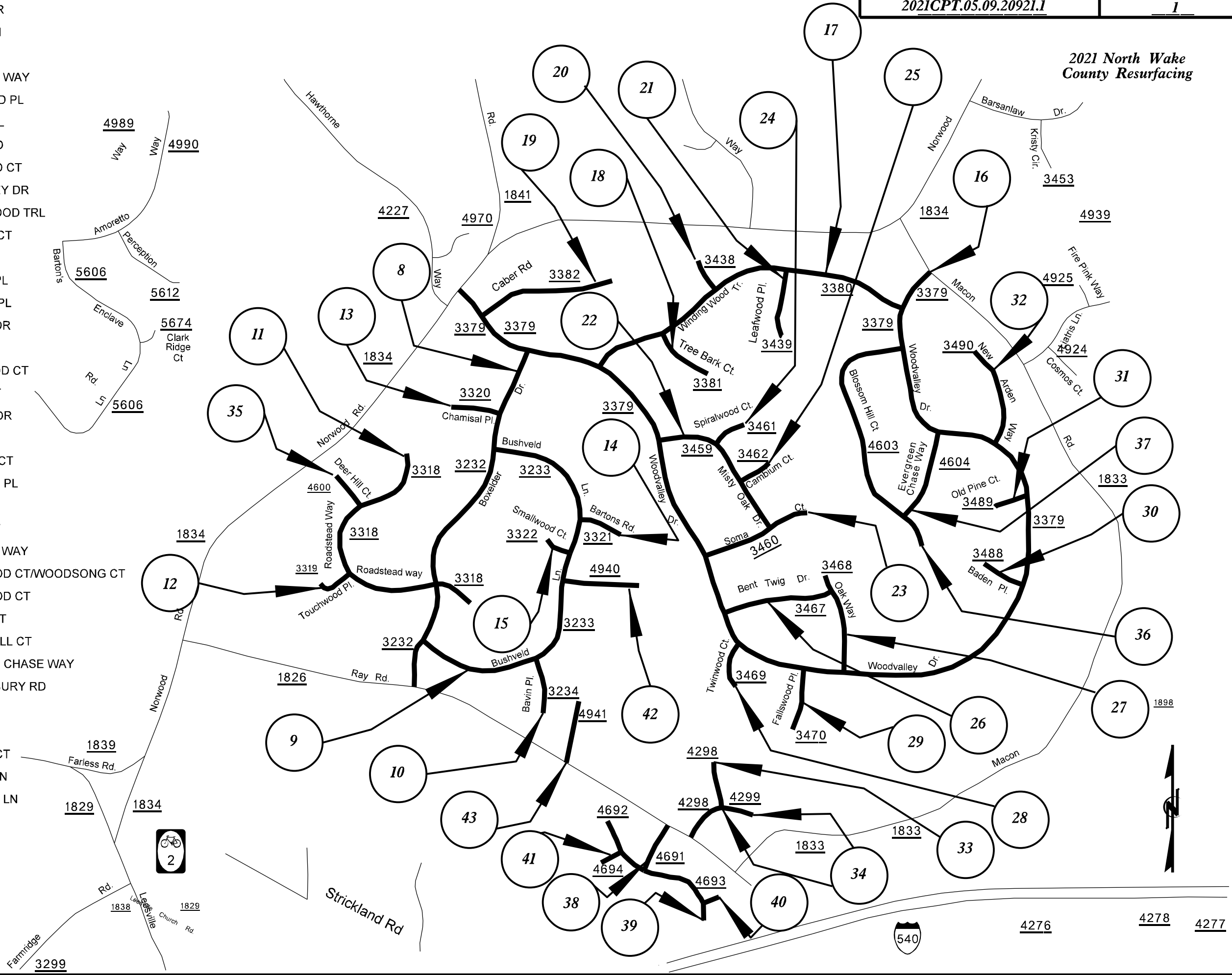


2021 North Wake County Resurfacing

- 8. SR 3232 - BOXELDER DR
- 9. SR 3233 - BUSHVELD LN
- 10. SR 3234 - BAVIN PL
- 11. SR 3318 - ROADSTEAD WAY
- 12. SR 3319 - TOUCHWOOD PL
- 13. SR 3320 - CHAMISAL PL
- 14. SR 3321 - BARTONS RD
- 15. SR 3322 - SMALLWOOD CT
- 16. SR 3379 - WOODVALLEY DR
- 17. SR 3380 - WINDING WOOD TRL
- 18. SR 3381 - TREE BARK CT
- 19. SR 3382 - CABER RD
- 20. SR 3438 - CHINKAPIN PL
- 21. SR 3439 - LEAFWOOD PL
- 22. SR 3459 - MISTY OAK DR
- 23. SR 3460 - SOMA CT
- 24. SR 3461 - SPIRAL WOOD CT
- 25. SR 3462 - CAMBIUM CT
- 26. SR 3467 - BENT TWIG DR
- 27. SR 3468 - OAK WAY
- 28. SR 3469 - TWINWOOD CT
- 29. SR 3470 - FALLSWOOD PL
- 30. SR 3488 - BADEN PL
- 31. SR 3489 - OLD PINE CT
- 32. SR 3490 - NEW ARDEN WAY
- 33. SR 4298 - HEMINGWOOD CT/WOODSONG CT
- 34. SR 4299 - HEMINGWOOD CT
- 35. SR 4600 - DEER HILL CT
- 36. SR 4603 - BLOSSOM HILL CT
- 37. SR 4604 - EVERGREEN CHASE WAY
- 38. SR 4691 - CHAMBERSBURY RD
- 39. SR 4692 - GRALYN RD
- 40. SR 4693 - WESSEX CT
- 41. SR 4694 - CHARLTON CT
- 42. SR 4940 - LACEBARK LN
- 43. SR 4941 - SANDBERRY LN

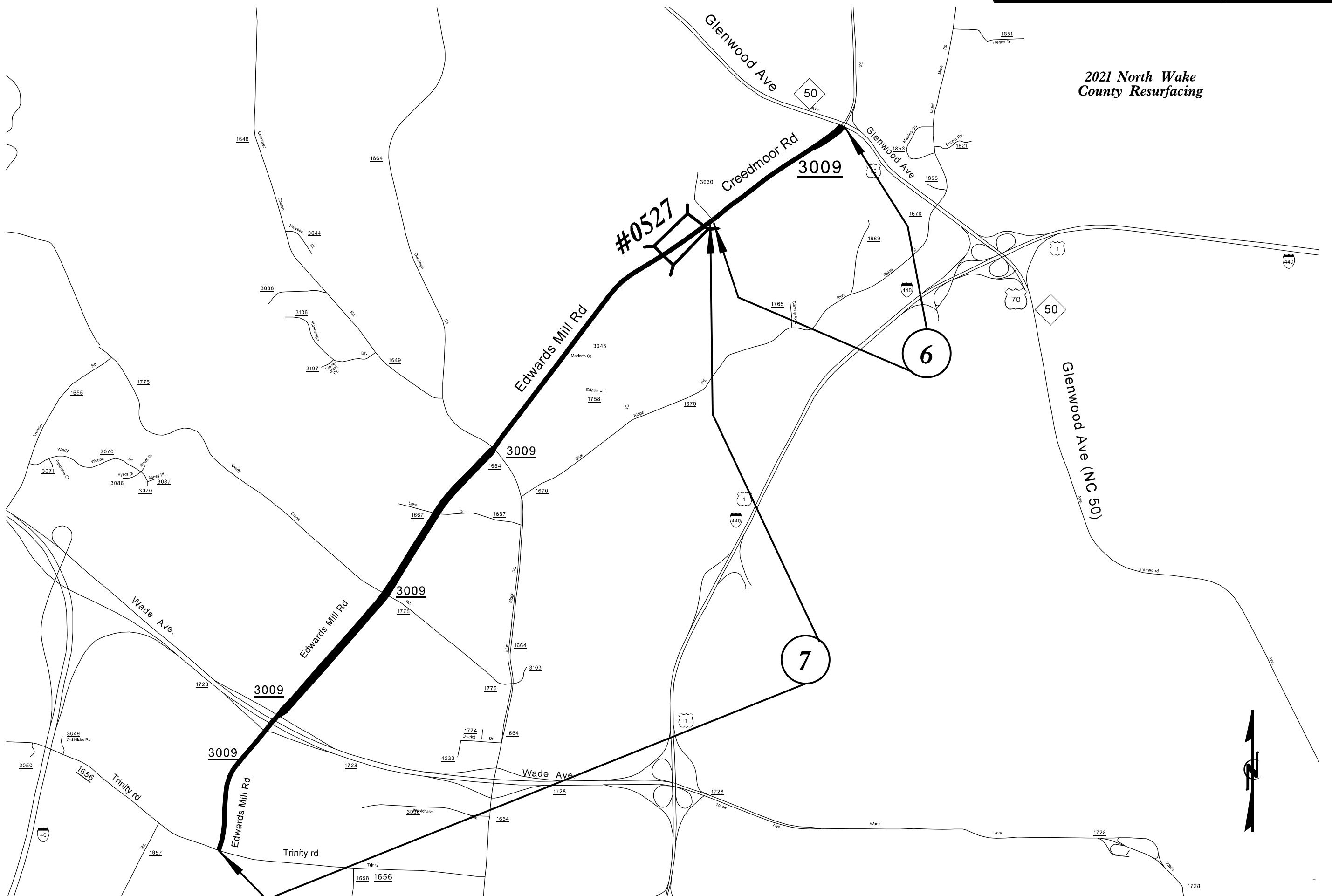


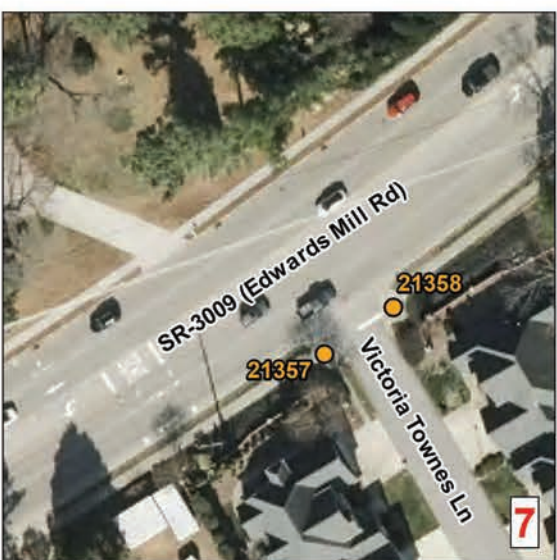
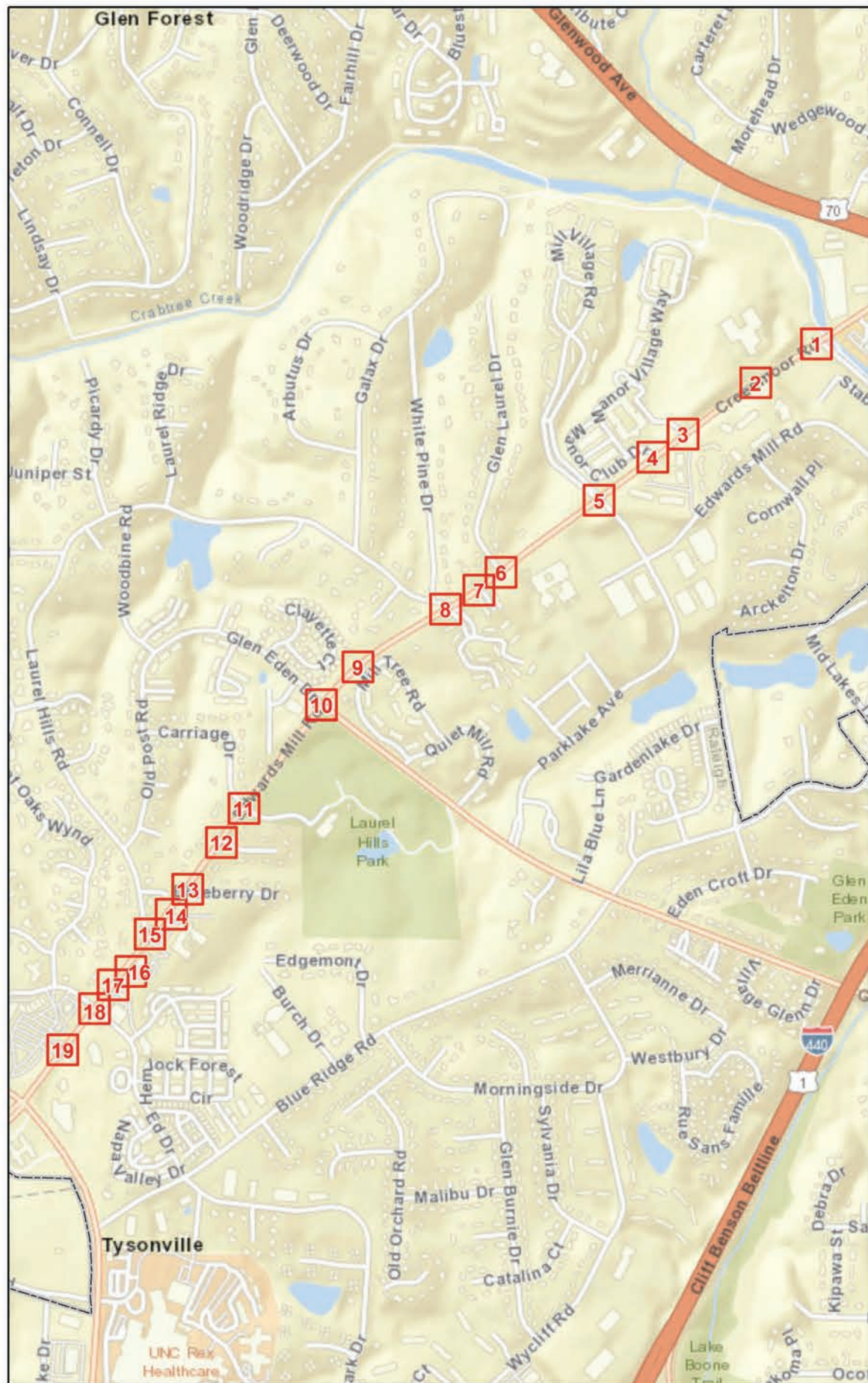
5/14/20
 Messert, Sanborn & Associates, Inc.
 10000 Old Wake Rd, Suite 100, Raleigh, NC 27617
 Phone: 919-876-1000
 Fax: 919-876-1001
 www.messert.com

2021 North Wake County Resurfacing

5/14/99

Meseret Senbet, DGN





Curb Ramps To Be Repaired

- Retrofit
- Remove and Replace
- New Curb Ramp
- Remove Ramp

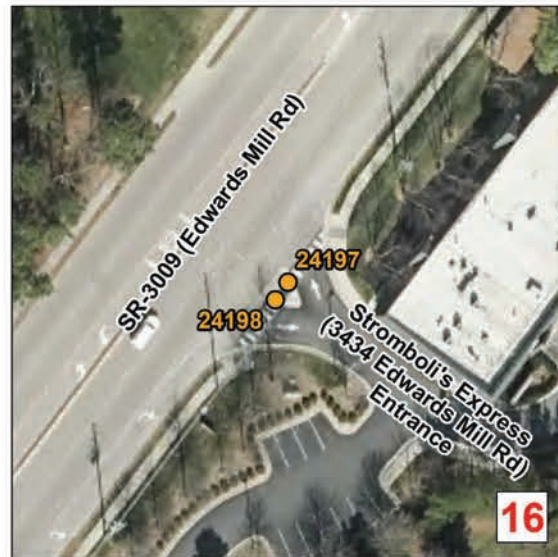
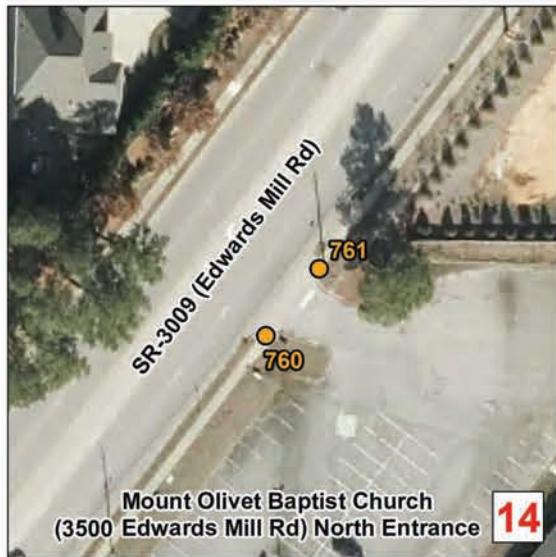
▭ Municipal Boundary
 ▭ NCHPO Historic Boundary (NR and LHD)

2021 North
WBS: 2021CPT.05.09.20921.1

Edwards Mill Rd
from Bridge to SR 1664

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO




Curb Ramps To Be Repaired

- Retrofit
- Remove and Replace
- New Curb Ramp
- Remove Ramp


Municipal Boundary

NCHPO Historic Boundary (NR and LHD)

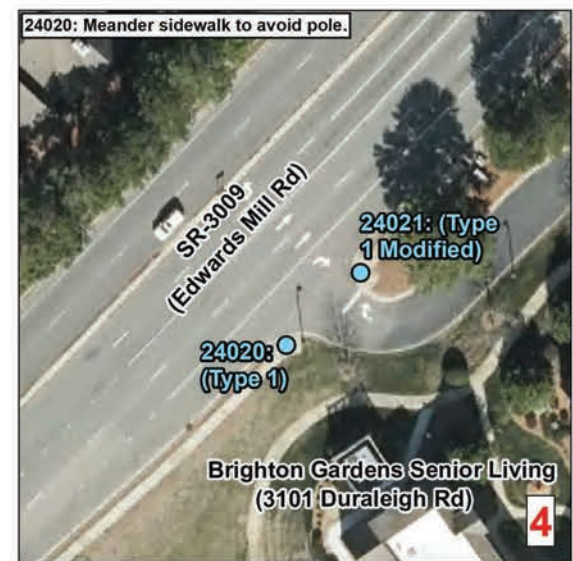
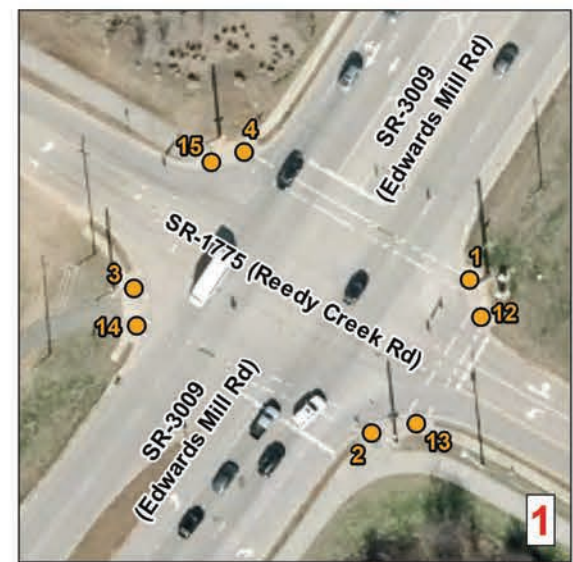
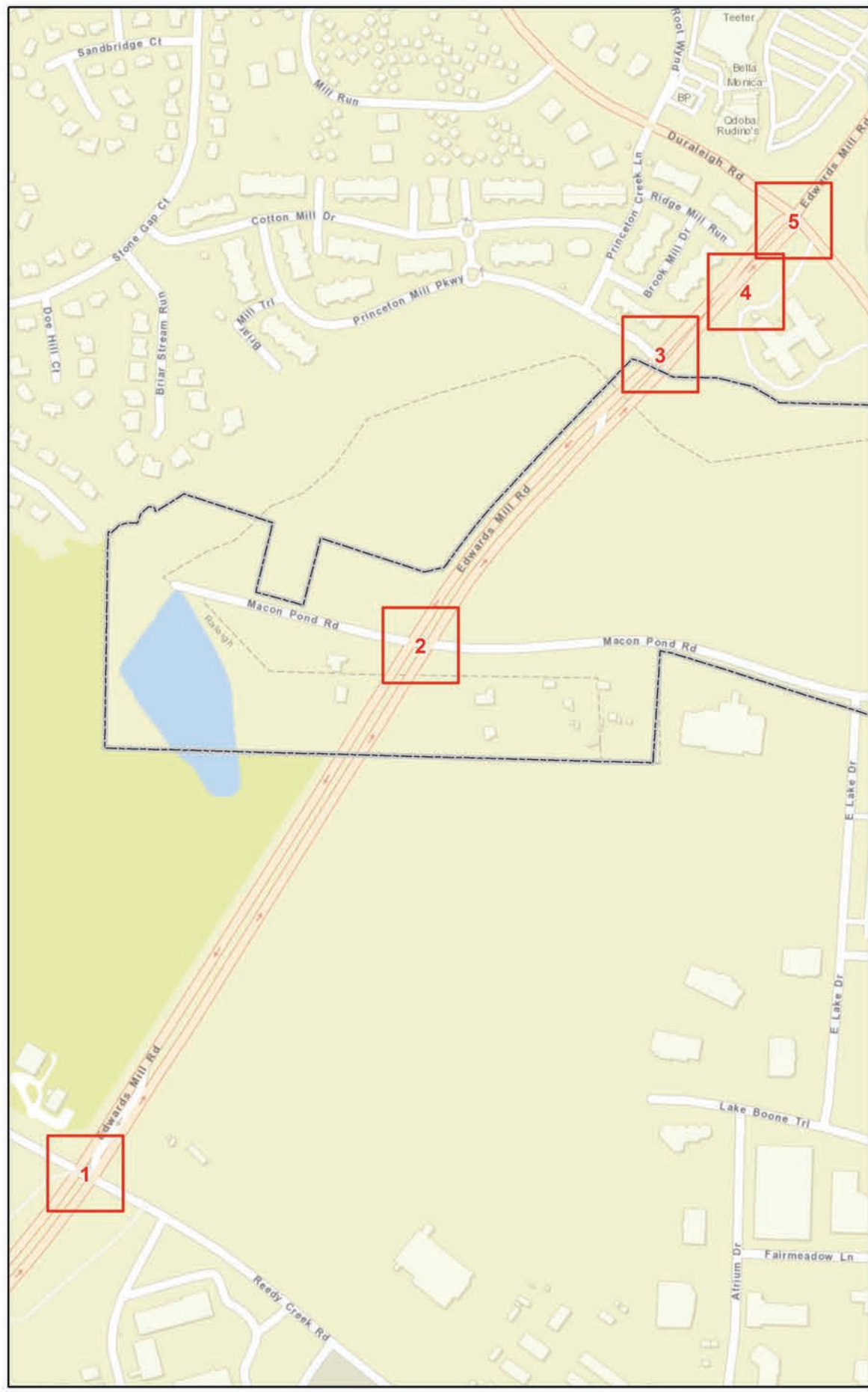


