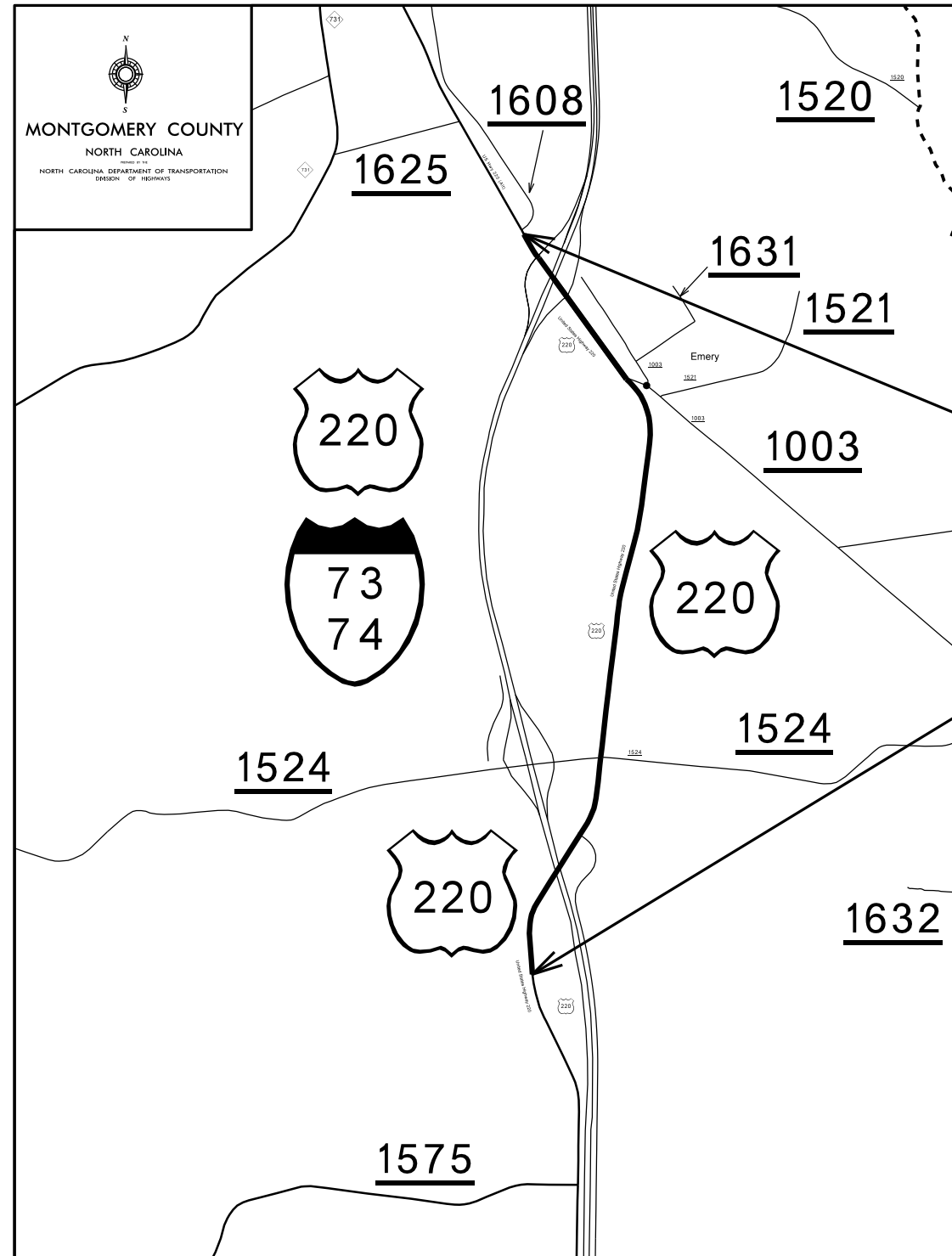
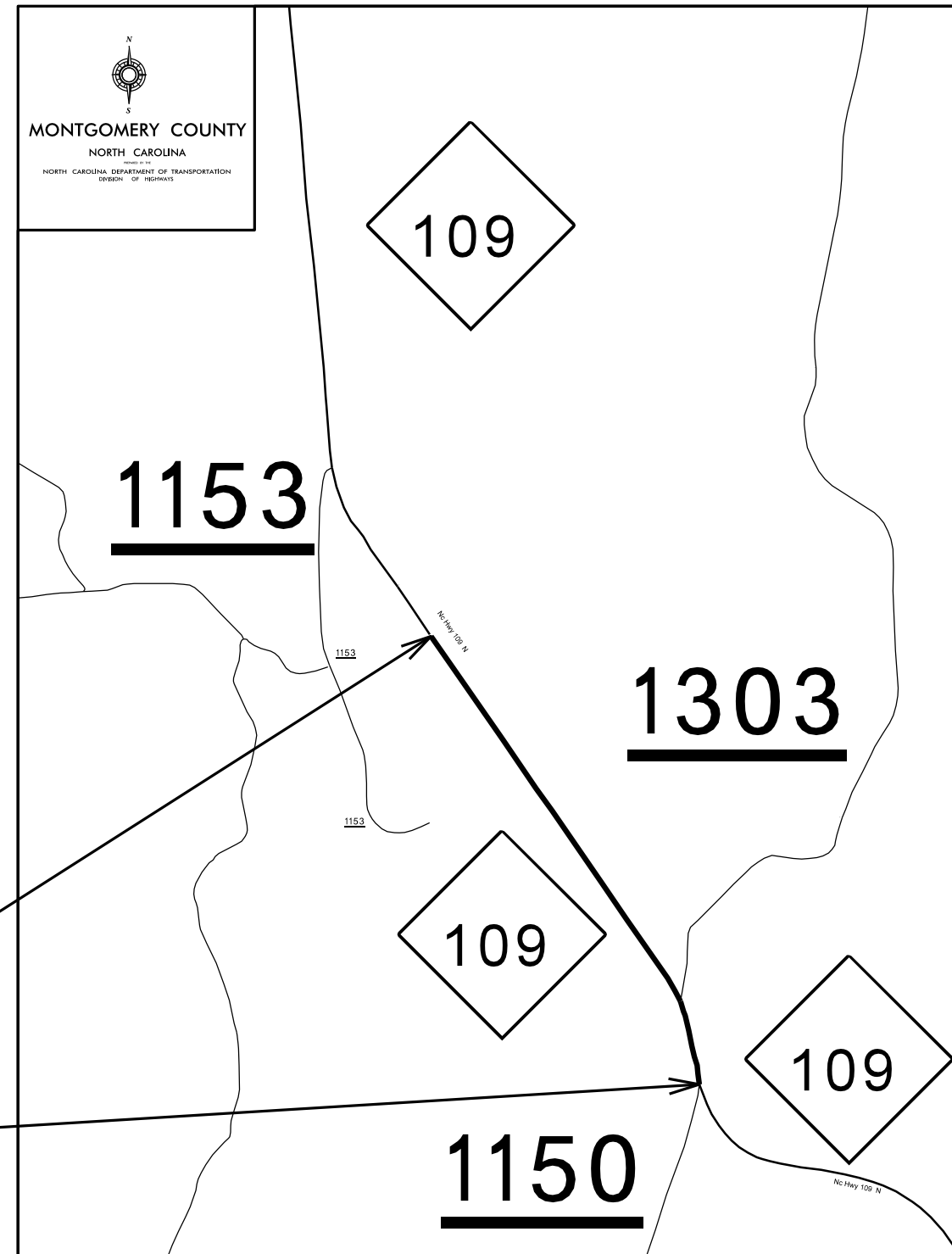


