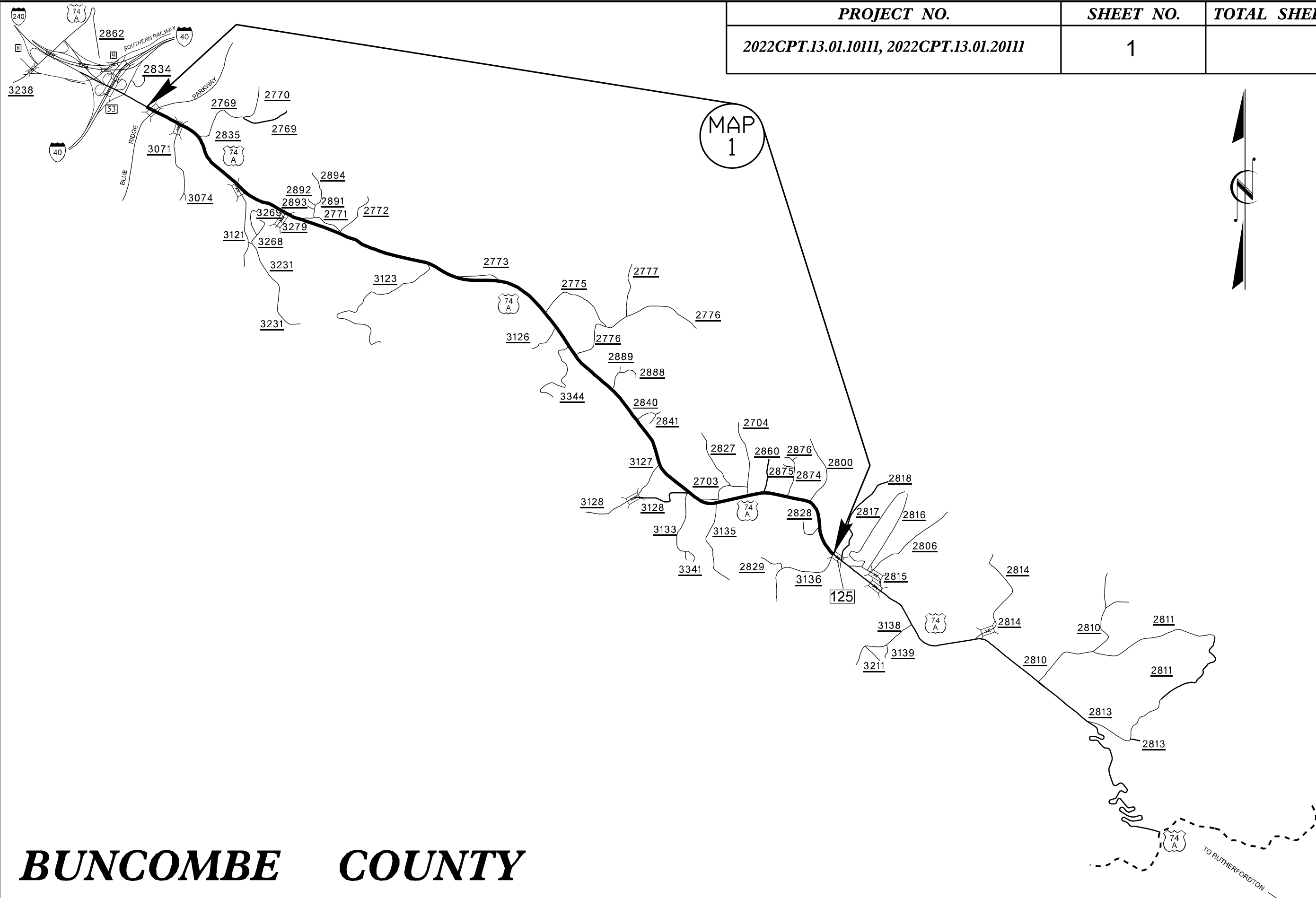
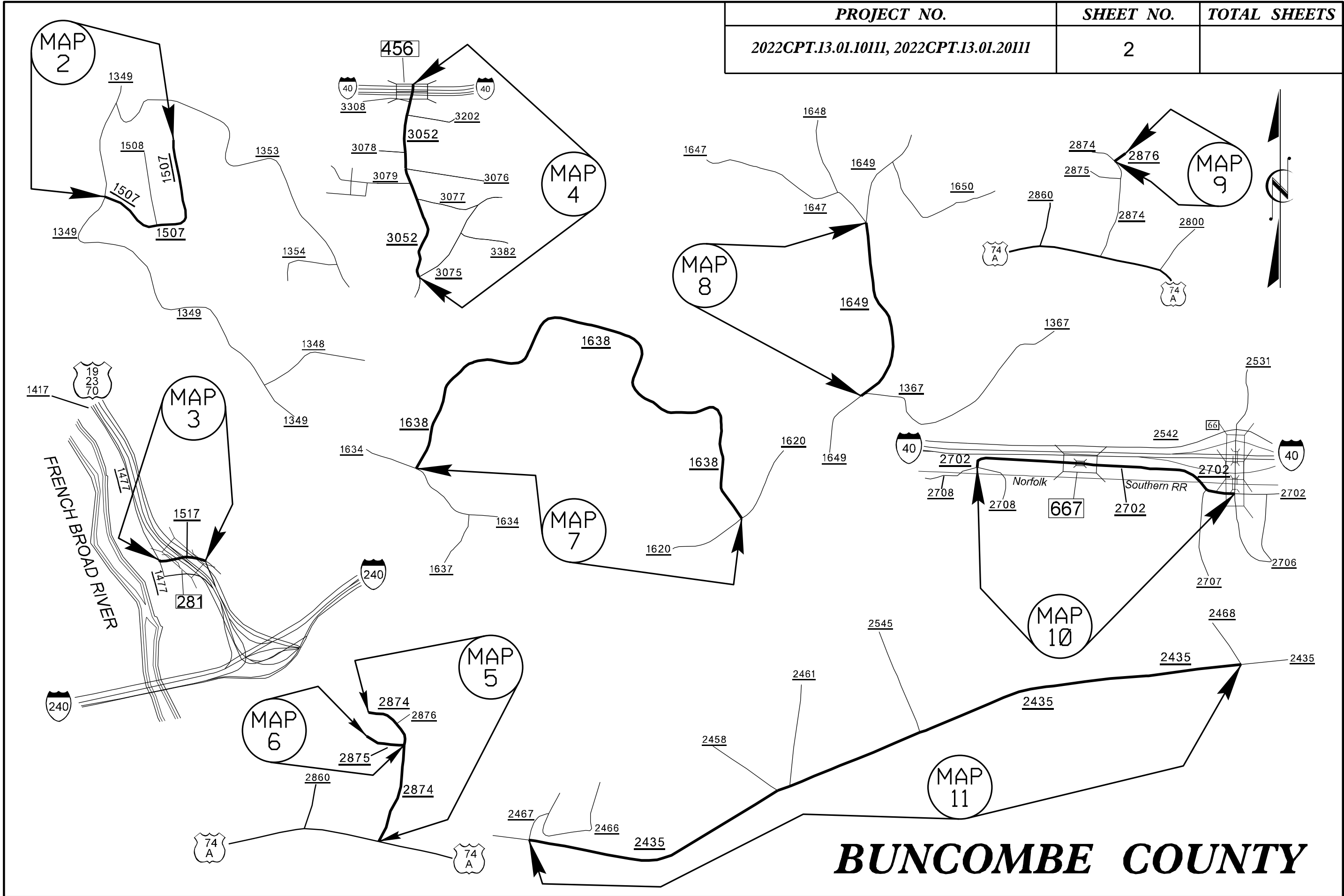