2021 North
WBS: 2021CPT.05.09.20921.1

Edwards Mill Rd
from Bridge to SR 1664

 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO



Curb Ramps To Be Repaired

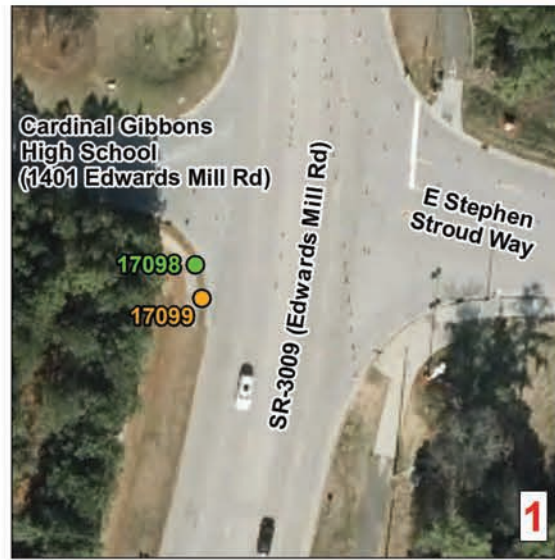
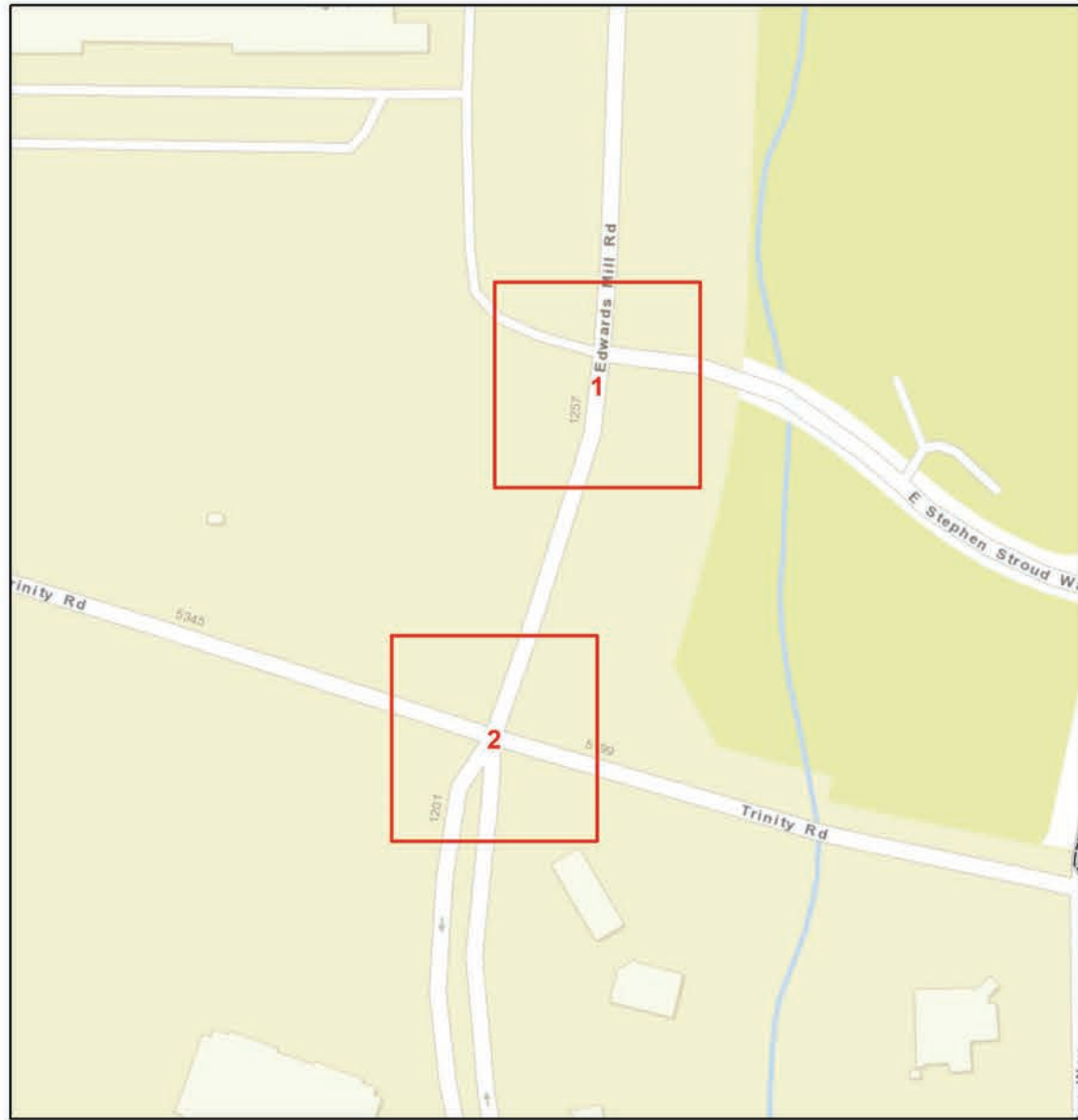
- Retrofit
- Remove and Replace
- New Curb Ramp
- Remove Ramp

Municipal Boundary
 NCHPO Historic Boundary (NR and LHD)

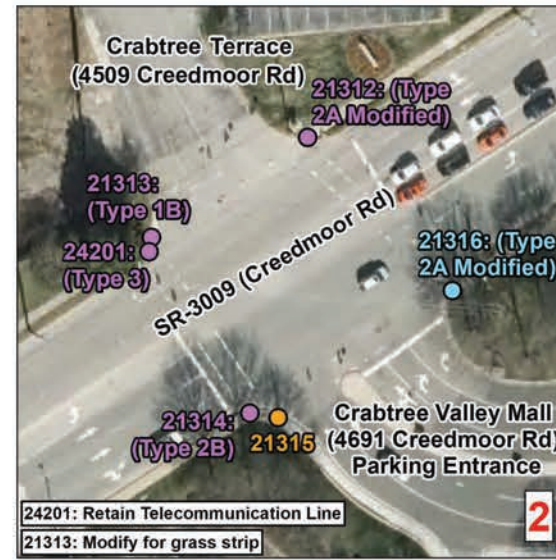
2021 North
WBS: 2021CPT.05.09.20921.1
Edwards Mill Rd
from SR 1664 to SR 1728

NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO

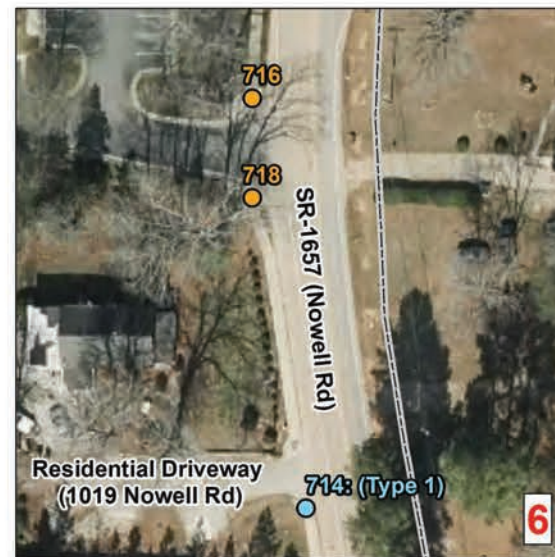
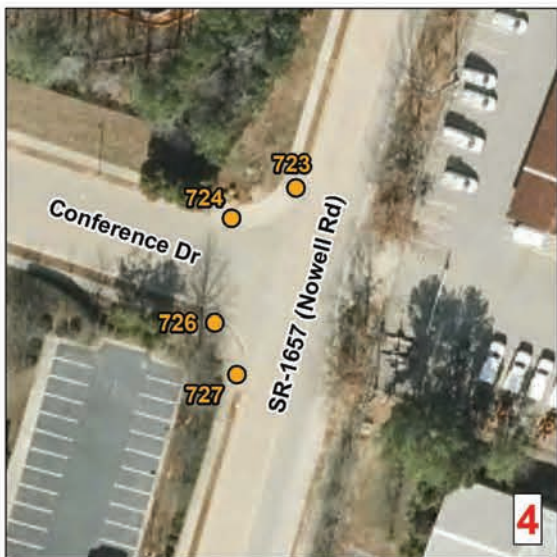
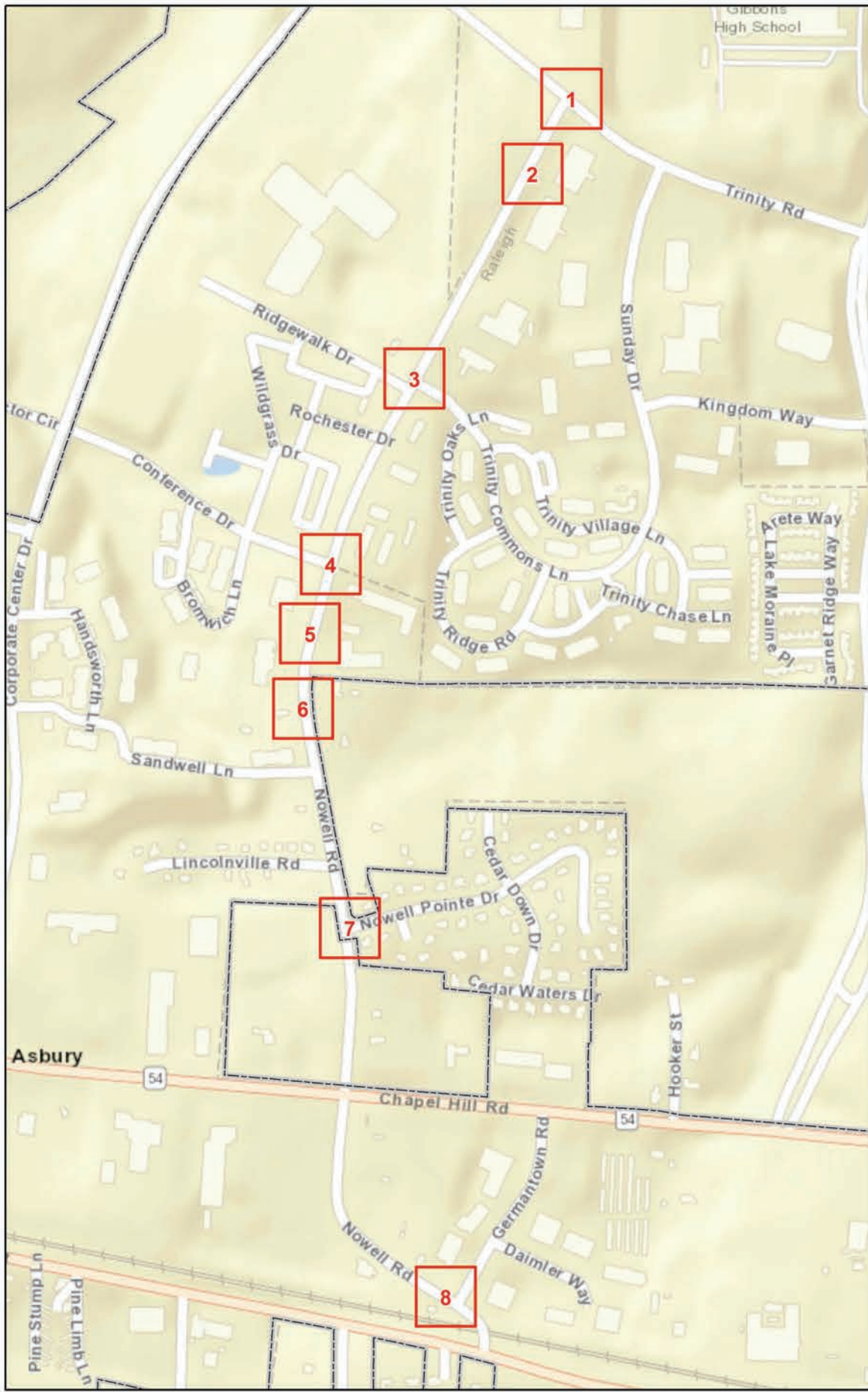


Curb Ramps To Be Repaired		
	Retrofit	
	Remove and Replace	
	New Curb Ramp	
	Remove Ramp	
	Municipal Boundary	
	NCHPO Historic Boundary (NR and LHD)	
2021 North		
WBS: 2021CPT.05.09.20921.1		
Edwards Mill Rd		
from SR 1728 to SR 1656		
	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 5	
<small>Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO</small>		



24201: Retain Telecommunication Line
 21313: Modify for grass strip

Curb Ramps To Be Repaired		
	Retrofit	
	Remove and Replace	
	New Curb Ramp	
	Remove Ramp	
	Municipal Boundary	
	NCHPO Historic Boundary (NR and LHD)	
2021 North		
WBS: 2021CPT.05.09.20921.1		
Creedmoor Rd from US 70 to Bridge		
	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 5	
<small>Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO</small>		



Curb Ramps To Be Repaired

- Retrofit
- Remove and Replace
- New Curb Ramp
- Remove Ramp

Municipal Boundary

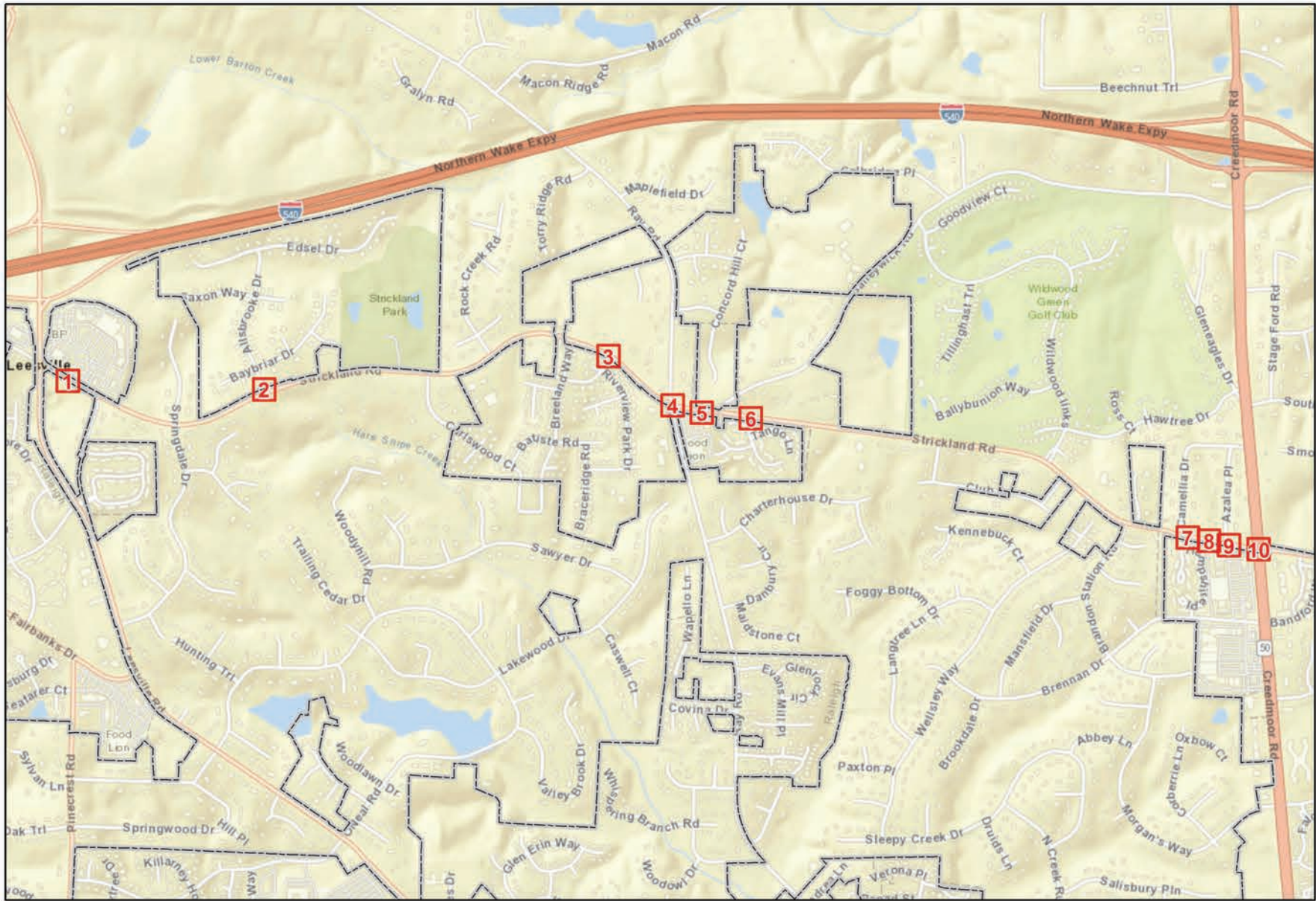
NCHPO Historic Boundary (NR and LHD)

2021 North
WBS: 2021CPT.05.09.20921.1

Nowell Rd
from SR 1656 to SR 5808

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO



Curb Ramps To Be Repaired

- Retrofit
- Remove and Replace
- New Curb Ramp
- Remove Ramp

▭ Municipal Boundary
▭ NCHPO Historic Boundary (NR and LHD)

**2021 North
WBS: 2021CPT.05.09.20921.1**

**Strickland Rd
from SR 1822 to NC 50**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION 5

Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO



<p>Curb Ramps To Be Repaired</p> <ul style="list-style-type: none"> Retrofit Remove and Replace New Curb Ramp Remove Ramp <p> Municipal Boundary</p> <p> NCHPO Historic Boundary (NR and LHD)</p>	
<p>2021 North WBS: 2021CPT.05.09.20921.1</p> <p>Strickland Rd from SR 1822 to NC 50</p>	
<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 5</p> <p><small>Source: CALYX Engineers and Consultants, ESRI, NC OneMap, NCDOT, NCHPO</small></p>	

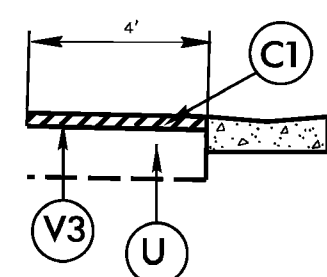
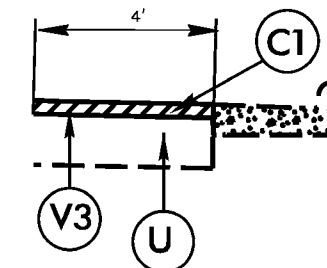
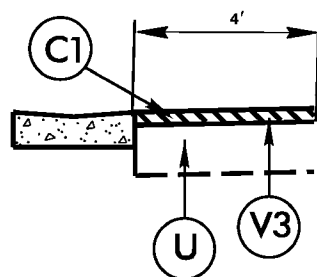
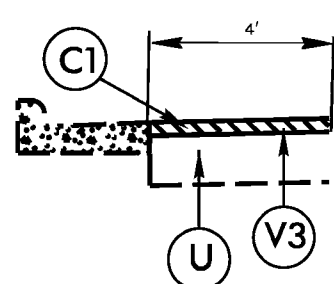
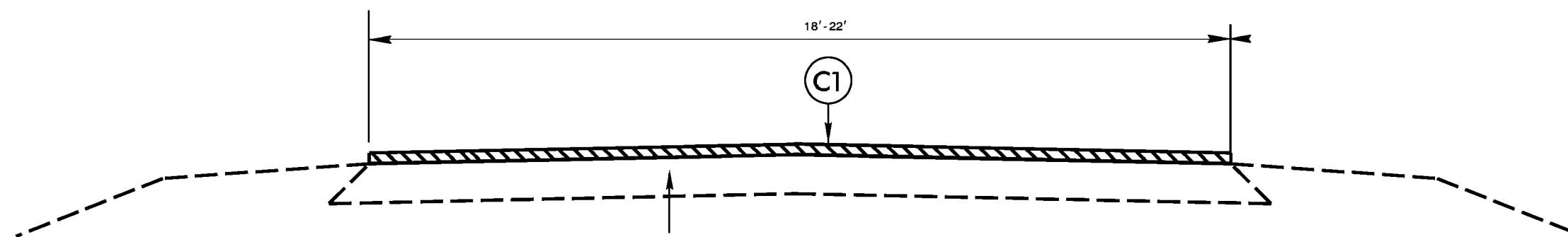
PAVEMENT SCHEDULE

S SHOULDER GRADING
ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)

PROJECT REFERENCE NO.
2021CPT.05.09.20921.1, etc.