MONTGOMERY COUNTY RESURFACING

Map 1



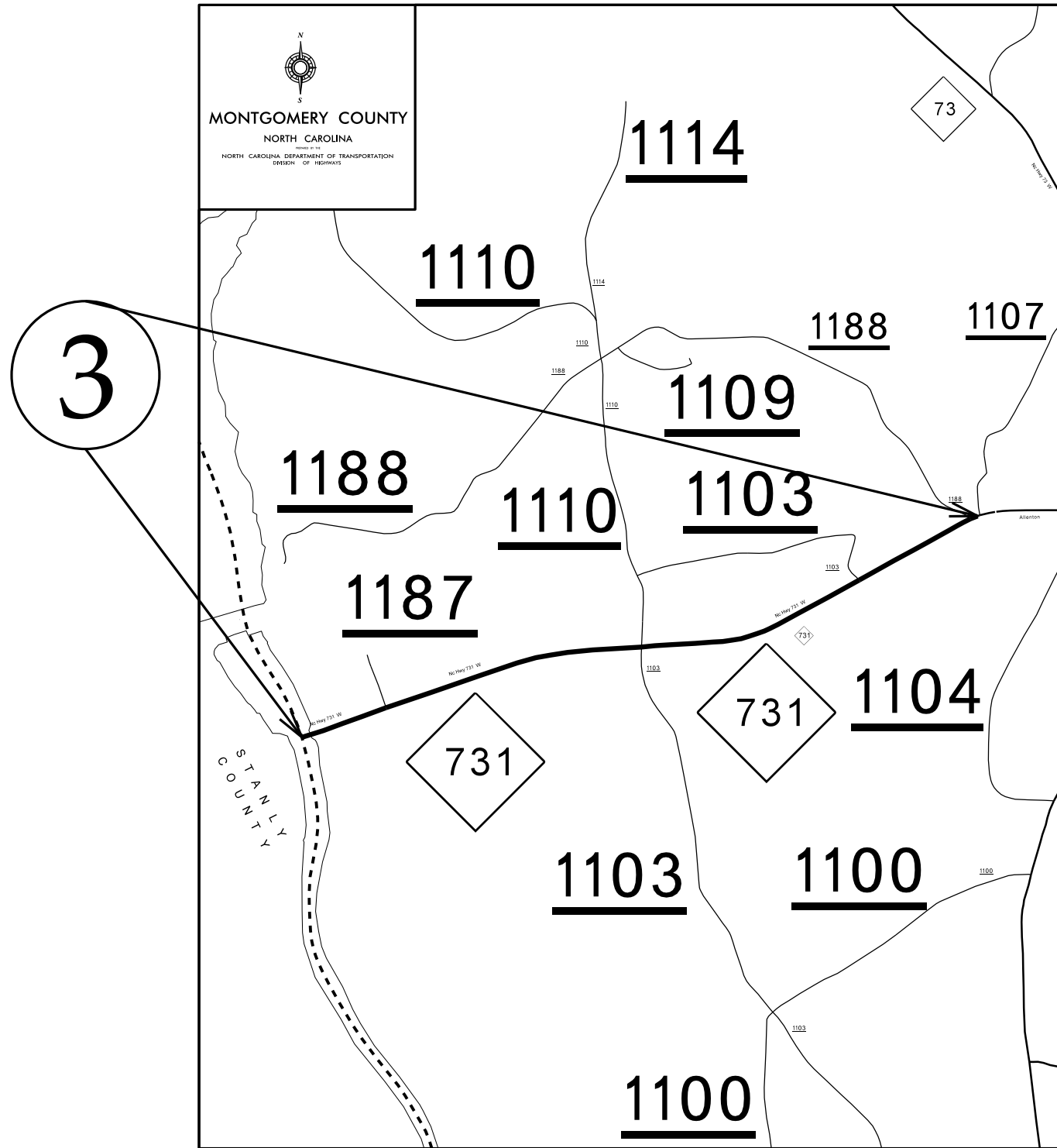
Map 2



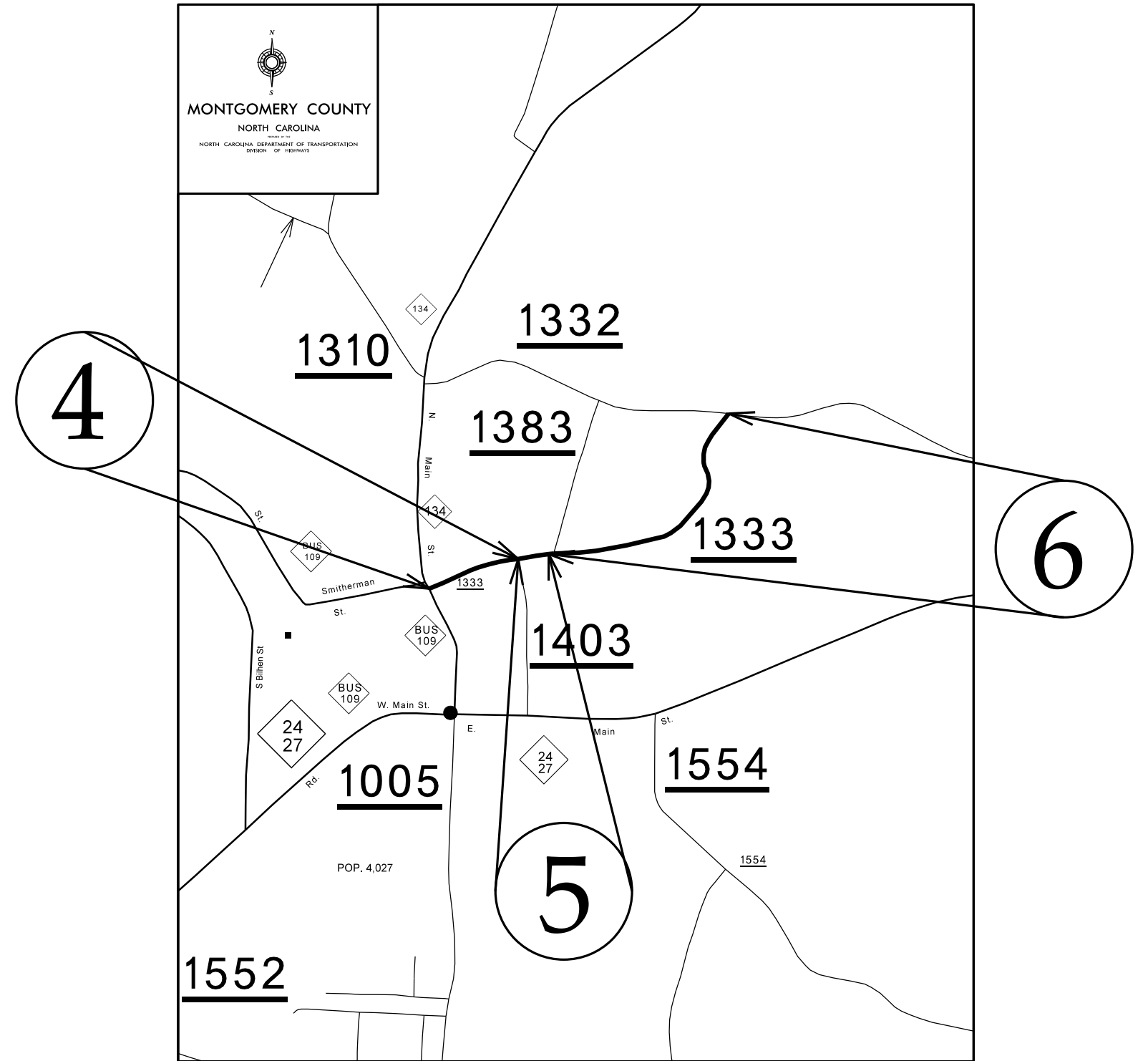
1

2

Map 3



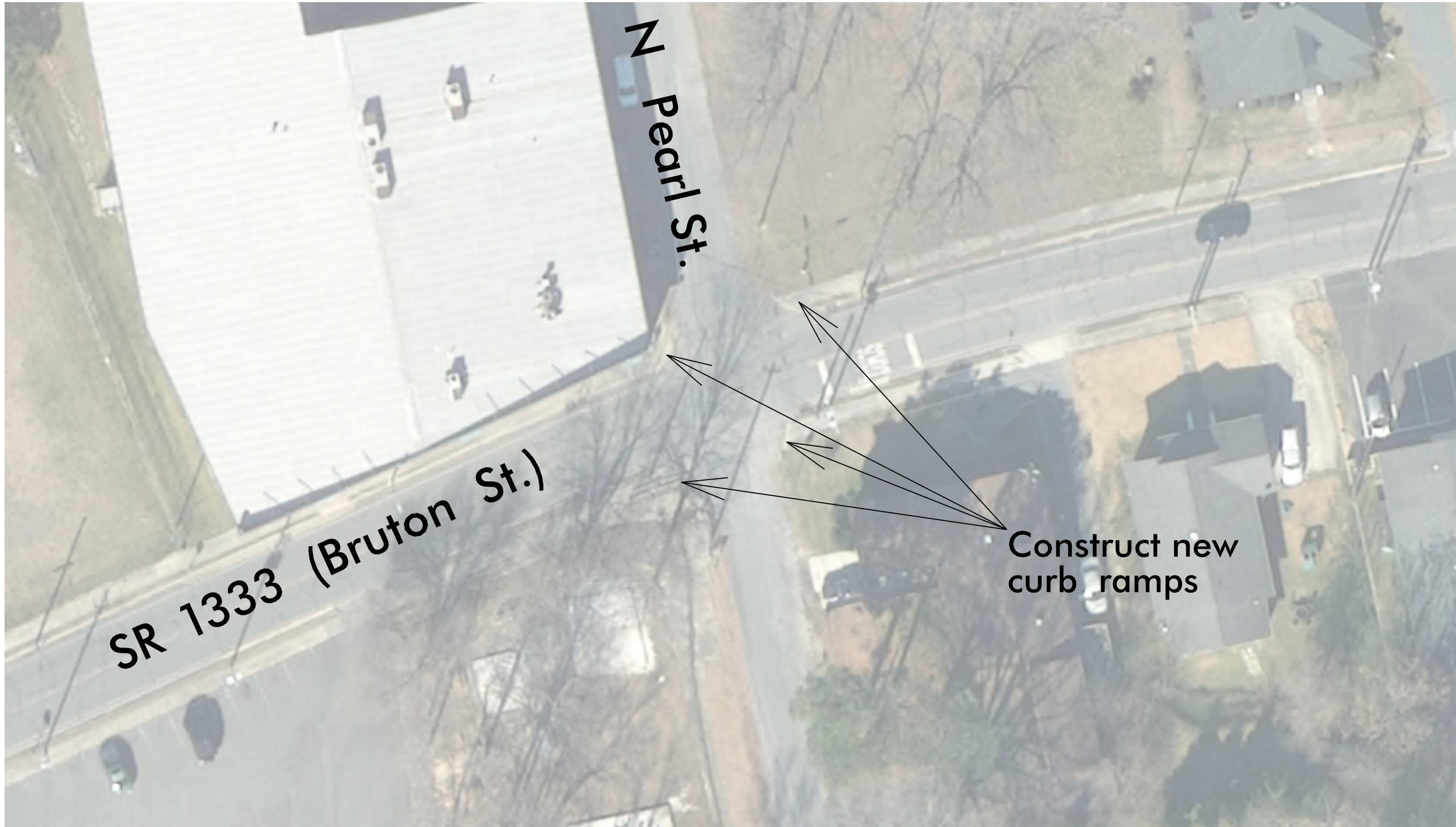
Maps 4,5,6



Map 4 - Curb Ramps



Map 4 - Curb Ramps

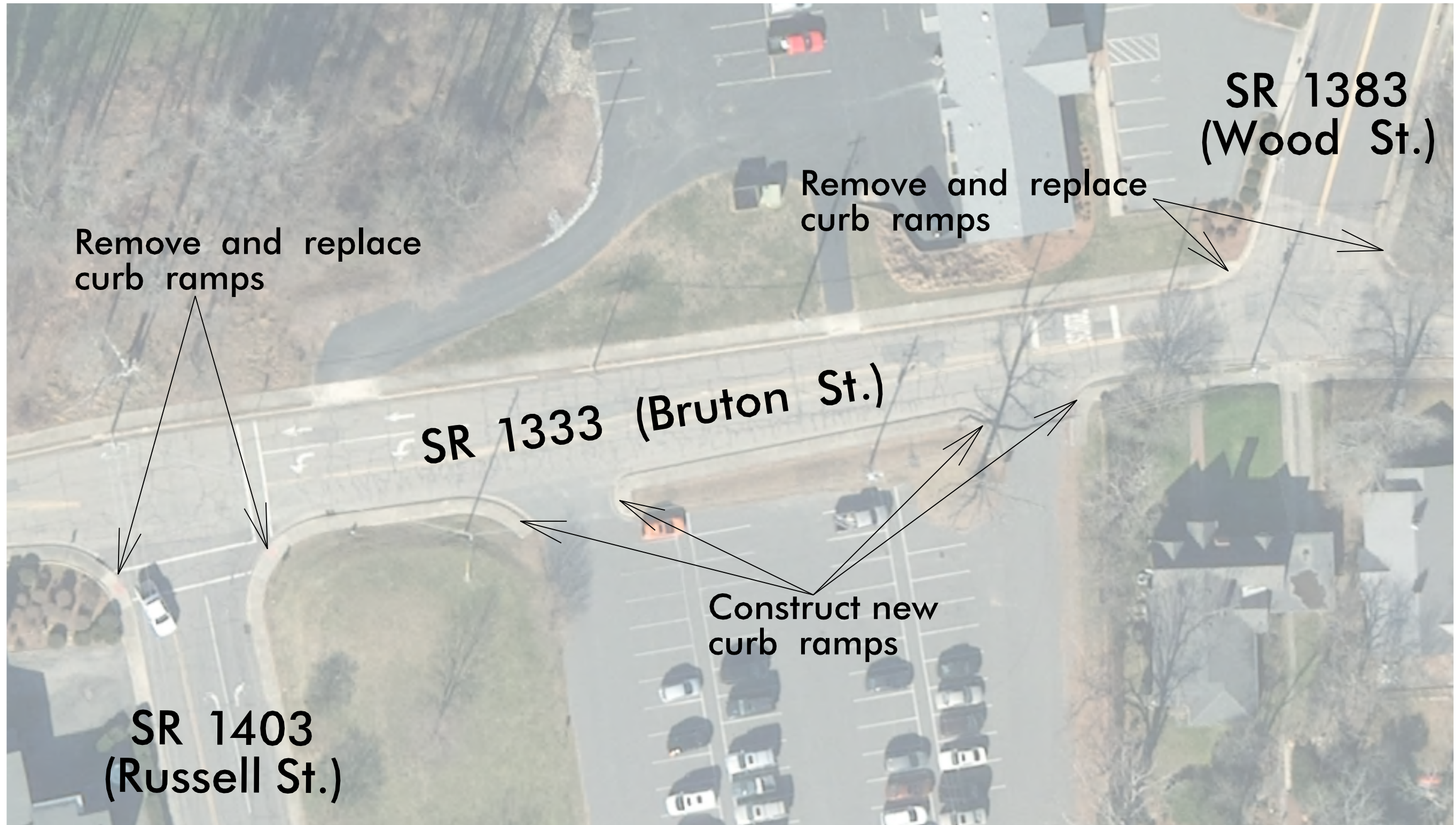


SR 1333 (Bruton St.)

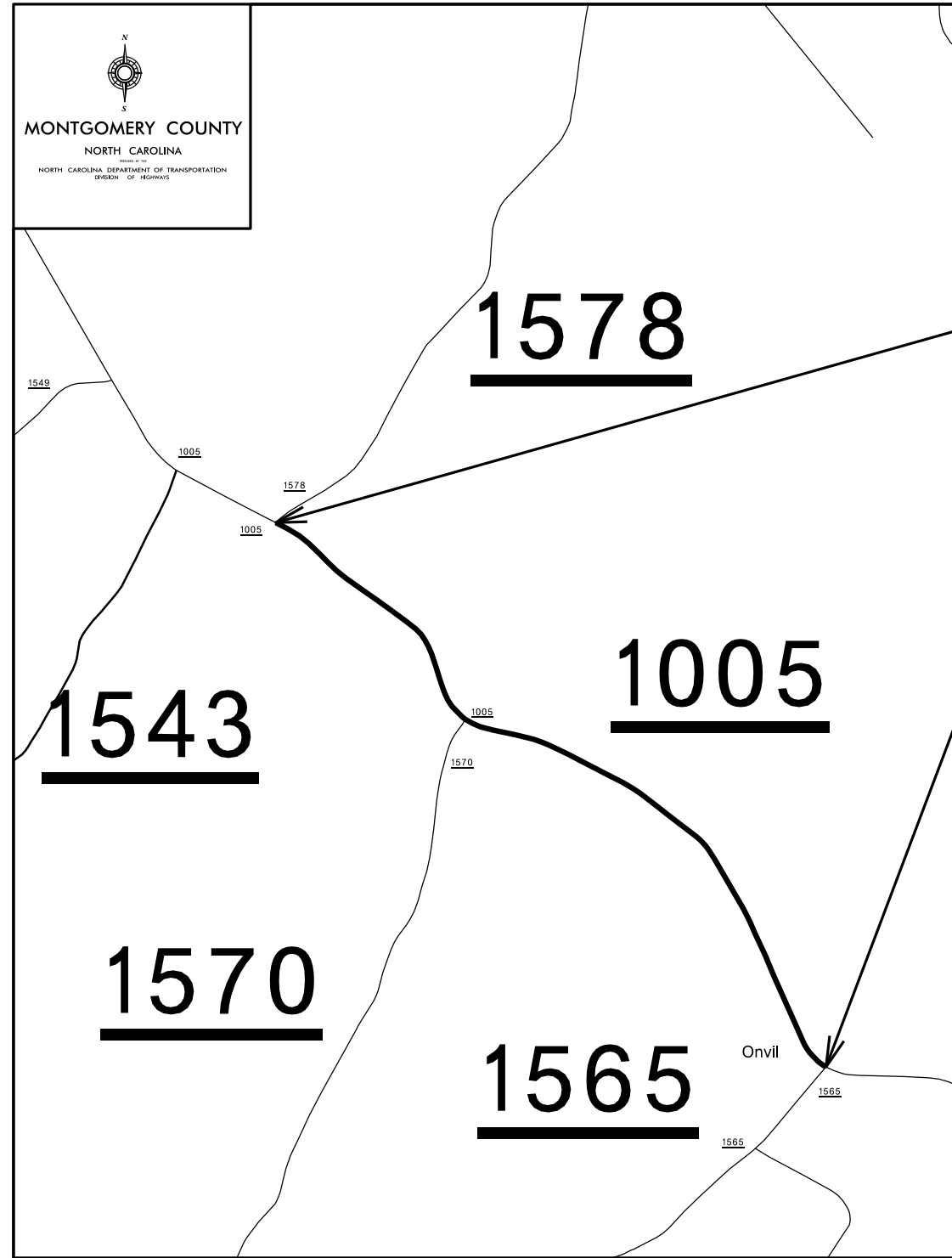
N Pearl St.

