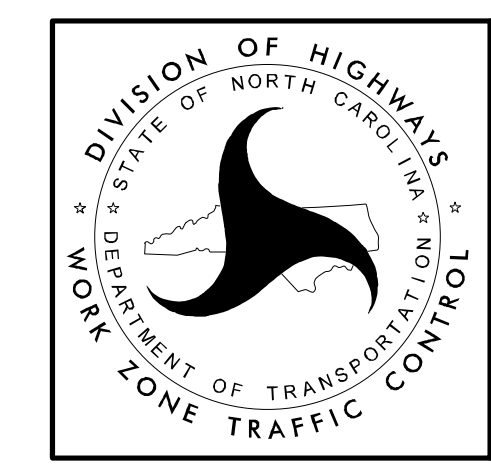
- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

 <small>W20-1 48" X 48"</small> PLACED 500' IN ADVANCE OF FLAGGER.	 <small>W20-7 A 48" X 48"</small> PLACED 250' IN ADVANCE OF FLAGGER.
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### MAPS LESS THAN 2 MILES

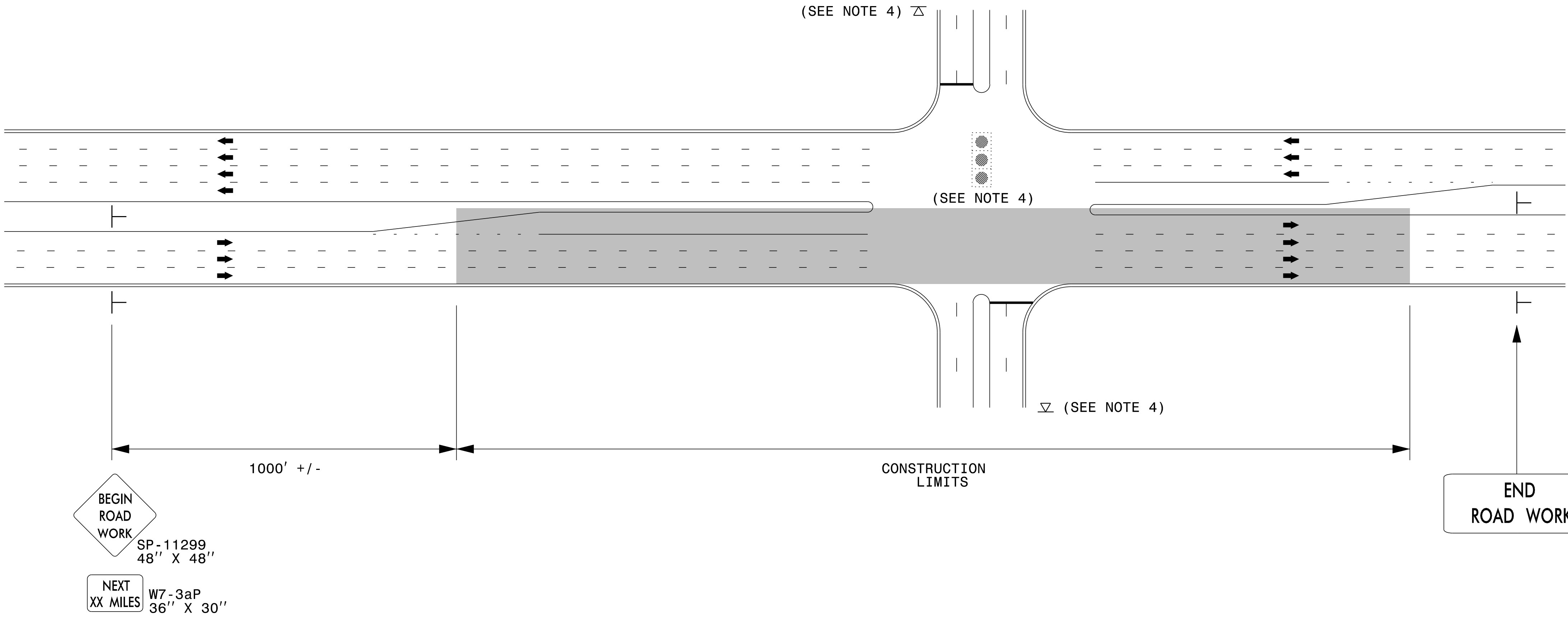
FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



**ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING**



# URBAN / SUBURBAN WORKZONES



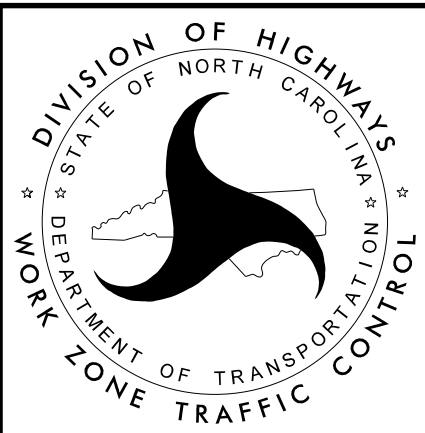
**NOTES:**

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

**LEGEND**

┆ STATIONARY SIGN

➔ DIRECTION OF TRAFFIC FLOW



**RESURFACING ADVANCE  
WARNING SIGNS FOR  
URBAN / SUBURBAN  
FACILITIES**