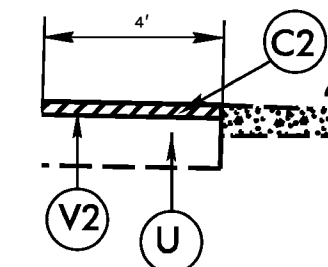
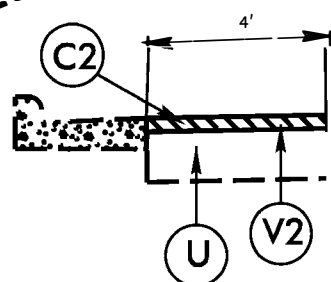
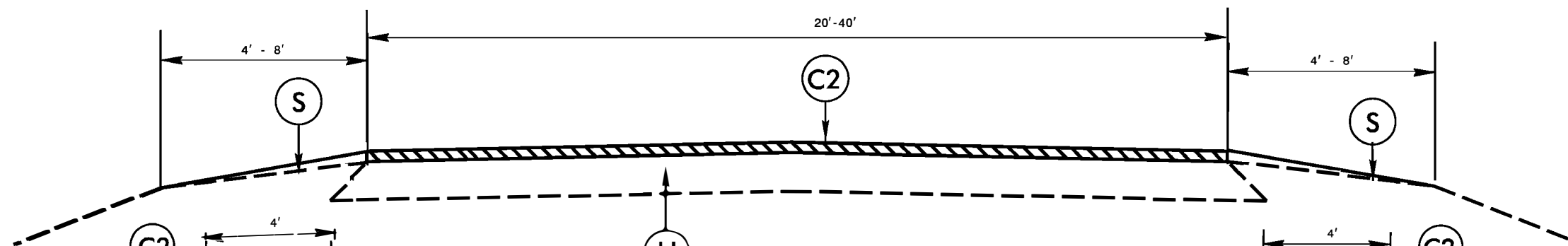
SHEET NO.
13

C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	V1	1½" MILLING
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V2	0"-1½" MILLING
C4	3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS	V3	0 - 1¼" Milling
		V4	3" MILLING



* Remove and replace 150' of Valley gutter on map #2

TYPICAL SECTION NO. 1



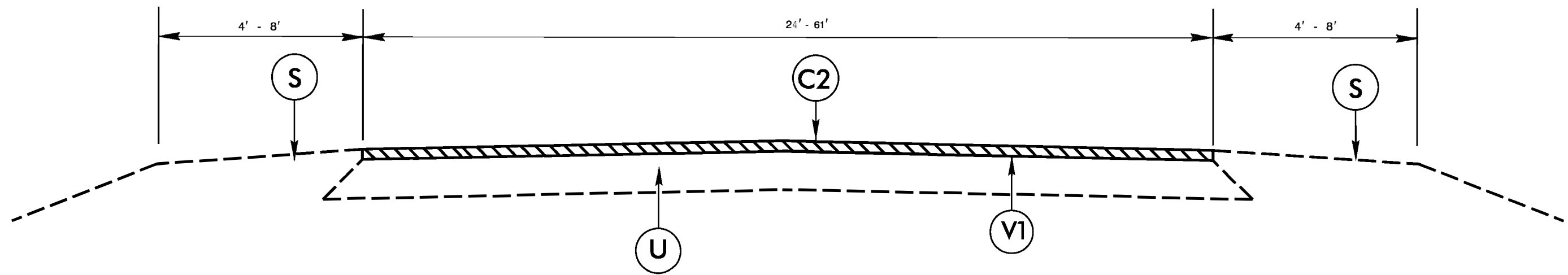
TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE

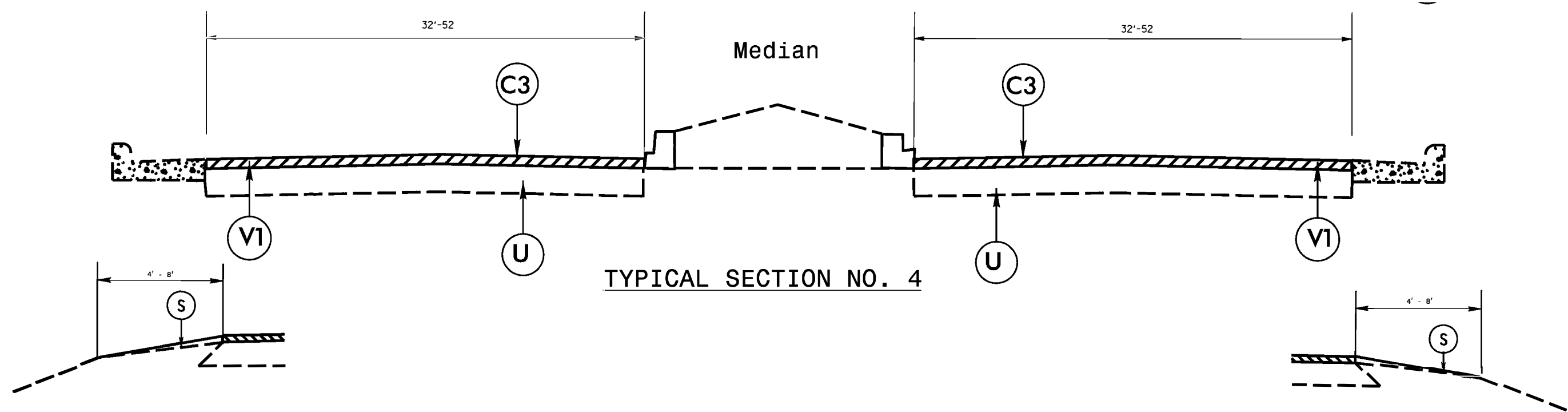
S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT
V1	1½" MILLING
V2	0"-1½" MILLING
V3	0 - 1¼" Milling
V4	3" MILLING

PROJECT REFERENCE NO. 2021CPT.05.09.20921.1, etc.	SHEET NO. 14
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C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C4	3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS



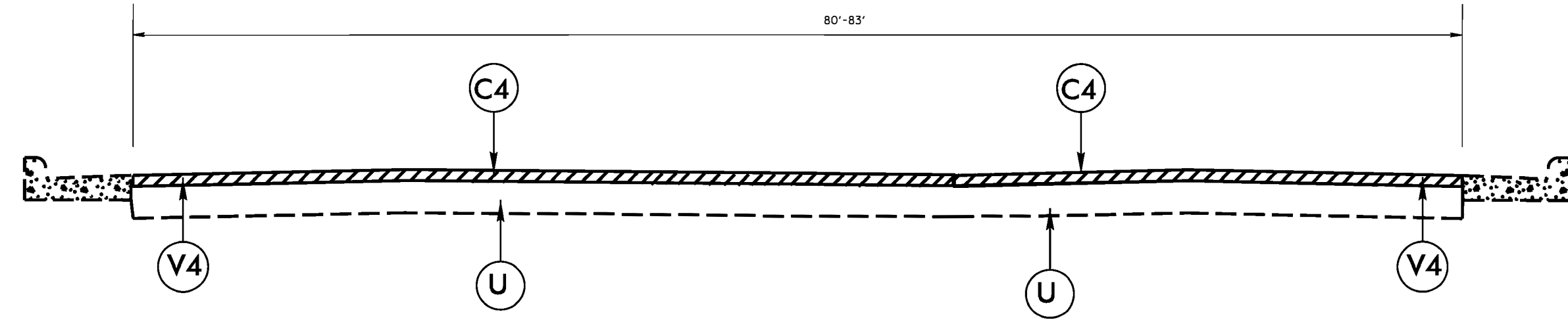
TYPICAL SECTION NO. 3



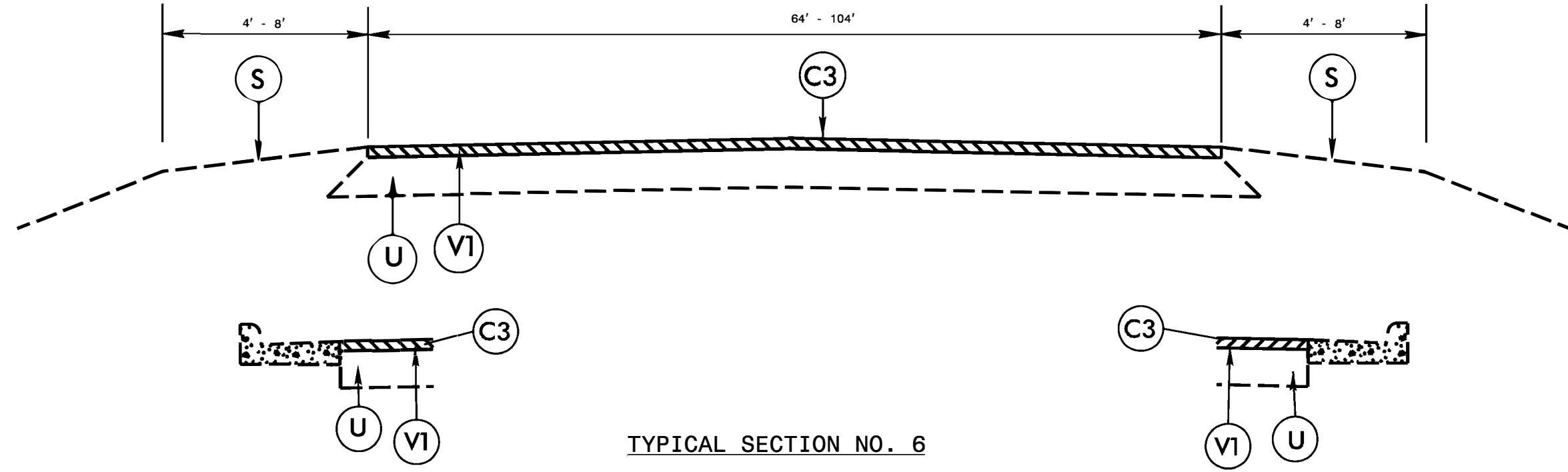
TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE

		S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	V1	1½" MILLING
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V2	0" - 1½" MILLING
C4	3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS	V3	0 - 1¼" Milling
		V4	3" MILLING



TYPICAL SECTION NO. 5



TYPICAL SECTION NO. 6

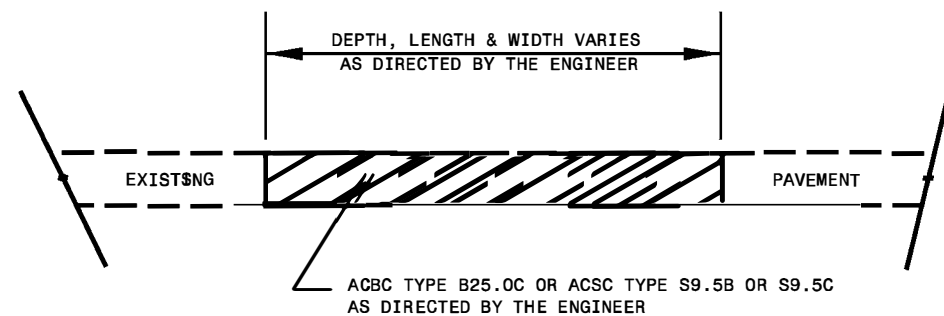
PAVEMENT SCHEDULE

		S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C1	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	V1	1½" MILLING
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V2	0"-1½" MILLING
C4	3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS	V3	0 - 1¼" Milling
		V4	3" MILLING

PROJECT REFERENCE NO.	SHEET NO.
2021CPT.05.09.20921.1, etc.	16

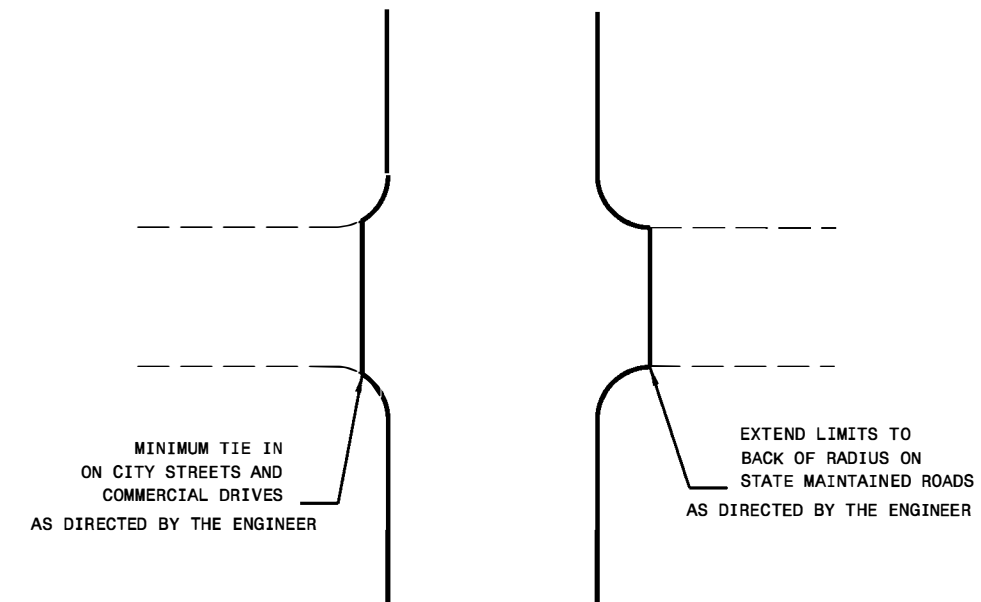
NOTES

ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT
 ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
 EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
 BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