PROJECT NO.	SHEET NO.	TOTAL SHEETS
2022CPT.13.01.10111, 2022CPT.13.01.20111	1	



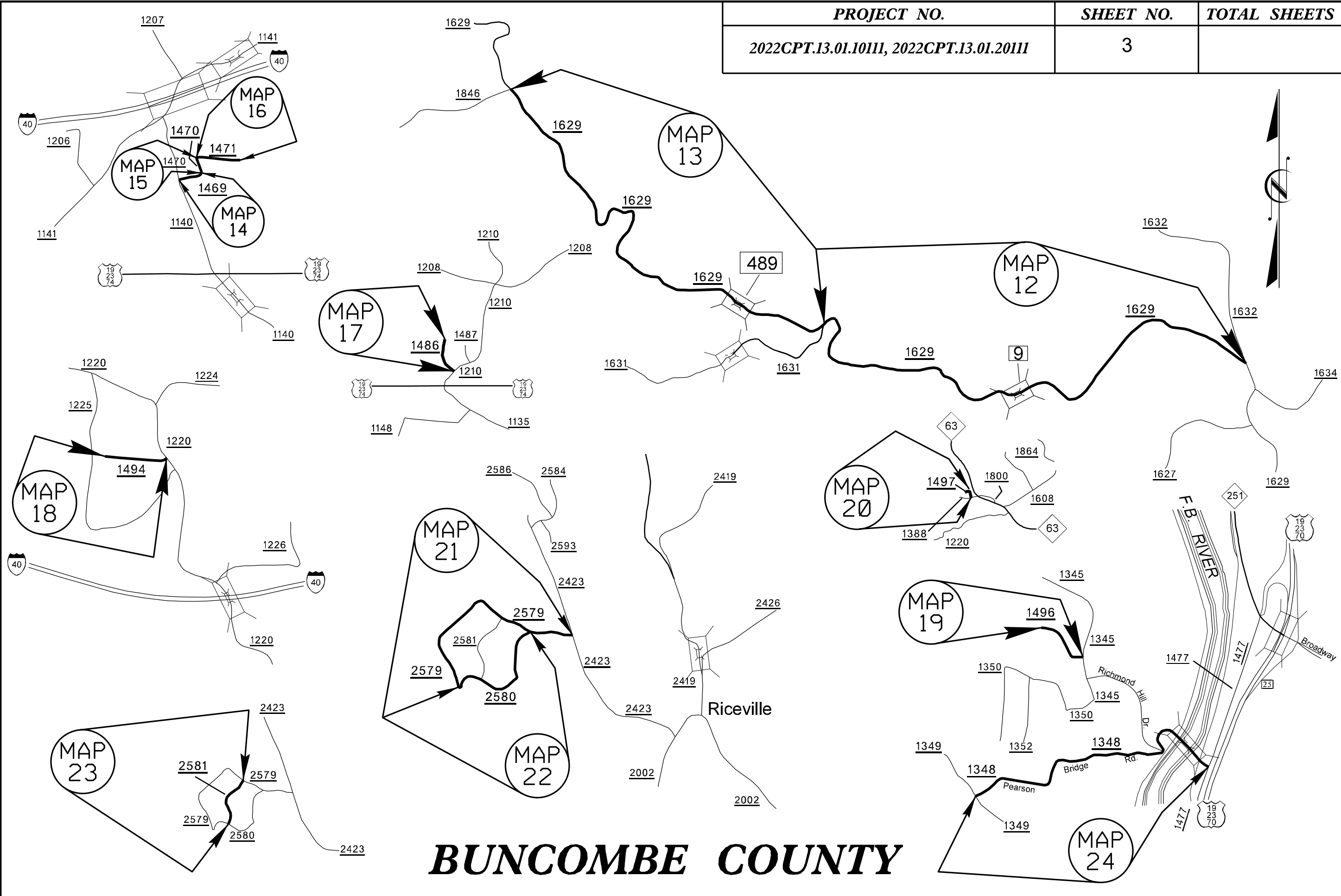
BUNCOMBE COUNTY

PROJECT NO.	SHEET NO.	TOTAL SHEETS
2022CPT.13.01.10111, 2022CPT.13.01.20111	2	

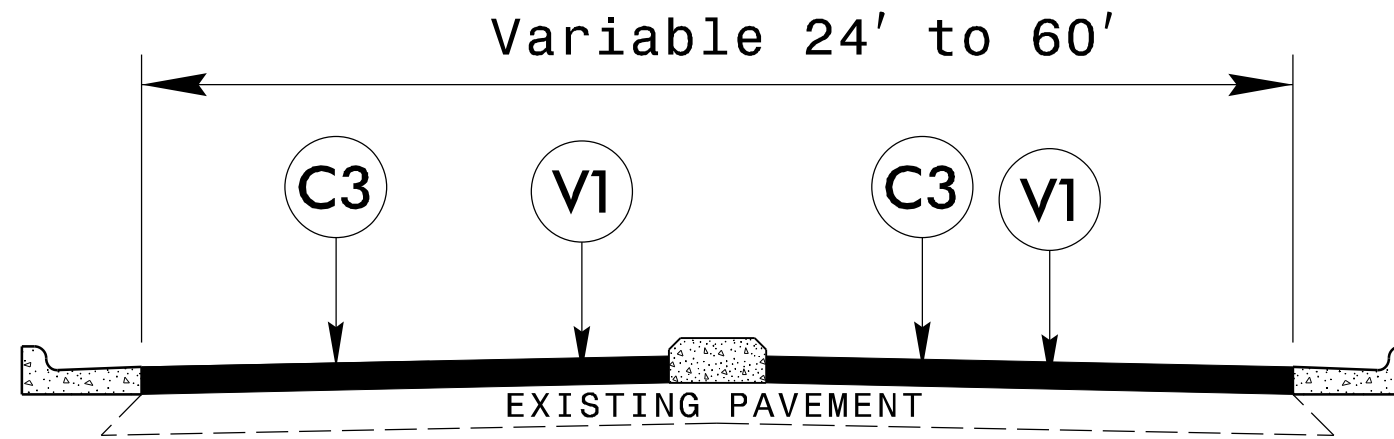


BUNCOMBE COUNTY

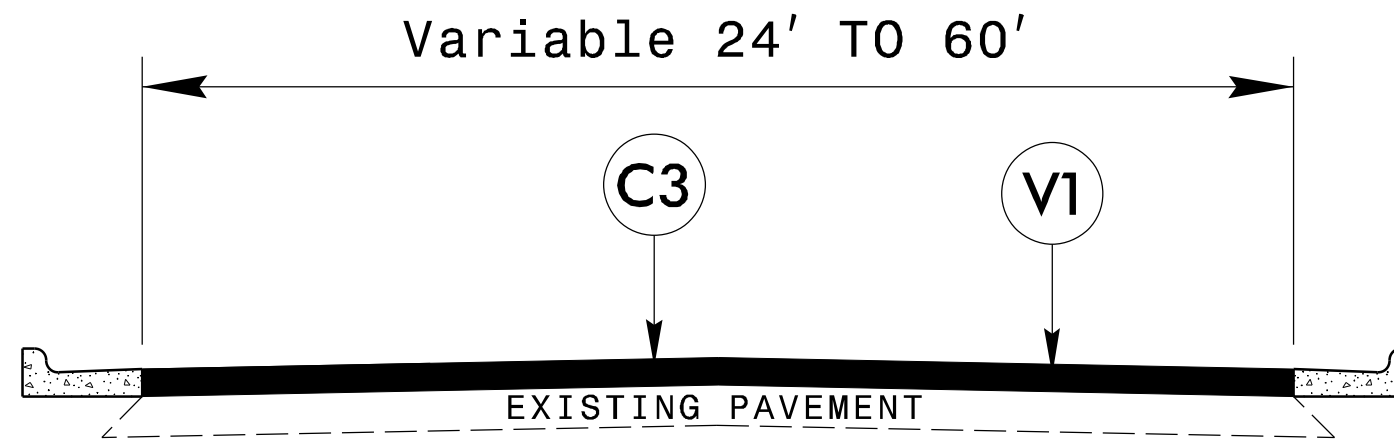
PROJECT NO.	SHEET NO.	TOTAL SHEETS
2022CPT.13.01.10111, 2022CPT.13.01.20111	3	



BUNCOMBE COUNTY

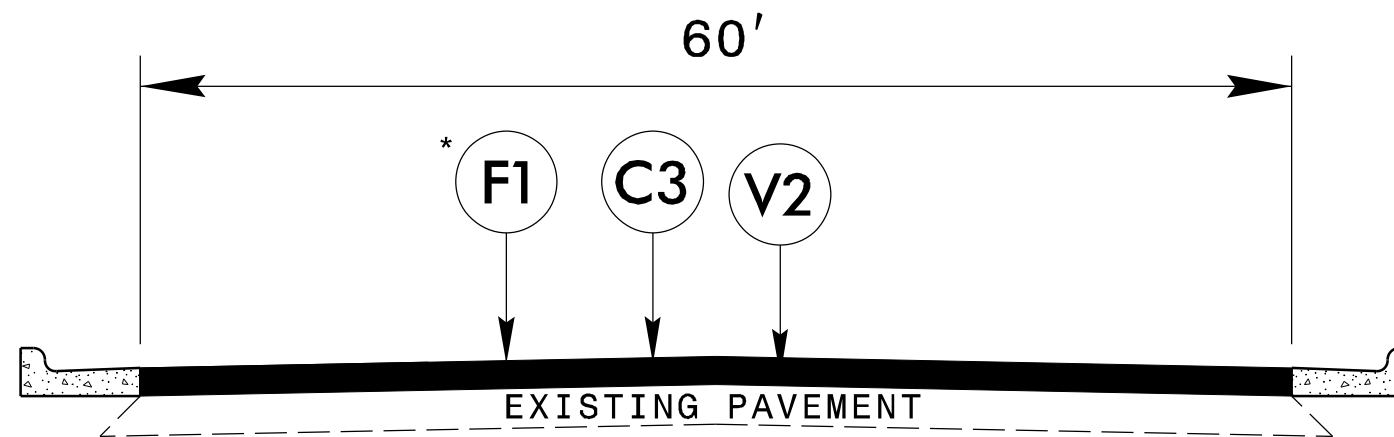


TYPICAL SECTION #1



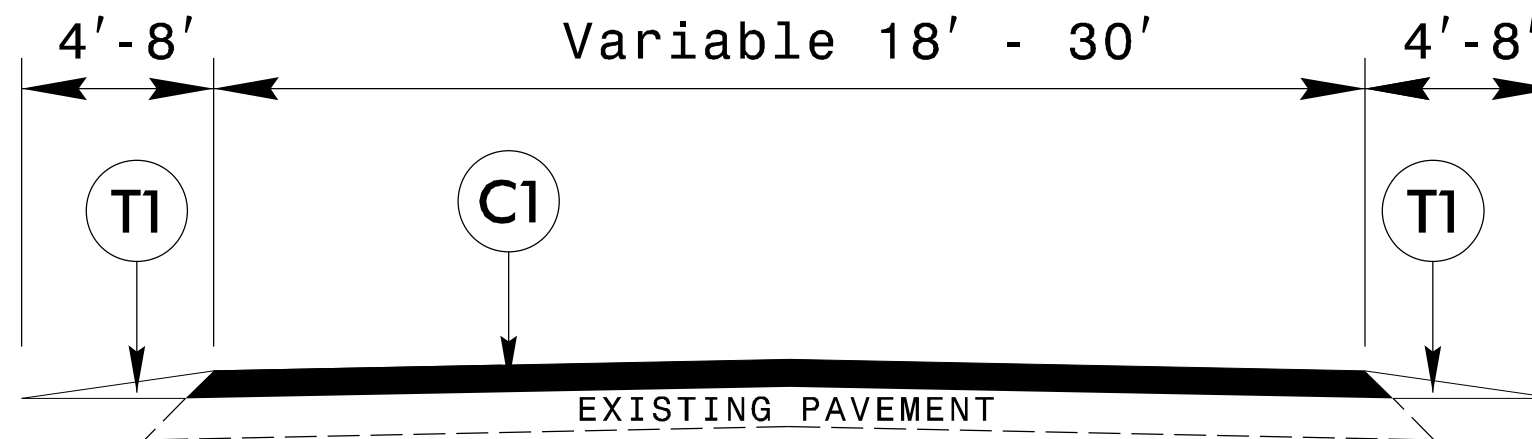
TYPICAL SECTION #2

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
C2	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD
C3	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
F1	ULTRA-THIN BONDED WEARING COURSE
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT 2-1/2" DEPTH
V3	INCIDENTAL MILLING



* NOTE:
UTBWC TO BE PLACED WHERE EXISTING FRICTION COURSE / OGAFc IS LOCATED AND AS DIRECTED BY THE ENGINEER.

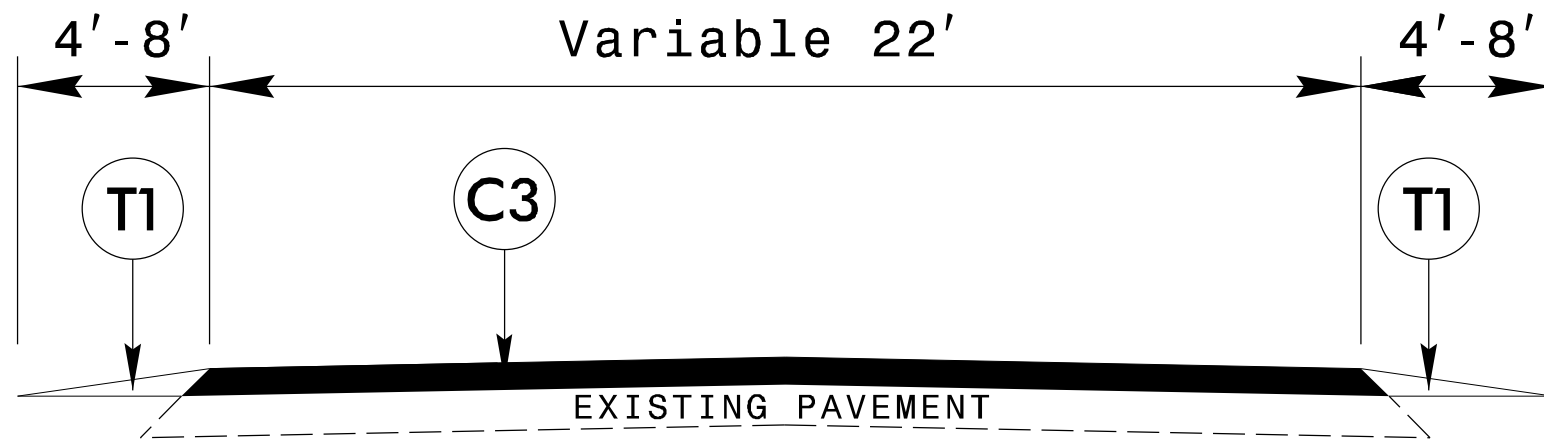
TYPICAL SECTION #3



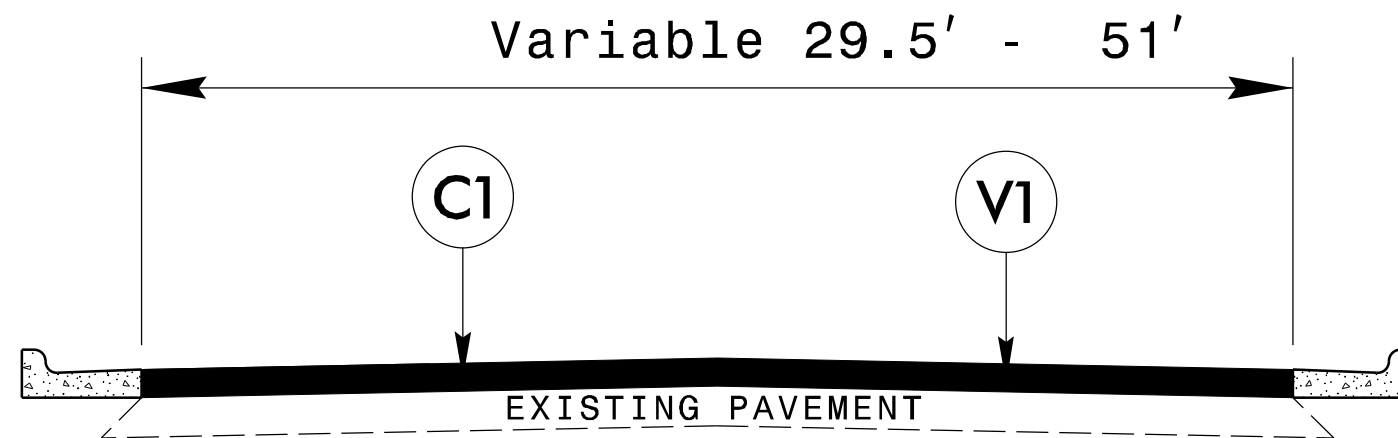
TYPICAL SECTION #4

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
C2	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD
C3	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
F1	ULTRA-THIN BONDED WEARING COURSE
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT 2-1/2" DEPTH
V3	INCIDENTAL MILLING

03-FEB-2022 08:23 S:\DD\Resurfacing\2023 Resurfacing\District 2\Buncombe CR\Buncombe CR_Raleigh\Package\2023_Buncombe-ddc-Typ.andDet_Updated_DC.dgn
 6/2/99