Construct new curb ramps

Map 5 - Curb Ramps

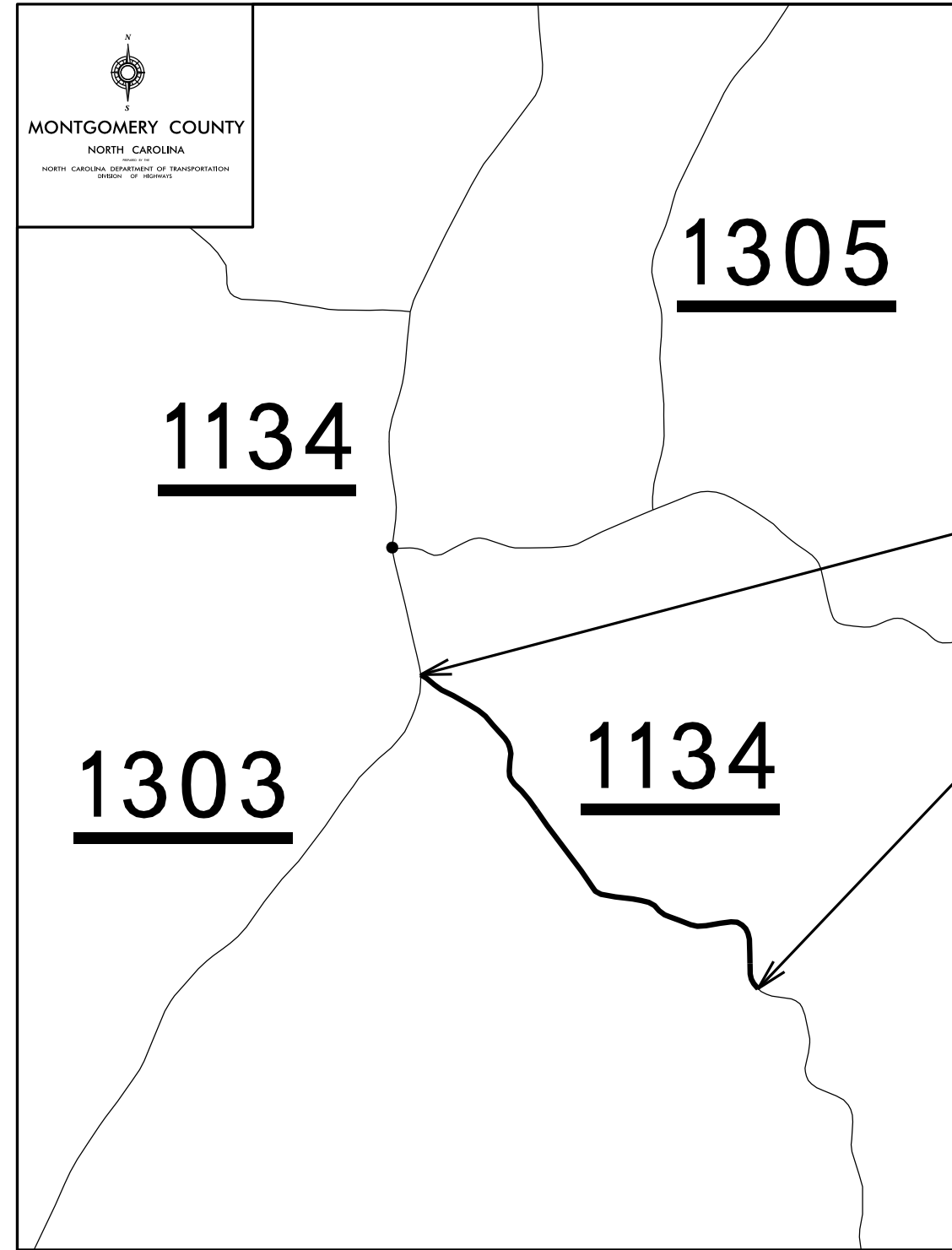


Map 7



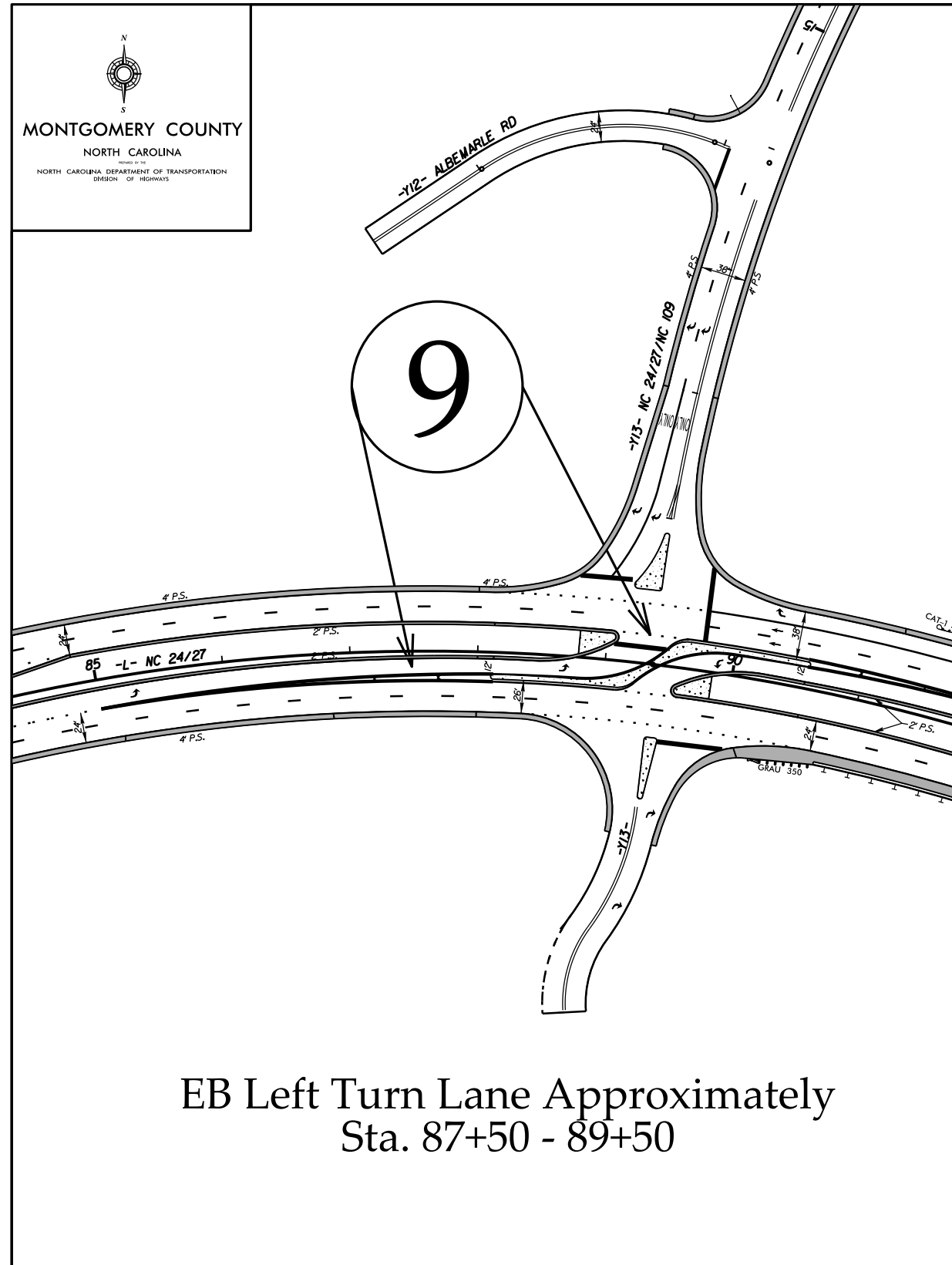
7

Map 8

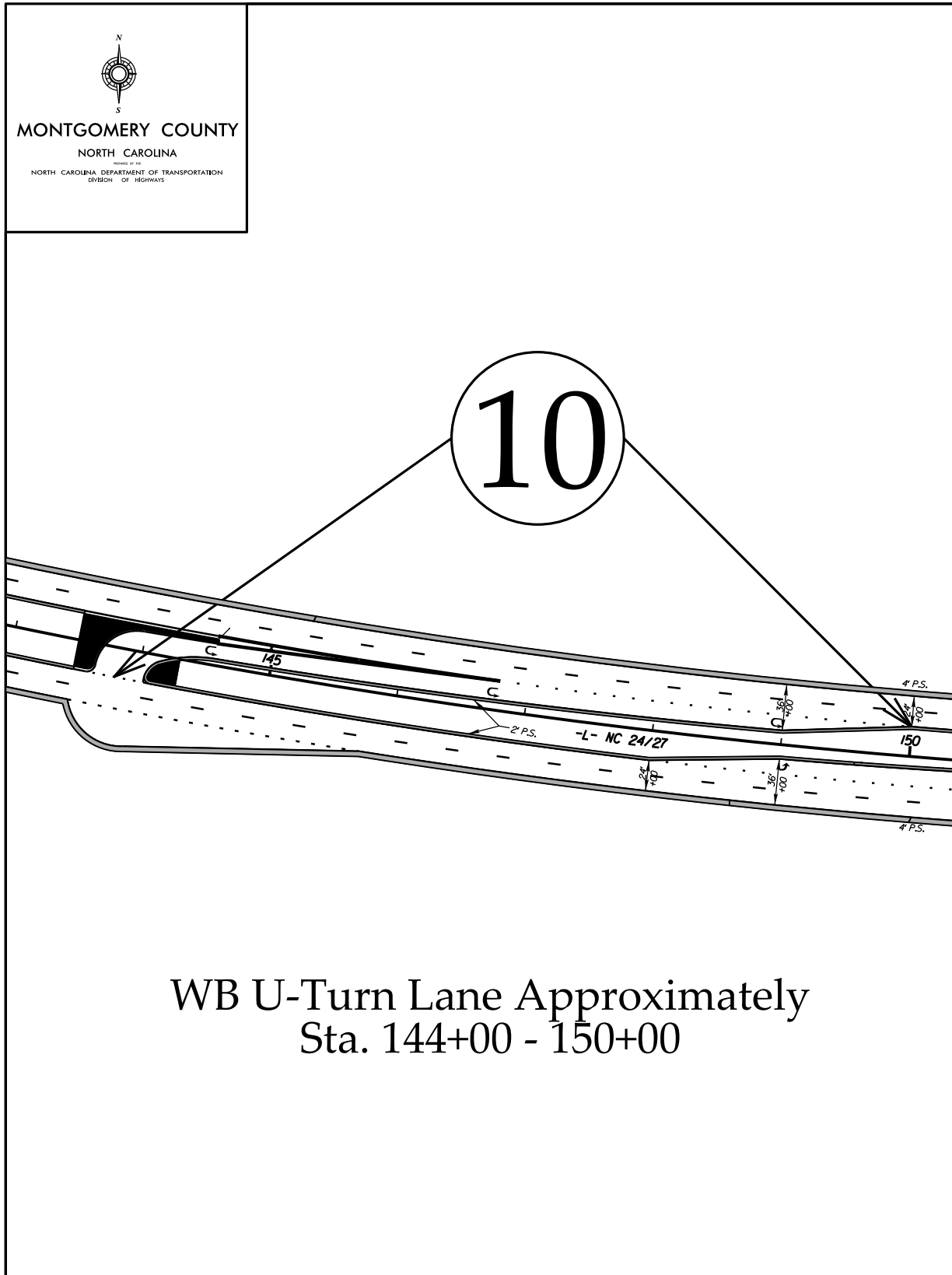


8

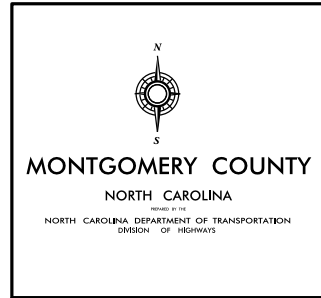
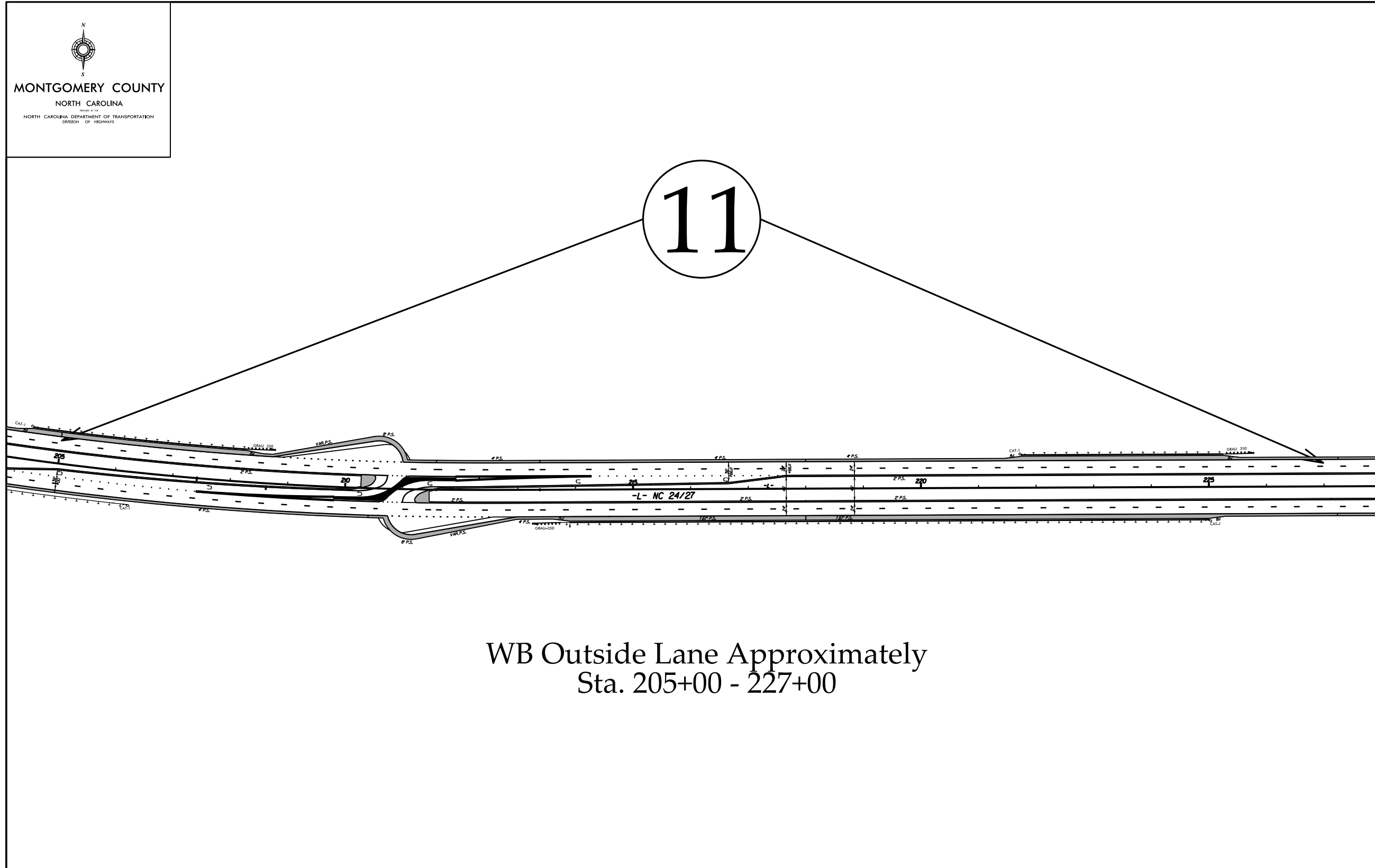
Map 9



Map 10

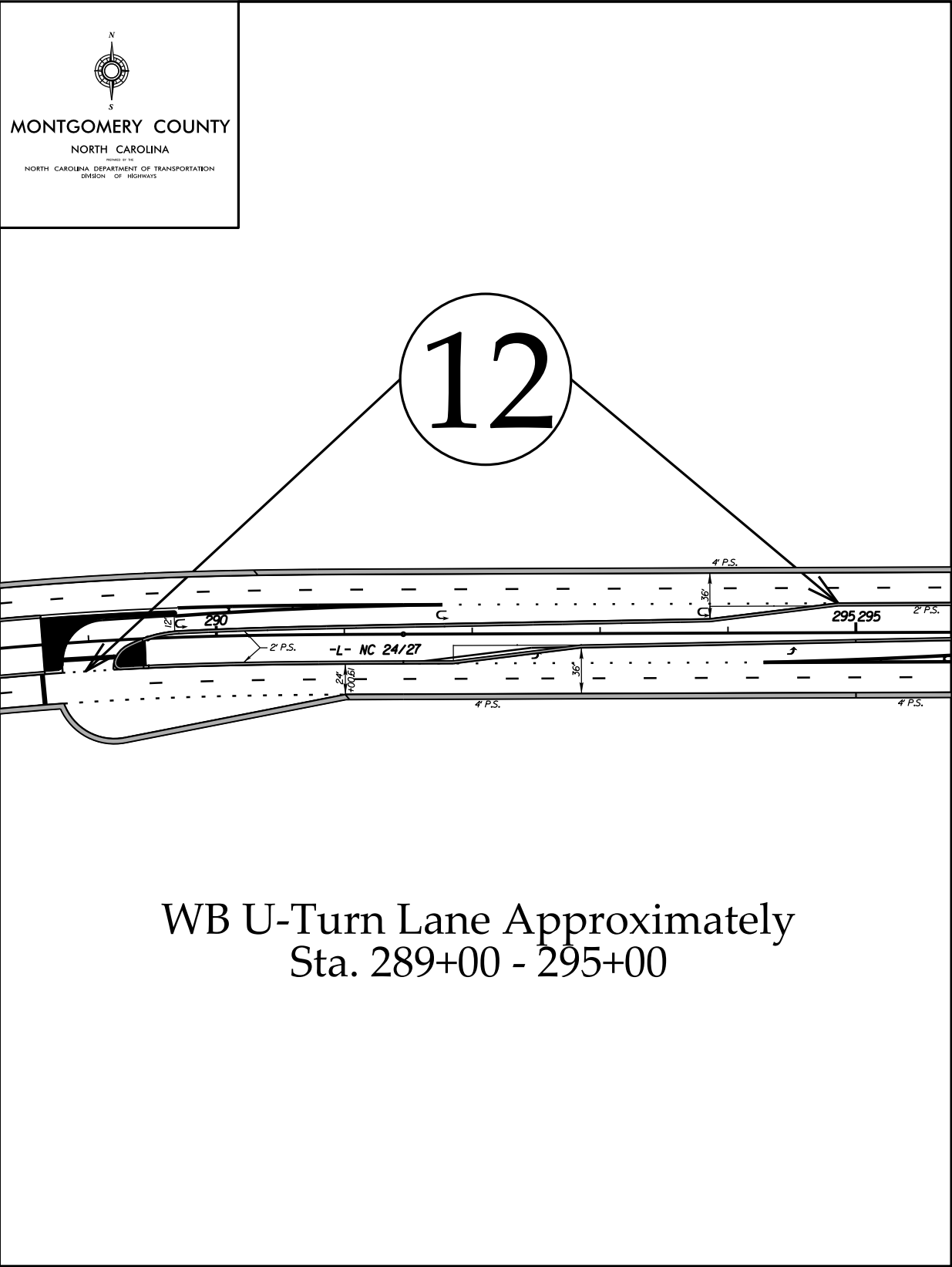


Map 11



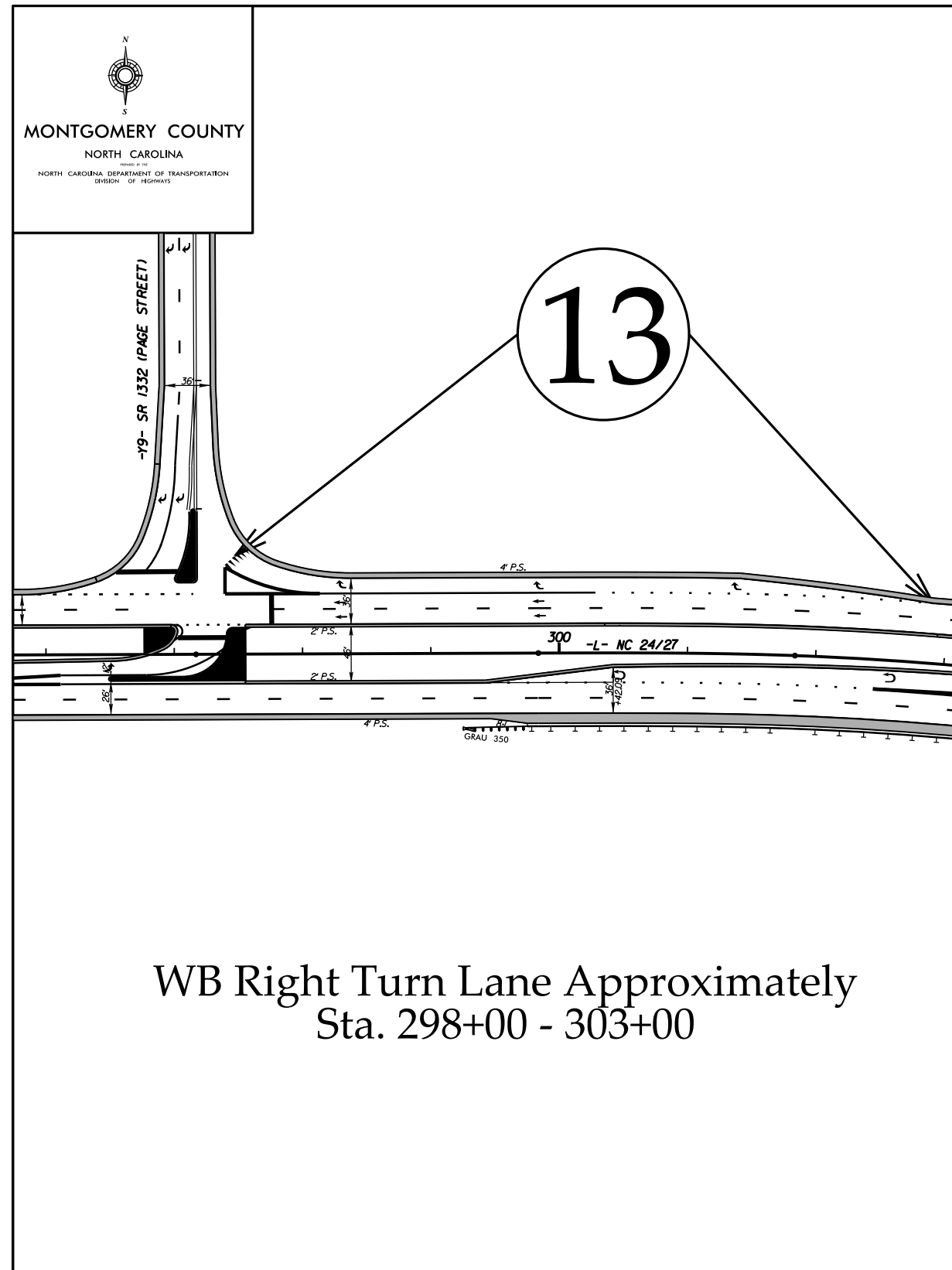
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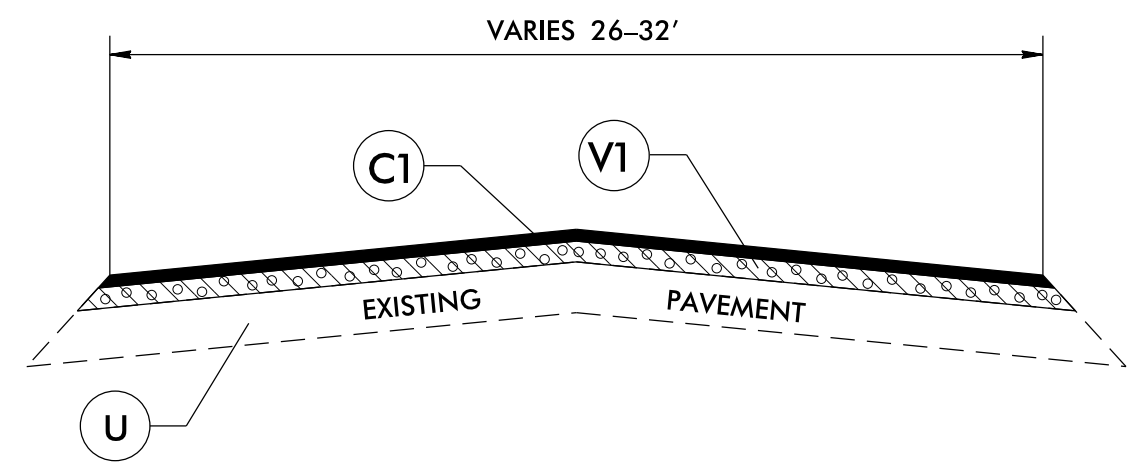
Map 12



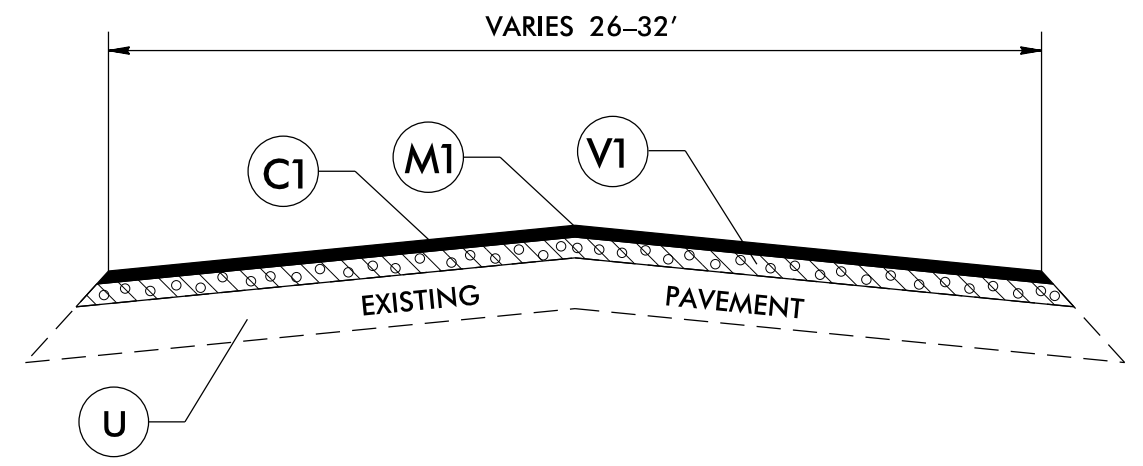
WB U-Turn Lane Approximately
Sta. 289+00 - 295+00

Map 13



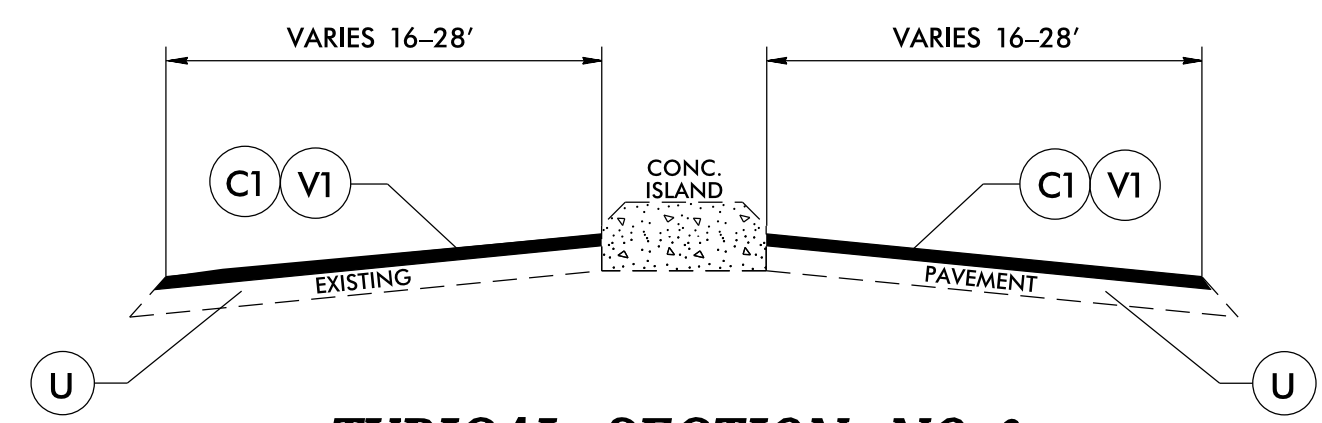


TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 3

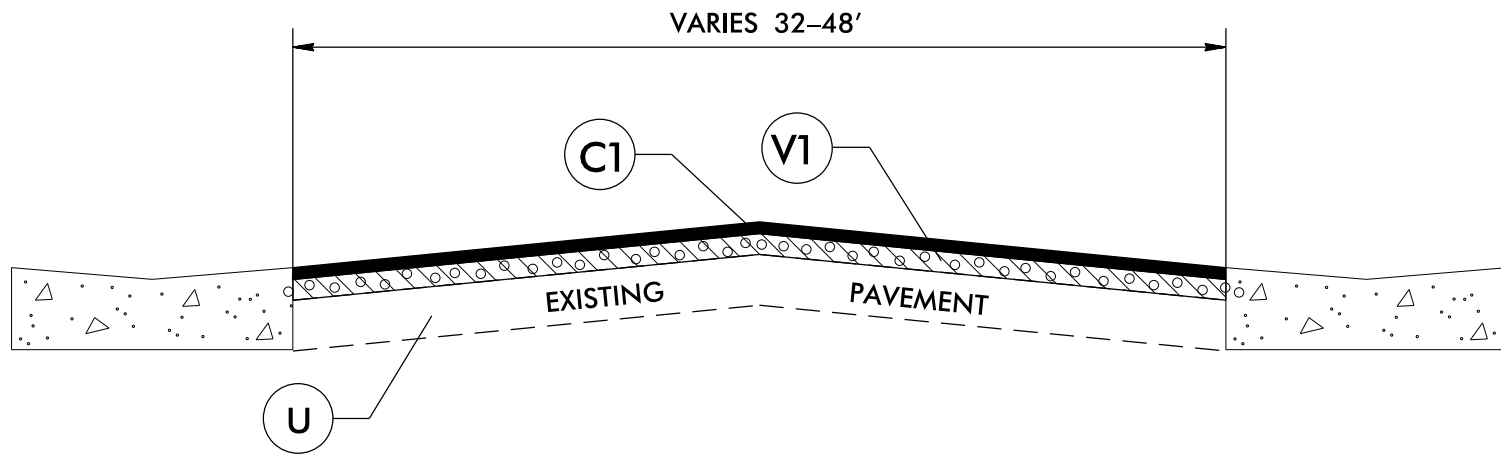
NOTE: USE FOR MAP #1 FROM PAVEMENT JOINT
550 FT SOUTH OF SR 1003 TO 1,185 FT NORTH OF SR 1640