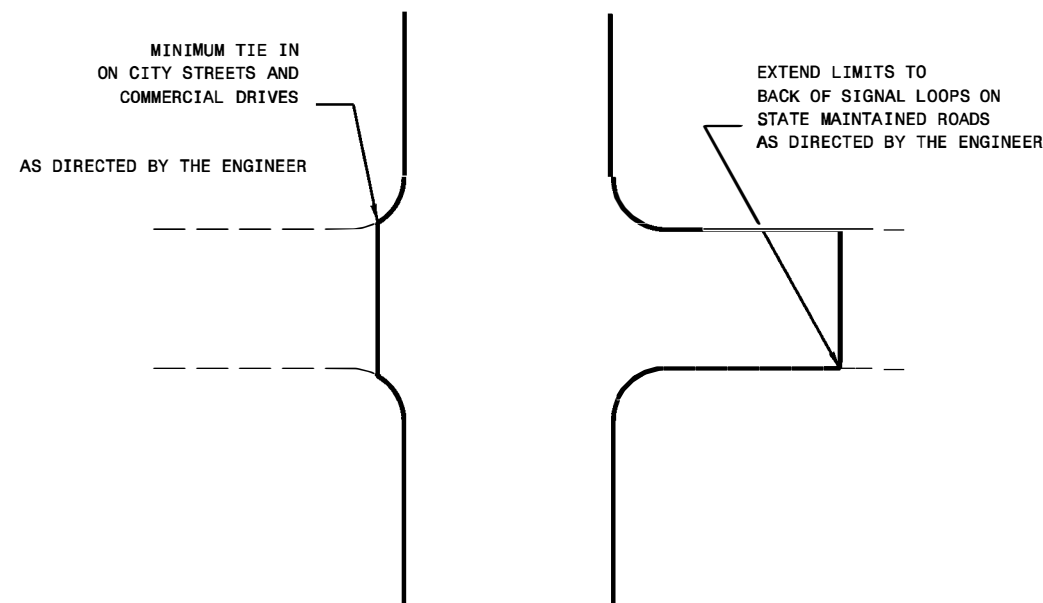


PATCHING EXISTING PAVEMENT

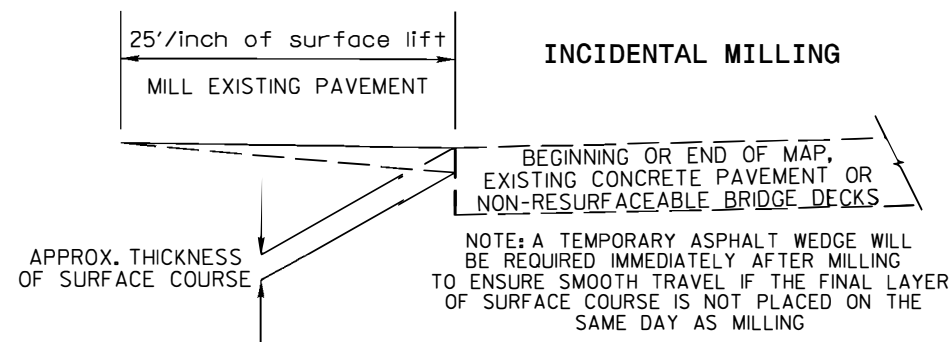
MILLING TO BE PERFORMED PRIOR TO PATCHING

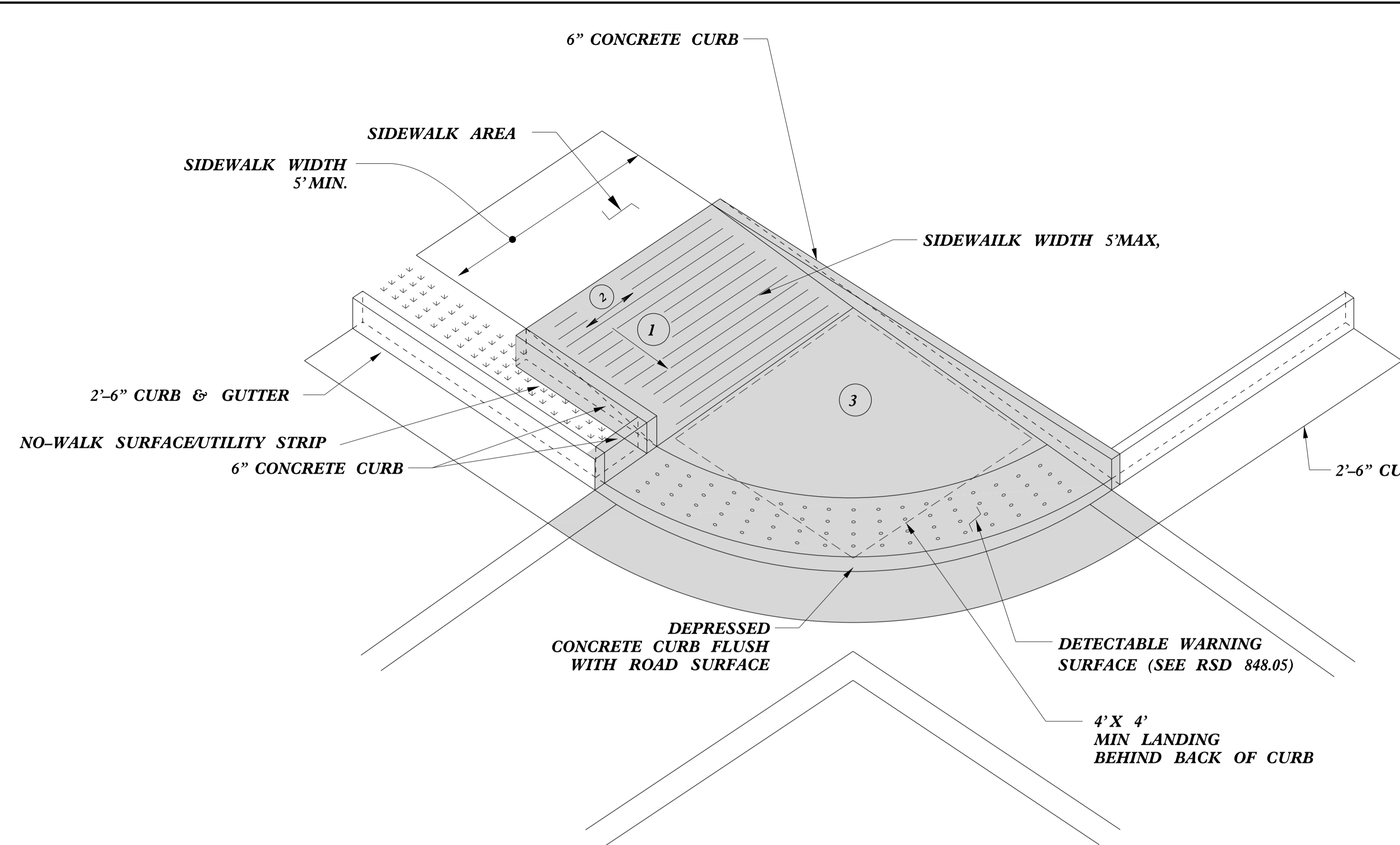


DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

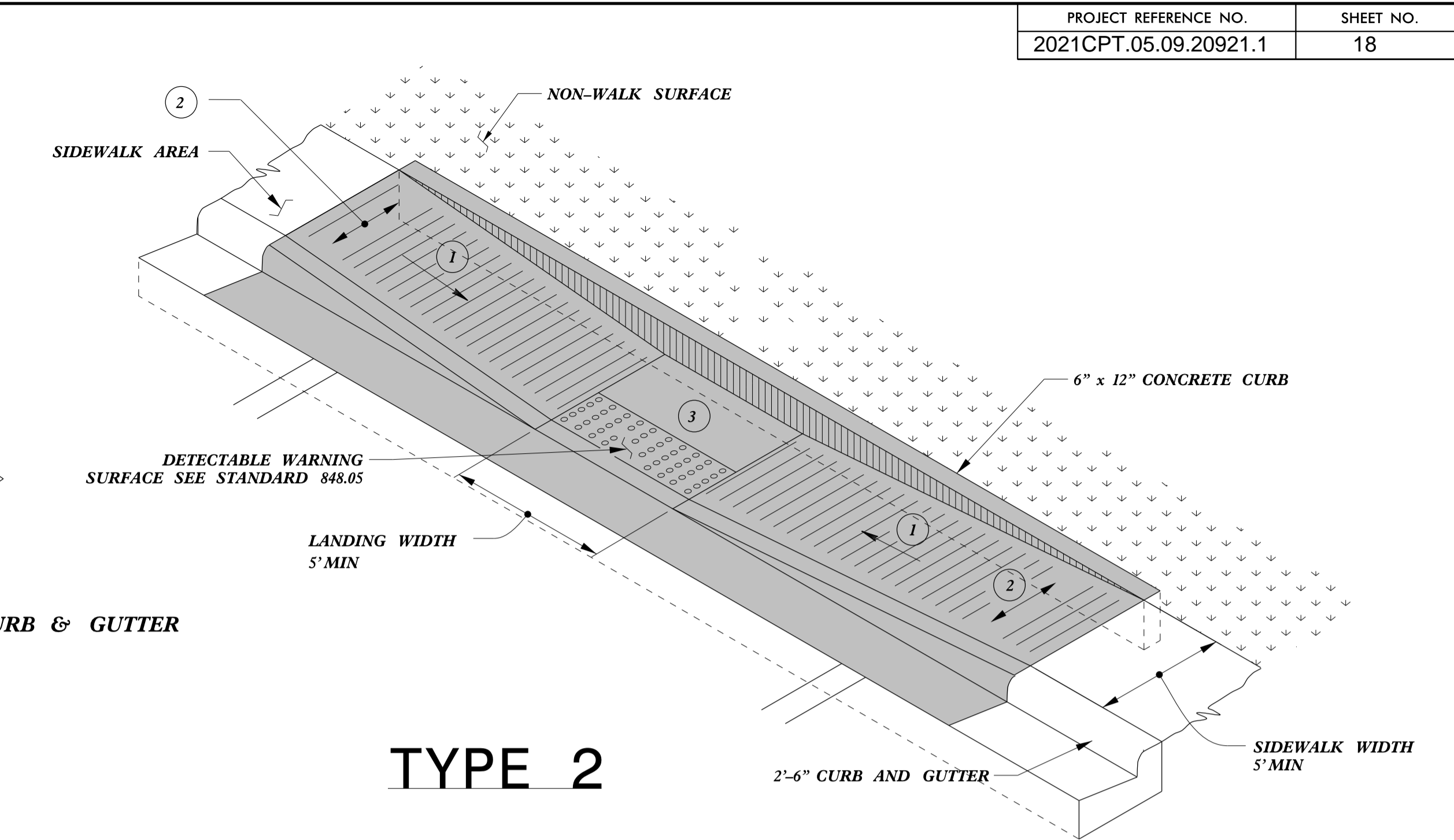


DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

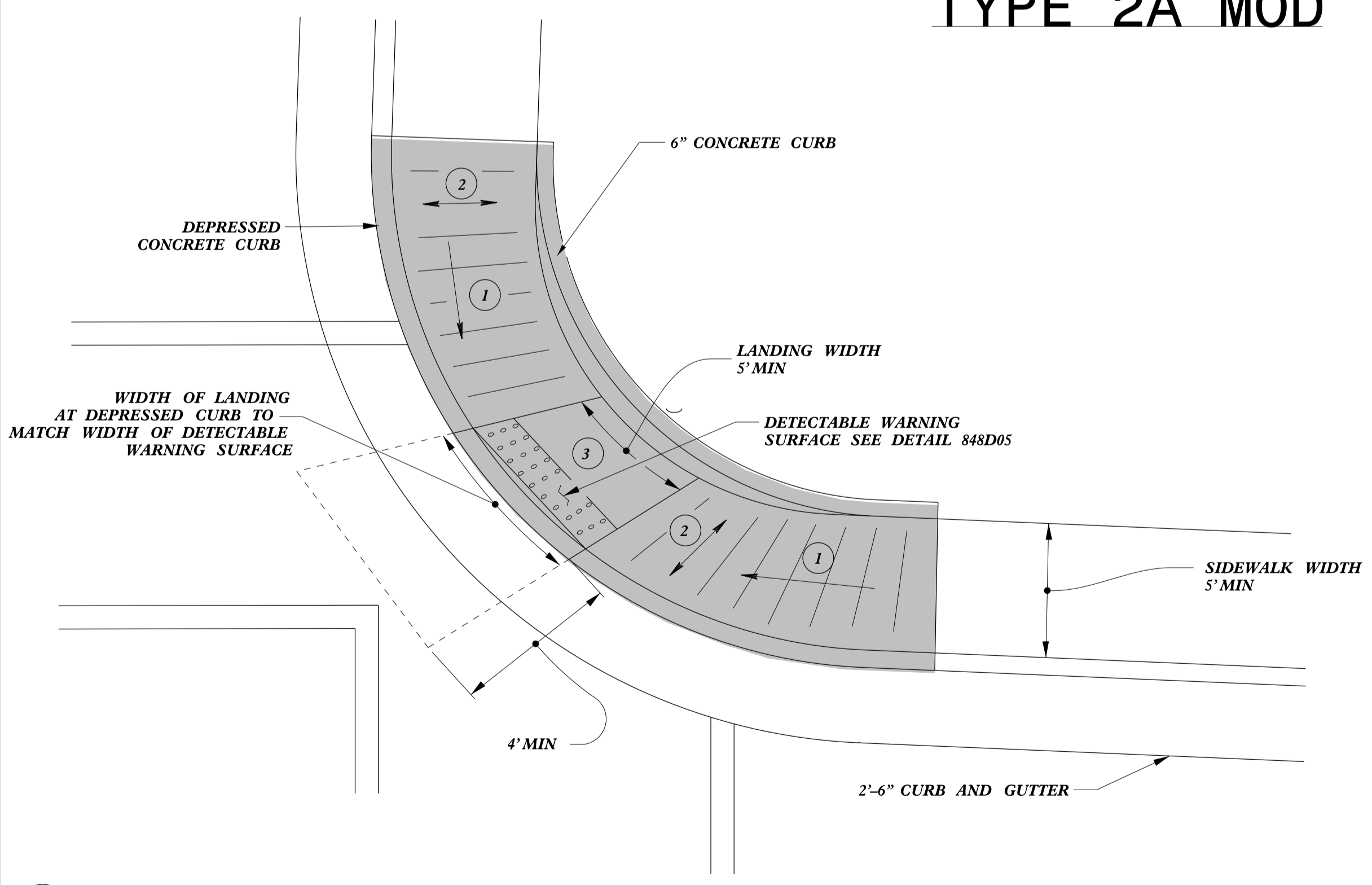




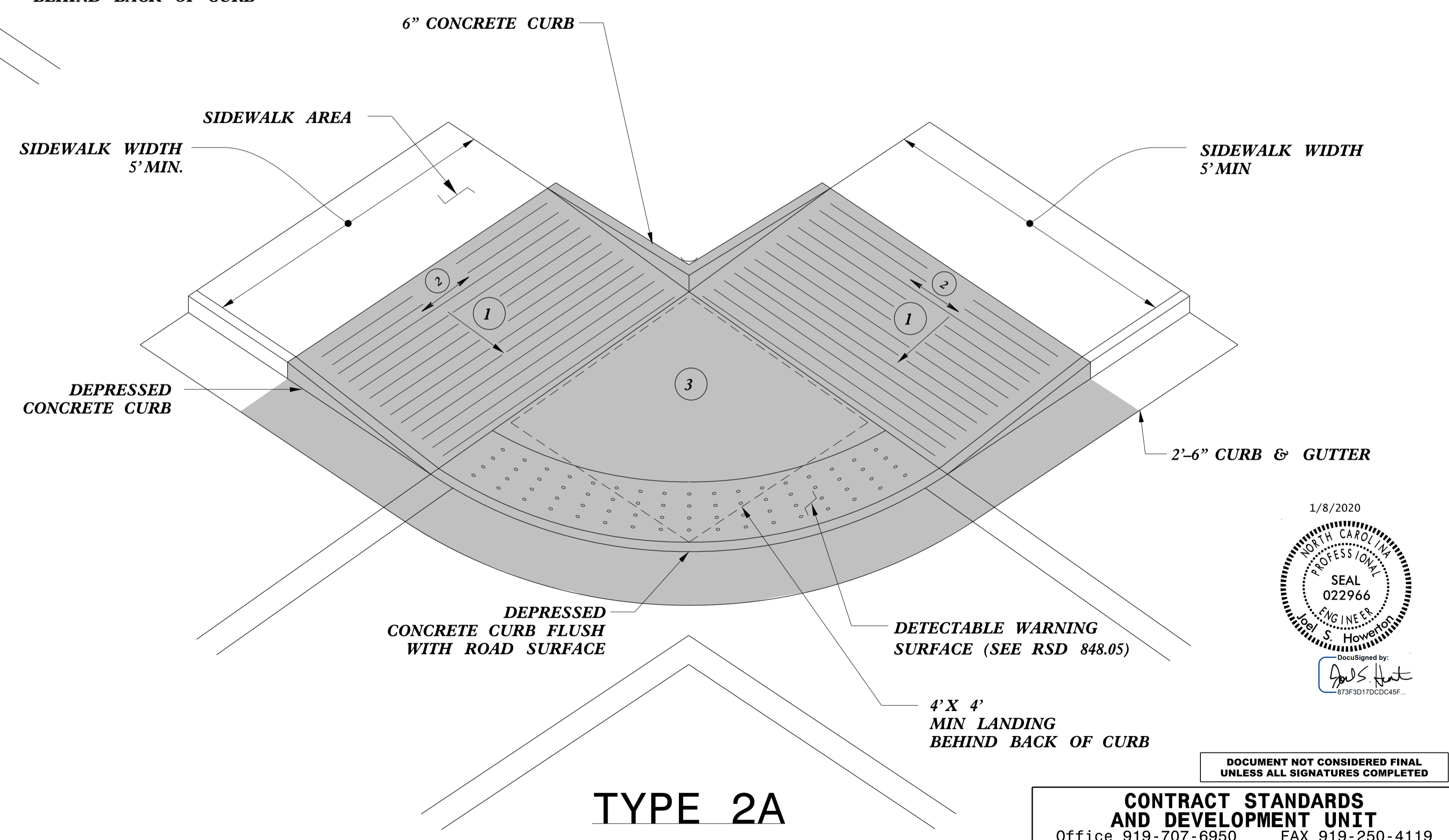
TYPE 2A MOD



TYPE 2



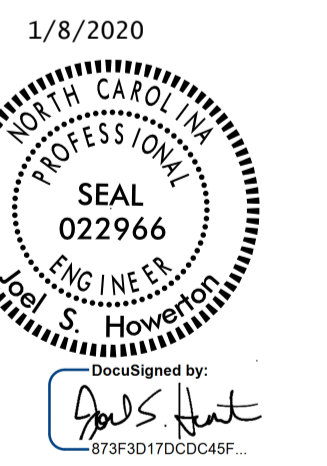
TYPE 2B



TYPE 2A

- 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 1 CURB RAMP

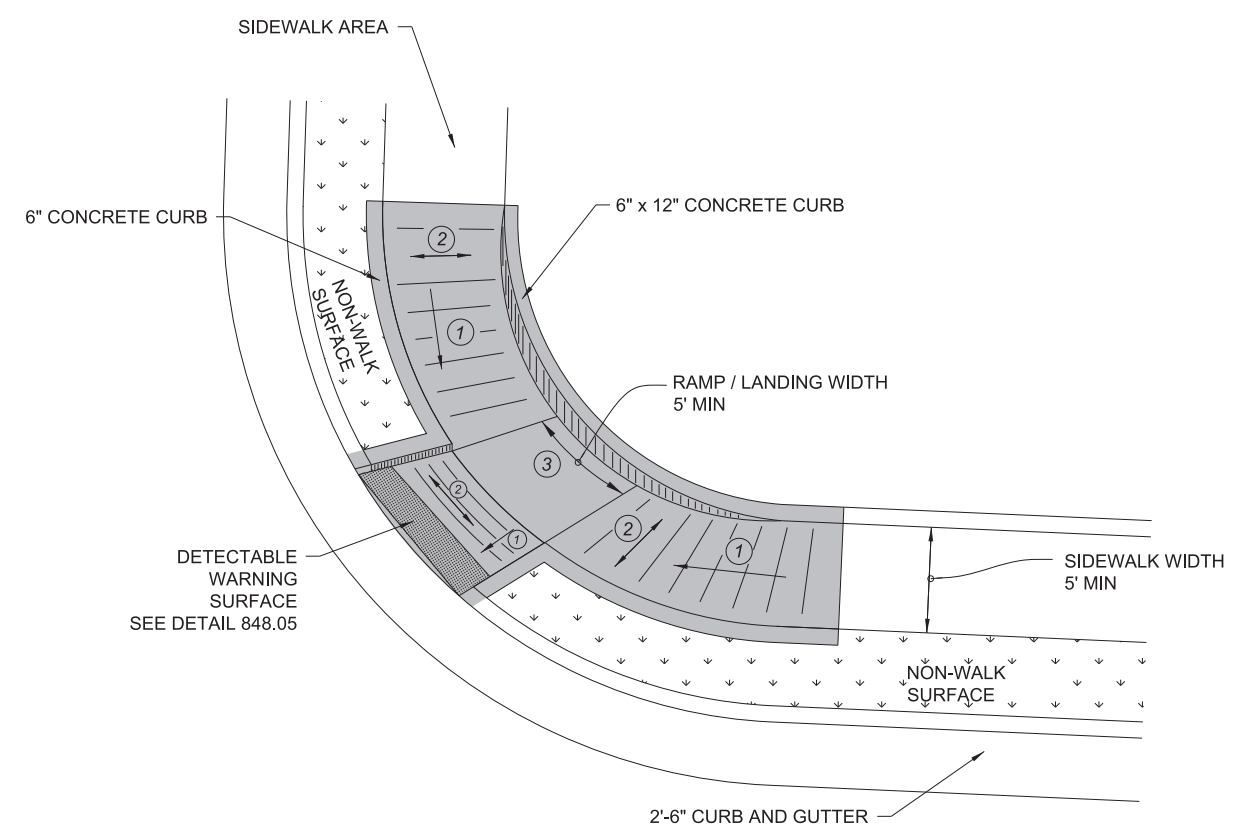


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

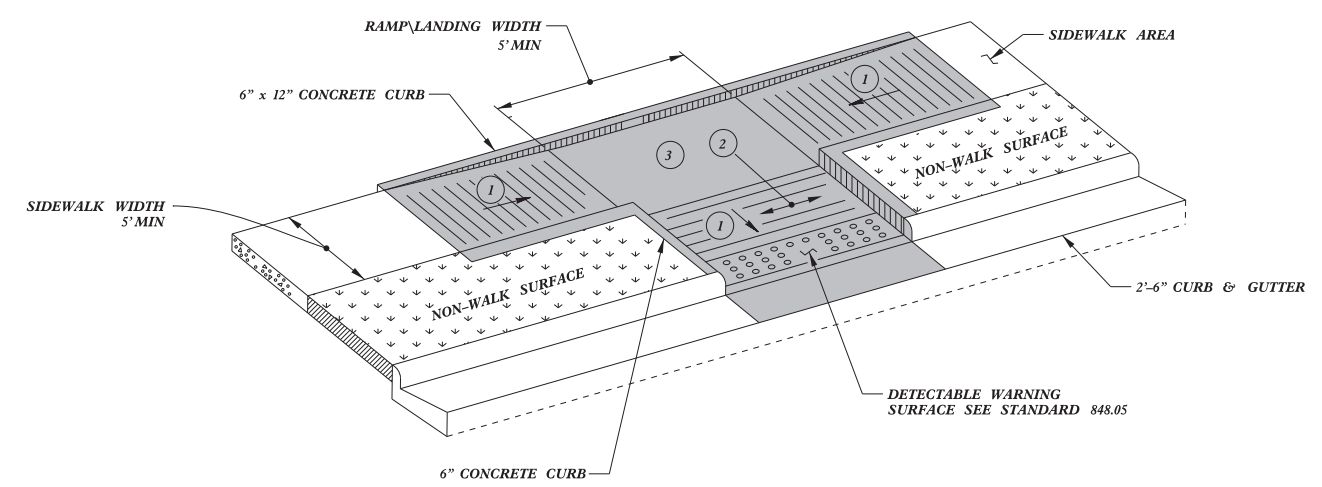
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. :stds\2012CurbRamp\CurbRampDetails.dgn	

5/14/99

PAY LIMITS FOR 1 CURB RAMP



**TYPE 3 MODIFIED
INSTALLATION IN A RADIUS**



TYPE 3

- 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.

1/8/2020

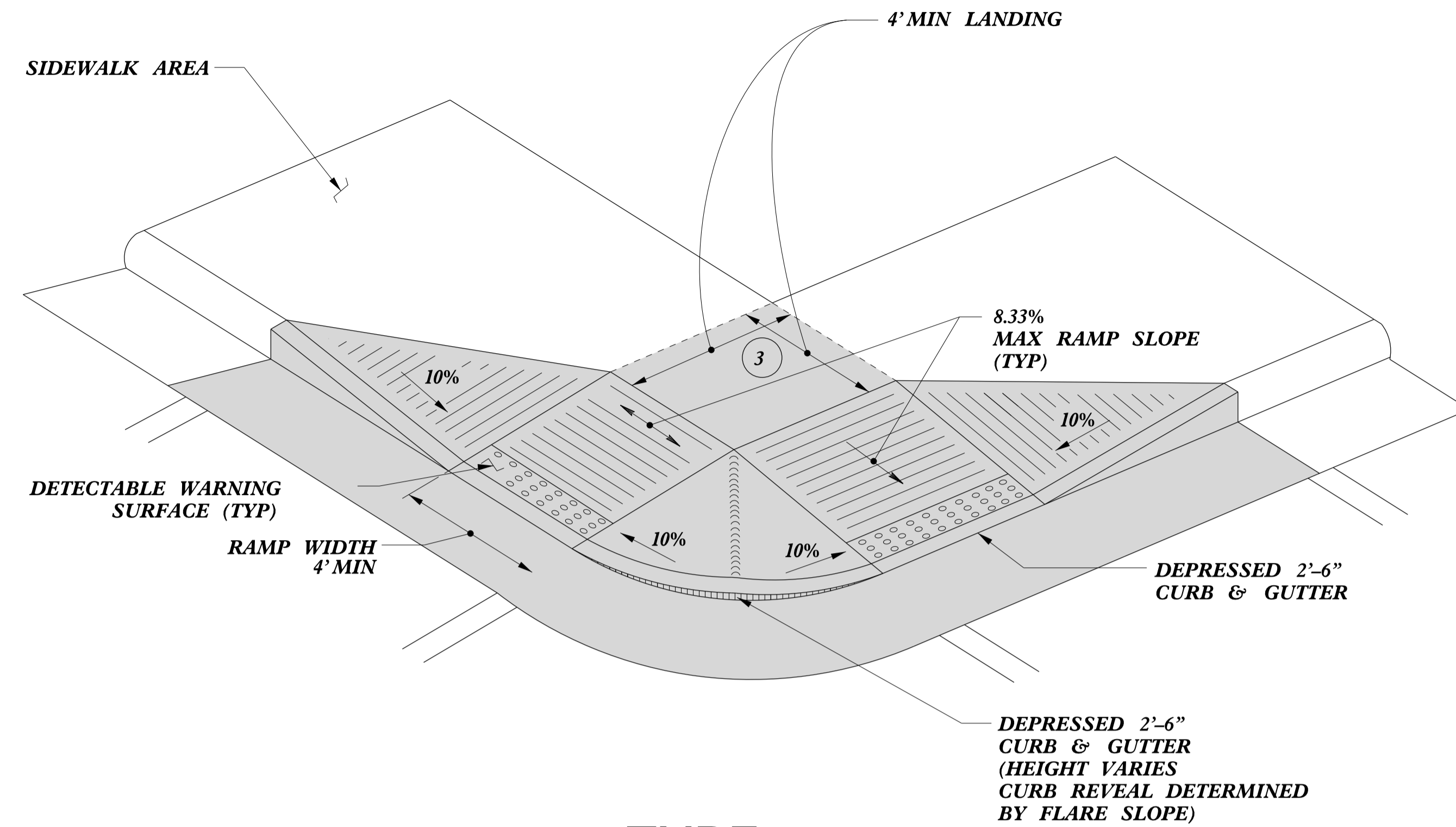


Designed by:
J.S. Howerton
873F3D17DCDC45F...