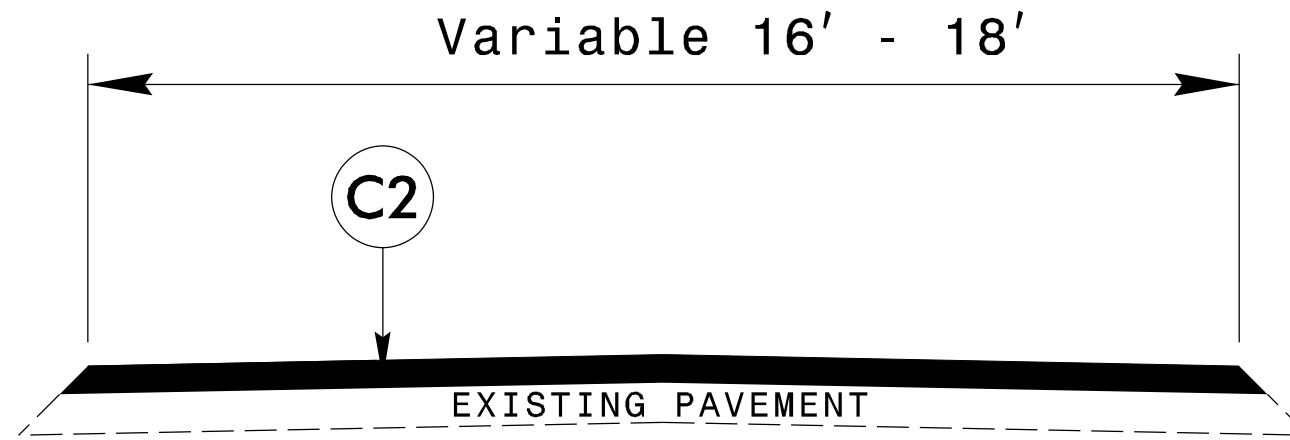
TYPICAL SECTION #5



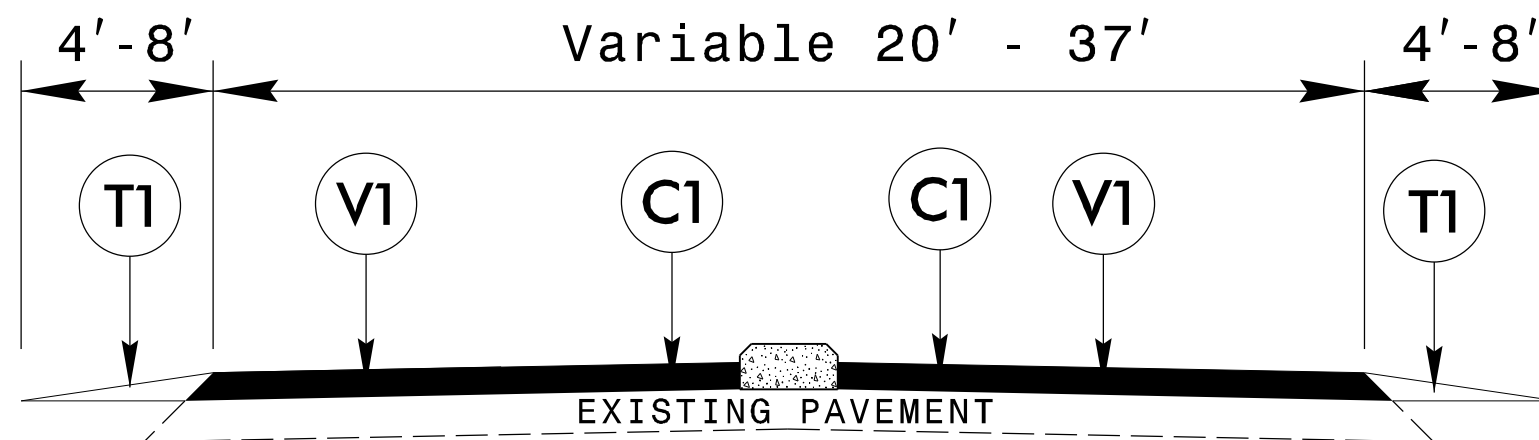
TYPICAL SECTION #6

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
C2	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD
C3	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
F1	ULTRA-THIN BONDED WEARING COURSE
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT 2-1/2" DEPTH
V3	INCIDENTAL MILLING

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 6/2/99

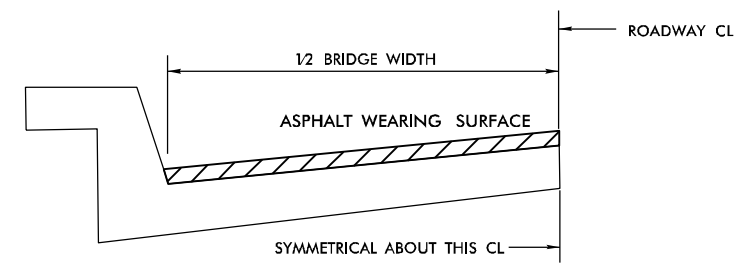


TYPICAL SECTION #7



TYPICAL SECTION #8

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
C2	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD
C3	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
F1	ULTRA-THIN BONDED WEARING COURSE
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT 2-1/2" DEPTH
V3	INCIDENTAL MILLING



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. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", S9.5B 1", S9.5C,D 1.5" - 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4". ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8". ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1", S9.5B 1.5", S9.5C,D 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4", ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8", ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2".

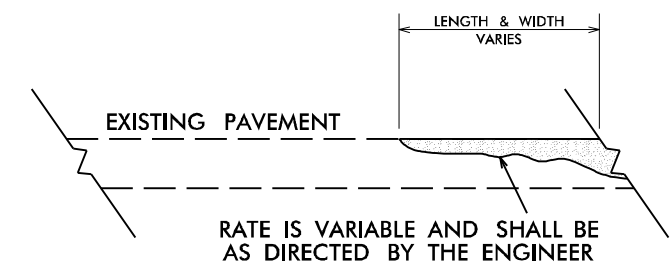
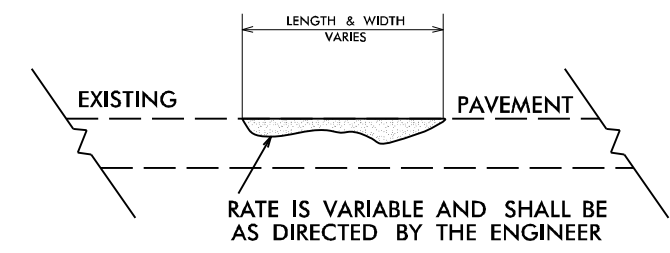
NOTES

ALL UNPAVED 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.

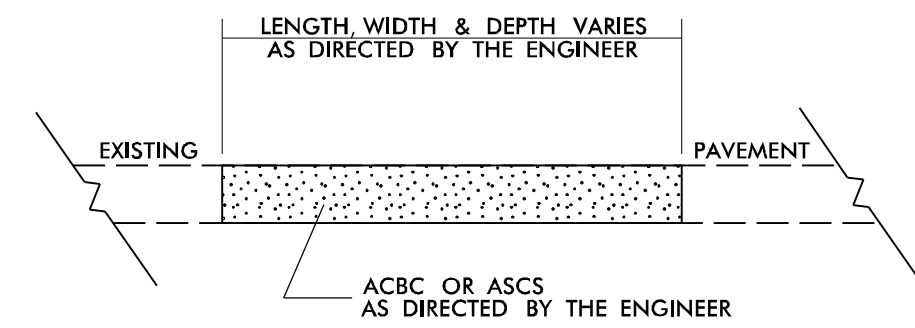
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.

BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

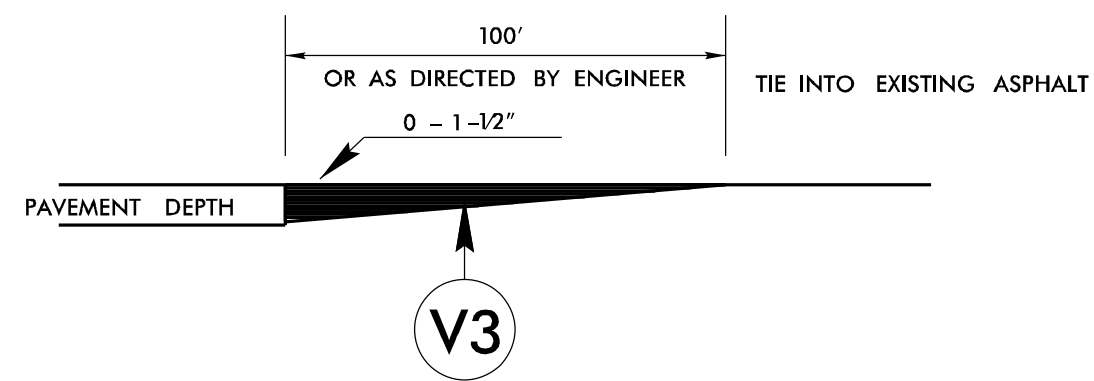


DETAIL SHOWING METHOD OF WEDGING



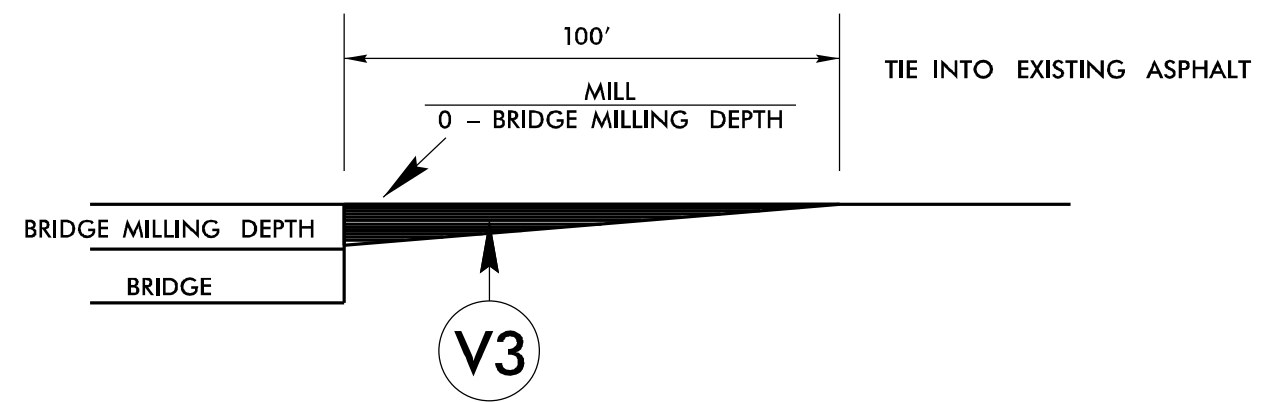
PATCHING EXISTING PAVEMENT

03-FEB-2022 08:25
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 6/2/99



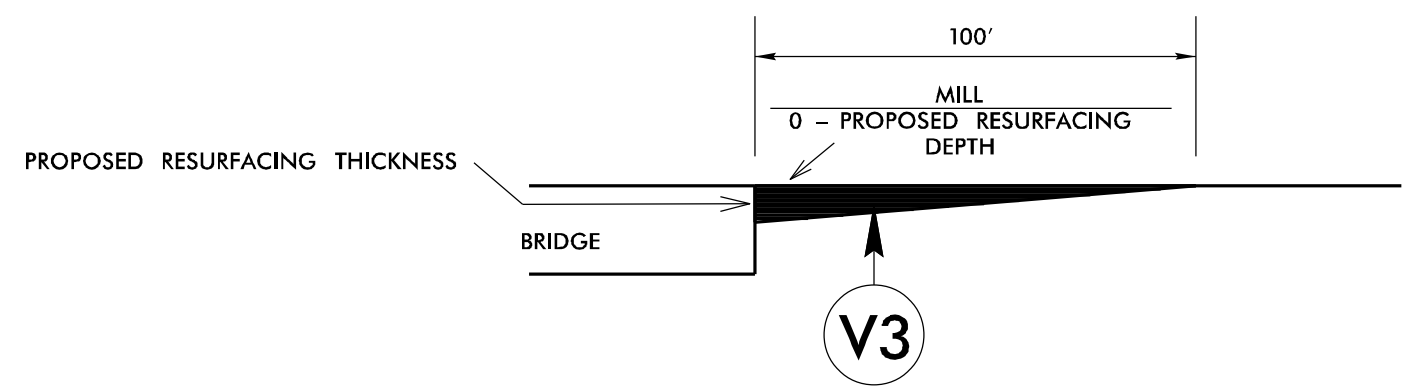
DETAIL TO TIE INTO EXIST PAVEMENT

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING, END AND Y LINES OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC SURFACE COURSE, TYPE S9.5C. THIS WILL BE PAID FOR AS INCIDENTAL MILLING.