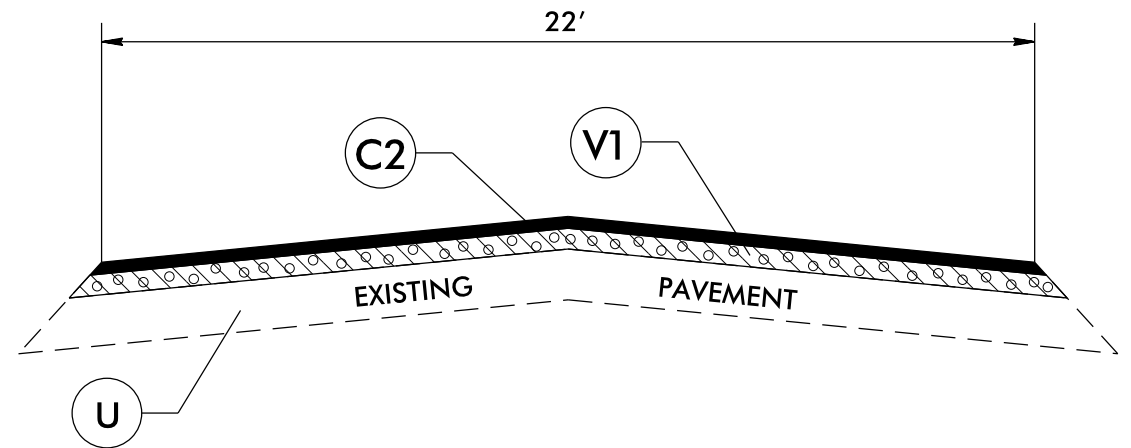
TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M1	CENTERLINE MILLED RUMBLE STRIPS (SEE DETAIL)
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 3.5" IN DEPTH
V3	MILLING 0-4.75" IN DEPTH
V4	MILLING 2.0" IN DEPTH

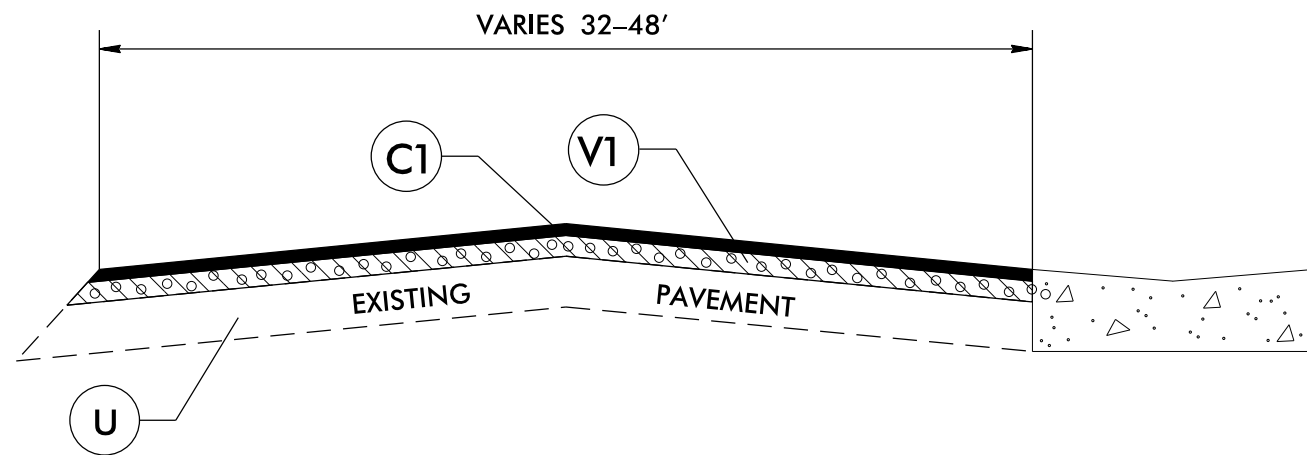
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TYPICAL SECTION NO. 4



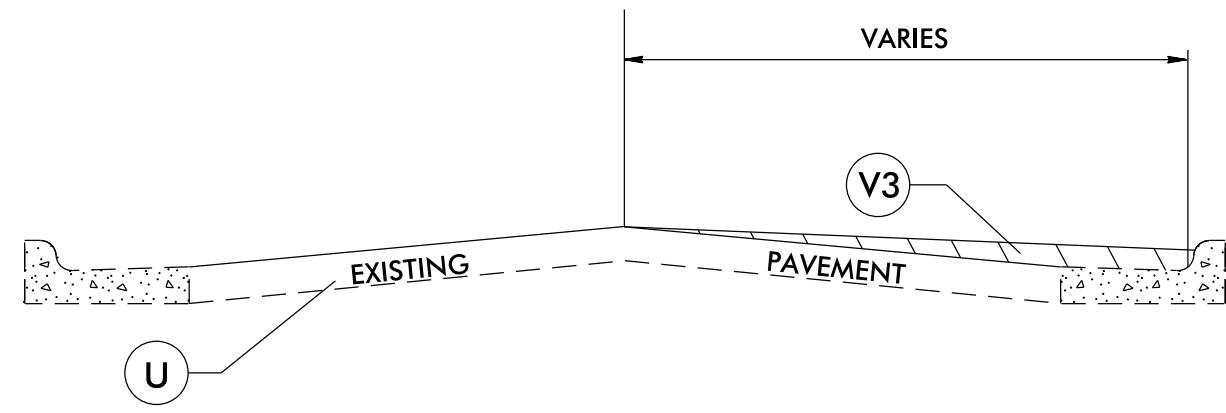
TYPICAL SECTION NO. 6



TYPICAL SECTION NO. 5

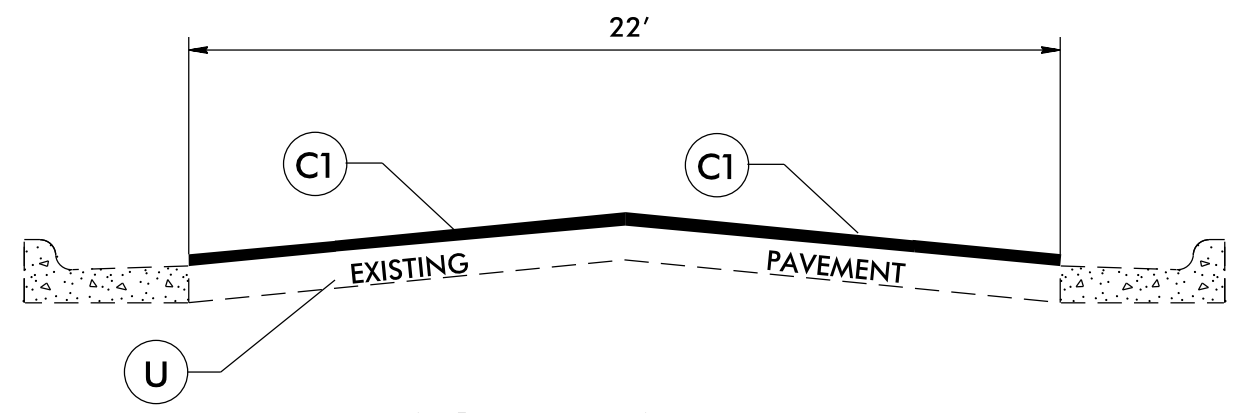
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M1	CENTERLINE MILLED RUMBLE STRIPS (SEE DETAIL)
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 3.5" IN DEPTH
V3	MILLING 0-4.75" IN DEPTH
V4	MILLING 2.0" IN DEPTH



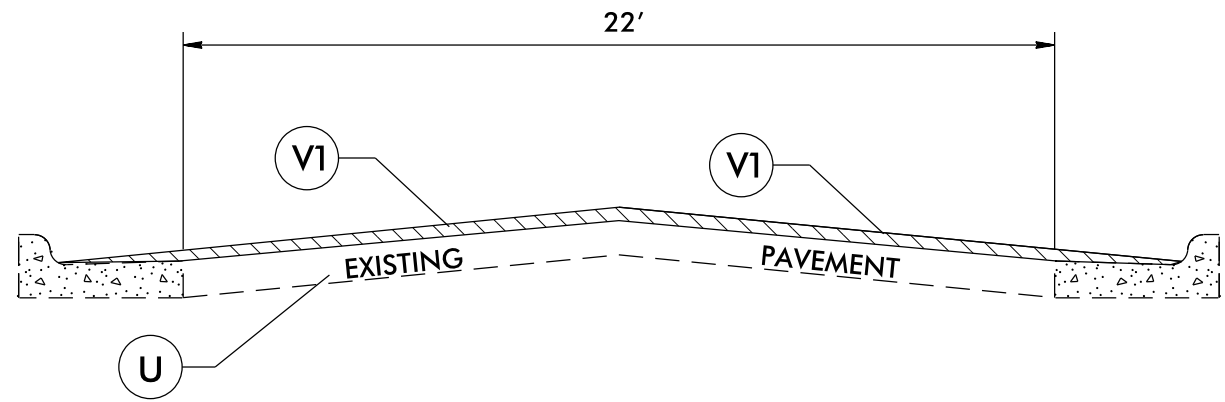
TYPICAL SECTION NO. 10

NOTE: USE FOR MAP #5 FROM SR 1403 TO SR 1383, MILLING FROM CROWN LINE TO FACE OF CURB, MILLED SURFACE TO BE FLUSH WITH GUTTER



TYPICAL SECTION NO. 12

NOTE: FINAL SURFACE WILL BE 1.5" ABOVE GUTTER

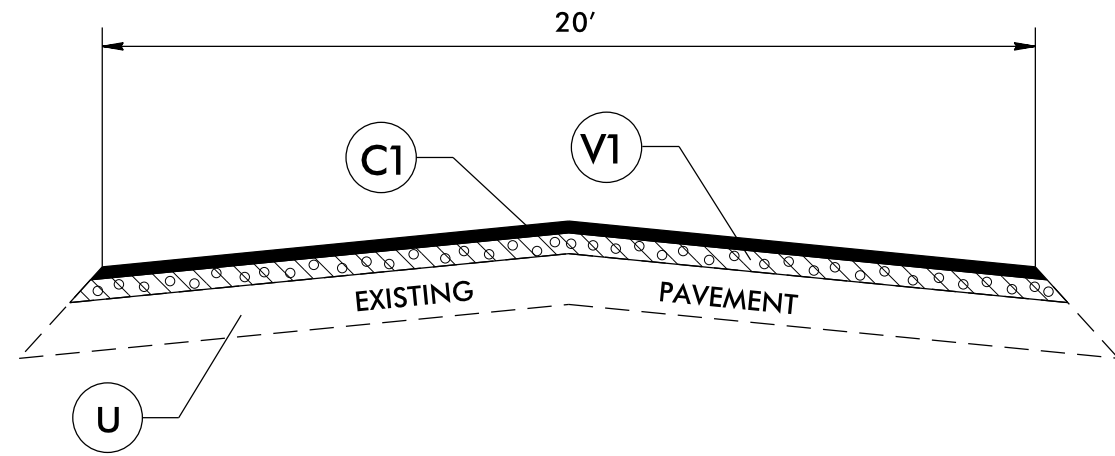


TYPICAL SECTION NO. 11

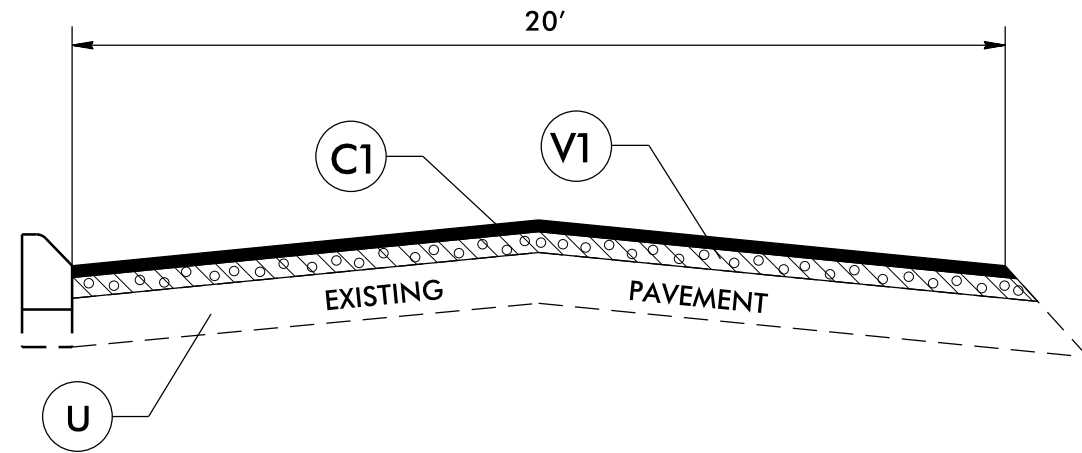
NOTE: USE FOR MAP #5 FROM SR 1383 TO END OF C&G 300 FT EAST OF SR 1383, MILLED SURFACE TO BE FLUSH WITH GUTTER

PAVEMENT SCHEDULE

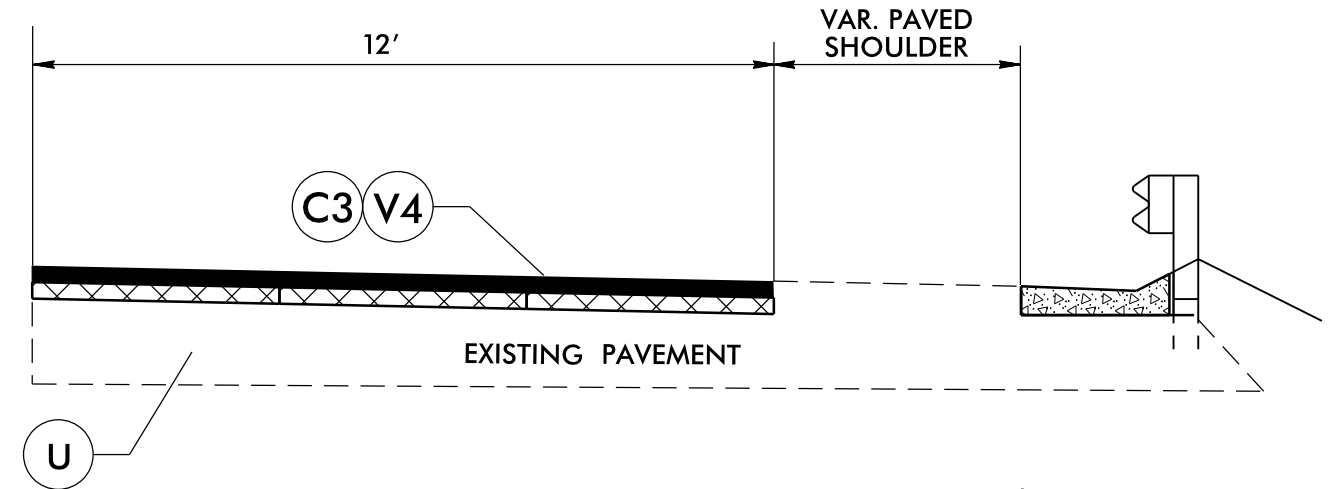
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M1	CENTERLINE MILLED RUMBLE STRIPS (SEE DETAIL)
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 3.5" IN DEPTH
V3	MILLING 0-4.75" IN DEPTH
V4	MILLING 2.0" IN DEPTH



TYPICAL SECTION NO. 13



TYPICAL SECTION NO. 14

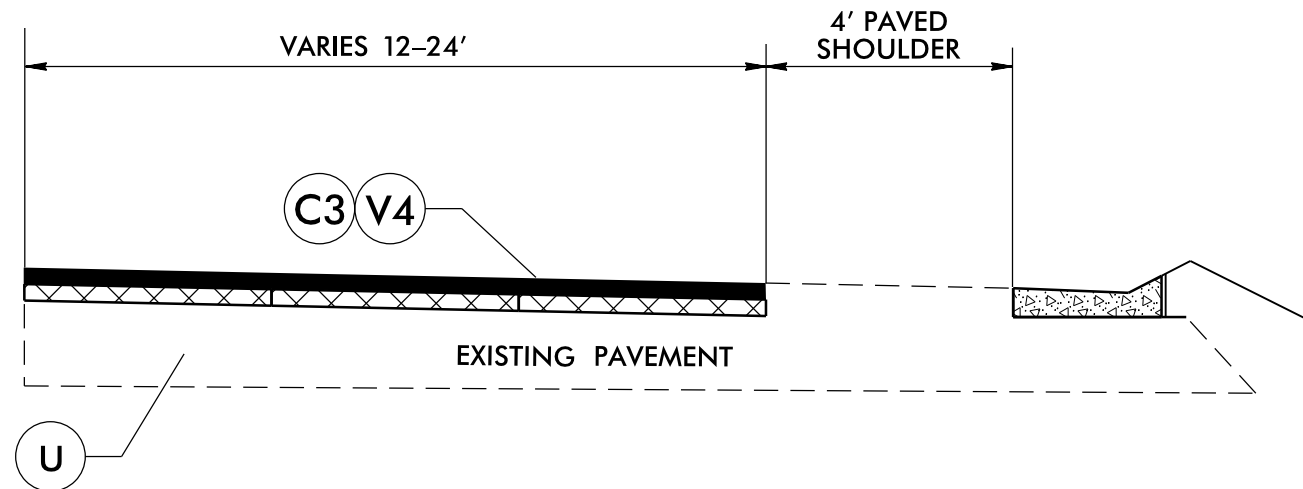


TYPICAL SECTION NO. 15

NOTE: USE ON MAP #11
 MILLING AND RESURFACING FROM CENTERLINE SKIPS TO EDGE LINE,
 DO NOT INCLUDE PAVED SHOULDER

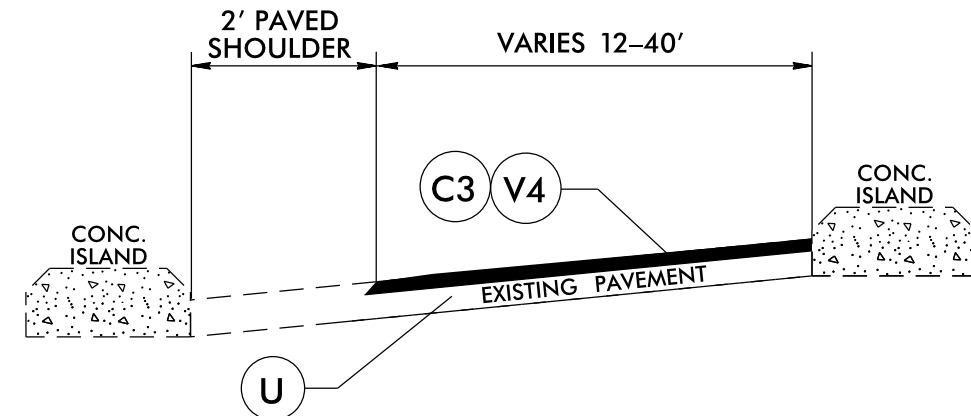
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M1	CENTERLINE MILLED RUMBLE STRIPS (SEE DETAIL)
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 3.5" IN DEPTH
V3	MILLING 0-4.75" IN DEPTH
V4	MILLING 2.0" IN DEPTH