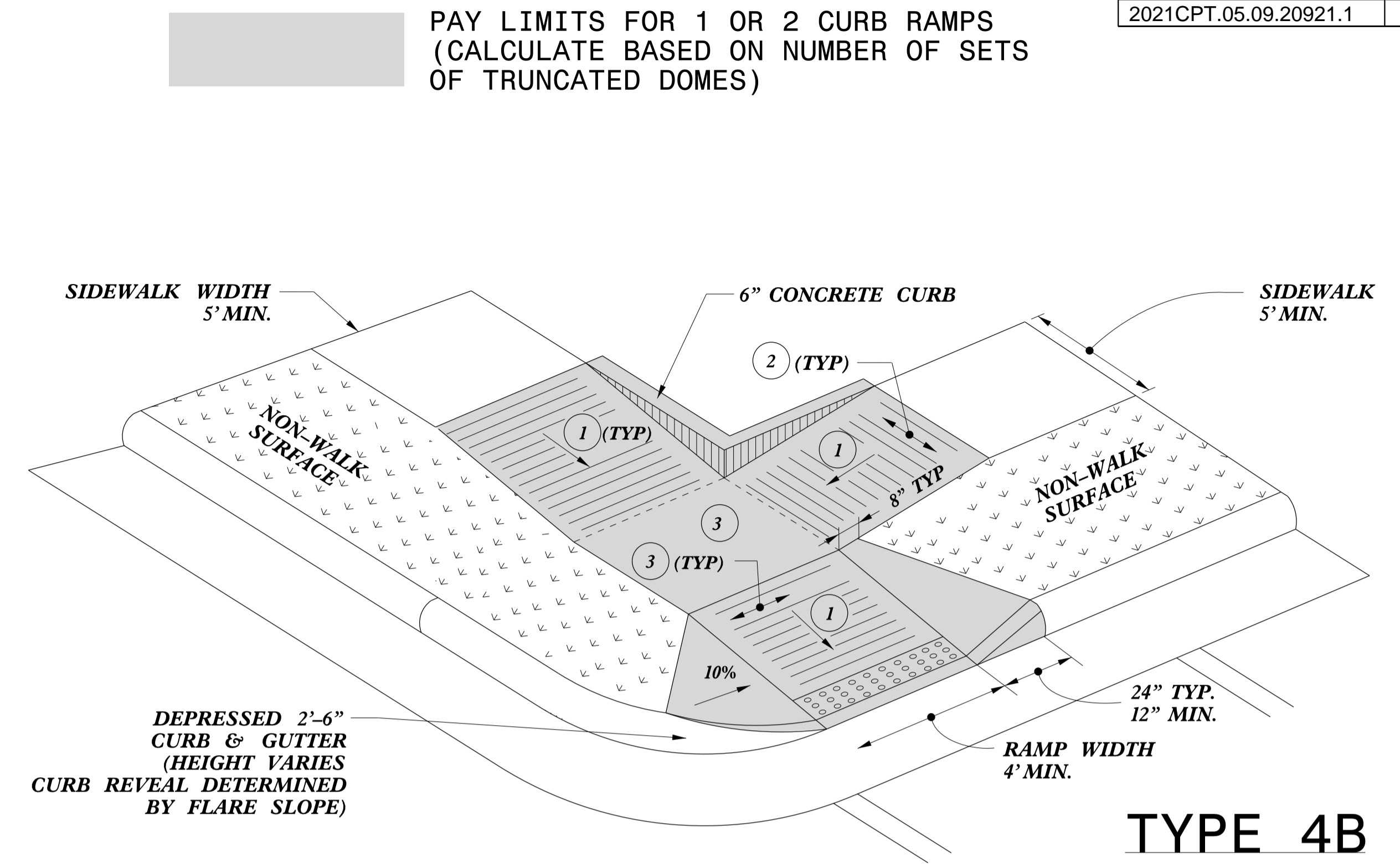
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CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
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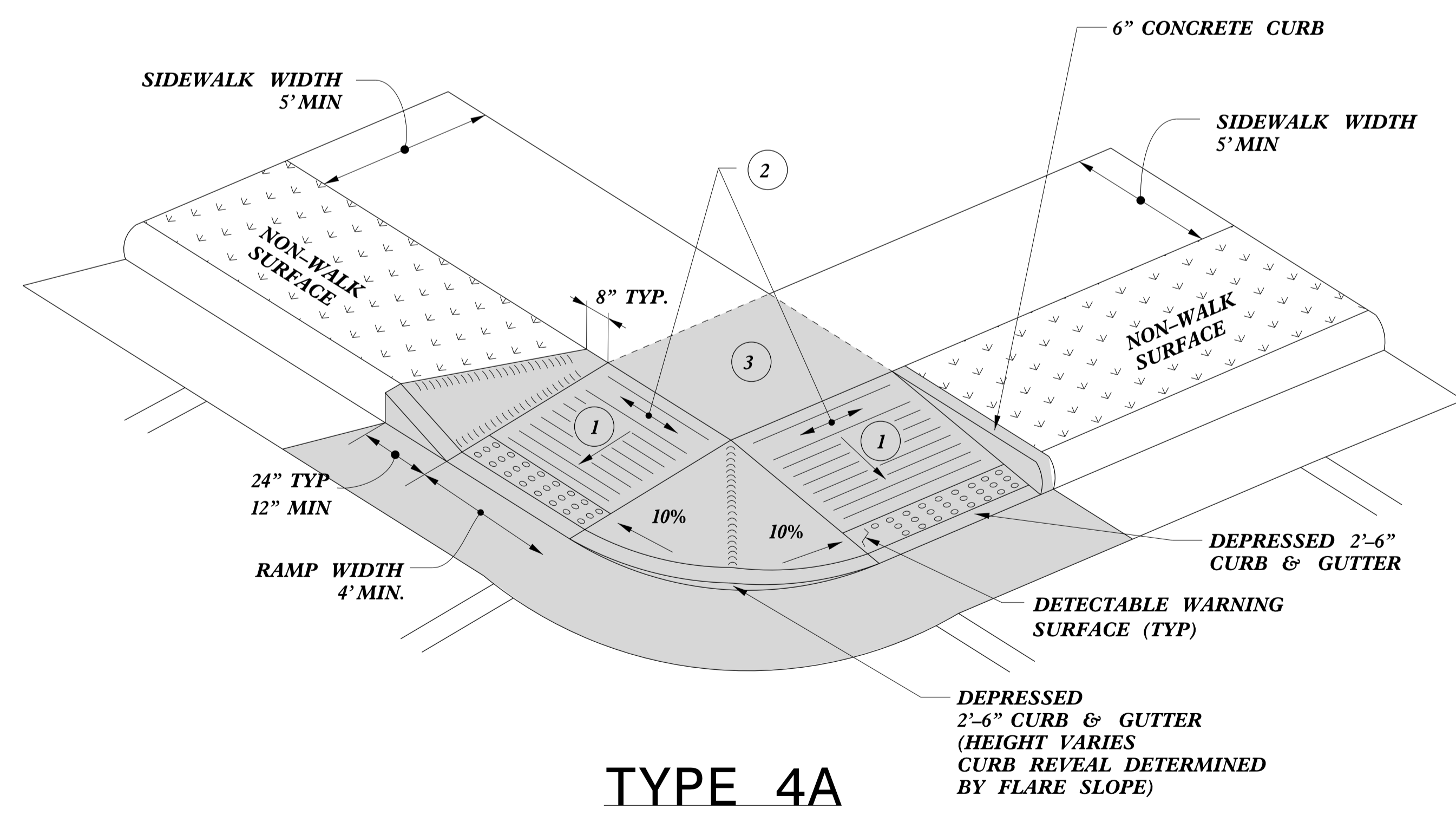
5/14/99
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J.S. HOWERTON
1/8/2020



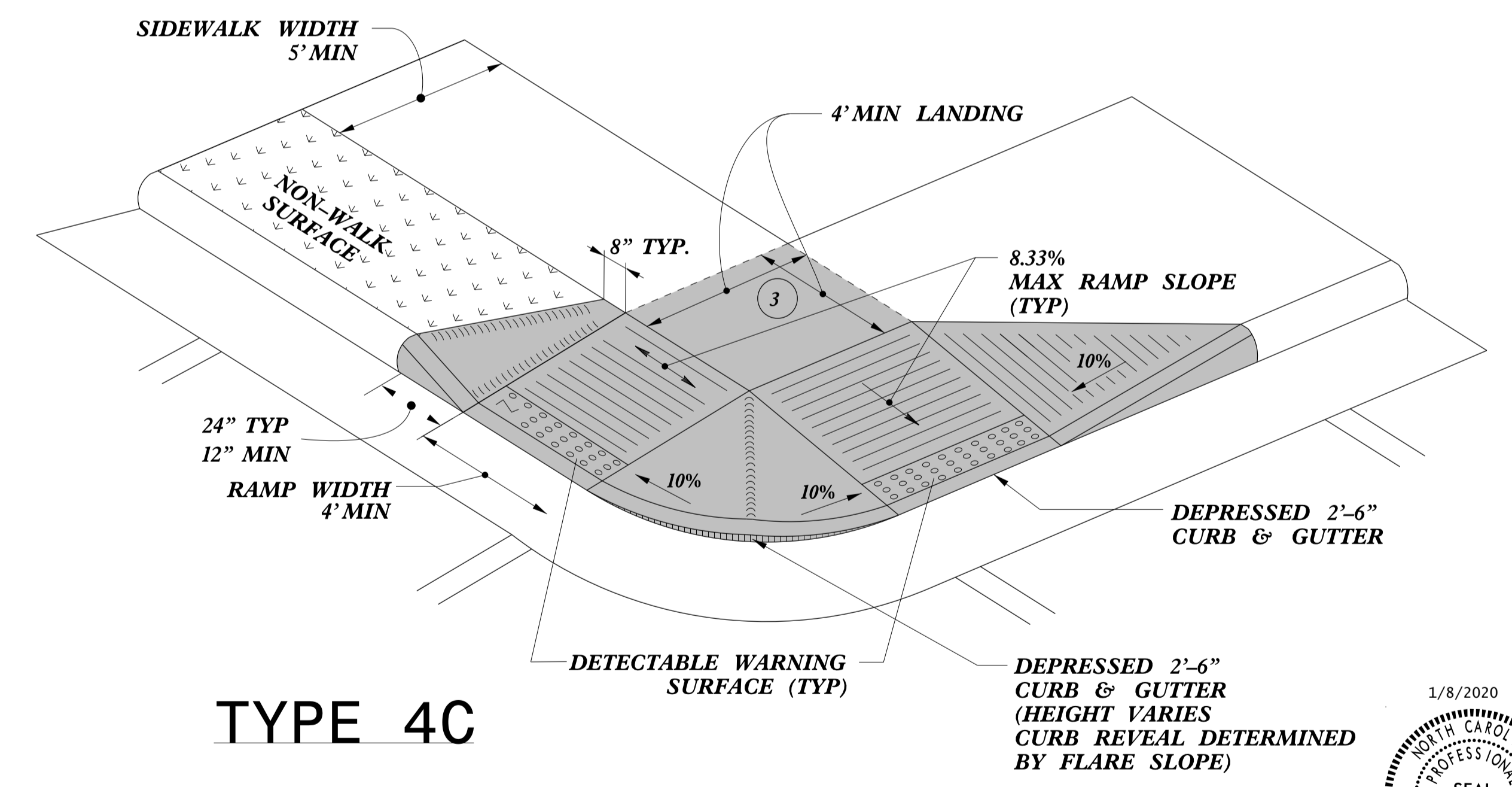
TYPE 4



TYPE 4B

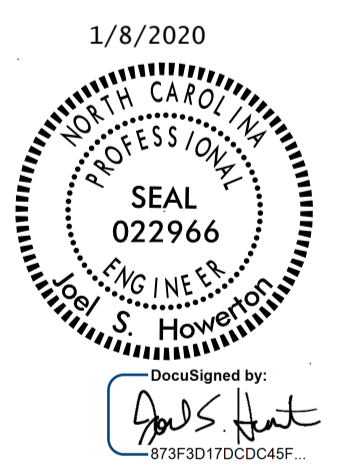


TYPE 4A



TYPE 4C

- 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.



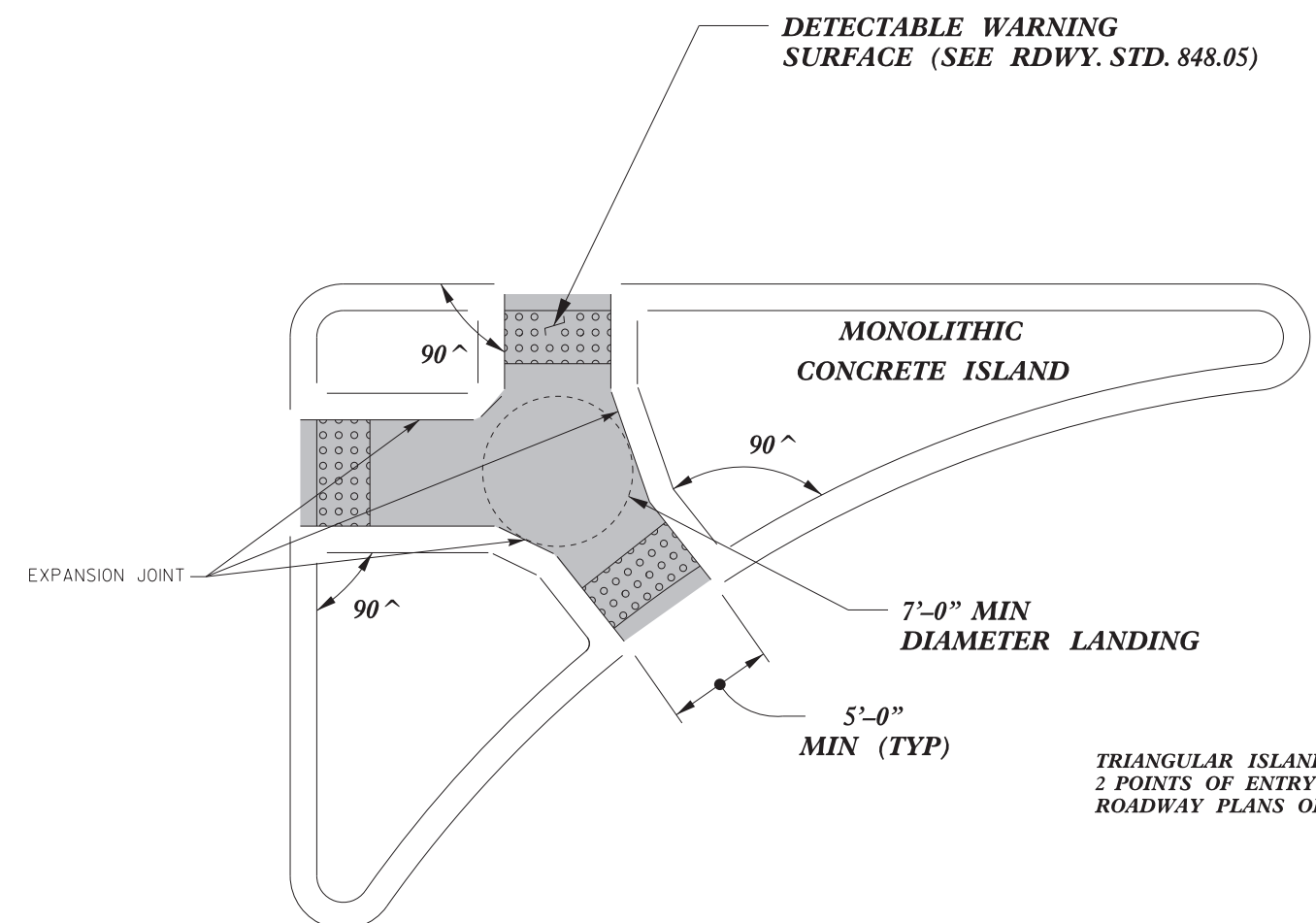
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

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

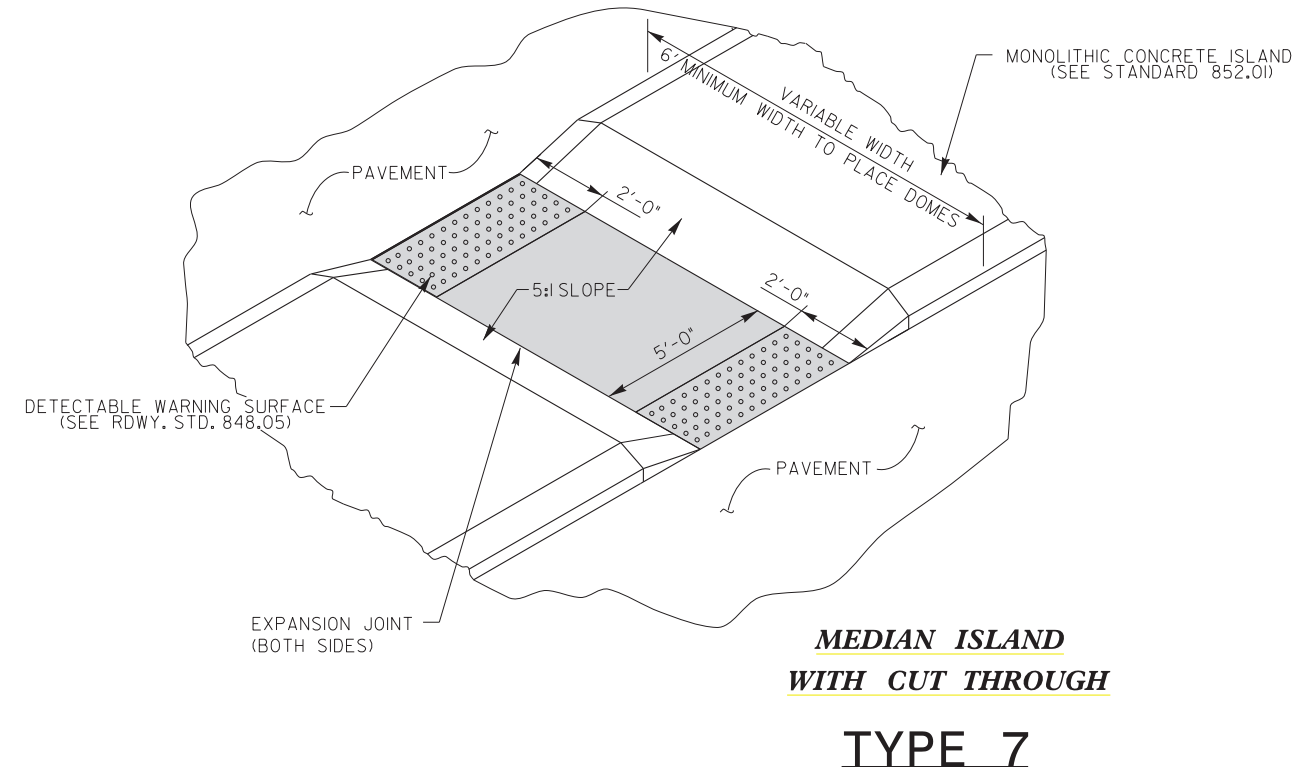
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99
 TIME
 CURB RAMPS
 USER: J.S. HOWERTON
 DATE: 7/7/11
 FILE SPEC: stds\2012CurbRamp\CurbRampDetails.dgn