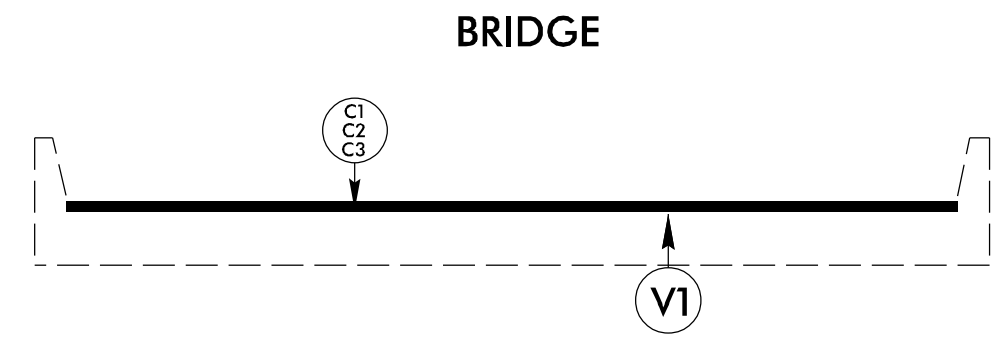
MILLING DETAIL AT BRIDGE APPROACHES

WHERE BRIDGES WILL BE MILLED THEN RESURFACED. THIS WILL BE PAID FOR AS INCIDENTAL MILLING. USE AT BRIDGE NUMBER: 667 MAP 10, 9 MAP 12, AND 489 MAP 13.



MILLING DETAIL AT BRIDGE APPROACHES

WHERE BRIDGES WILL NOT BE RESURFACED. THIS WILL BE PAID FOR AS INCIDENTAL MILLING. USE AT BRIDGE NUMBER: 512 MAP 11 AND 278 MAP 24.

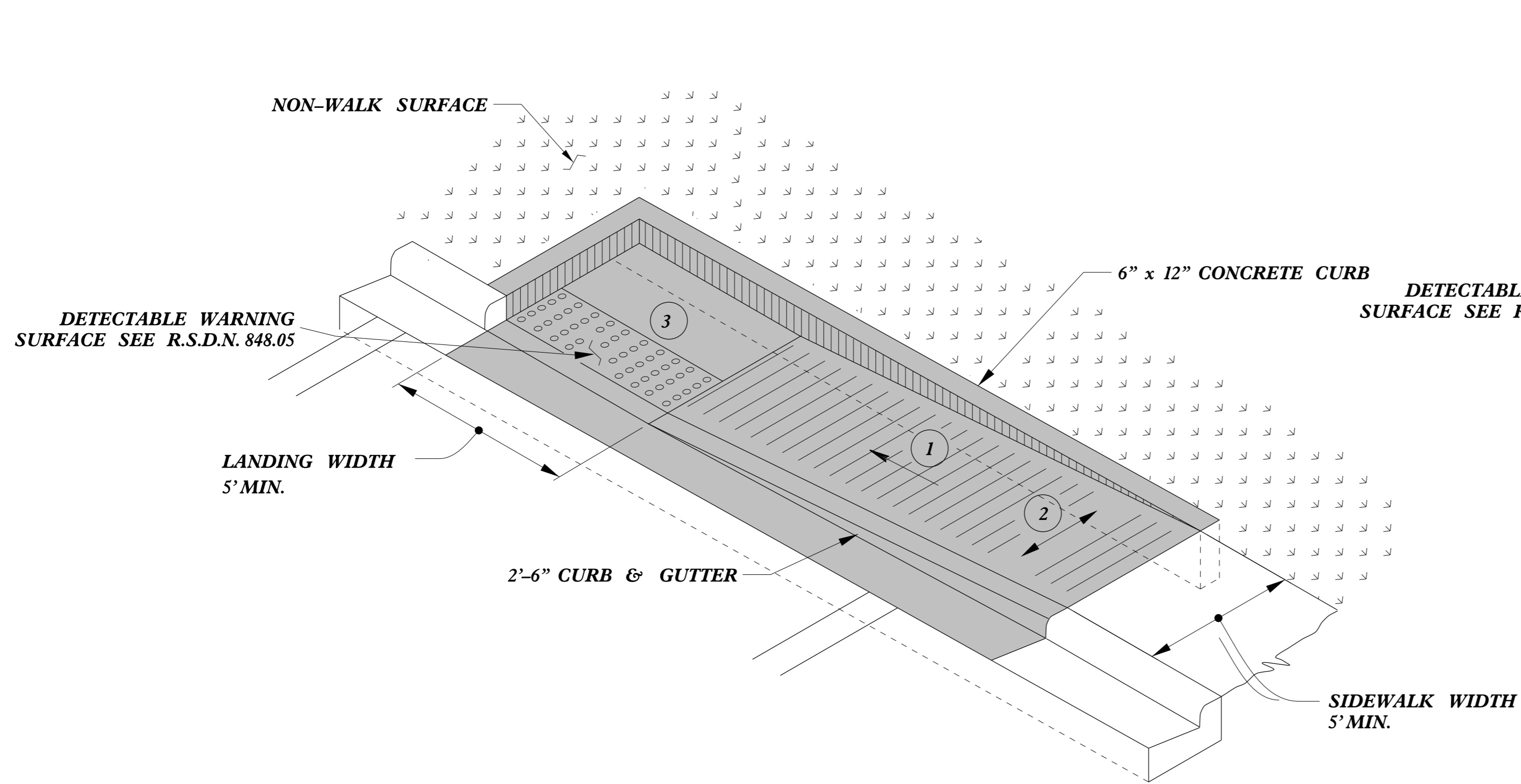


BRIDGE DETAIL

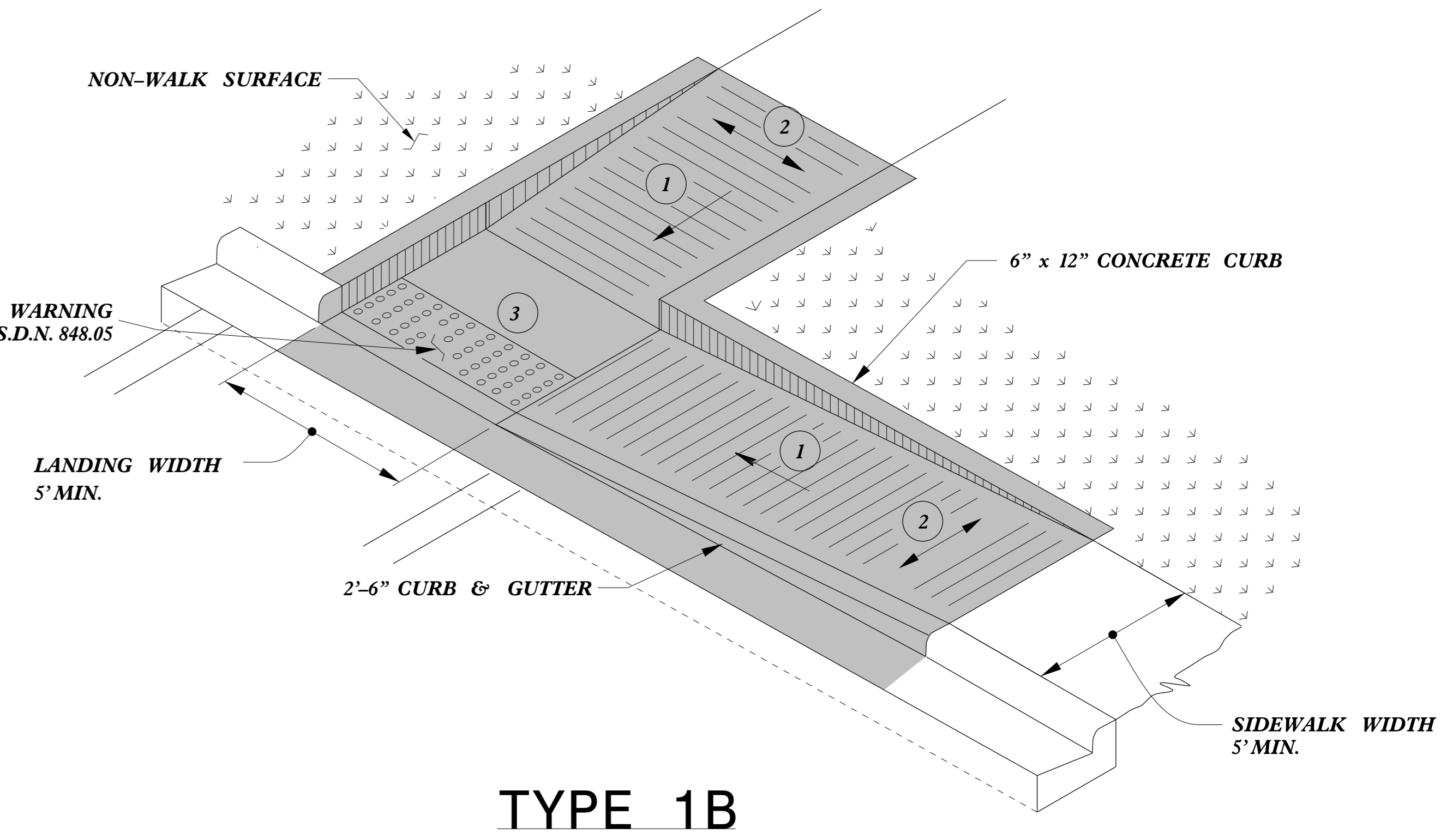
BRIDGE NUMBER 667 MAP 10, 9 MAP 12, AND 489 MAP 13. MILL 1-1/2" OFF EXISTING PAVEMENT SEE MAP FOR BRIDGE LOCATION.

6/2/99
 07-FEB-2022 09:18
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5/14/99