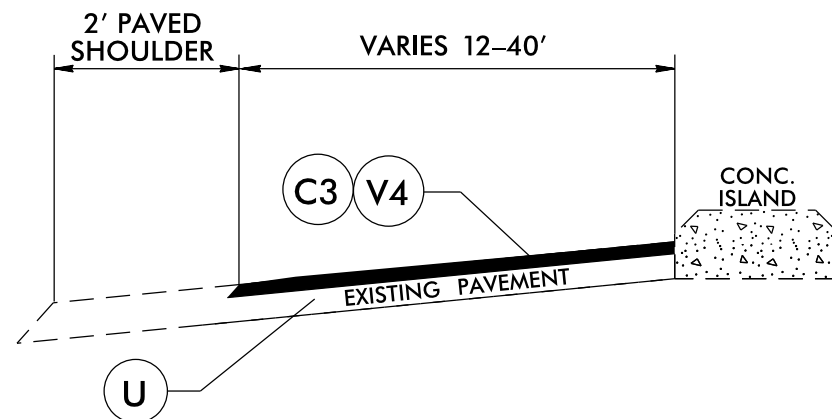
TYPICAL SECTION NO. 16

NOTE: USE ON MAP #13
 MILLING AND RESURFACING
 FROM LANE LINE/mini-skips TO EDGE LINE,
 DO NOT INCLUDE PAVED SHOULDER



TYPICAL SECTION NO. 18

NOTE: USE ON MAPS #9,10,12
 MILLING AND RESURFACING FROM ISLAND TO EDGE LINE,
 DO NOT INCLUDE PAVED SHOULDER

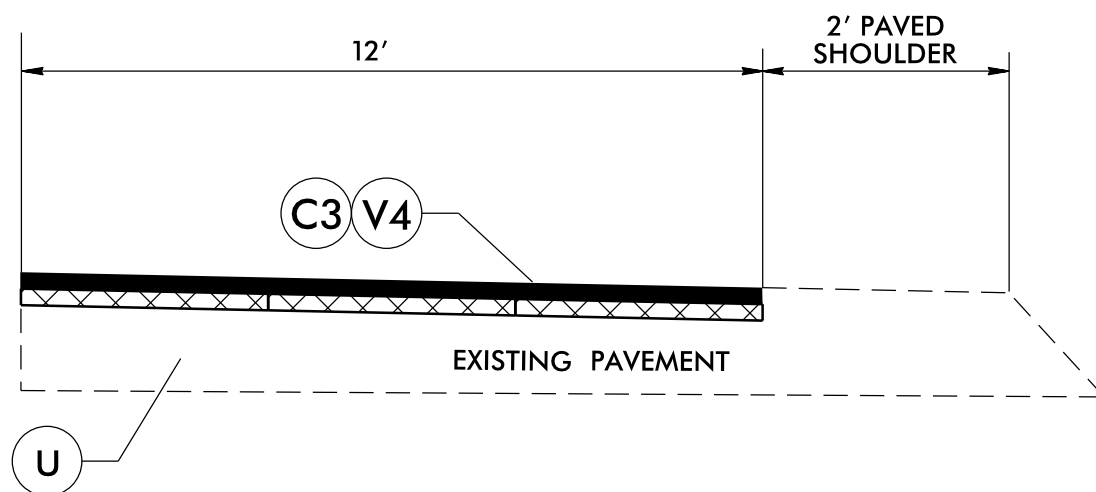


TYPICAL SECTION NO. 17

NOTE: USE ON MAPS #9,10, AND 12
 MILLING AND RESURFACING
 FROM ISLAND TO EDGE LINE,
 DO NOT INCLUDE PAVED SHOULDER.

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M1	CENTERLINE MILLED RUMBLE STRIPS (SEE DETAIL)
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 3.5" IN DEPTH
V3	MILLING 0-4.75" IN DEPTH
V4	MILLING 2.0" IN DEPTH



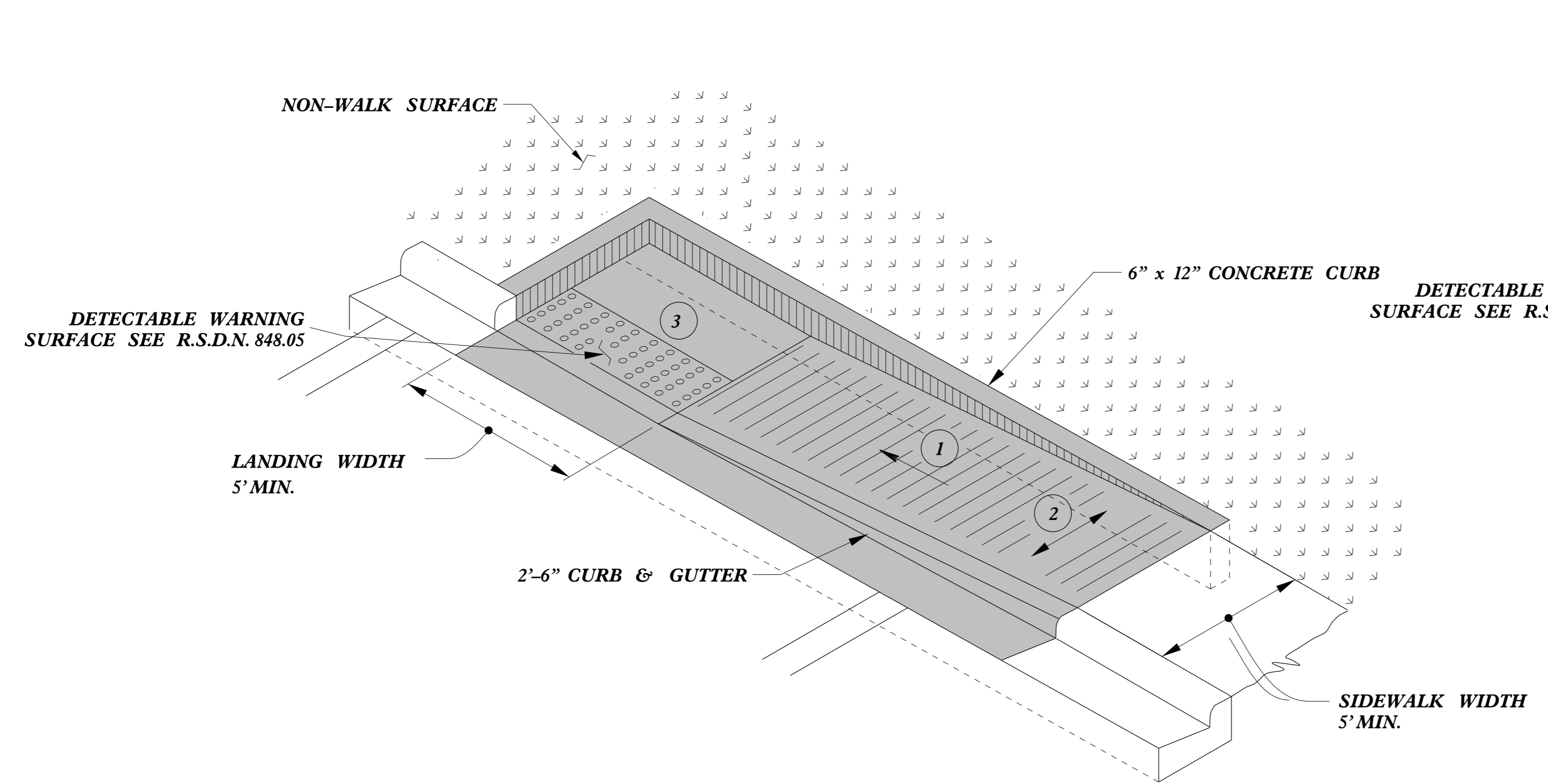
TYPICAL SECTION NO. 19

NOTE: USE ON MAPS #9,10, AND 12
MILLING AND RESURFACING FROM
GORE LINE/MINI-SKIPS TO EDGE LINE,
DO NOT INCLUDE PAVED SHOULDER

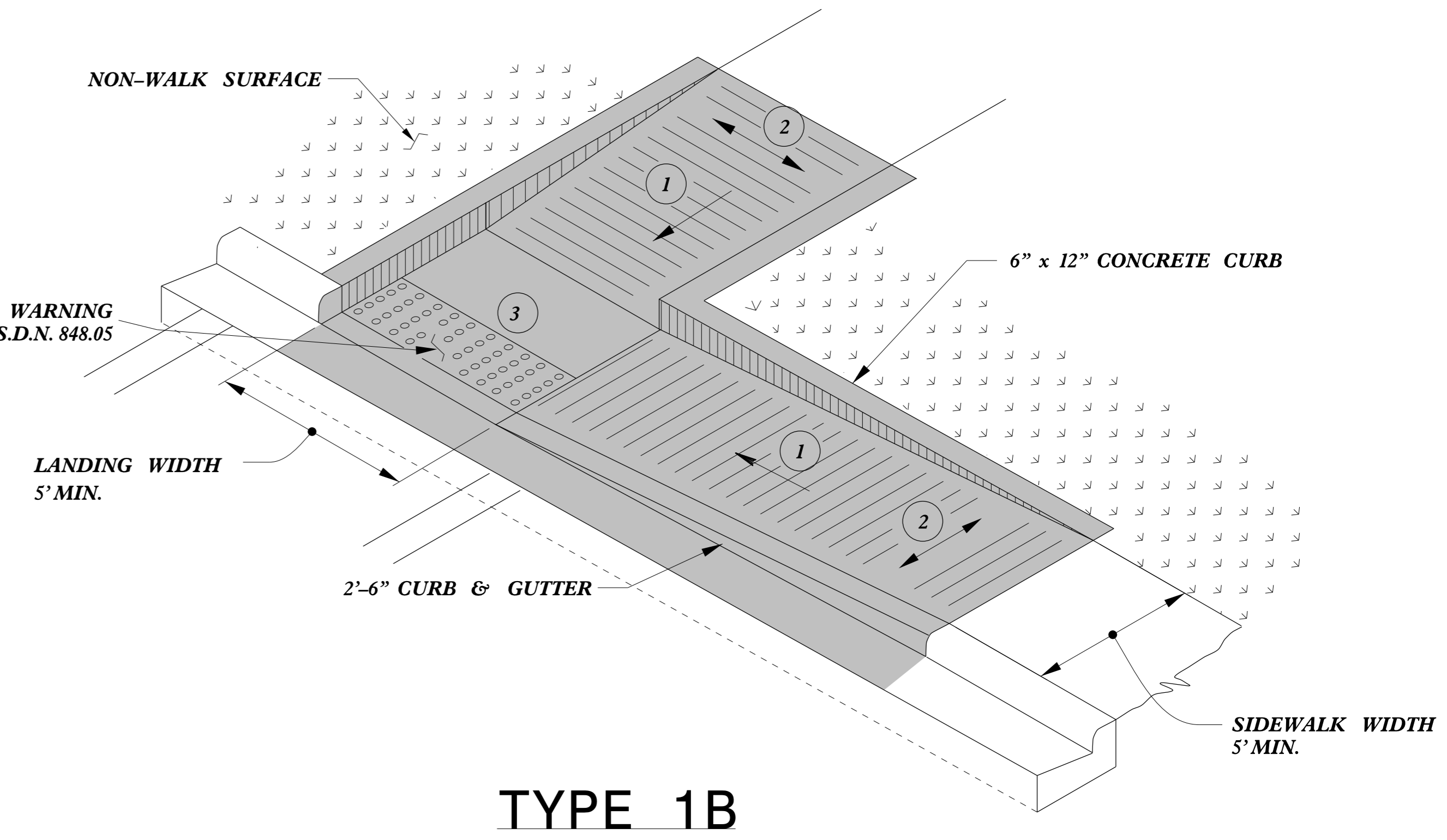
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M1	CENTERLINE MILLED RUMBLE STRIPS (SEE DETAIL)
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V2	MILLING 3.5" IN DEPTH
V3	MILLING 0-4.75" IN DEPTH
V4	MILLING 2.0" IN DEPTH