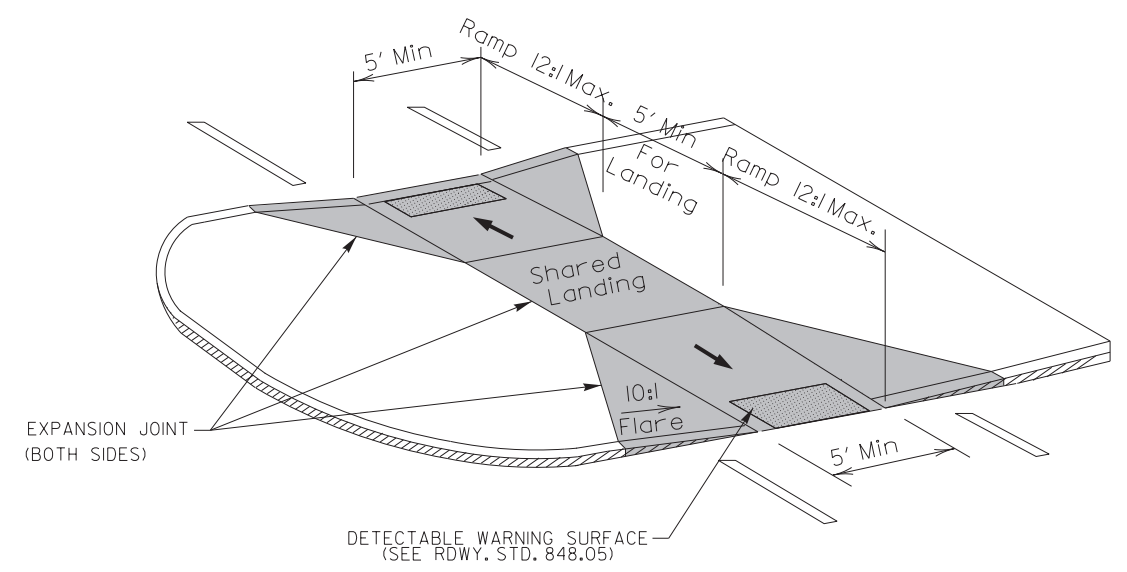


PAY LIMITS FOR 2 OR 3 CURB RAMPS
(CALCULATE BASED ON NUMBER OF
SETS OF TRUNCATED DOMES)

**TRIANGULAR ISLAND
WITH CUT THROUGH
TYPE 6**



**MEDIAN ISLAND
WITH CUT THROUGH
TYPE 7**



**MEDIAN ISLAND
CURB RAMPS
TYPE 8
1/8/2020**

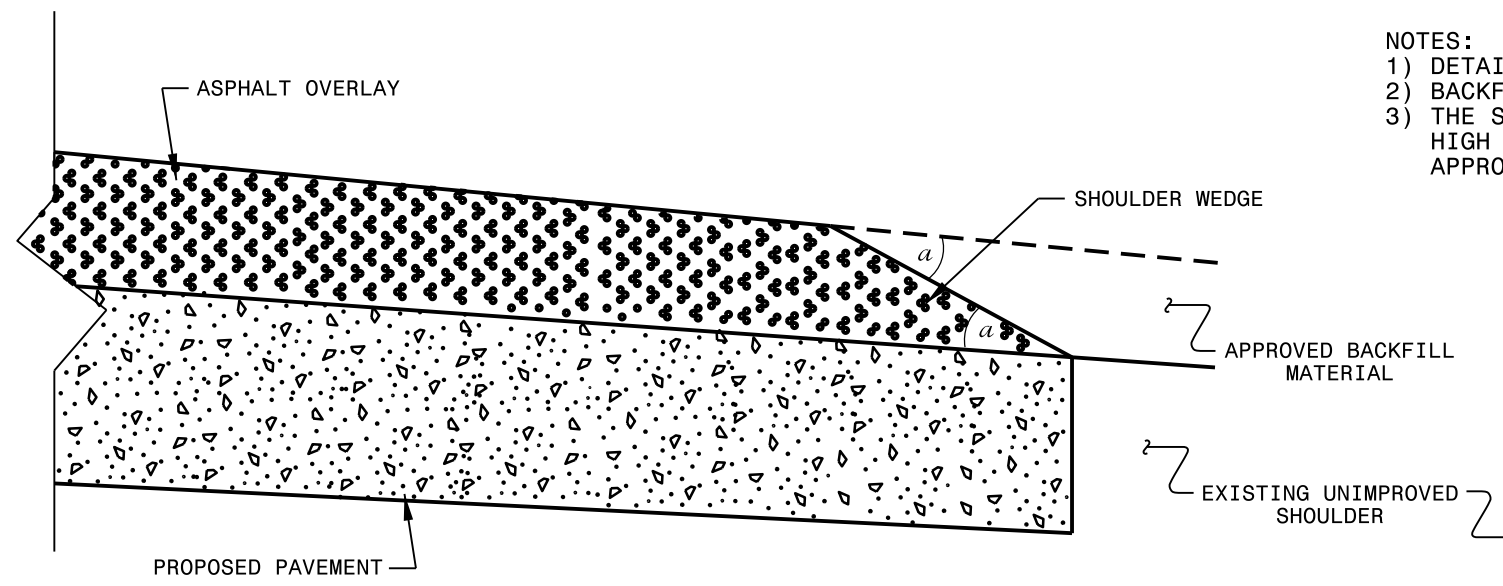
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. sids/2012CurbRamp/CurbRampDetails.dgn	

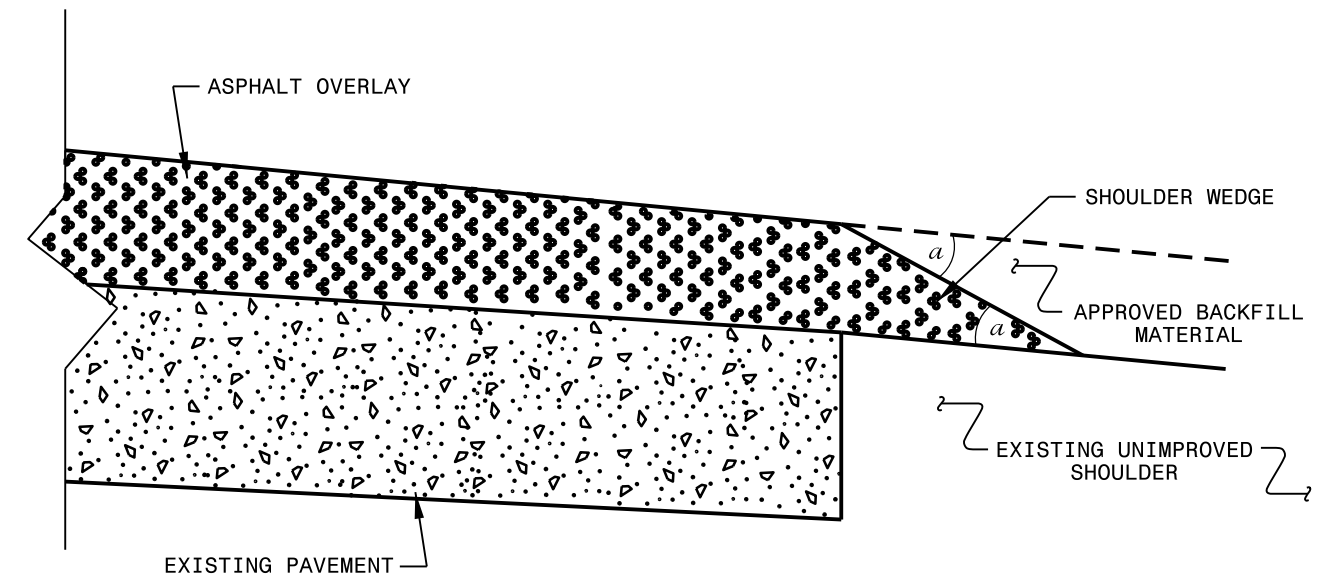
Seal of a Professional Engineer, State of North Carolina, License No. 022966. The seal is circular with the text 'NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966'. Below the seal is a signature and the text '873F3D17DCDC45F...'.

5/14/99
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$CON\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

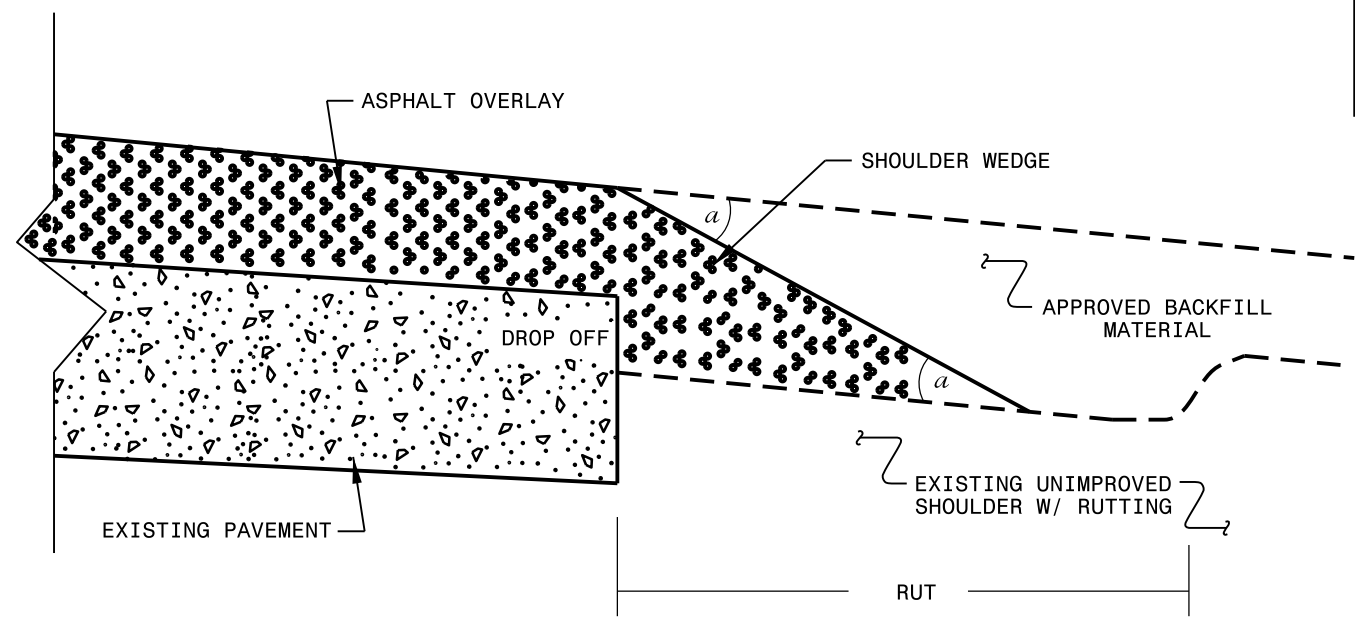
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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		

22 JAN-2018 09:41 S:\Contracts\1030\Resurfacing Projects\Division 4\1-5937 Wilson March 2018\Revised Shoulder Wedge Detail.dgn
 P:\piper\41_CSD-215342

SUMMARY OF QUANTITIES – NOWELL RD FROM SR 1656 TO SR 5808

Municipality:	Raleigh
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2845000000-N	2600000000-N	2613000000-N	2605000000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
688	1	SR-1656 (Trinity Rd)	SR-1657 (Nowell Rd)				1				RetrofitWarnings
689	1	SR-1656 (Trinity Rd)	SR-1657 (Nowell Rd)				1				RetrofitWarnings
690	1	SR-1656 (Trinity Rd)	SR-1657 (Nowell Rd)				1				RetrofitWarnings
687	1	SR-1656 (Trinity Rd)	SR-1657 (Nowell Rd)	17	9	1				1	Remove Ramp
691	1	SR-1656 (Trinity Rd)	SR-1657 (Nowell Rd)					1			Type1Modified
693	2	SR-1657 (Nowell Rd)	Office Building (1520 Nowell Rd)					1			Type1Modified
695	2	SR-1657 (Nowell Rd)	Office Building (1520 Nowell Rd)					1			Type1B
17082	3	SR-1657 (Nowell Rd)	Ridgewalk Dr				1				RetrofitWarnings
17083	3	SR-1657 (Nowell Rd)	Ridgewalk Dr				1				RetrofitWarnings
17079	3	SR-1657 (Nowell Rd)	Wells Fargo Corporate Campus (Nowell Rd Entrance)					1			Type1Modified
17080	3	SR-1657 (Nowell Rd)	Wells Fargo Corporate Campus (Nowell Rd Entrance)					1			Type1Modified
17084	3	SR-1657 (Nowell Rd)	Ridgewalk Dr					1			Type1Modified
723	4	SR-1657 (Nowell Rd)	Conference Dr				1				RetrofitWarnings
724	4	SR-1657 (Nowell Rd)	Conference Dr				1				RetrofitWarnings
726	4	SR-1657 (Nowell Rd)	Conference Dr				1				RetrofitWarnings
727	4	SR-1657 (Nowell Rd)	Conference Dr				1				RetrofitWarnings
719	5	SR-1657 (Nowell Rd)	Piedmont Service Group / EOS Remediation (1031 / 1101 Nowell Rd)					1			Type1Modified
720	5	SR-1657 (Nowell Rd)	Piedmont Service Group / EOS Remediation (1031 / 1101 Nowell Rd)					1			Type1B
716	6	SR-1657 (Nowell Rd)	Piedmont Service Group (1031 Nowell Rd) South Entrance				1				RetrofitWarnings
718	6	SR-1657 (Nowell Rd)	Piedmont Service Group (1031 Nowell Rd) South Entrance				1				RetrofitWarnings
714	6	SR-1657 (Nowell Rd)	Residential Driveway (1019 Nowell Rd)					1			Type1
24029	7	SR-1657 (Nowell Rd)	Nowell Pointe Dr				1				RetrofitWarnings
24030	7	SR-1657 (Nowell Rd)	Nowell Pointe Dr	16						1	Remove Ramp
24031	8	SR-1657 (Nowell Rd)	Choice Auto Repair (500 Nowell Rd)				1				RetrofitWarnings
24032	8	SR-1657 (Nowell Rd)	Germantown Rd					1			Type1Modified
Sub-Total for Nowell Rd From SR 1656 To SR 5808				33	9	1	13	10	0	2	

SUMMARY OF QUANTITIES – EDWARDS MILL RD FROM BRIDGE TO SR 1664

Municipality:	Raleigh
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2845000000-N	2600000000-N	2613000000-N	2605000000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
21319	1	SR-3009 (Creedmoor Rd)	Crabtree Valley Ave				1				RetrofitWarnings
21318	1	SR-3009 (Creedmoor Rd)	BB&T (4409 Creedmoor Rd)						1		Type1
21317	1	SR-3009 (Creedmoor Rd)	BB&T (4409 Creedmoor Rd)						1		Type1
21326	2	SR-3009 (Creedmoor Rd)	Nationwide Insurance Agency (4401 Creedmoor Rd)					1			Type2AModified
21323	2	SR-3009 (Creedmoor Rd)	Nationwide Insurance Agency (4401 Creedmoor Rd)					1			Type3Modified
21327	2	SR-3009 (Creedmoor Rd)	Nationwide Insurance Agency (4401 Creedmoor Rd)				1				RetrofitWarnings
21328	2	SR-3009 (Creedmoor Rd)	Nationwide Insurance Agency (4401 Creedmoor Rd)				1				RetrofitWarnings
21324	2	SR-3009 (Creedmoor Rd)	Nationwide Insurance Agency (4401 Creedmoor Rd)	16	9					1	Remove Ramp
21325	2	SR-3009 (Creedmoor Rd)	Nationwide Insurance Agency (4401 Creedmoor Rd)	18						1	Remove Ramp
21332	3	SR-3009 (Creedmoor Rd)	Manor Park Dr					1			Type1Modified
21331	3	SR-3009 (Creedmoor Rd)	Manor Park Dr	16	9					1	Remove Ramp
21330	3	SR-3009 (Creedmoor Rd)	Manor Park Dr	16	9					1	Remove Ramp
21329	3	SR-3009 (Creedmoor Rd)	Manor Park Dr					1			Type1Modified
24195	3	SR-3009 (Creedmoor Rd)	Manor Park Dr	16	9					1	Remove Ramp
24196	3	SR-3009 (Creedmoor Rd)	Manor Park Dr	12	7					1	Remove Ramp
21333	4	SR-3009 (Creedmoor Rd)	Manor Club Dr					1			Type1Modified
21334	4	SR-3009 (Creedmoor Rd)	Manor Club Dr					1			Type7
21336	4	SR-3009 (Creedmoor Rd)	Manor Club Dr					1			Type1Modified
21335	4	SR-3009 (Creedmoor Rd)	Manor Club Dr					1			Type7
21338	5	SR-3009 (Edwards Mill Rd)	Mill Village Rd				1				RetrofitWarnings
21341	5	SR-3009 (Creedmoor Rd)	Parklake Ave				1				RetrofitWarnings
21342	5	SR-3009 (Creedmoor Rd)	Parklake Ave				1				RetrofitWarnings
21343	5	SR-3009 (Creedmoor Rd)	Parklake Ave				1				RetrofitWarnings
21344	5	SR-3009 (Edwards Mill Rd)	Mill Village Rd				1				RetrofitWarnings
21339	5	SR-3009 (Edwards Mill Rd)	Mill Village Rd				1				RetrofitWarnings
21340	5	SR-3009 (Creedmoor Rd)	Parklake Ave				1				RetrofitWarnings
21355	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr	16	9					1	Remove Ramp
21345	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr (Stough Elementary West Parking Entrance)					1			Type1Modified
21346	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr (Stough Elementary West Parking Entrance)	16	9					1	Remove Ramp
21347	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr (Stough Elementary West Parking Entrance)	16						1	Remove Ramp
21348	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr (Stough Elementary West Parking Entrance)					1			Type1Modified
21356	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr					1			Type1Modified
21353	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr					1			Type1Modified
21354	6	SR-3009 (Edwards Mill Rd)	Glen Laurel Dr	16						1	Remove Ramp
21357	7	SR-3009 (Edwards Mill Rd)	Victoria Townes Ln				1				RetrofitWarnings
21358	7	SR-3009 (Edwards Mill Rd)	Victoria Townes Ln				1				RetrofitWarnings
21367	8	SR-3009 (Edwards Mill Rd)	Carnegie Ln					1			Type2AModified
21365	8	SR-3009 (Edwards Mill Rd)	Carnegie Ln	16	9					1	Remove Ramp
21366	8	SR-3009 (Edwards Mill Rd)	Carnegie Ln					1			Type1Modified
21371	9	SR-3009 (Edwards Mill Rd)	Mill Tree Rd					1			Type5A
21370	9	SR-3009 (Edwards Mill Rd)	Mill Tree Rd					1			Type5A
21369	9	SR-3009 (Edwards Mill Rd)	Mill Tree Rd					1			Type1
21368	9	SR-3009 (Edwards Mill Rd)	Mill Tree Rd	16	9					1	Remove Ramp
21372	9	SR-3009 (Edwards Mill Rd)	Mill Tree Rd				1				RetrofitWarnings
21373	10	SR-3009 (Edwards Mill Rd)	Glen Eden Dr				1				RetrofitWarnings
21379	10	SR-3009 (Edwards Mill Rd)	Glen Eden Dr				1				RetrofitWarnings
21380	10	SR-3009 (Edwards Mill Rd)	Glen Eden Dr				1				RetrofitWarnings
21374	10	SR-3009 (Edwards Mill Rd)	Glen Eden Dr				1				RetrofitWarnings
21383	11	SR-3009 (Edwards Mill Rd)	Carriage Dr				1				RetrofitWarnings
21384	11	SR-3009 (Edwards Mill Rd)	Carriage Dr				1				RetrofitWarnings
21381	11	SR-3009 (Edwards Mill Rd)	Carriage Dr				1				RetrofitWarnings
21017	11	SR-3009 (Edwards Mill Rd)	Laurel Hills Park (3808 Edwards Mill Rd)				1				RetrofitWarnings
Sub-Total				190	79	0	21	17	2	12	