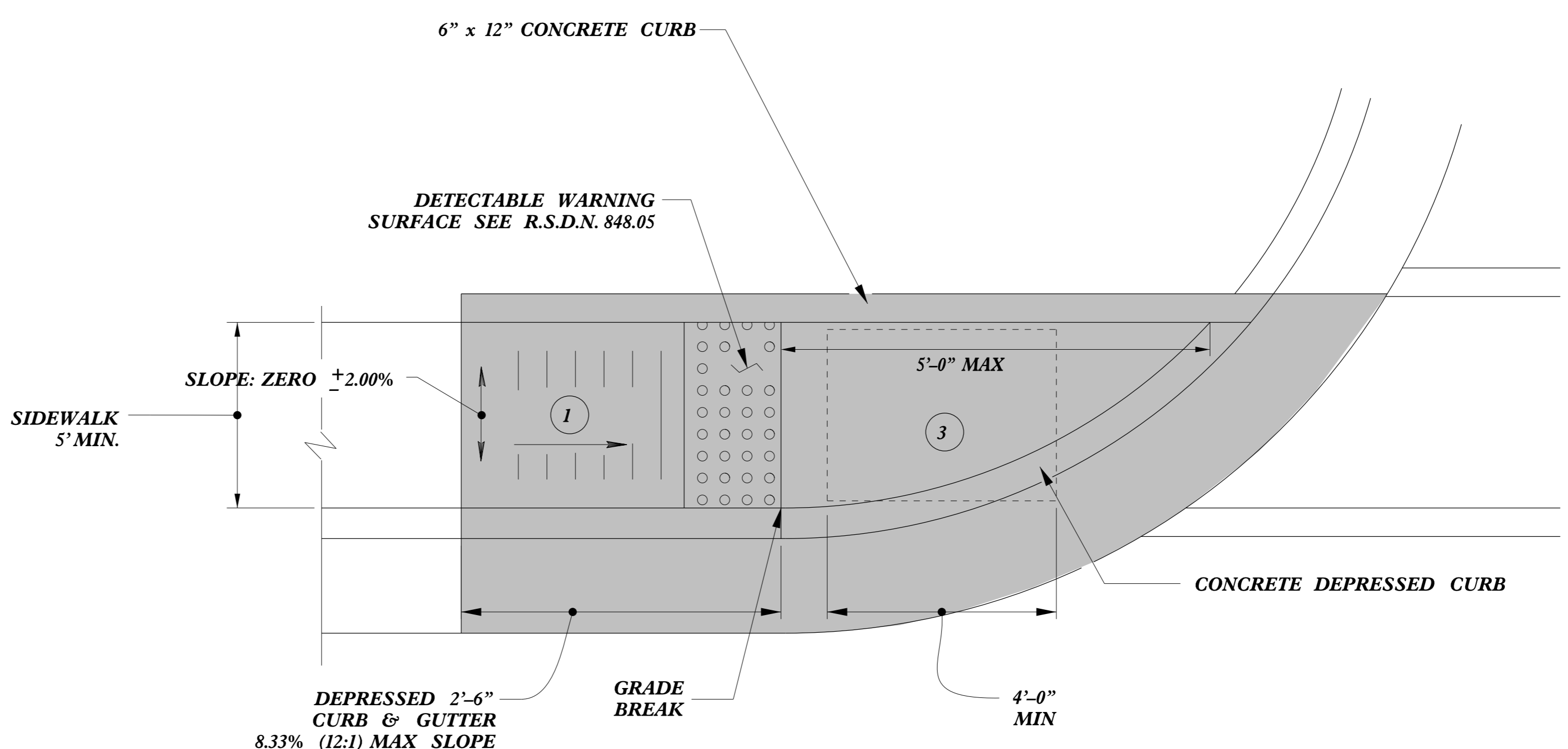
TYPE 1A



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

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

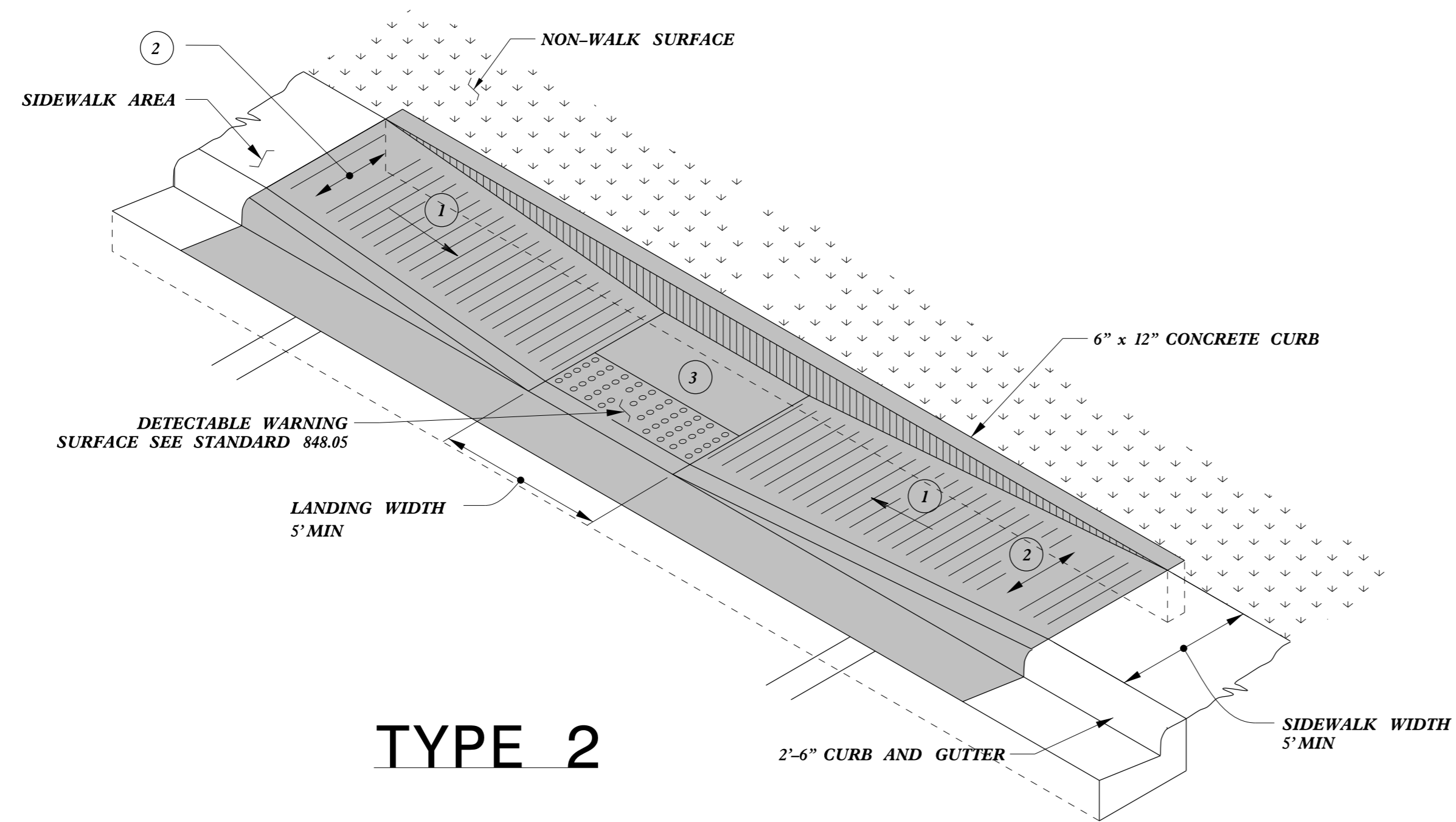
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

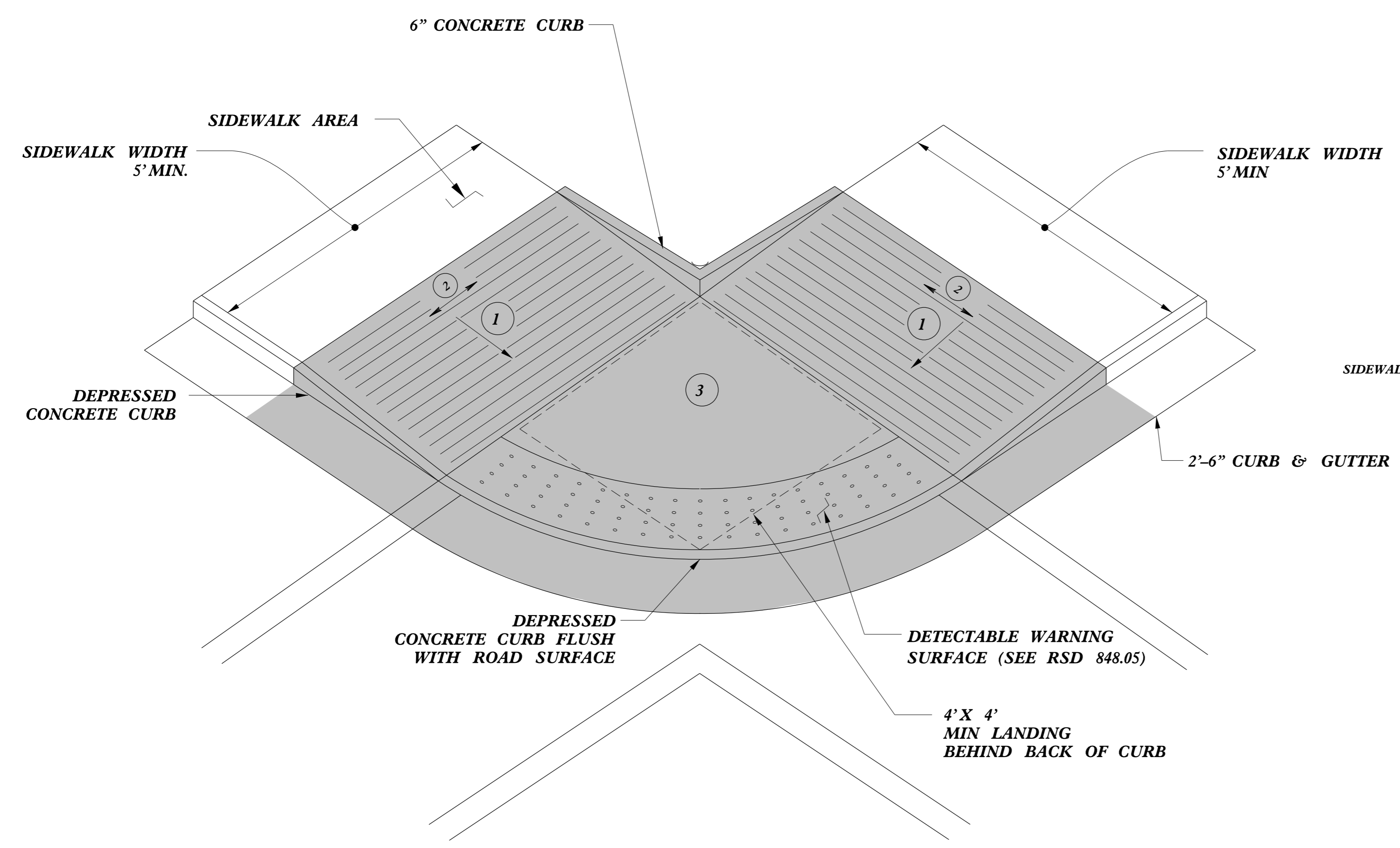
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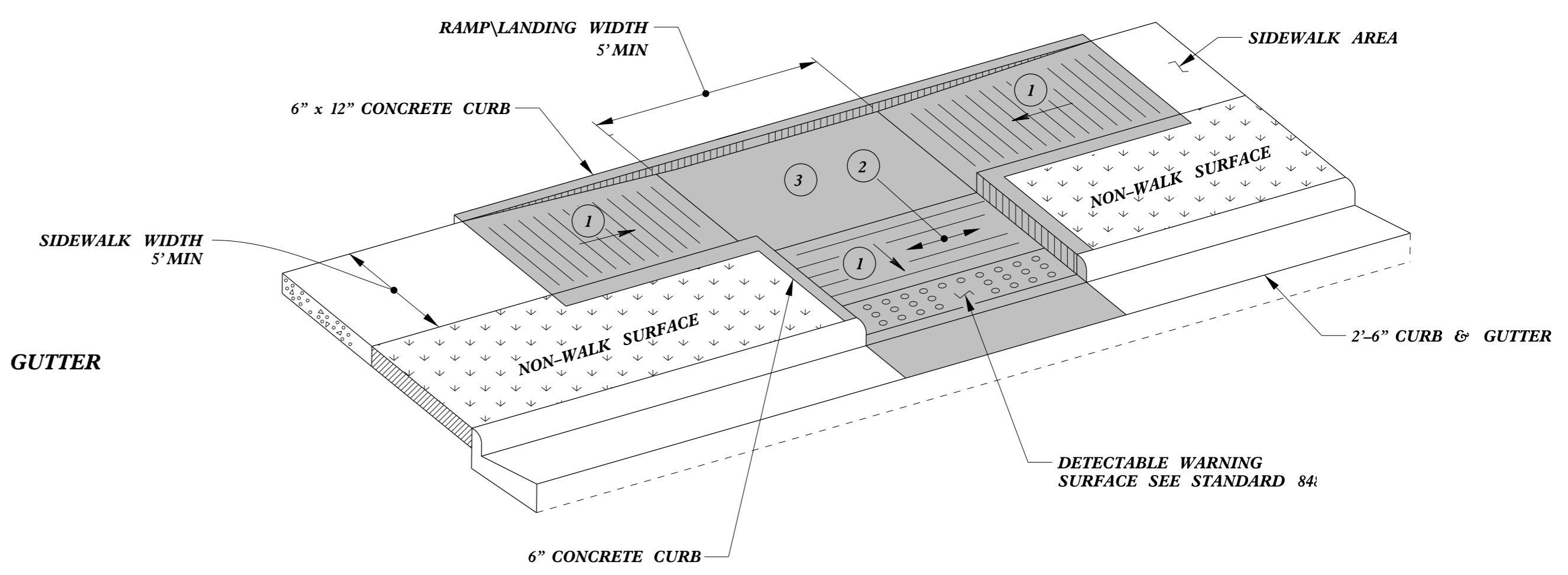
TYPE 2