5/14/99



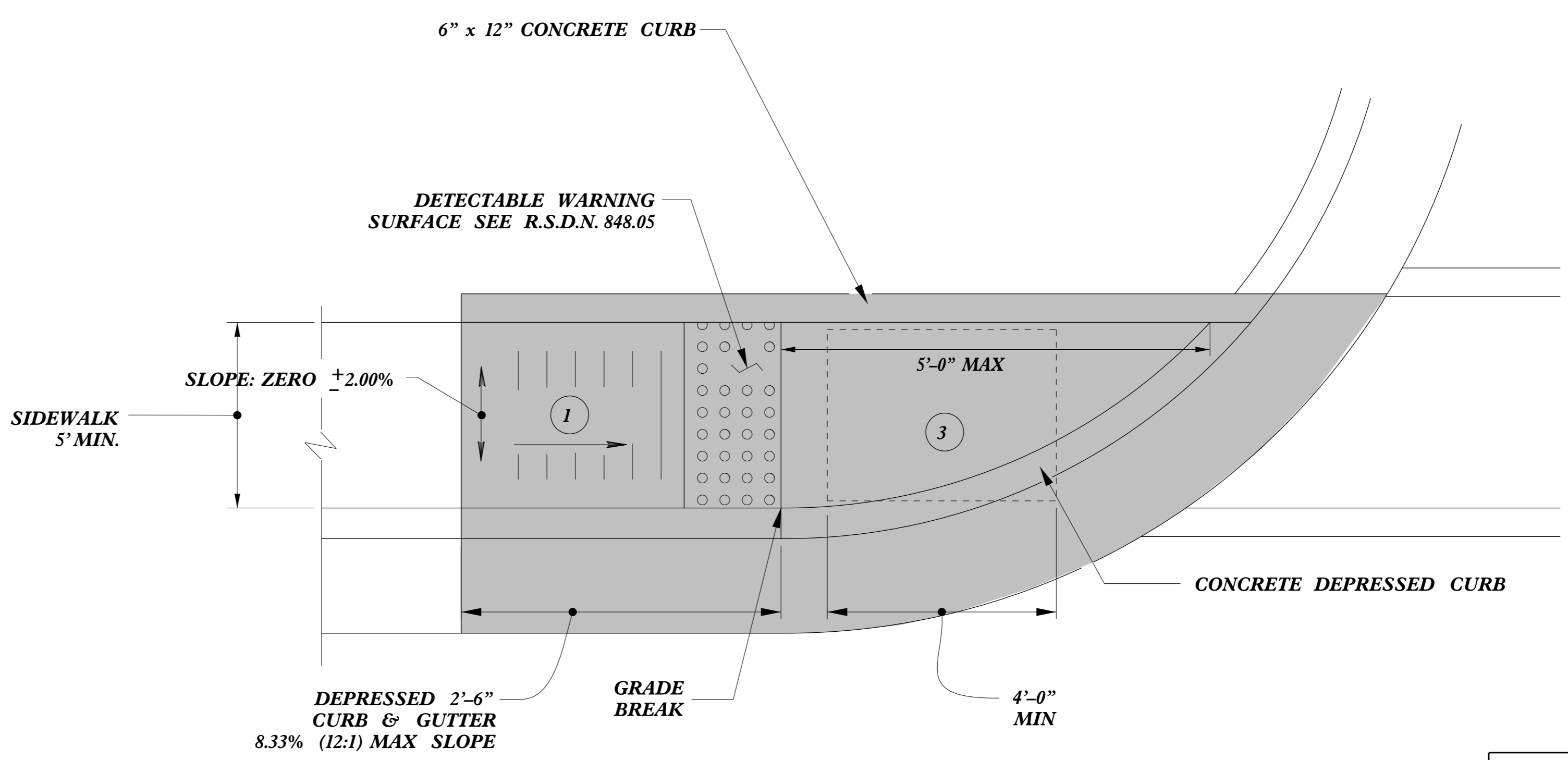
TYPE 1A



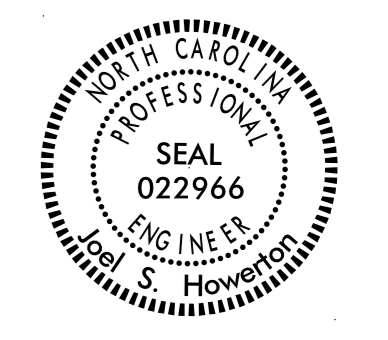
TYPE 1B

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

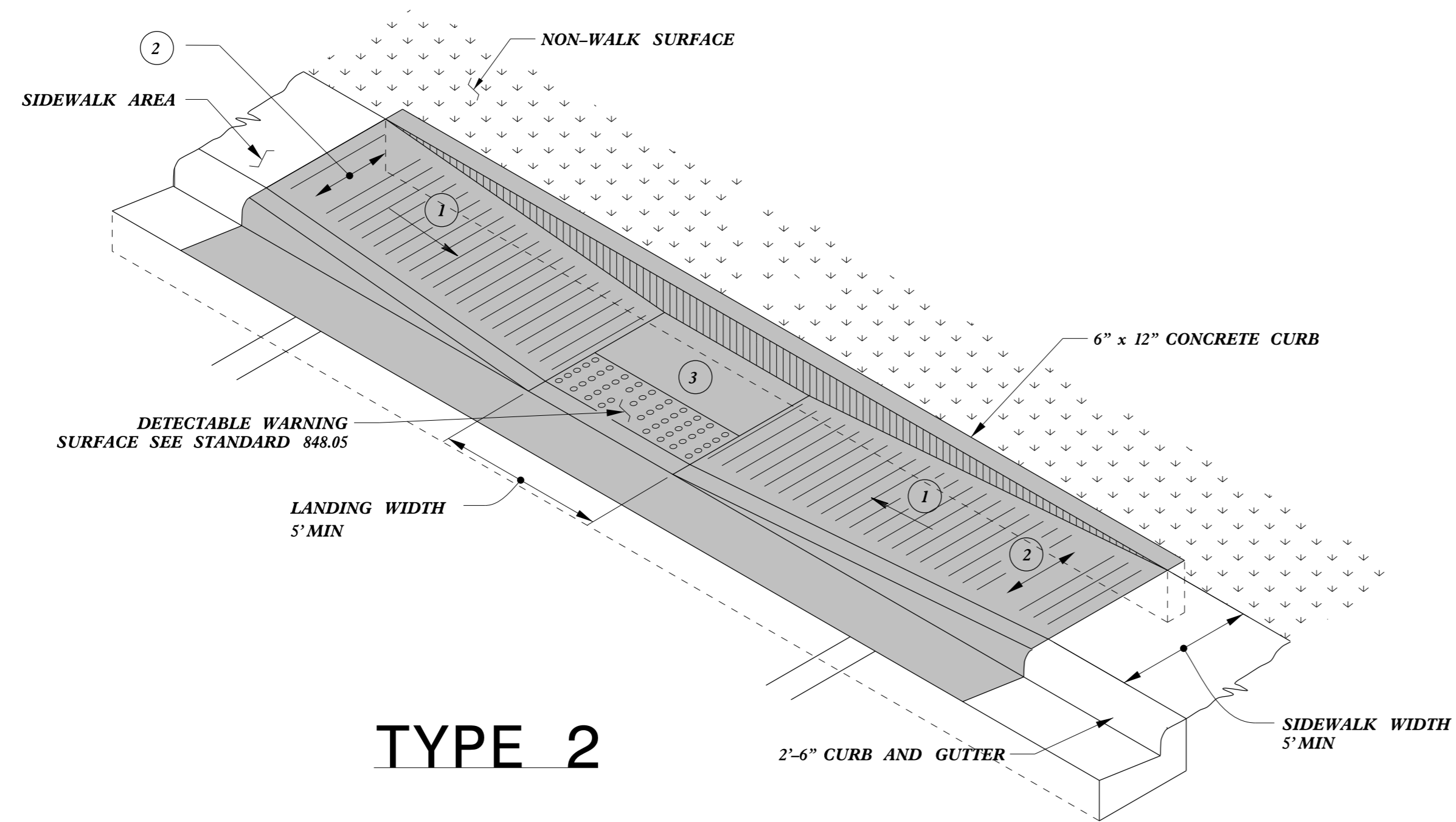


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

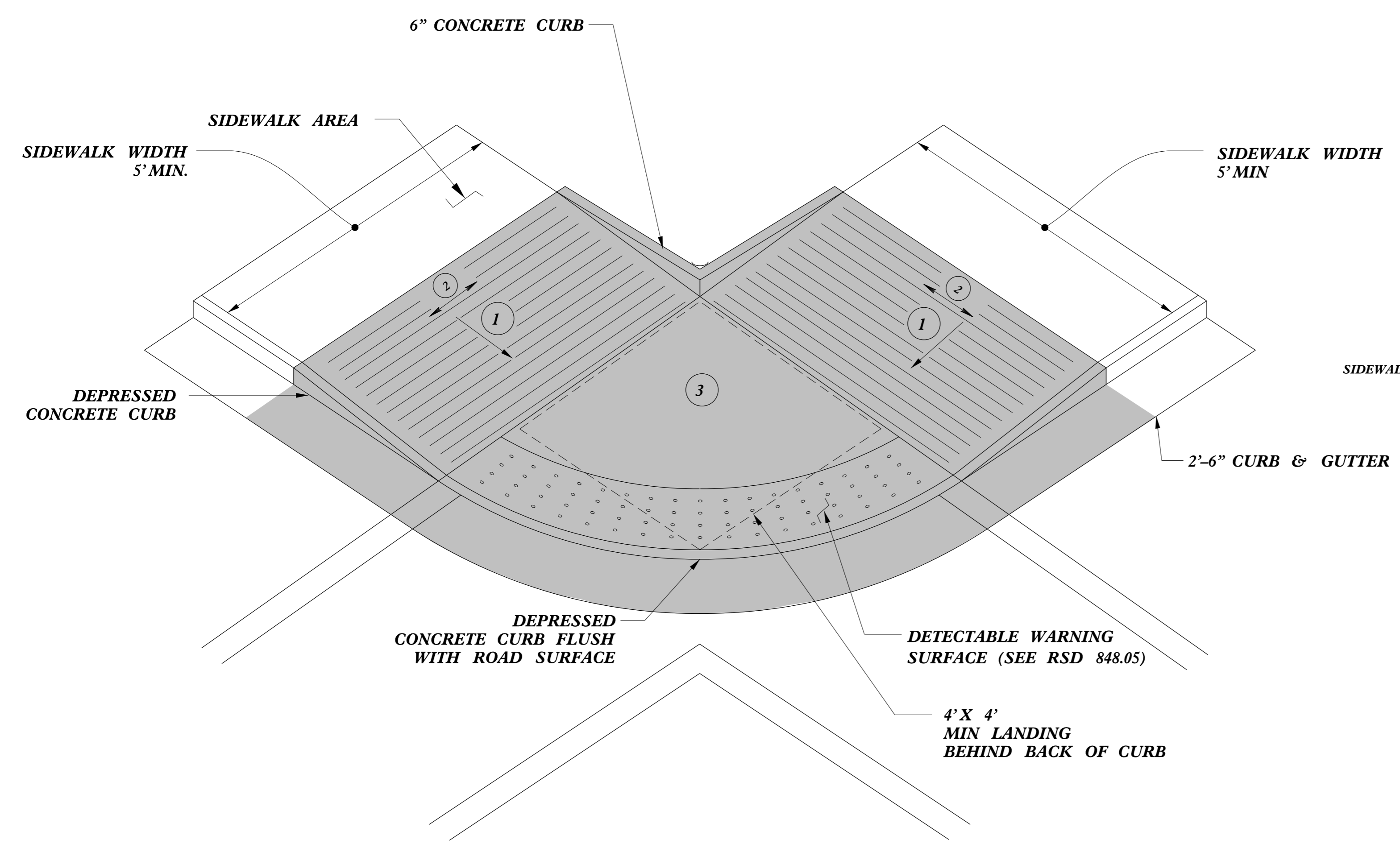
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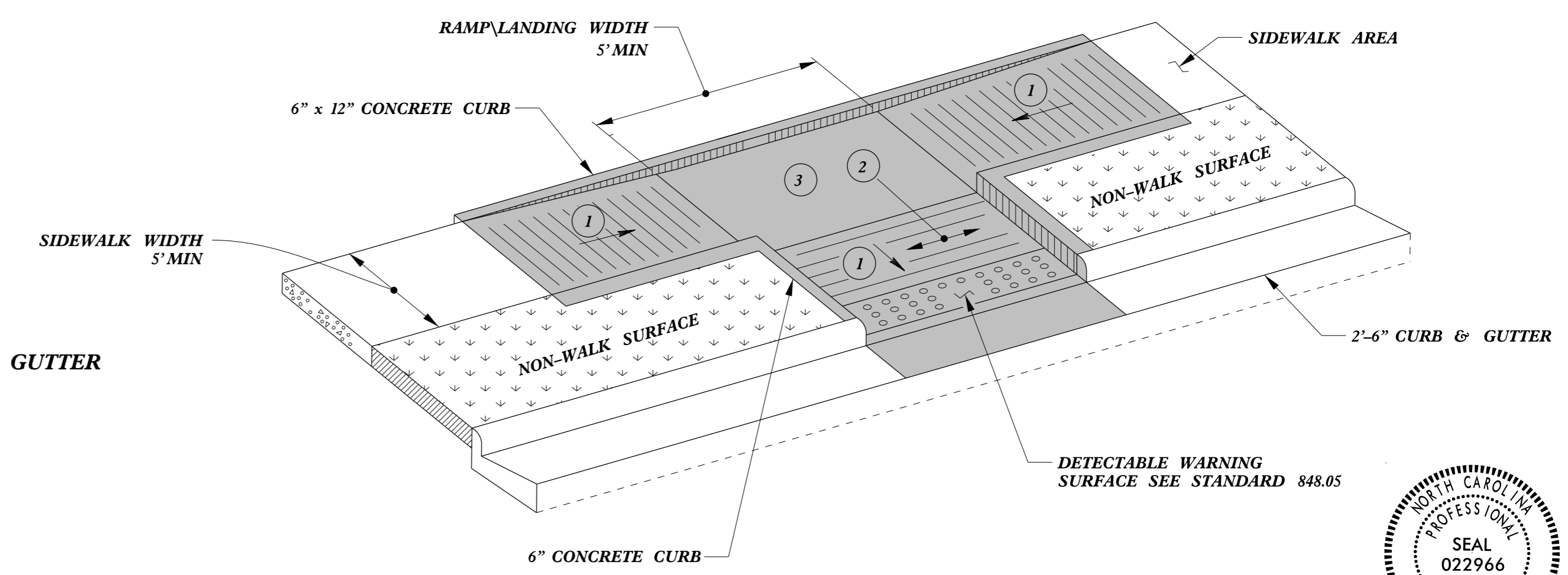
TYPE 2

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

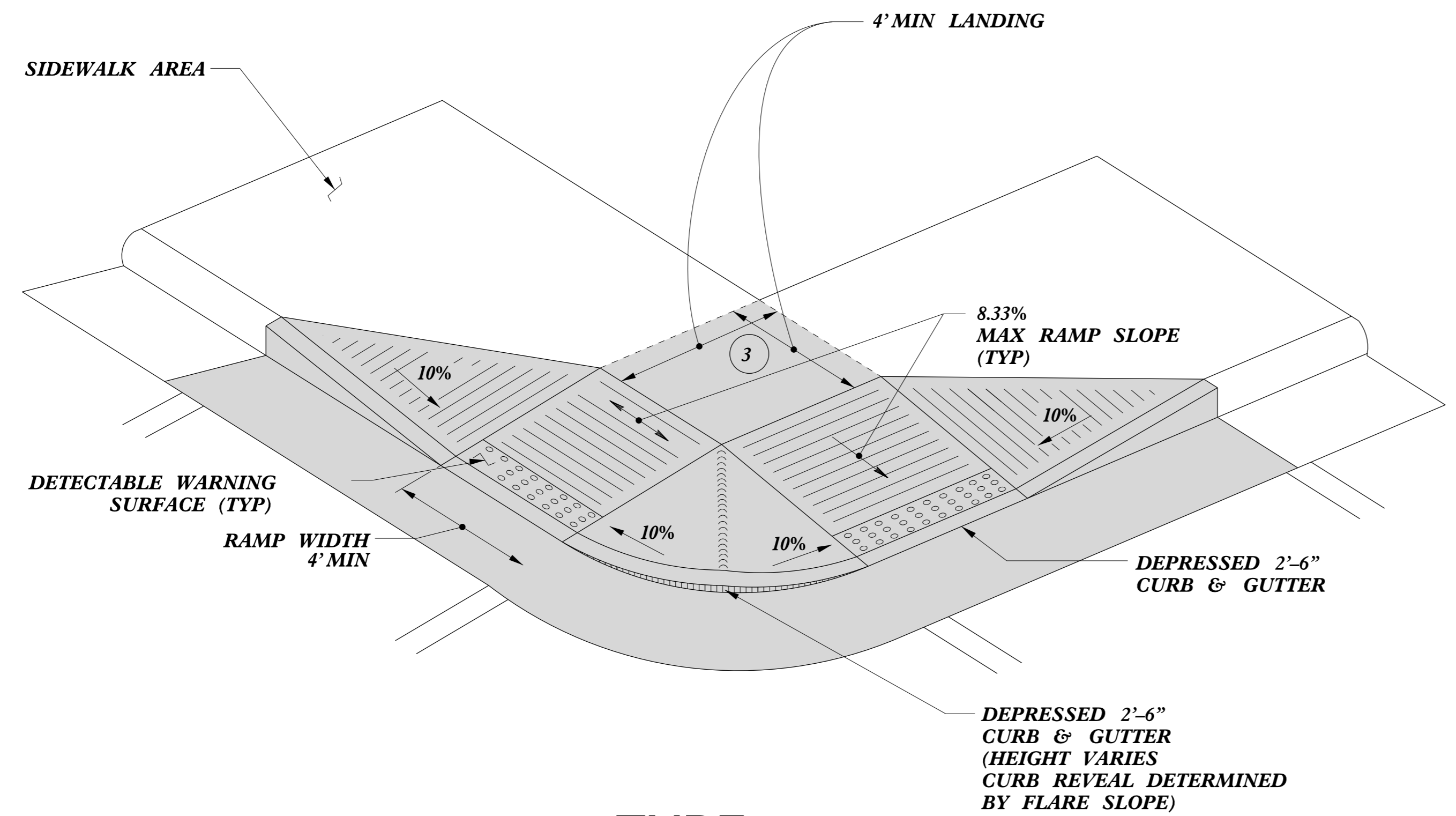


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UNLESS ALL SIGNATURES COMPLETED

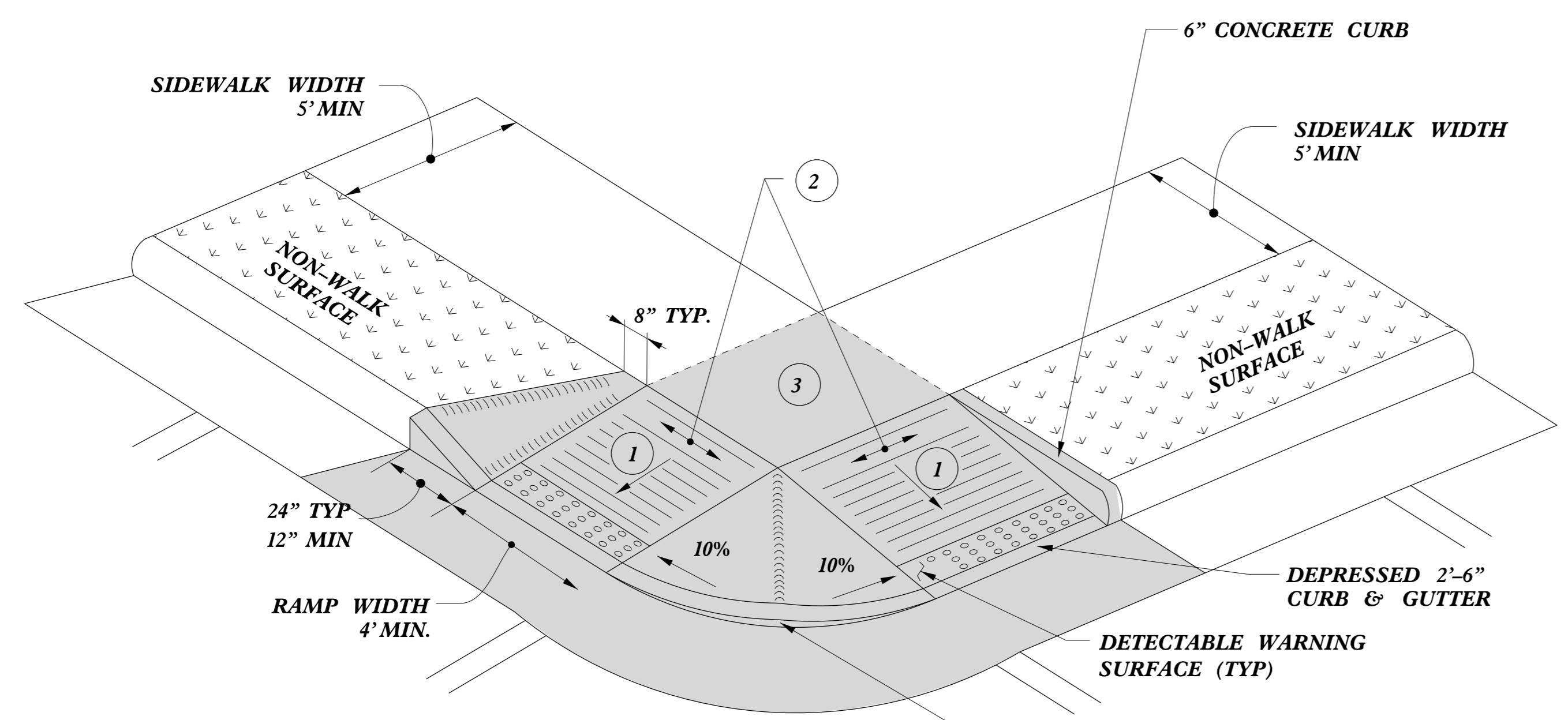
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn	

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

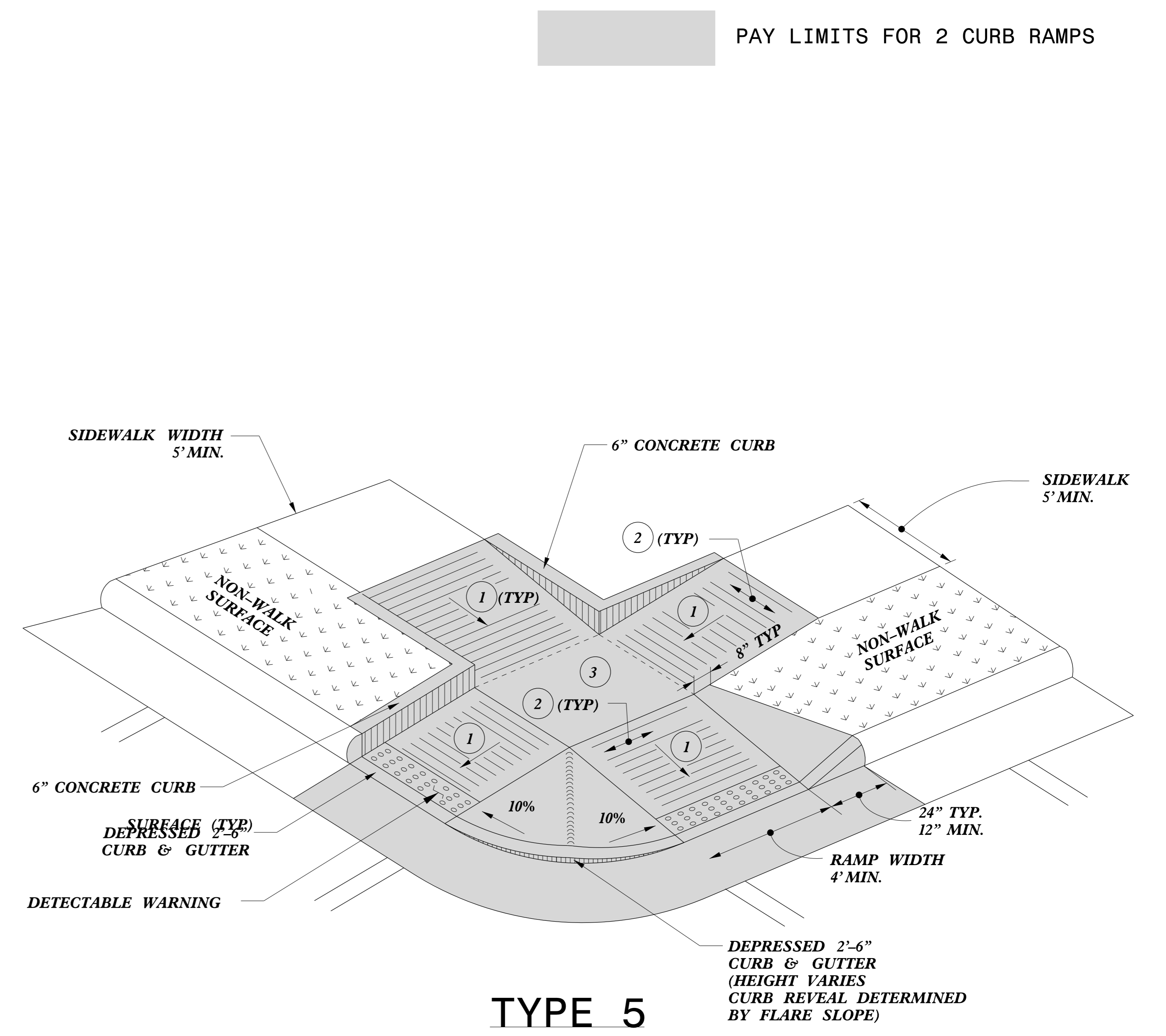
5/14/99
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TYPE 4



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.