SUMMARY OF QUANTITIES – EDWARDS MILL RD FROM BRIDGE TO SR 1664

Municipality:	Raleigh
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	254900000-E	259100000-E	284500000-N	260000000-N	261300000-N	260500000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
21018	11	SR-3009 (Edwards Mill Rd)	Laurel Hills Park (3808 Edwards Mill Rd)				1				RetrofitWarnings
21019	11	SR-3009 (Edwards Mill Rd)	Laurel Hills Park (3808 Edwards Mill Rd)				1				RetrofitWarnings
21020	11	SR-3009 (Edwards Mill Rd)	Laurel Hills Park (3808 Edwards Mill Rd)				1				RetrofitWarnings
21382	11	SR-3009 (Edwards Mill Rd)	Carriage Dr				1				RetrofitWarnings
771	12	SR-3009 (Edwards Mill Rd)	Marietta Ct				1				RetrofitWarnings
766	12	SR-3009 (Edwards Mill Rd)	Marietta Ct				1				RetrofitWarnings
770	12	SR-3009 (Edwards Mill Rd)	Marietta Ct	18	8					1	Remove Ramp
767	12	SR-3009 (Edwards Mill Rd)	Marietta Ct					1			Type1Modified
769	12	SR-3009 (Edwards Mill Rd)	Marietta Ct					1			Type1Modified
768	12	SR-3009 (Edwards Mill Rd)	Marietta Ct	16						1	Remove Ramp
24024	13	SR-3009 (Edwards Mill Rd)	Blueberry Dr				1				RetrofitWarnings
762	13	SR-3009 (Edwards Mill Rd)	Blueberry Dr	17	9					1	Remove Ramp
765	13	SR-3009 (Edwards Mill Rd)	Blueberry Dr				1				RetrofitWarnings
763	13	SR-3009 (Edwards Mill Rd)	Blueberry Dr				1				RetrofitWarnings
764	13	SR-3009 (Edwards Mill Rd)	Blueberry Dr				1				RetrofitWarnings
760	14	SR-3009 (Edwards Mill Rd)	Mount Olivet Baptist Church (3500 Edwards Mill Rd) North Entrance				1				RetrofitWarnings
761	14	SR-3009 (Edwards Mill Rd)	Mount Olivet Baptist Church (3500 Edwards Mill Rd) North Entrance				1				RetrofitWarnings
24023	15	SR-3009 (Edwards Mill Rd)	Laurel Hills Rd				1				RetrofitWarnings
18615	15	SR-3009 (Edwards Mill Rd)	Laurel Hills Rd				1				RetrofitWarnings
18617	15	SR-3009 (Edwards Mill Rd)	Laurel Hills Rd	16						1	Remove Ramp
758	15	SR-3009 (Edwards Mill Rd)	Mount Olivet Baptist Church (3500 Edwards Mill Rd) South Entrance				1				RetrofitWarnings
18616	15	SR-3009 (Edwards Mill Rd)	Laurel Hills Rd	16						1	Remove Ramp
759	15	SR-3009 (Edwards Mill Rd)	Mount Olivet Baptist Church (3500 Edwards Mill Rd) South Entrance				1				RetrofitWarnings
18618	15	SR-3009 (Edwards Mill Rd)	Laurel Hills Rd				1				RetrofitWarnings
24198	16	SR-3009 (Edwards Mill Rd)	Stromboli's Express (3434 Edwards Mill Rd) Entrance				1				RetrofitWarnings
24197	16	SR-3009 (Edwards Mill Rd)	Stromboli's Express (3434 Edwards Mill Rd) Entrance				1				RetrofitWarnings
18614	17	SR-3009 (Edwards Mill Rd)	Wells Fargo (3301 Edwards Mill Rd)				1				RetrofitWarnings
18612	17	SR-3009 (Edwards Mill Rd)	Wells Fargo (3301 Edwards Mill Rd)					1			Type7
18613	17	SR-3009 (Edwards Mill Rd)	Wells Fargo (3301 Edwards Mill Rd)					1			Type7
757	17	SR-3009 (Edwards Mill Rd)	Walgreens (3422 Edwards Mill Rd)					1			Type1Modified
18611	17	SR-3009 (Edwards Mill Rd)	Wells Fargo (3301 Edwards Mill Rd)				1				RetrofitWarnings
756	17	SR-3009 (Edwards Mill Rd)	Walgreens (3422 Edwards Mill Rd)					1			Type3Modified
21014	18	SR-3009 (Edwards Mill Rd)	Ed Dr	16	9					1	Remove Ramp
21013	18	SR-3009 (Edwards Mill Rd)	Ed Dr				1				RetrofitWarnings
21015	18	SR-3009 (Edwards Mill Rd)	Ed Dr				1				RetrofitWarnings
21016	18	SR-3009 (Edwards Mill Rd)	Ed Dr				1				RetrofitWarnings
21388	18	SR-3009 (Edwards Mill Rd)	John Humphries Wynd	16	9					1	Remove Ramp
21387	18	SR-3009 (Edwards Mill Rd)	John Humphries Wynd				1				RetrofitWarnings
21012	19	SR-3009 (Edwards Mill Rd)	Edwards Mill Office Center (3110 Edwards Mill Rd)	16	9					1	Remove Ramp
21389	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)					1			Type1Modified
21393	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)	16						1	Remove Ramp
21394	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)					1			Type1Modified
21390	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)				1				RetrofitWarnings
21391	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)				1				RetrofitWarnings
21392	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)				1				RetrofitWarnings
24022	19	SR-3009 (Edwards Mill Rd)	Olde Raleigh Village (3201 Edwards Mill Rd)				1				RetrofitWarnings
21011	19	SR-3009 (Edwards Mill Rd)	Edwards Mill Office Center (3110 Edwards Mill Rd)					1			Type3Modified
21009	19	SR-3009 (Edwards Mill Rd)	Edwards Mill Office Center (3110 Edwards Mill Rd)	16	9					1	Remove Ramp
21010	19	SR-3009 (Edwards Mill Rd)	Edwards Mill Office Center (3110 Edwards Mill Rd)					1			Type1Modified
Sub-Total				163	53	0	29	10	0	10	
Sub-Total for Edwards Mill Rd From Bridge To SR 1664				353	132	0	50	27	2	22	

SUMMARY OF QUANTITIES – EDWARDS MILL RD FROM/TO SR 1664 TO/FROM SR 1728

Municipality:	Raleigh / Outside Municipality
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2845000000-N	2600000000-N	2613000000-N	2605000000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
1	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
2	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
3	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
4	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
12	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
13	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
14	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
15	1	SR-1775 (Reedy Creek Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
615	2	SR-3009 (Edwards Mill Rd)	SR-1667 (Macon Pond Rd)					1			Type1Modified
616	2	SR-3009 (Edwards Mill Rd)	SR-1667 (Macon Pond Rd)	17	9					1	Remove Ramp
617	2	SR-3009 (Edwards Mill Rd)	SR-1667 (Macon Pond Rd)	17	9					1	Remove Ramp
618	2	SR-3009 (Edwards Mill Rd)	SR-1667 (Macon Pond Rd)					1			Type1Modified
619	2	SR-3009 (Edwards Mill Rd)	SR-1667 (Macon Pond Rd)					1			Type1Modified
608	3	SR-3009 (Edwards Mill Rd)	Princeton Mill Pkwy					1			Type1Modified
610	3	SR-3009 (Edwards Mill Rd)	Princeton Mill Pkwy					1			Type1
24020	4	SR-3009 (Edwards Mill Rd)	Brighton Gardens Senior Living (3101 Duraleigh Rd)					1			Type1
24021	4	SR-3009 (Edwards Mill Rd)	Brighton Gardens Senior Living (3101 Duraleigh Rd)					1			Type1Modified
563	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
564	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
565	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
566	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
567	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
568	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
569	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
570	5	SR-1664 (Duraleigh Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
Sub-Total for Edwards Mill Rd From/To SR 1664 To/From SR 1728				34	18	0	16	7	0	2	

SUMMARY OF QUANTITIES – EDWARDS MILL RD FROM SR 1728 TO SR 1656

Municipality:	Raleigh
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2845000000-N	2600000000-N	2613000000-N	2605000000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
17099	1	SR-3009 (Edwards Mill Rd)	Cardinal Gibbons High School (1401 Edwards Mill Rd)				1				RetrofitWarnings
17098	1	SR-3009 (Edwards Mill Rd)	Cardinal Gibbons High School (1401 Edwards Mill Rd)	9	5					1	Remove Ramp
17087	2	SR-1656 (Trinity Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
17088	2	SR-1656 (Trinity Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
17091	2	SR-1656 (Trinity Rd)	SR-3009 (Edwards Mill Rd)				1				RetrofitWarnings
Sub-Total for Edwards Mill Rd From SR 1728 To SR 1656				9	5	0	4	0	0	1	

SUMMARY OF QUANTITIES – CREEDMOOR RD FROM US 70 TO BRIDGE

Municipality:	Raleigh
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2845000000-N	2600000000-N	2613000000-N	2605000000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
21311	1	SR-3009 (Creedmoor Rd)	Capital Bank (4801 Glenwood Ave)						1		Type1Modified
21315	2	SR-3009 (Creedmoor Rd)	Crabtree Valley Mall (4691 Creedmoor Rd) Parking Entrance				1				RetrofitWarnings
21312	2	SR-3009 (Creedmoor Rd)	Crabtree Terrace (4509 Creedmoor Rd)						1		Type2AModified
21313	2	SR-3009 (Creedmoor Rd)	Crabtree Terrace (4509 Creedmoor Rd)						1		Type1B
21314	2	SR-3009 (Creedmoor Rd)	Crabtree Valley Mall (4691 Creedmoor Rd) Parking Entrance						1		Type2B
21316	2	SR-3009 (Creedmoor Rd)	Crabtree Valley Mall (4691 Creedmoor Rd) Parking Entrance					1			Type2AModified
24201	2	SR-3009 (Creedmoor Rd)	Crabtree Terrace (4509 Creedmoor Rd)						1		Type3
Sub-Total for Creedmoor Rd From US 70 To Bridge				0	0	0	1	1	5	0	

SUMMARY OF QUANTITIES – STRICKLAND RD FROM SR 1822 TO NC 50

Municipality:	Raleigh
Project Number:	2021 North
WBS Number:	2021CPT.05.09.20921.1
County:	Wake

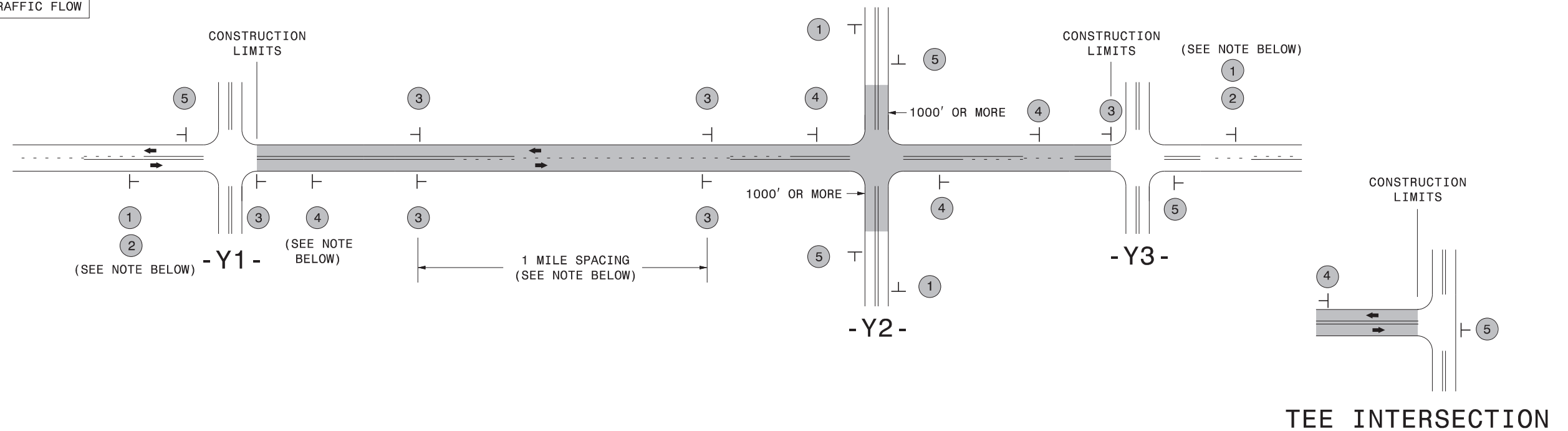
Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2845000000-N	2600000000-N	2613000000-N	2605000000-N	SP1	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Adjustment of Meter Boxes or Valve Boxes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Concrete Curb Ramps EA	Remove Curb Ramps EA	
24199	1	SR-1829 (Strickland Rd)	Walgreens (13301 Strickland Rd)				1				RetrofitWarnings
24200	1	SR-1829 (Strickland Rd)	Walgreens (13301 Strickland Rd)				1				RetrofitWarnings
15078	2	SR-1829 (Strickland Rd)	Allsbrooke Dr	20	9					1	Remove Ramp
15080	2	SR-1829 (Strickland Rd)	Allsbrooke Dr	20	9					1	Remove Ramp
15082	3	SR-1829 (Strickland Rd)	Halburton Rd	16	9					1	Remove Ramp
15083	3	SR-1829 (Strickland Rd)	Halburton Rd					1			Type3Modified
15084	3	SR-1829 (Strickland Rd)	Halburton Rd	16	9					1	Remove Ramp
15085	3	SR-1829 (Strickland Rd)	Halburton Rd					1			Type1A
15088	4	SR-1829 (Strickland Rd)	SR-1826 (Ray Rd)	12	9					1	Remove Ramp
15089	4	SR-1829 (Strickland Rd)	SR-1826 (Ray Rd)	16	9					1	Remove Ramp
15090	4	SR-1829 (Strickland Rd)	SR-1826 (Ray Rd)		4					1	Remove Ramp
15091	4	SR-1829 (Strickland Rd)	SR-1826 (Ray Rd)		4					1	Remove Ramp
15086	5	SR-1829 (Strickland Rd)	Food lion (12345 Strickland Rd)					1			Type1Modified
24027	6	SR-1829 (Strickland Rd)	Half Moon Ct	12	11					1	Remove Ramp
24028	6	SR-1829 (Strickland Rd)	Half Moon Ct	15	13					1	Remove Ramp
16992	7	SR-1829 (Strickland Rd)	Hempshire Pl	12	3					1	Remove Ramp
16993	7	SR-1829 (Strickland Rd)	Hempshire Pl					1			Type1Modified
16994	7	SR-1829 (Strickland Rd)	Hempshire Pl					1			Type1Modified
16995	7	SR-1829 (Strickland Rd)	Hempshire Pl	12	3					1	Remove Ramp
6778	8	SR-1829 (Strickland Rd)	Strickland/Creedmoore Shopping Center (8385 Creedmoor Rd) Back Entrance				1				RetrofitWarnings
6779	8	SR-1829 (Strickland Rd)	Strickland/Creedmoore Shopping Center (8385 Creedmoor Rd) Back Entrance					1			Type1Modified
6776	9	SR-1829 (Strickland Rd)	Strickland/Creedmoore Shopping Center (8385 Creedmoor Rd) Side Entrance				1				RetrofitWarnings
6777	9	SR-1829 (Strickland Rd)	Strickland/Creedmoore Shopping Center (8385 Creedmoor Rd) Side Entrance				1				RetrofitWarnings
6705	10	NC-50 (Creedmoor Rd)	SR-1829 (Strickland Rd)				1				RetrofitWarnings
6707	10	NC-50 (Creedmoor Rd)	SR-1829 (Strickland Rd)				1				RetrofitWarnings
6713	10	NC-50 (Creedmoor Rd)	SR-1829 (Strickland Rd)				1				RetrofitWarnings
6709	10	NC-50 (Creedmoor Rd)	SR-1829 (Strickland Rd)					1			Type2B
6710	10	NC-50 (Creedmoor Rd)	SR-1829 (Strickland Rd)	16	9					1	Remove Ramp
6711	10	NC-50 (Creedmoor Rd)	SR-1829 (Strickland Rd)	16	9					1	Remove Ramp
Sub-Total for Strickland Rd From SR 1822 To NC 50				183	110	0	8	7	0	14	

SIGNING FOR RESURFACING PROJECTS

LEGEND

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



SIGNING NOTES AND PLACEMENT PER DIRECTION	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.

W20-1
48" X 48"
 PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A
48" X 48"
 PLACED 250' IN ADVANCE OF FLAGGER.

MAPS LESS THAN 2 MILES

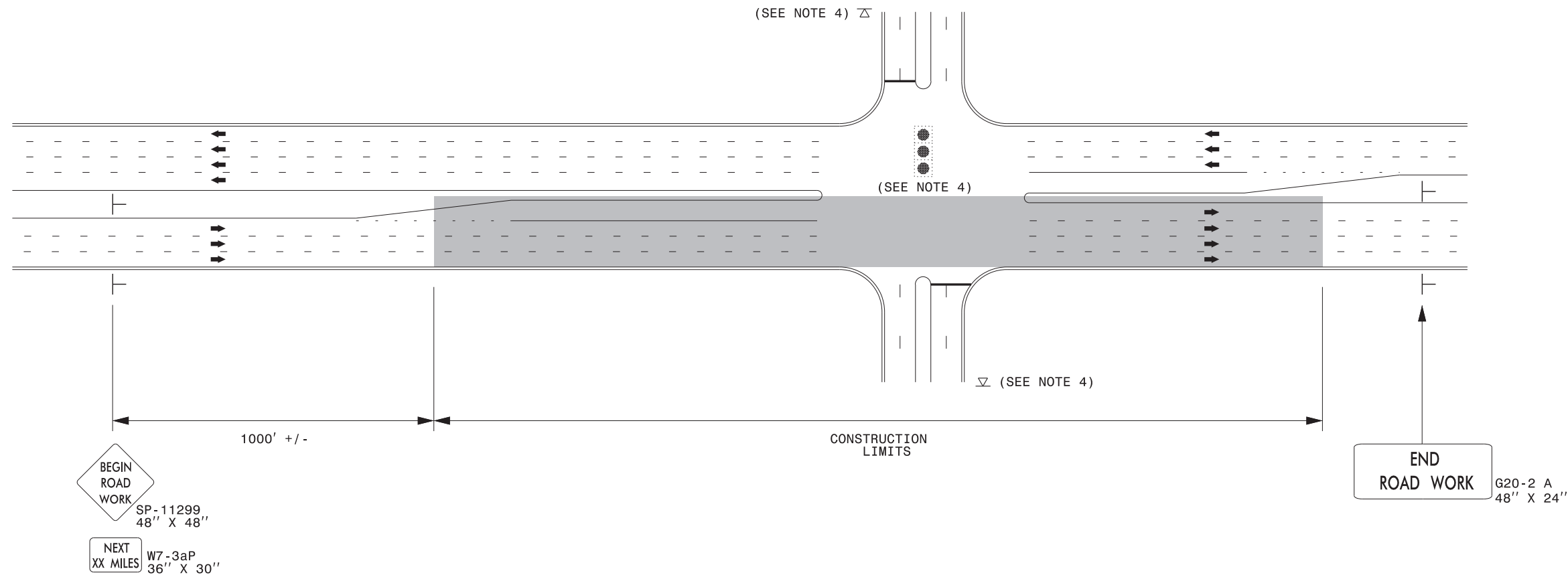
THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

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

5/15/2017 S:\TMU\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn User:kedais

URBAN / SUBURBAN WORKZONES

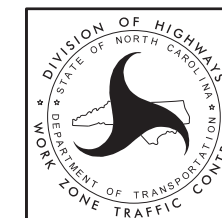


NOTES:

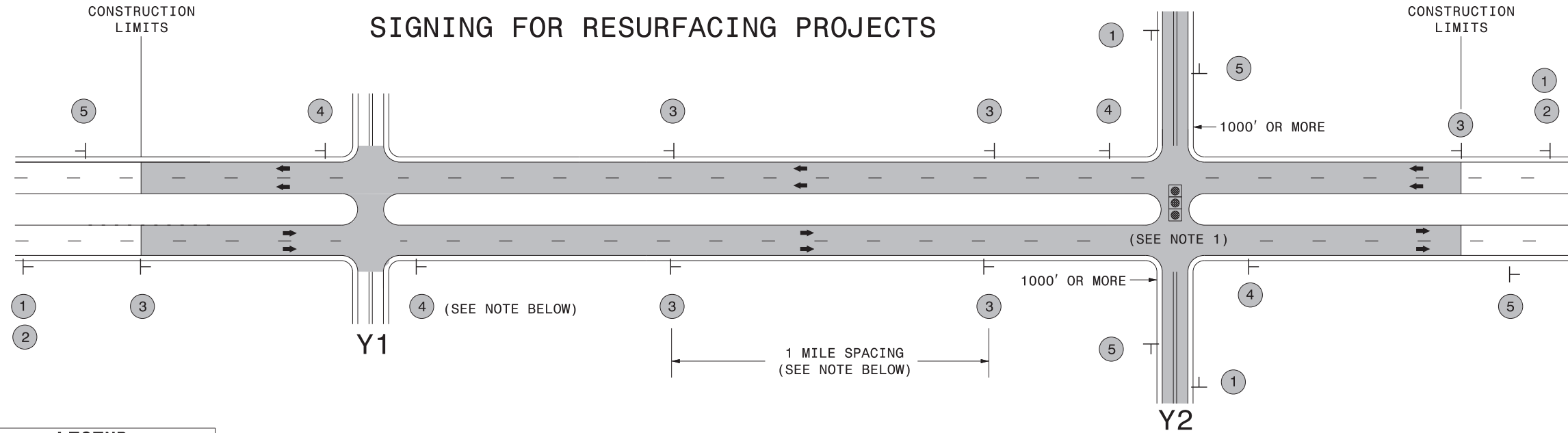
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. 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**



LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)</p>	<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, ADVANCE WARNING PORTABLE 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;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1) 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.
		<p>PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.</p>	
		<p>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.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	