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

5/14/99
C:\ME\STDS\CON\STDS\USER\NAME.DWG

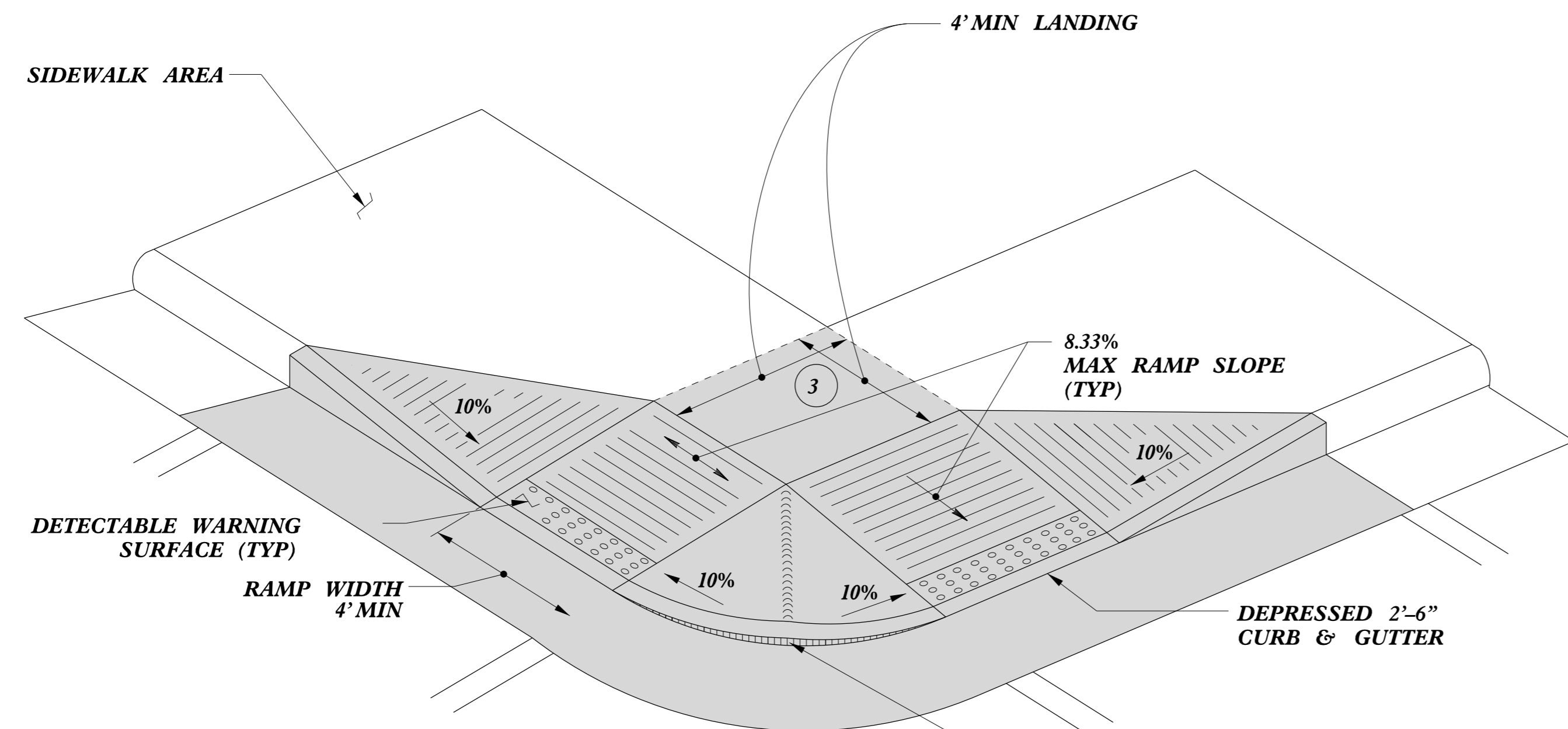
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

DOCUMENT NOT CONSIDERED FINAL
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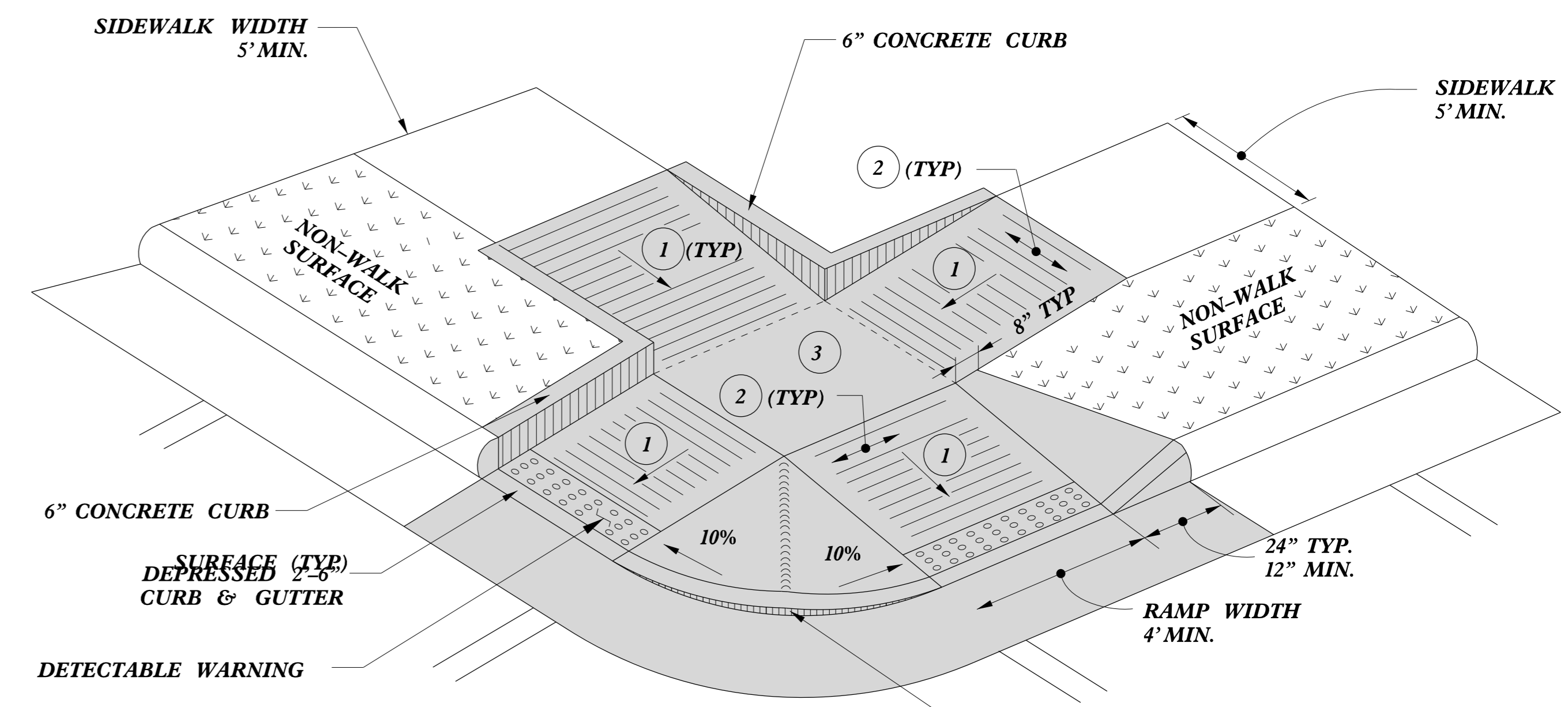
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
Parallel Ramps

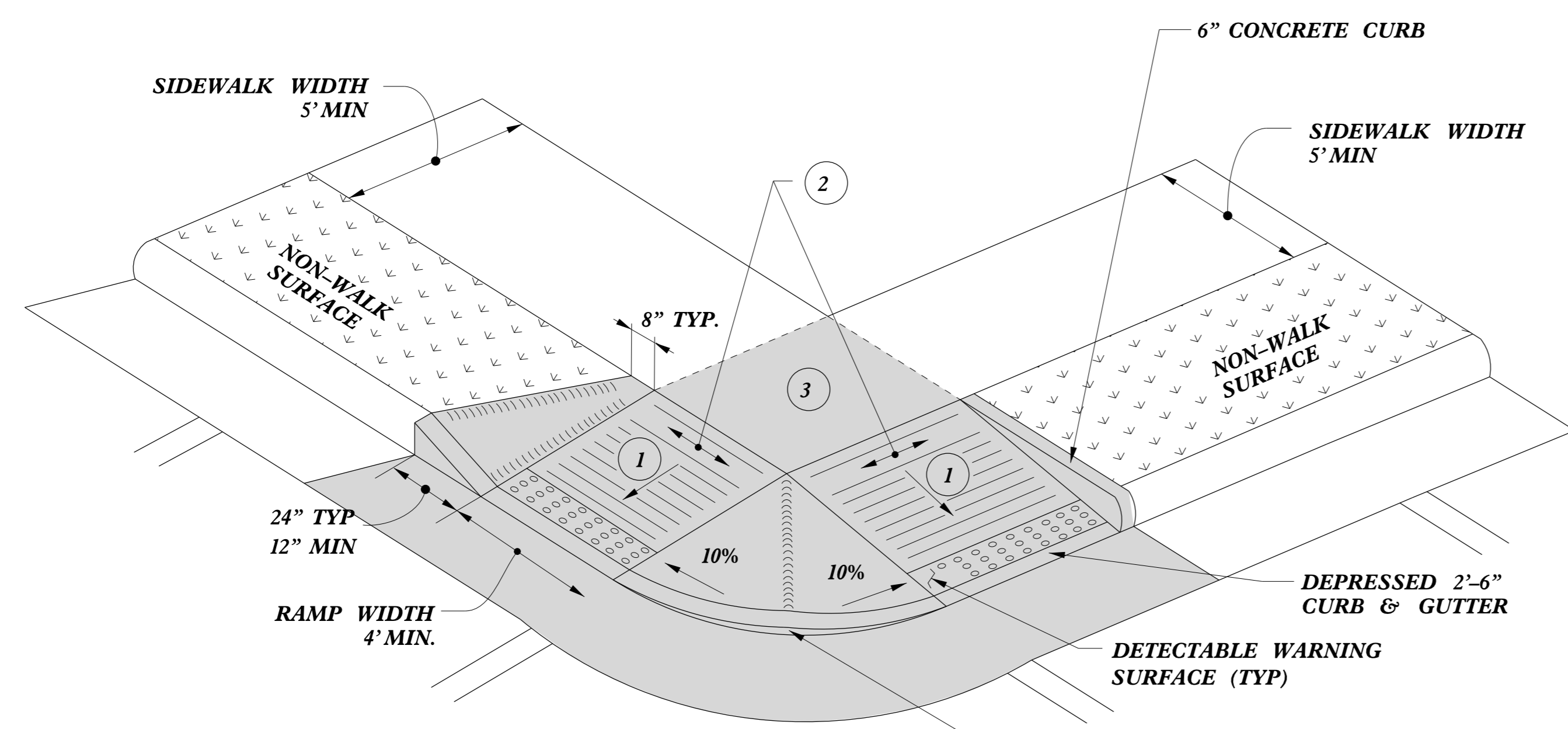
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MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds\2012CurbRamp\CurbRampDetails.dwg	



TYPE 4



TYPE 5



TYPE 4A

- 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

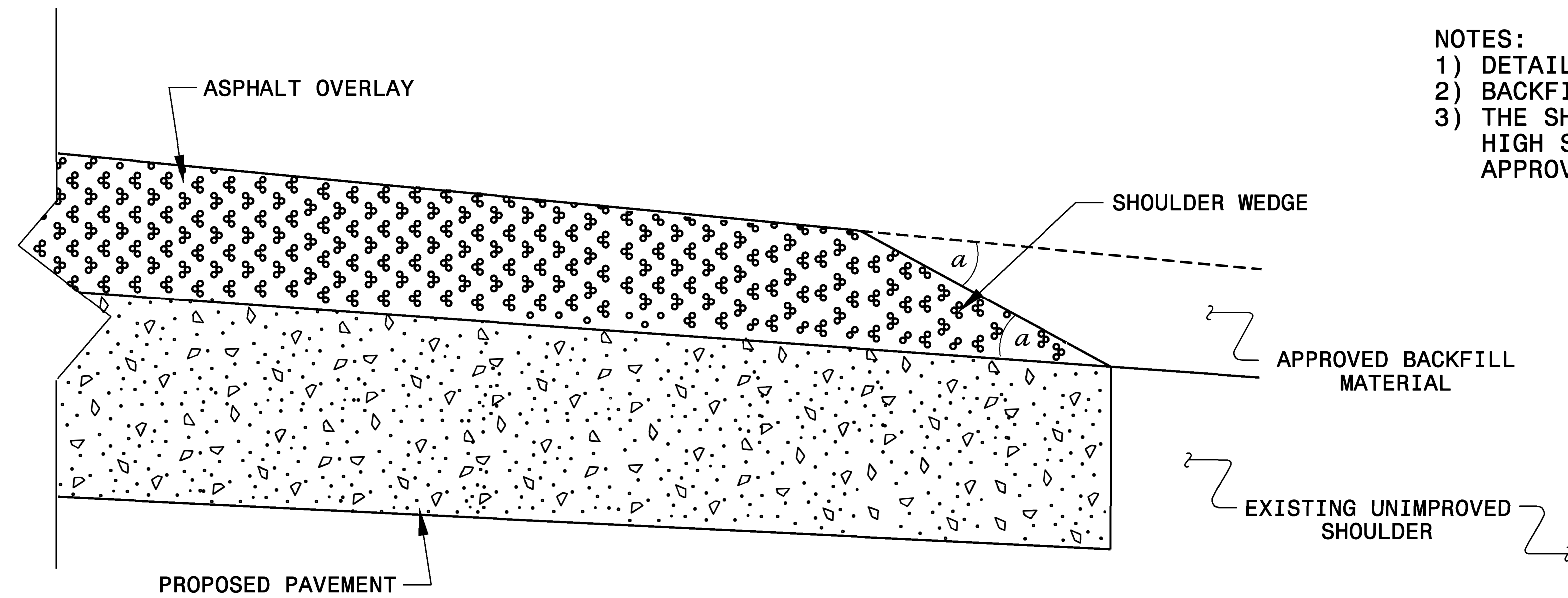
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REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