PAY LIMITS FOR 2 CURB RAMPS

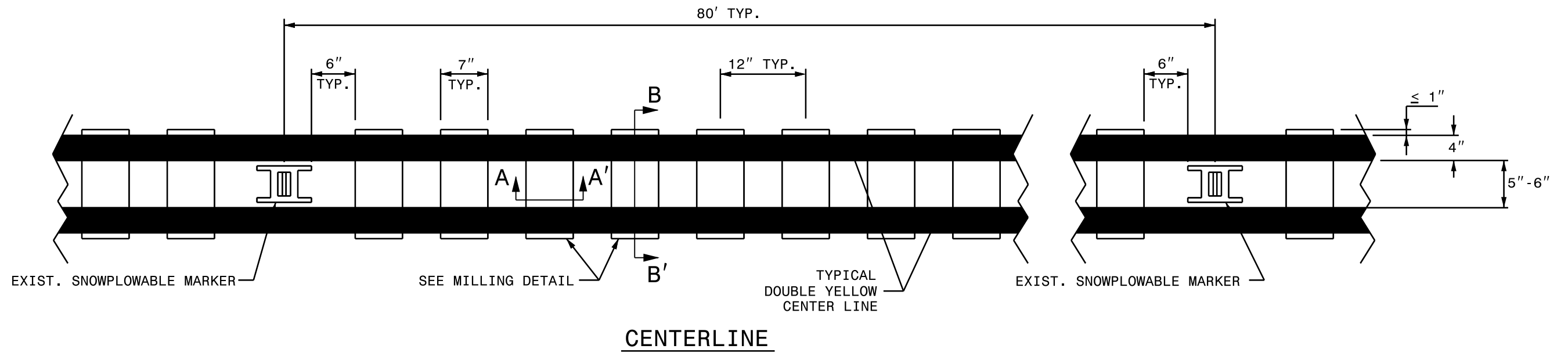


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

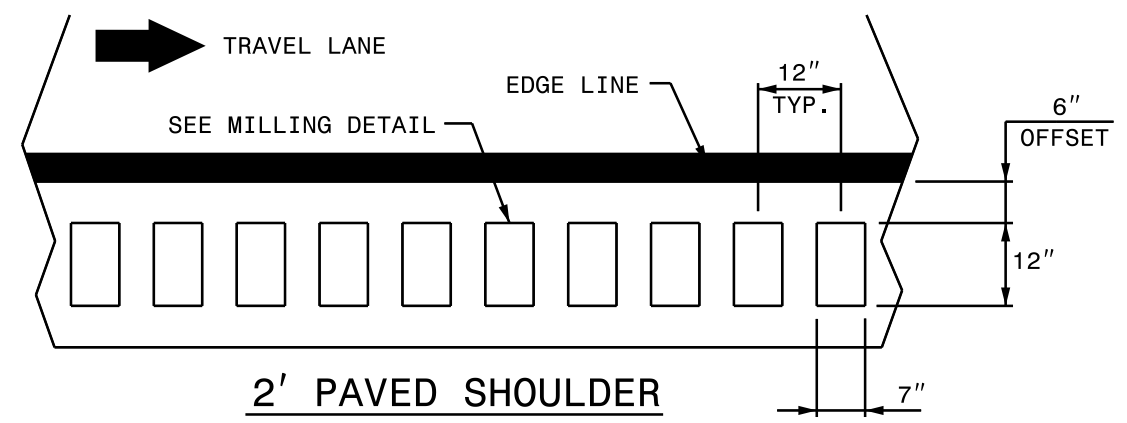
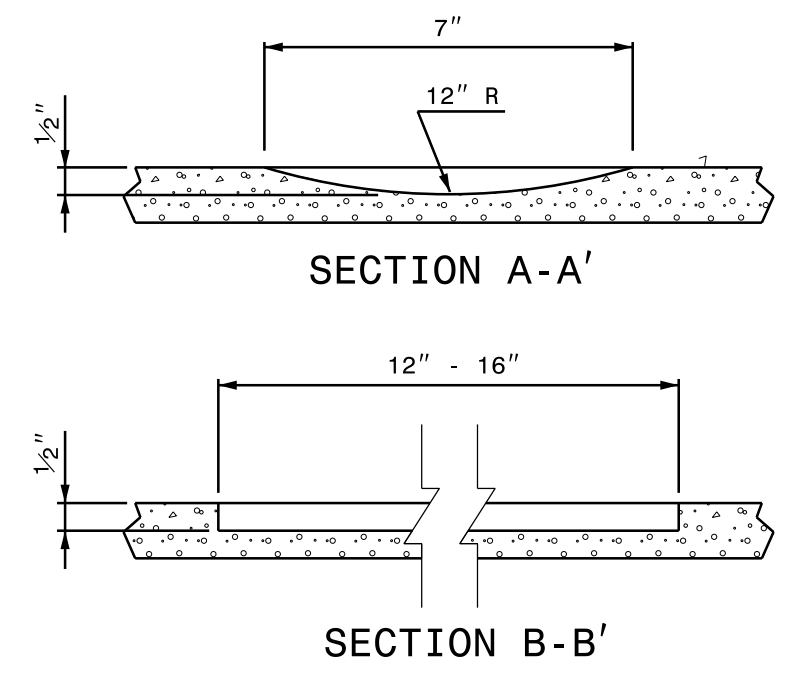
5/14/99
C:\TIME\STDS\CON\STDS\USER\NAME



NOTES:

- 1) THERE WILL BE NO CENTERLINE RUMBLE STRIPS OR RUMBLE STRIPES ON 3-LANE SECTIONS.
- 2) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS. NO ADDITIONAL PAYMENT WILL BE MADE FOR USE OF A VACUUM TRUCK AS IT WILL BE INCIDENTAL TO MILLED RUMBLE STRIPS.
- 3) NEW SNOWPLOWABLE MARKERS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

MILLING DETAIL

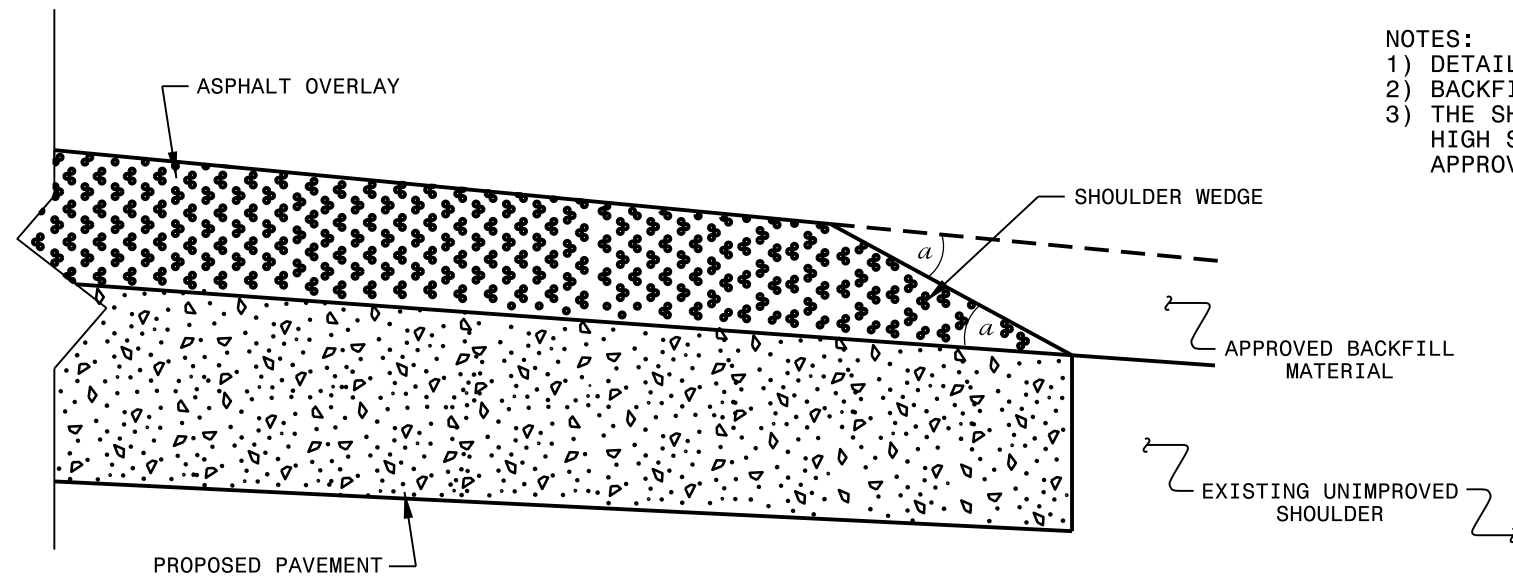


MILLED RUMBLE STRIPS		REVISIONS						
SCALE:	NONE							
DATE:	09-20							
DWG. BY:	DDC							
DESIGN BY:	DDC							
REVIEWED BY:	GSD							
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<table border="1"> <tr> <td>DATE</td> <td>BY</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	DATE	BY						
DATE	BY							

04-OCT-2021 15:28
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 mericketts AT DIV8-3036051

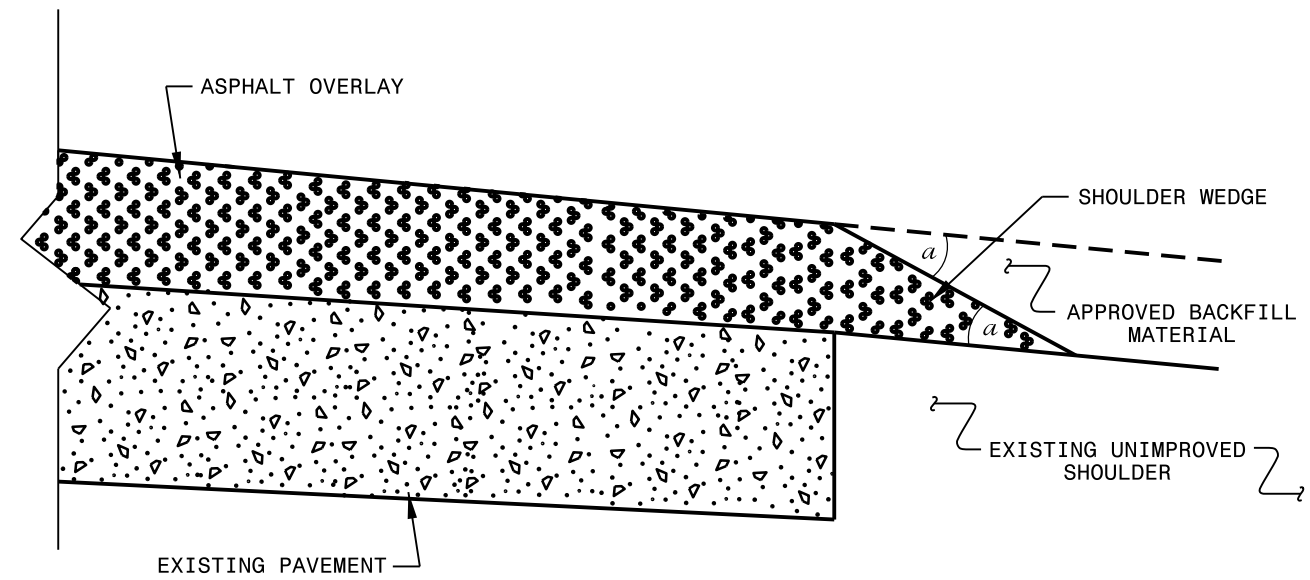
NOTES:

- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
- 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
- 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



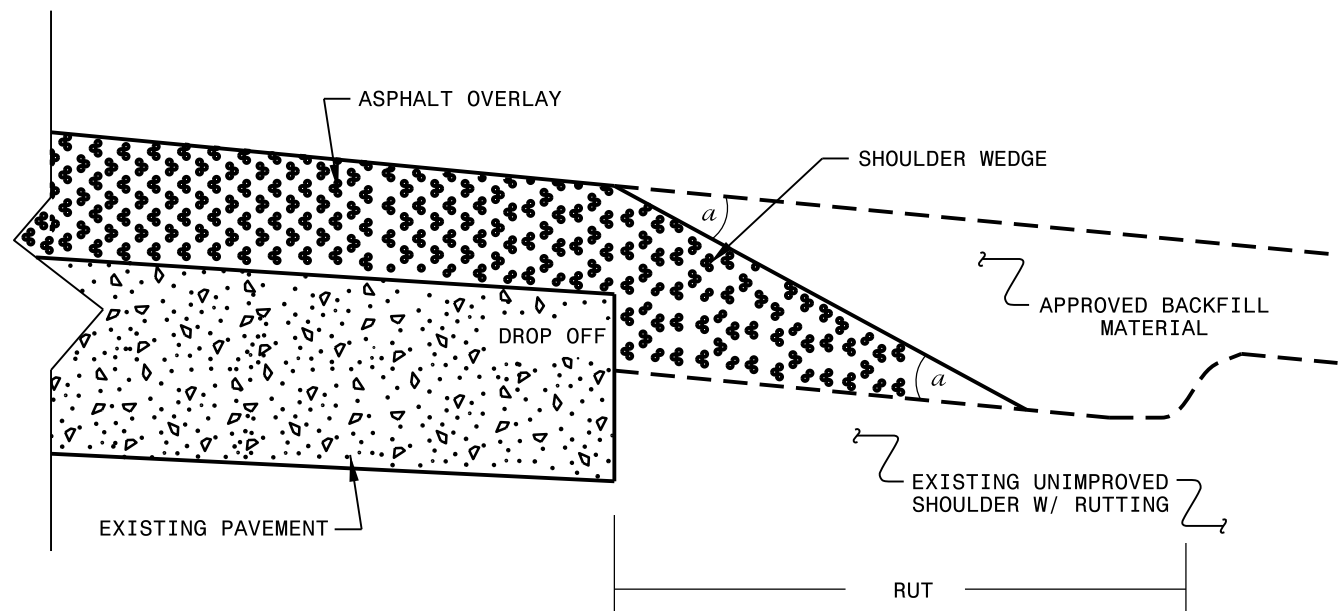
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



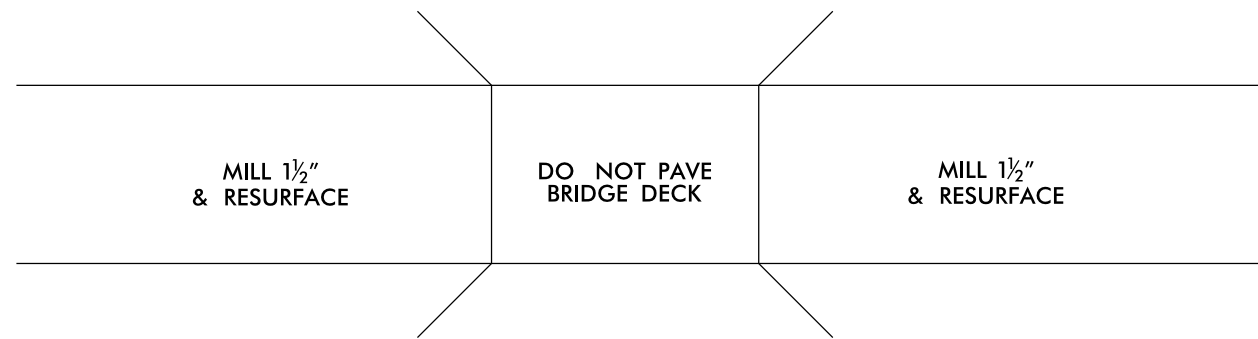
SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

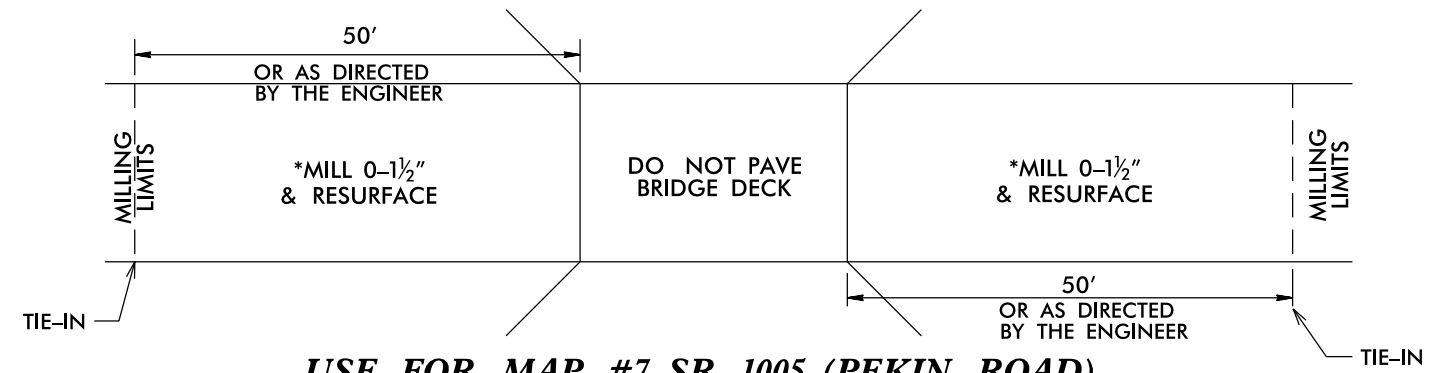
- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT		
Office 919-707-6950 FAX 919-250-4119		
SHOULDER WEDGE DETAILS		
ORIGINAL BY: T.SPELL	DATE: 7-19-11	
MODIFIED BY:	DATE: 2/2/16	
CHECKED BY:	DATE:	
FILE SPEC.: szusr/details/stand/shoulderwedgedetail.dgn		