3/23/2015 C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_LrSu_Shldr.dgn User:rmgarrett

**RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS**

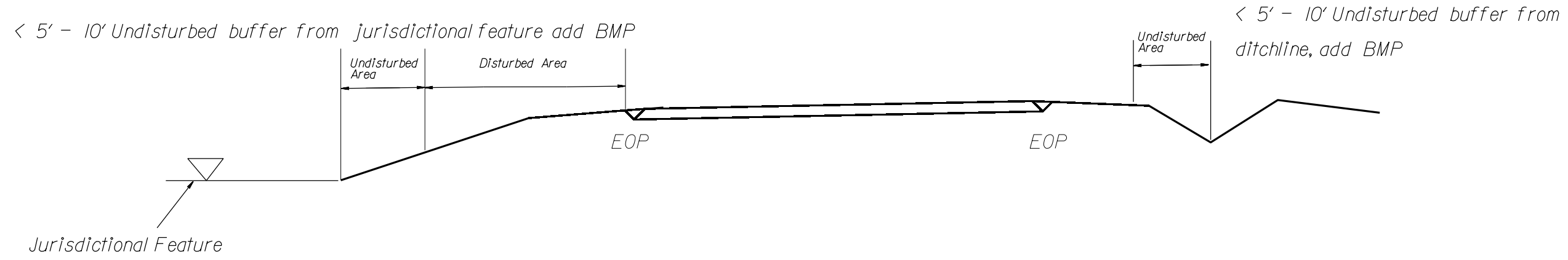
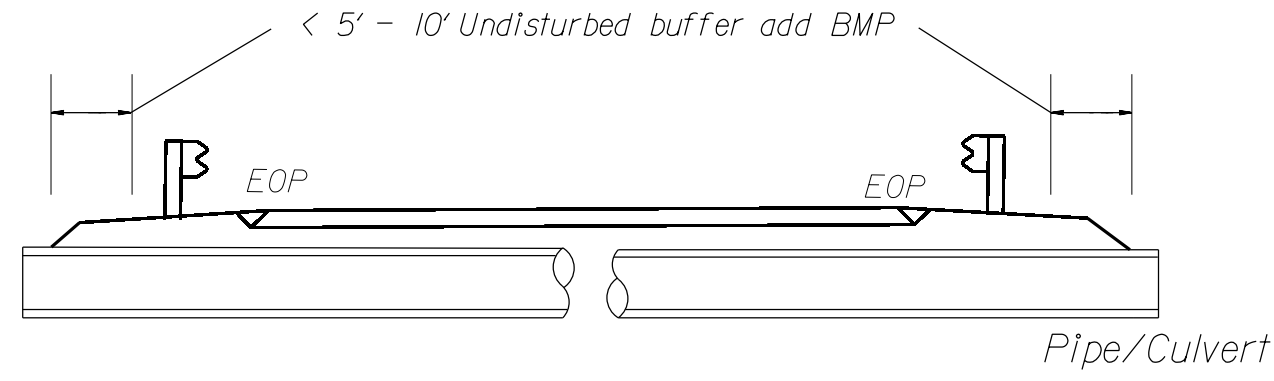
**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

SOIL STABILIZATION TIMEFRAMES

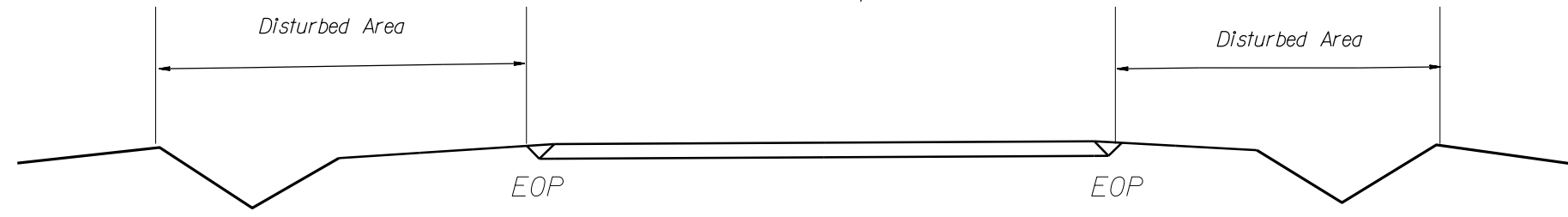
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.
 BMP Options: Wattle, Silt Fence or Hardened Aggregate.

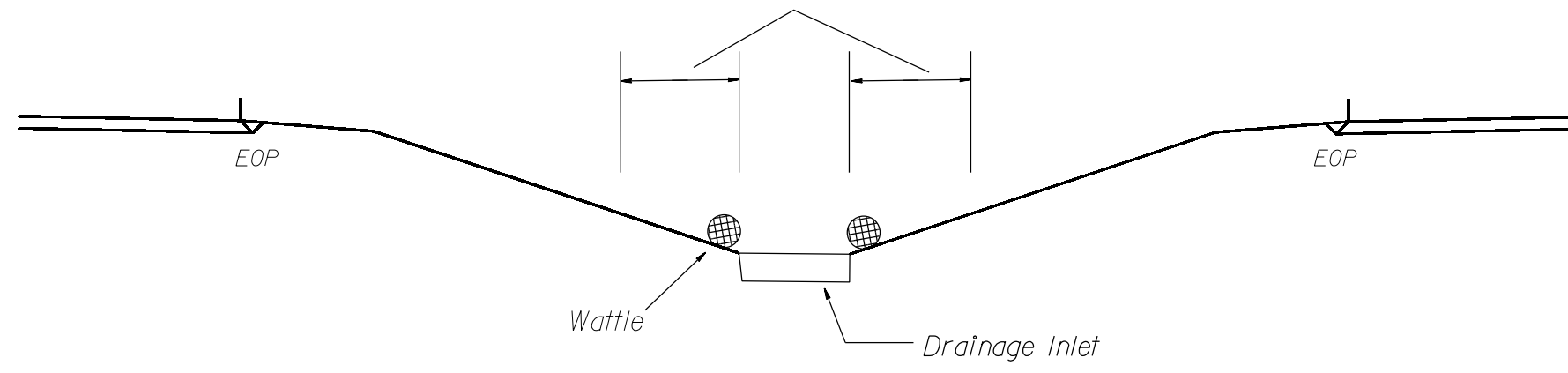
EROSION CONTROL DETAIL



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed

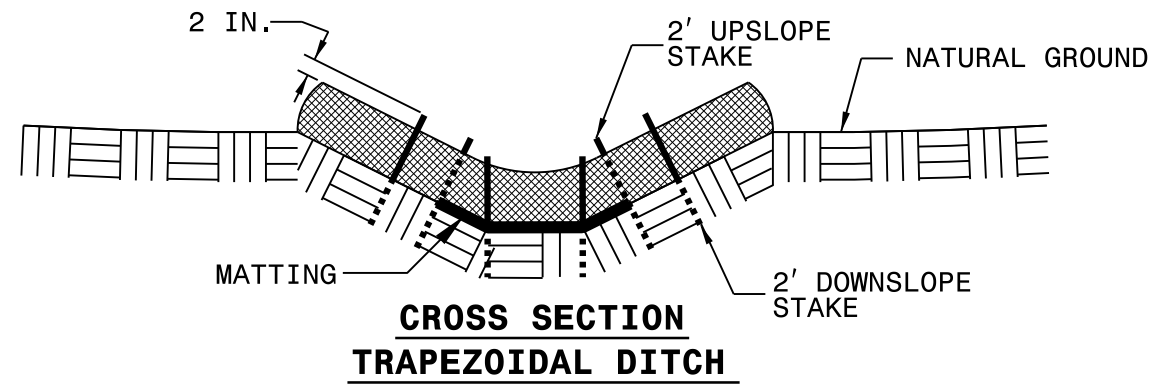
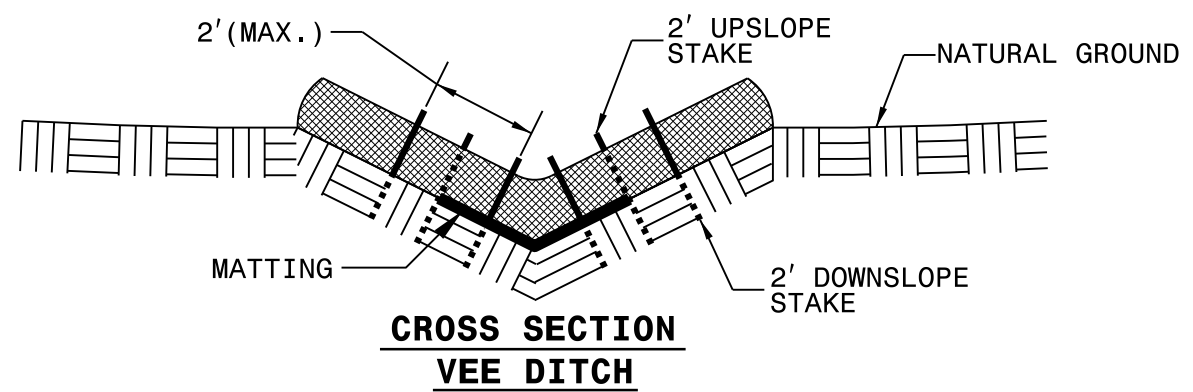
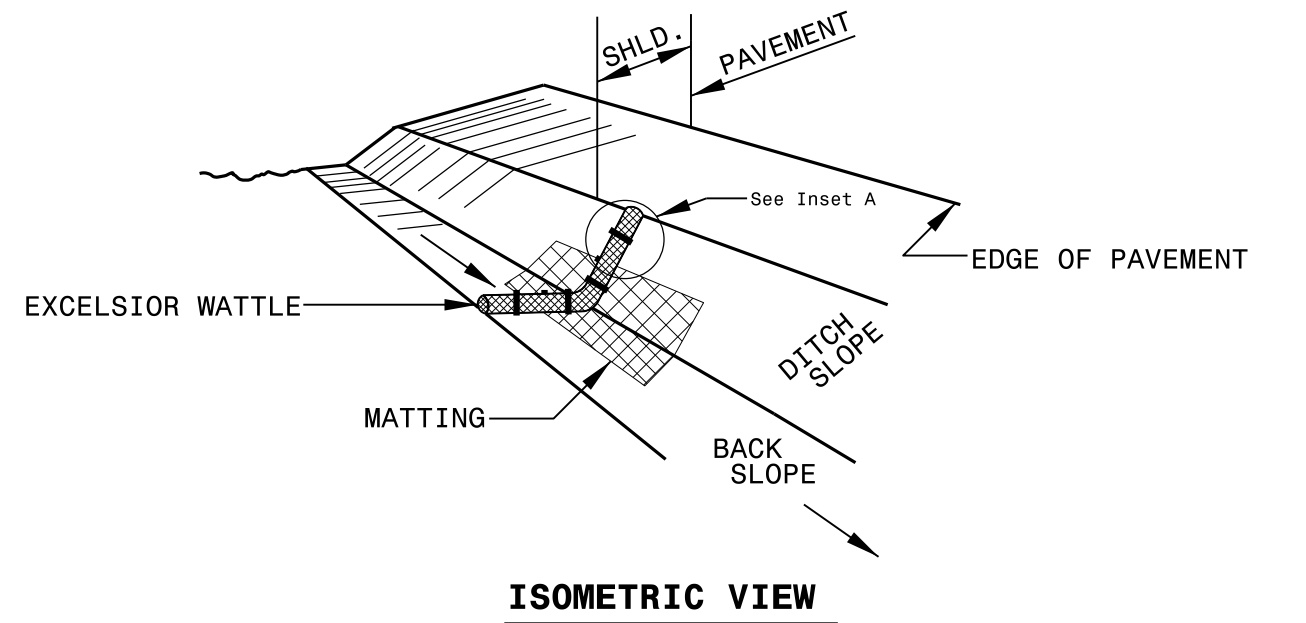


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

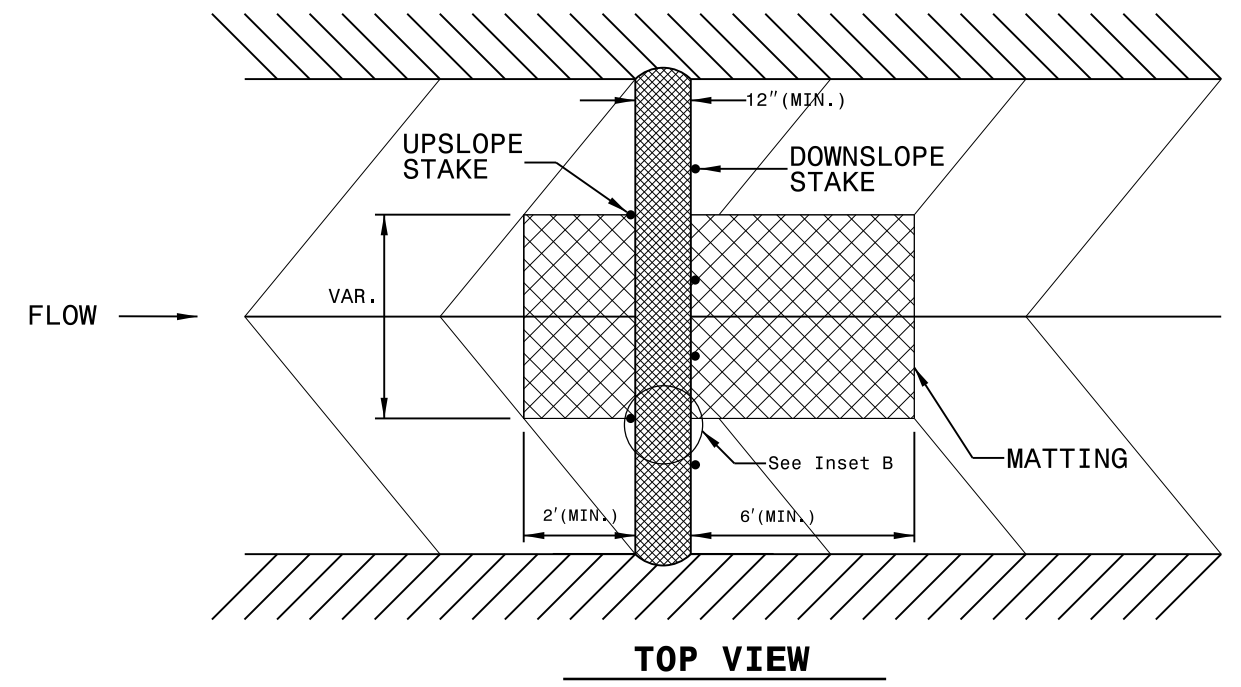
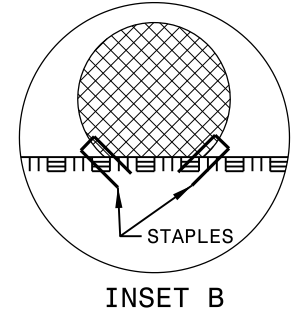
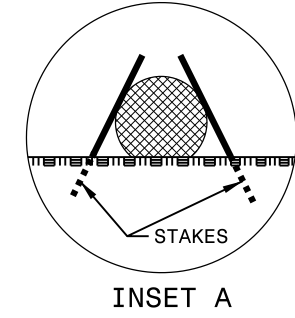
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

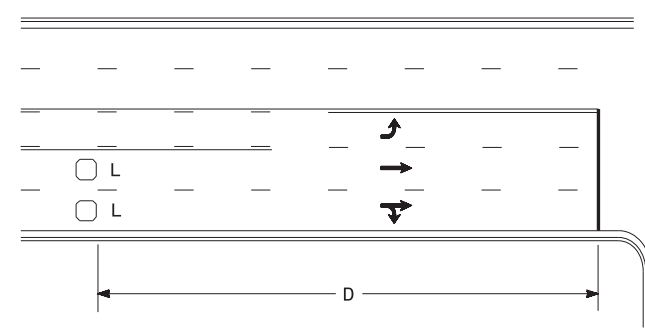
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



High Speed Detection (≥40 mph)

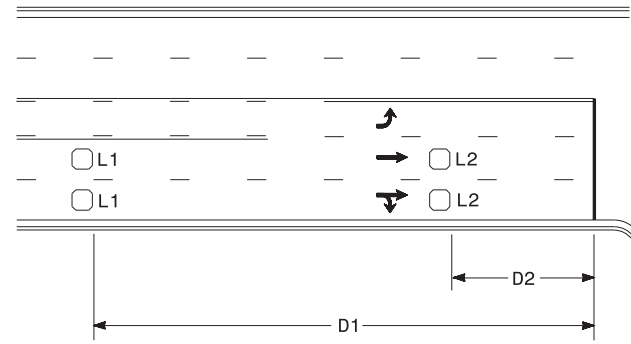


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



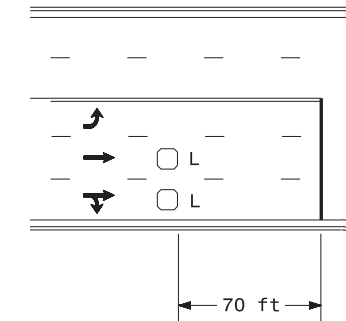
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

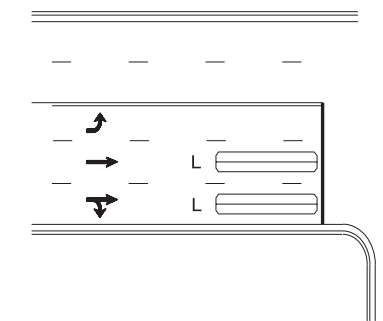
"Stretch" Operation

Low Speed Detection (≤35 mph)



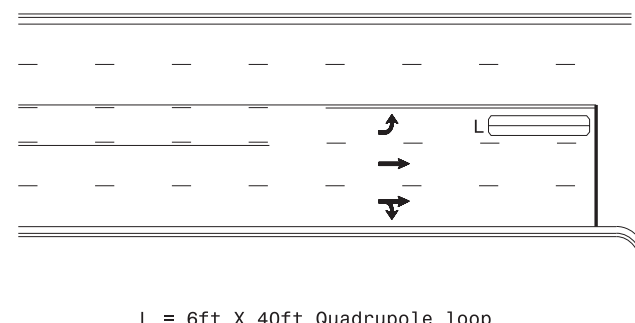
L = 6ft X 6ft
Wired in series

OR



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

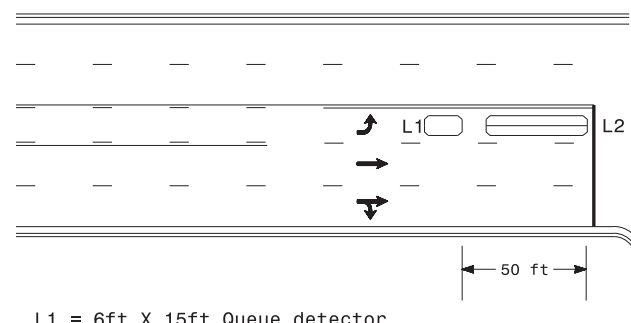
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

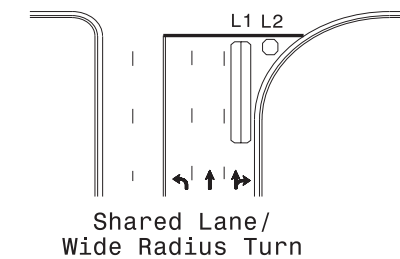
OR



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

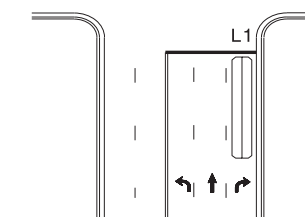
Queue Loop Detection

Right Turn Lane Detection

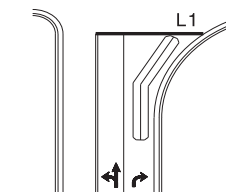


Shared Lane/
Wide Radius Turn

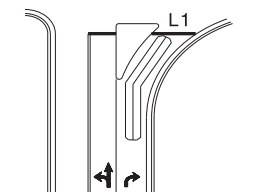
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

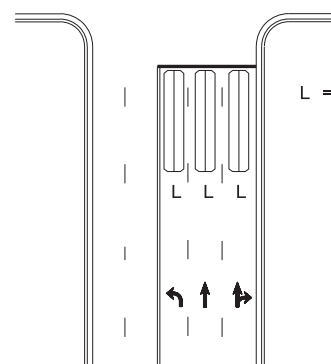


Wide Radius Turn



Channelized Turn

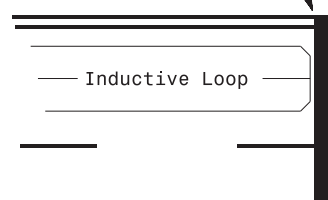
Side Street Detection



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

Presence Loop Placement at Stop Lines

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

Prepared in the Offices of:

Typical Signal Loop Locations	
PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

9/8/2020
DATE

SIG. INVENTORY NO.