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

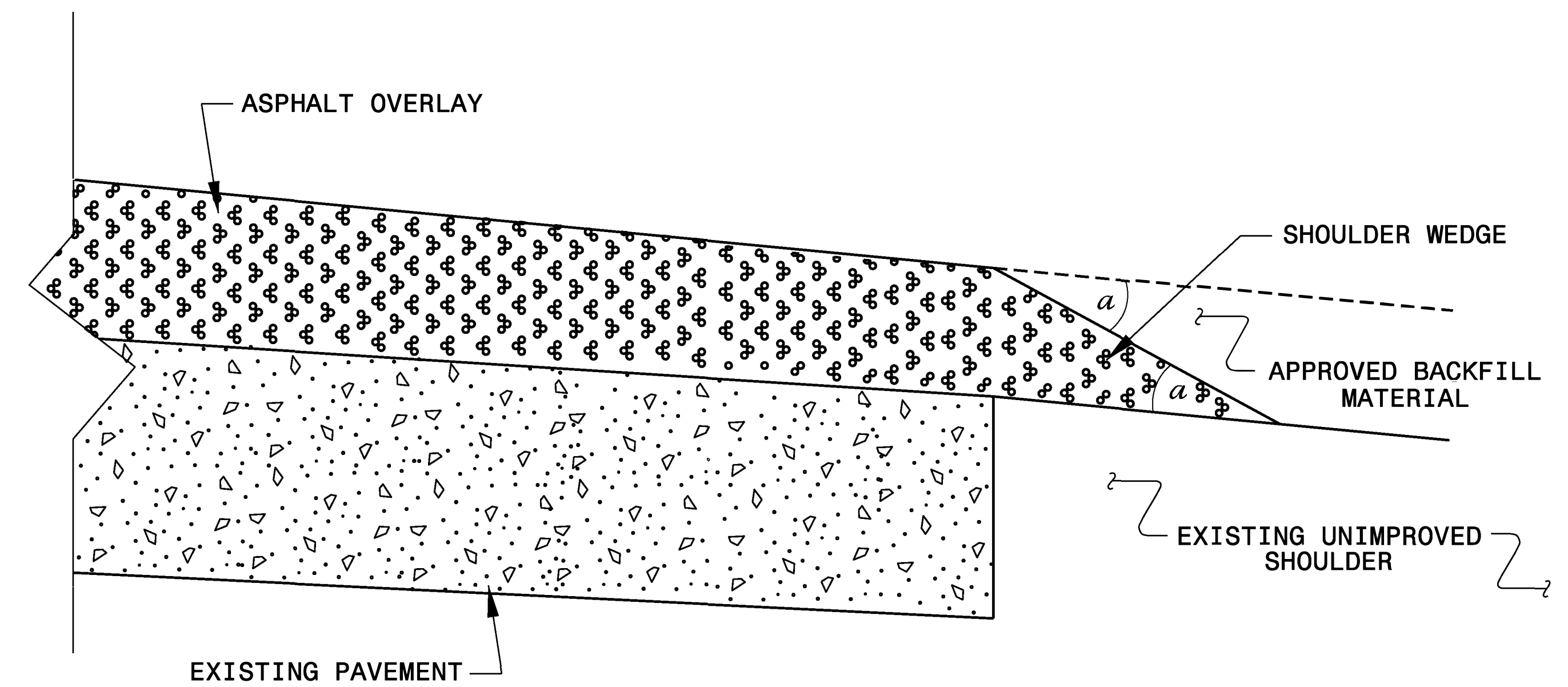
NOTES:

- 1) DETAIL DOES NOT APPLY TO OGAF C 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.



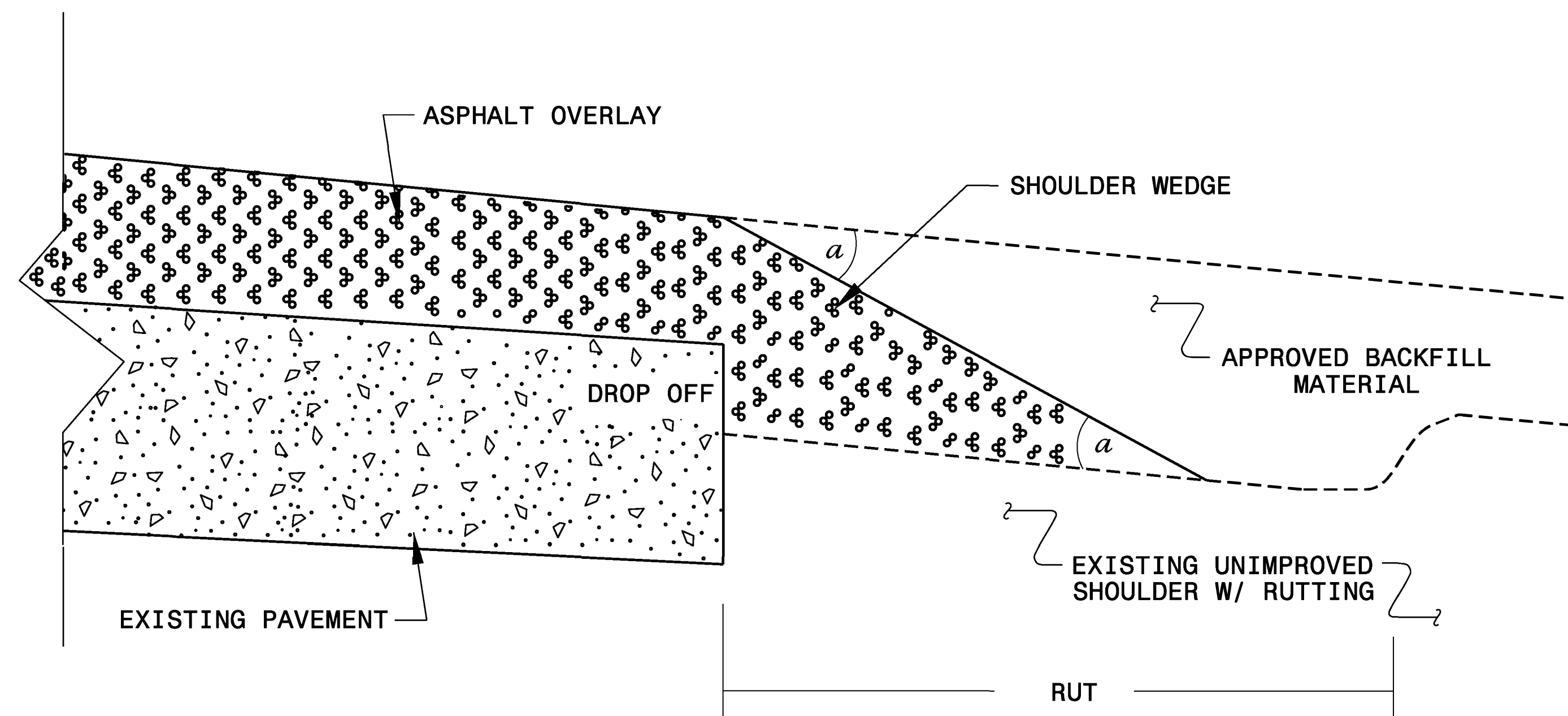
SHOULDER WEDGE DETAIL

(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.: s:\usr\details\stand\shoulderwedgedetail.dgn	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

12-SEP-2018 10:10 S:\Contracts\Projects\Resurfacing Projects\Shoulder Wedge Details\Revised Shoulder Wedge Detail.dgn Jhowerton AT USD-212595

PROJECT NO. 2022CPT.13.01.10111, 2022CPT.13.01.20111	SHEET NO. 12	TOTAL NO.
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THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4447000000-E	4413000000-E	4457000000-N	4685000000-E		4695000000-E		4720000000-E				4725000000-E			
										PEDESTRIAN CHANNELIZING DEVICES	WORK ZONE ADVANCE/ GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) YELLOW	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) YELLOW	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) ONLY	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) SCHOOL	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MIL) RXR	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) RXR	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) STR & RT ARROW	
								MI	FT	LF	SF	LS	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	
2022CPT.13.01.10111	Buncombe	1	US 74 A	FROM SR 2834 - 0.26 MILE TO SR 3136 (MP 11.35 - MP 17.82)	1,2,3	5	MU	6.47	42		746	*			990	120	4	48			185	26	9	
TOTAL FOR PROJ NO. 2022CPT.13.01.10111											746	*			990	120	4	48			185	26	9	
															1,110			52			220			
2022CPT.13.01.20111	Buncombe	2	SR 1507 (EVE DR)	FROM SR 1349 TO CUL-DE-SAC (MP 0.00 - MP 0.33)	4	2	2WU	0.33	18		37													
2022CPT.13.01.20111	Buncombe	3	SR 1517 (HILL ST)	FROM BEG. MAINT. TO SR 1477 (MP 0.00 - MP 0.15)	2	2	2WU	0.15	30		16													
2022CPT.13.01.20111	Buncombe	4	SR 3052 (SCHOOL RD E)	FROM BEG. MAINT. TO SR 3075 (MP 0.00 - MP 0.79)	4	2	2WU	0.78	19		88													
2022CPT.13.01.20111	Buncombe	5	SR 2874 (FOX RUN DRIVE)	FROM US-74 A TO CUL-DE-SAC (MP 0.00 - MP 0.33)	6	2	2WU	0.29	29.5		33													
2022CPT.13.01.20111	Buncombe	6	SR 2875 (PINE RIDGE DRIVE)	FROM SR 2874 TO CUL-DE-SAC (MP 0.00 - MO 0.09)	6	2	2WU	0.09	35		10													
2022CPT.13.01.20111	Buncombe	7	SR 1638 (CURTIS PARKER RD)	FROM SR 1620 TO SR 1634 (MP 0.00 - MP 2.01)	4	2	2WU	1.99	20		223													
2022CPT.13.01.20111	Buncombe	8	SR 1649 (OLIVETTE RD)	FROM SR 1367 TO SR 1647 (MP 0.00 - MP 0.53)	4	2	2WU	0.7	20		79													
2022CPT.13.01.20111	Buncombe	9	SR 2876 (FOX RUN PLACE)	FROM SR 2874 TO CUL-DE-SAC (MP 0.00 - MP 0.04)	6	2	2WU	0.04	51		5													
2022CPT.13.01.20111	Buncombe	10	SR 2702 (OLD US HWY 70 E)	FROM SR 2531 TO SR 2708 (MP 0.93 - MP 1.69)	4,8	2	2WU	0.74	28		83							6						
2022CPT.13.01.20111	Buncombe	11	SR 2435 (OLD US HWY 70)	FROM SR 2467 TO SR 2468 (MP 1.33 - MP 2.63)	5	2	2WU	1.29	22.5		145			280	48		12				7			
2022CPT.13.01.20111	Buncombe	12	SR 1629 (OLD NC 20 HWY)	FROM SR 1632 TO SR 1631 (MP 1.65 - MP 3.13)	4	2	2WU	1.47	19		165													
2022CPT.13.01.20111	Buncombe	13	SR 1629 (OLD NC 20 HWY)	FROM SR 1631 TO SR 1846 (MP 3.13 - MP 4.55)	4	2	2WU	1.41	19		158													
2022CPT.13.01.20111	Buncombe	14	SR 1469 (YOUNG DR)	FROM SR 1140 TO SR 1470 (MP 0.00 - MP 0.07)	7	2	2WU	0.07	18		8													
2022CPT.13.01.20111	Buncombe	15	SR 1470 (YOUNG DR)	FROM SR 1469 TO SR 1471 (MP 0.00 - MP 0.04)	7	2	2WU	0.04	18		5													
2022CPT.13.01.20111	Buncombe	16	SR 1471 (YOUNG DR)	FROM SR 1470 TO E.O.M. (MP 0.00 - MP 0.12)	7	2	2WU	0.17	18		20													
2022CPT.13.01.20111	Buncombe	17	SR 1486 (LOST TRAIL DR)	FROM SR 1210 TO CUL-DE-SAC (MP 0.00 - MP 0.11)	7	2	2WU	0.11	16		13													
2022CPT.13.01.20111	Buncombe	18	SR 1494 (COUNTRY LN)	FROM SR 1220 TO CUL-DE-SAC (MP 0.00 - MP 0.19)	7	2	2WU	0.18	18		20													
2022CPT.13.01.20111	Buncombe	19	SR 1496 (RICHMOND HILL RD)	FROM SR 1345 TO E.O.M. (MP 0.00 - MP 0.17)	7	2	2WU	0.17	17		20													
2022CPT.13.01.20111	Buncombe	20	SR 1497 (COUNTRY RIDGE RD)	FROM SR 1388 TO CUL-DE-SAC (MP 0.00 - MP 0.12)	7	2	2WU	0.12	18		16													
2022CPT.13.01.20111	Buncombe	21	SR 2579 (ASHLEY/MARK TWAIN RD)	FROM SR 2423 TO SR 2580 (MP 0.00 - MP 0.60)	4	2	2WU	0.6	20		67													
2022CPT.13.01.20111	Buncombe	22	SR 2580 (ASHLEY RD)	FROM SR 2579 TO SR 2579 (MP 0.00 - MP 0.35)	4	2	2WU	0.37	20		42													
2022CPT.13.01.20111	Buncombe	23	SR 2581 (WENDY LN)	FROM SR 2579 TO SR 2580 (MP 0.00 - MP 0.21)	4	2	2WU	0.21	20		24													
2022CPT.13.01.20111	Buncombe	24	SR 1348 (PEARSON BRIDGE RD)	FROM SR 1349 TO SR 1477 (MP 0.00 - MP 1.02)	5	2	2WU	1.02	21	8	114	*	9,510	9,080		60			16					
TOTAL FOR PROJ NO. 2022CPT.13.01.20111											12,34	*		9,510	9,080	280	108	12	6	16	7	7		
													18,590	9,080	388	228	4	60	6	16	192	26	9	
GRAND TOTAL											8	2,137	1	9,510	9,080	1,270	228	4	60	6	16	192	26	9
														18,590	1,498	86			227					