BRIDGE DETAILS

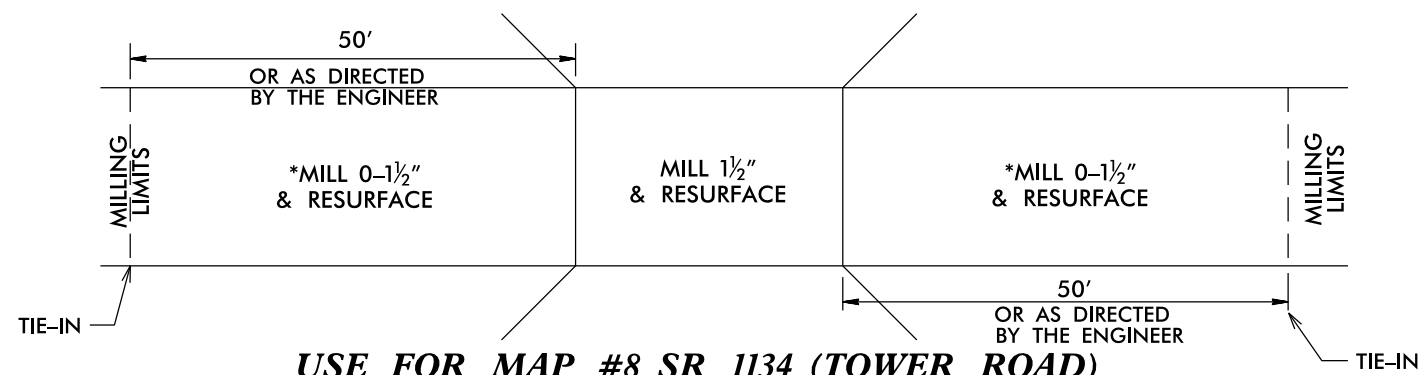


**USE FOR MAP #1 US 220 ALT
 BRIDGES #252 AND #254**



**USE FOR MAP #7 SR 1005 (PEKIN ROAD)
 BRIDGE #70**

* MILLING FOR APPROACHES SHALL BE PAID FOR UNDER INCIDENTAL MILLING

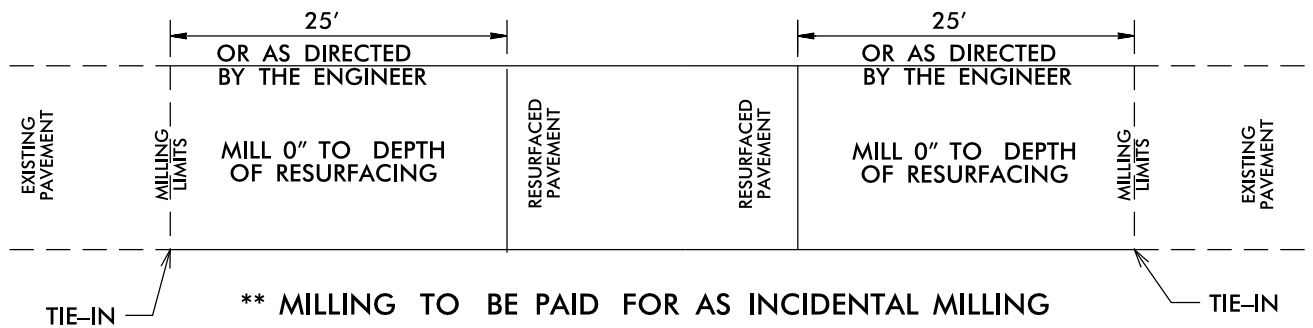


**USE FOR MAP #8 SR 1134 (TOWER ROAD)
 BRIDGE #149**

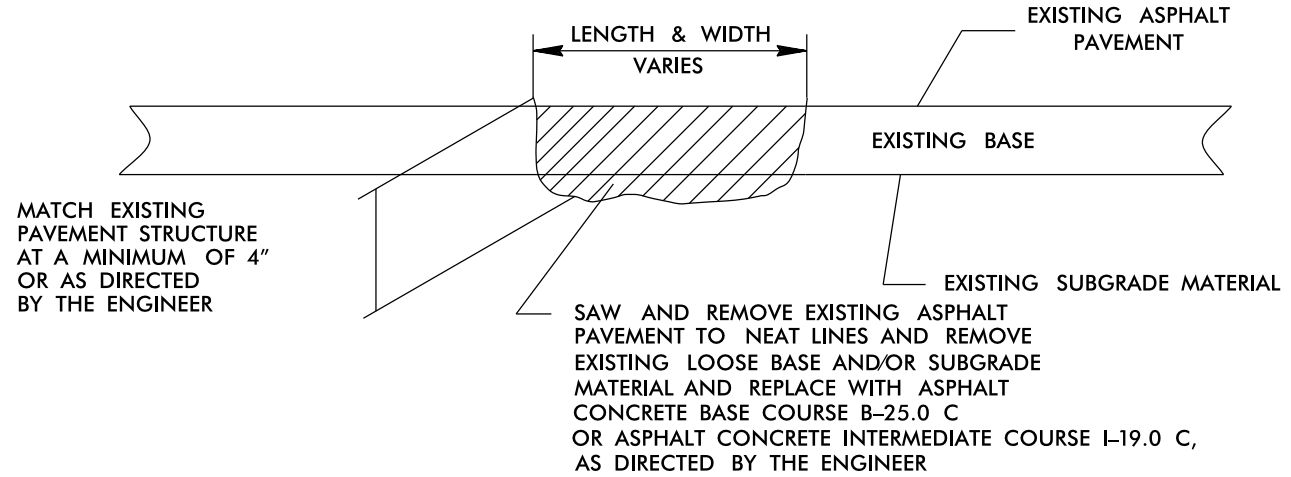
* MILLING FOR APPROACHES SHALL BE PAID FOR UNDER INCIDENTAL MILLING

DETAILS AND NOTES

PAVEMENT TIE-IN DETAIL



DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

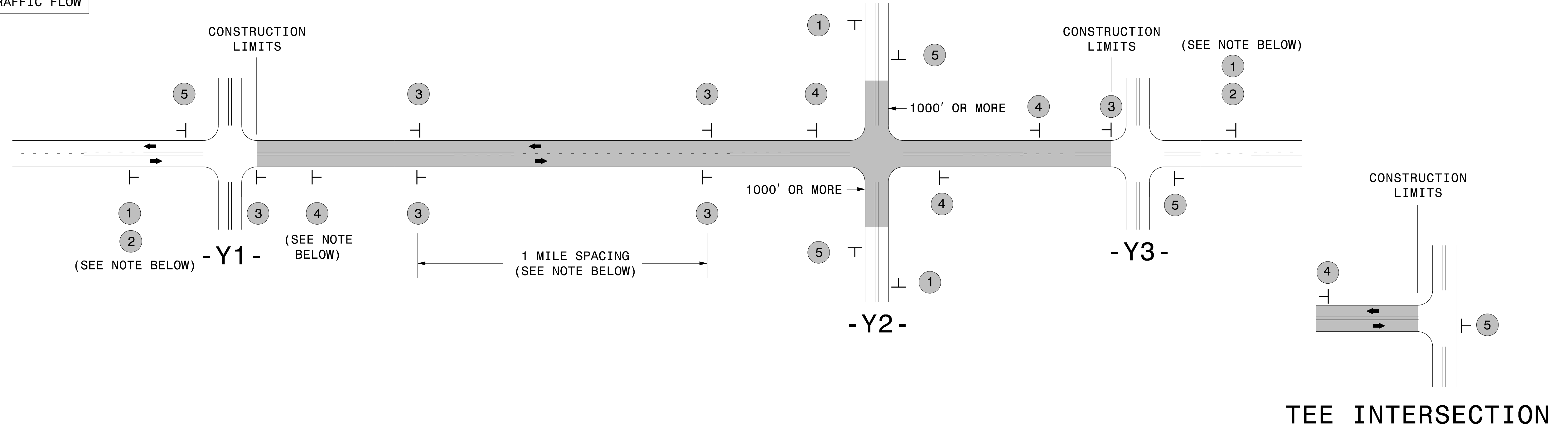


PROJECT NOTES

- FINAL PAVEMENT MARKINGS TO BE HANDLED BY STATE FORCES ON MAPS 4-8.
- PAINT AND LINE REMOVAL QUANTITIES INCLUDED ON MAP 1 FOR BRIDGE DECKS.
- TEMPORARY PAINT QUANTITIES INCLUDED FOR MAPS 1, 2, 4, 5, 6 AND 9-13 WITH MILLING.
- CURB RAMP TYPES TO BE INSTALLED ON MAPS 4 AND 5 AS DIRECTED BY THE ENGINEER.

SIGNING FOR RESURFACING PROJECTS

LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

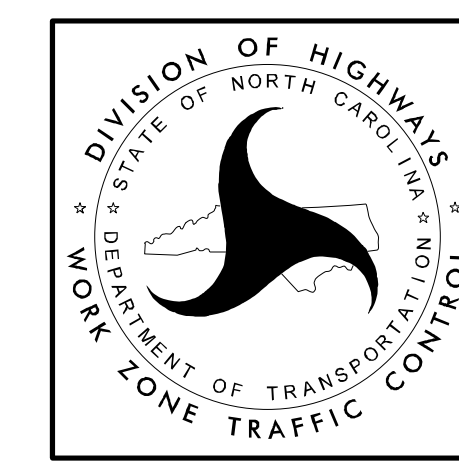
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p>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.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	2		#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		- 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		- 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		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

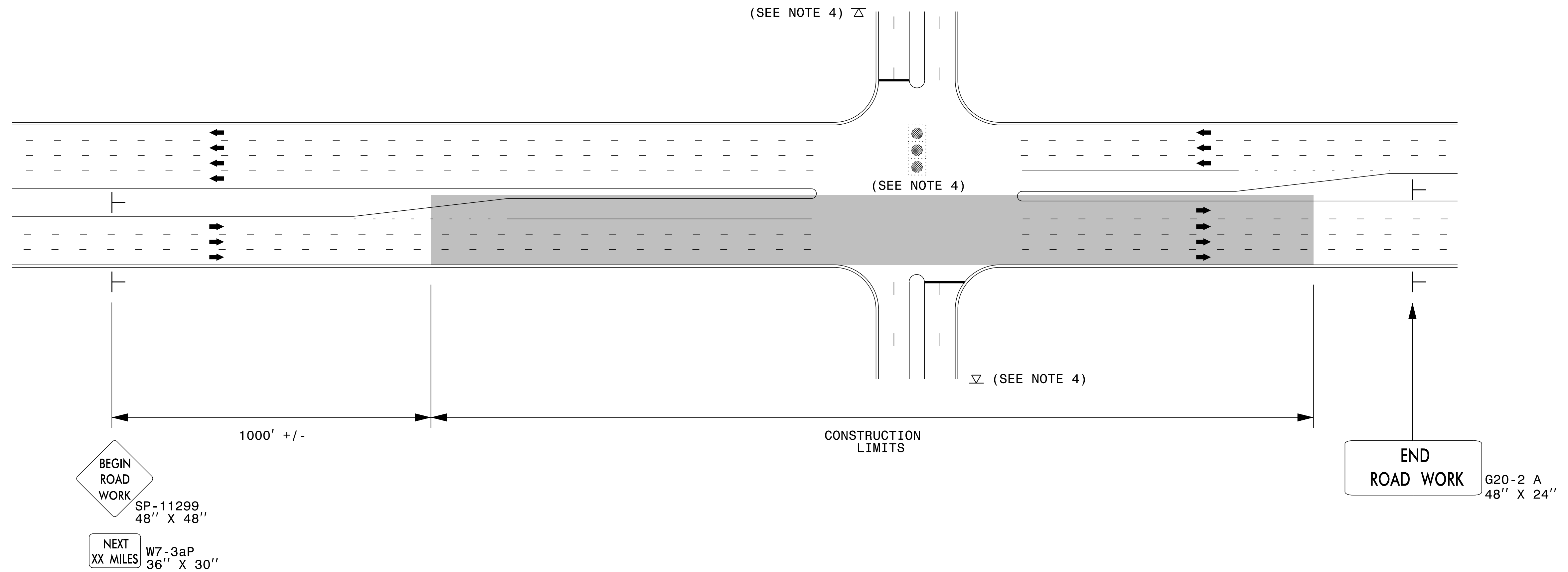
MAPS LESS THAN 2 MILES

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

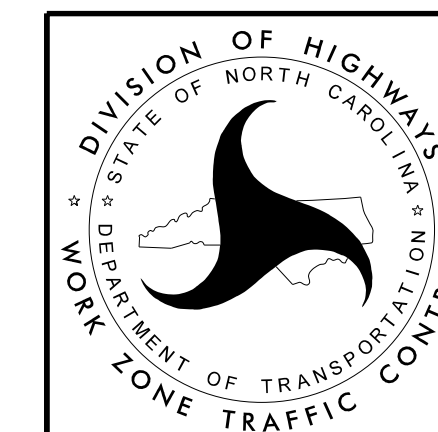


NOTES:

- 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.

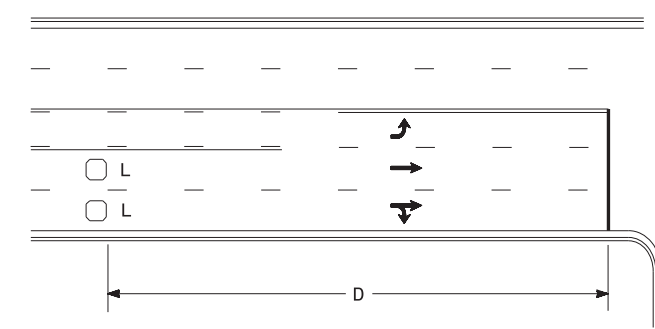
LEGEND

- ┆ STATIONARY SIGN
- ➔ DIRECTION OF TRAFFIC FLOW



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

High Speed Detection (≥40 mph)

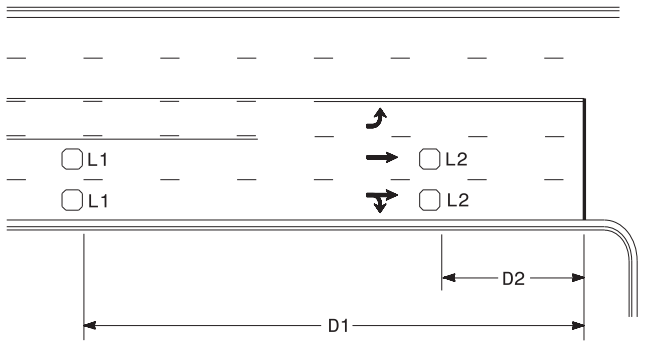


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



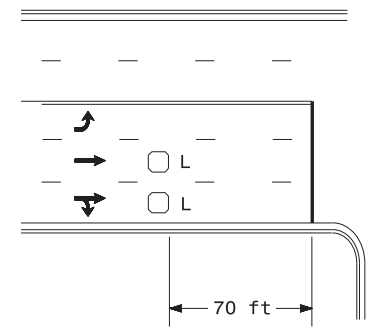
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

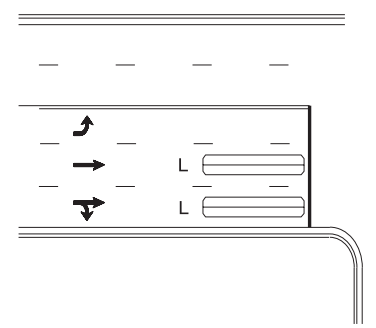
"Stretch" Operation

Low Speed Detection (≤35 mph)



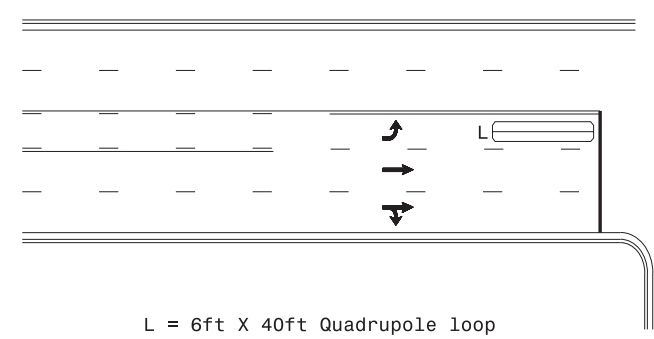
L = 6ft X 6ft
Wired in series

OR



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

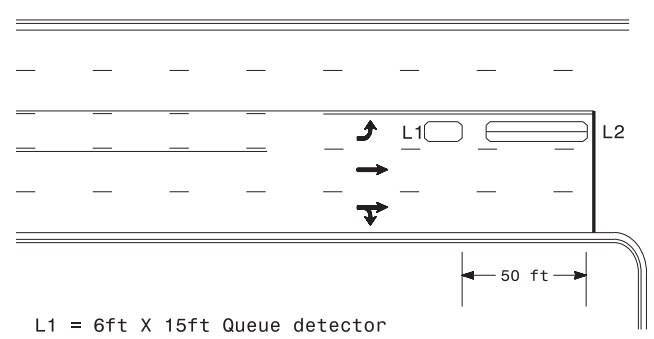
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

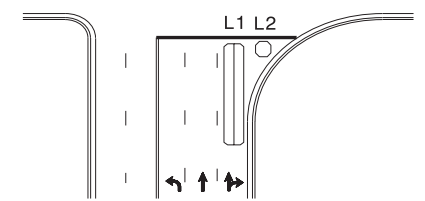
OR



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

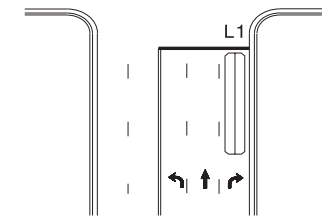
Queue Loop Detection

Right Turn Lane Detection

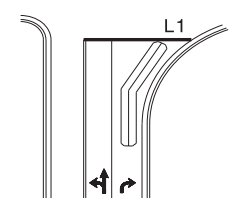


Shared Lane/
Wide Radius Turn

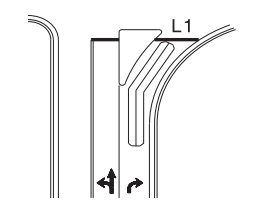
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

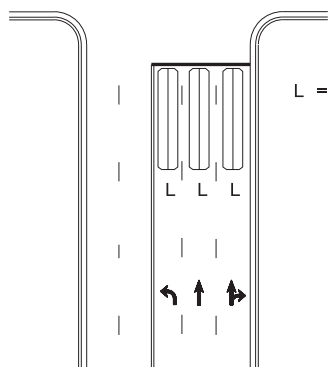


Wide Radius Turn



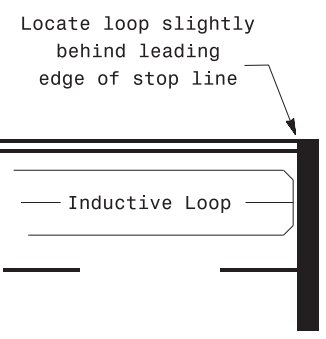
Channelized Turn

Side Street Detection



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

Presence Loop Placement at Stop Lines



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

SCALE
N/A

Typical Signal Loop Locations

PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

9/8/2020

SIG. INVENTORY NO.

08-SEP-2020 11:54 S:\17545\17545\SIGNAL\Design\Section\Eastern_Regional\Loop_Type\cal\loop\typical\cal\2015.dgn JGalloway