PROJECT NO. 2022CPT.13.01.10111, 2022CPT.13.01.20111	SHEET NO. 13	TOTAL NO.
------------------------------------------------------------	------------------------	-----------

THERMOPLASTIC AND PAINT QUANTITIES

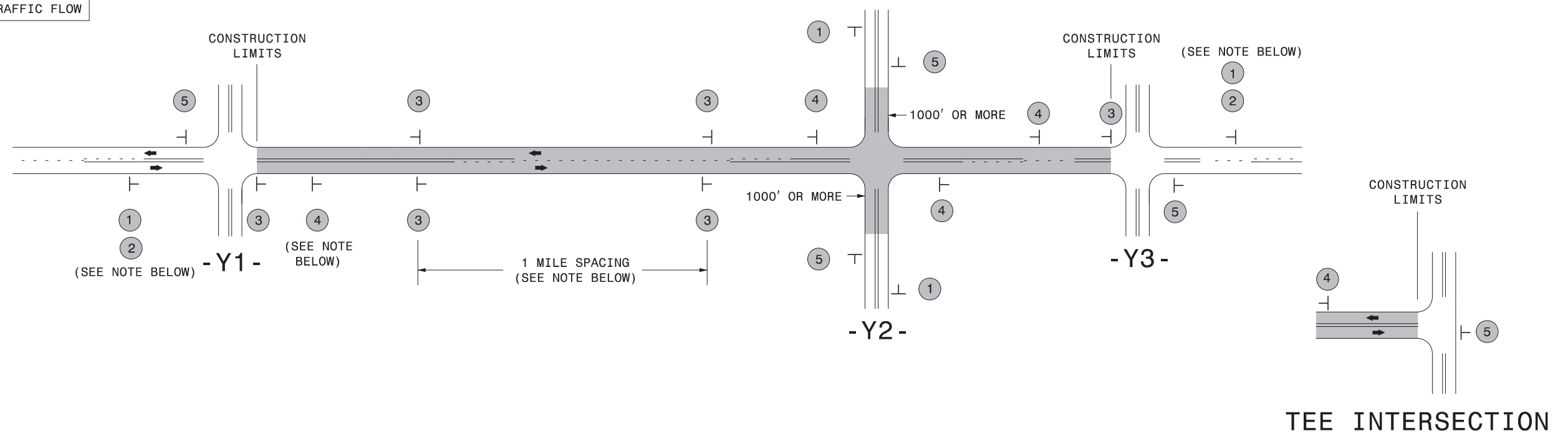
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	481000000-E		482000000-E		483500000-E	484500000-N			489100000-E	489000000-E		489000000-E		489100000-E	489500000-N		
										PAINT PAVEMENT MARKING LINES (4") WHITE	PAINT PAVEMENT MARKING LINES (4") YELLOW	PAINT PAVEMENT MARKING LINES (8") WHITE	PAINT PAVEMENT MARKING LINES (8") YELLOW	PAINT PAVEMENT MARKING LINES (24") WHITE	PAINT PAVEMENT MARKING SYMBOL (LT ARROW)	PAINT PAVEMENT MARKING SYMBOL (RT ARROW)	PAINT PAVEMENT MARKING SYMBOL (STR & RT ARROW)	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE	POLYUREA PAVEMENT MARKING LINES (4", 20 MILS) YELLOW (STANDARD GLASS BEADS)	POLYUREA PAVEMENT MARKING LINES (4", 20 MILS) WHITE (STANDARD GLASS BEADS)	POLYUREA PAVEMENT MARKING LINES (4", 30 MILS) WHITE (STANDARD GLASS BEADS)	POLYUREA PAVEMENT MARKING LINES (4", 30 MILS) YELLOW (STANDARD GLASS BEADS)	THERMOPLASTIC PAVEMENT MARKING LINES (16", 90 MILS) WHITE	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS		
									MI	FT	LF	LF	LF	EA	EA	EA	LF	LF	LF	LF	LF	EA				
2022CPT.13.01.10111	Buncombe	1	US 74 A	FROM SR 2834 - 0.26 MILE TO SR 3136 (MP 11.35 - MP 17.82)	1,2,3	5	MU	6.47	42		24,941	80,233	120	990	1,405	185	16	9	1,405	27,650	7,470	17,471	52,413		1,803	
TOTAL FOR PROJ NO. 2022CPT.13.01.10111											6.47		24,941	80,233	120	990	1,405	185	16	9	1,405	27,650	7,470	17,471	52,413	1,803
												105,174		1,110		210				35,120		69,884				
2022CPT.13.01.20111	Buncombe	2	SR 1507 (EVE DR)	FROM SR 1349 TO CUL-DE-SAC (MP 0.00 - MP 0.33)	4	2	2WU	0.33	18																	
2022CPT.13.01.20111	Buncombe	3	SR 1517 (HILL ST)	FROM BEG. MAINT. TO SR 1477 (MP 0.00 - MP 0.15)	2	2	2WU	0.15	30																	
2022CPT.13.01.20111	Buncombe	4	SR 3052 (SCHOOL RD E)	FROM BEG. MAINT. TO SR 3075 (MP 0.00 - MP 0.79)	4	2	2WU	0.78	19		16,496	16,496														
2022CPT.13.01.20111	Buncombe	5	SR 2874 (FOX RUN DRIVE)	FROM US-74 A TO CUL-DE-SAC (MP 0.00 - MP 0.33)	6	2	2WU	0.29	29.5			100														
2022CPT.13.01.20111	Buncombe	6	SR 2875 (PINE RIDGE DRIVE)	FROM SR 2874 TO CUL-DE-SAC (MP 0.00 - MO 0.09)	6	2	2WU	0.09	35																	
2022CPT.13.01.20111	Buncombe	7	SR 1638 (CURTIS PARKER RD)	FROM SR 1620 TO SR 1634 (MP 0.00 MP 2.01)	4	2	2WU	1.99	20		41,960	41,960														
2022CPT.13.01.20111	Buncombe	8	SR 1649 (OLIVETTE RD)	FROM SR 1367 TO SR 1647 (MP 0.00 MP 0.53)	4	2	2WU	0.7	20		14,300	14,500					12									
2022CPT.13.01.20111	Buncombe	9	SR 2876 (FOX RUN PLACE)	FROM SR 2874 TO CUL-DE-SAC (MP 0.00 - MP 0.04)	6	2	2WU	0.04	51																	
2022CPT.13.01.20111	Buncombe	10	SR 2702 (OLD US HWY 70 E)	FROM SR 2531 TO SR 2708 (MP 0.93 MP 1.69)	4,8	2	2WU	0.74	28		15,624	15,976					85						126			
2022CPT.13.01.20111	Buncombe	11	SR 2435 (OLD US HWY 70)	FROM SR 2467 TO SR 2468 (MP 1.33 MP 2.63)	5	2	2WU	1.29	22.5								40	13,285	13,416							
2022CPT.13.01.20111	Buncombe	12	SR 1629 (OLD NC 20 HWY)	FROM SR 1632 TO SR 1631 (MP 1.65 MP 3.13)	4	2	2WU	1.47	19		31,120	31,120														
2022CPT.13.01.20111	Buncombe	13	SR 1629 (OLD NC 20 HWY)	FROM SR 1631 TO SR 1846 (MP 3.13 MP 4.55)	4	2	2WU	1.41	19		29,000	29,000														
2022CPT.13.01.20111	Buncombe	14	SR 1469 (YOUNG DR)	FROM SR 1140 TO SR 1470 (MP 0.00 MP 0.07)	7	2	2WU	0.07	18																	
2022CPT.13.01.20111	Buncombe	15	SR 1470 (YOUNG DR)	FROM SR 1469 TO SR 1471 (MP 0.00 MP 0.04)	7	2	2WU	0.04	18																	
2022CPT.13.01.20111	Buncombe	16	SR 1471 (YOUNG DR)	FROM SR 1470 TO E.O.M. (MP 0.00 - MP 0.12)	7	2	2WU	0.17	18																	
2022CPT.13.01.20111	Buncombe	17	SR 1486 (LOST TRAIL DR)	FROM SR 1210 TO CUL-DE-SAC (MP 0.00 - MP 0.11)	7	2	2WU	0.11	16																	
2022CPT.13.01.20111	Buncombe	18	SR 1494 (COUNTRY LN)	FROM SR 1220 TO CUL-DE-SAC (MP 0.00 - MP 0.19)	7	2	2WU	0.18	18																	
2022CPT.13.01.20111	Buncombe	19	SR 1496 (RICHMOND HILL RD)	FROM SR 1345 TO E.O.M. (MP 0.00 - MP 0.17)	7	2	2WU	0.17	17																	
2022CPT.13.01.20111	Buncombe	20	SR 1497 (COUNTRY RIDGE RD)	FROM SR 1388 TO CUL-DE-SAC (MP 0.00 - MP 0.12)	7	2	2WU	0.12	18																	
2022CPT.13.01.20111	Buncombe	21	SR 2579 (ASHLEY/MARK TWAIN RD)	FROM SR 2423 TO SR 2580 (MP 0.00 MP 0.60)	4	2	2WU	0.6	20		11,452	11,452														
2022CPT.13.01.20111	Buncombe	22	SR 2580 (ASHLEY RD)	FROM SR 2579 TO SR 2579 (MP 0.00 MP 0.35)	4	2	2WU	0.37	20		7,840	7,840														
2022CPT.13.01.20111	Buncombe	23	SR 2581 (WENDY LN)	FROM SR 2579 TO SR 2580 (MP 0.00 MP 0.21)	4	2	2WU	0.21	20		4,400	4,400														
2022CPT.13.01.20111	Buncombe	24	SR 1348 (PEARSON BRIDGE RD)	FROM SR 1349 TO SR 1477 (MP 0.00 MP 1.02)	5	2	2WU	1.02	21								125						160			
TOTAL FOR PROJ NO. 2022CPT.13.01.20111											12.34		172,192	172,844					262	13,285	13,416		286			
												345,036				210		26,701								
GRAND TOTAL									18.81		197,133	253,077	120	990	1,405	185	16	9	1,667	40,935	20,886	17,471	52,413	286	1,803	
												450,210		1,110		210			61,821	69,884						

SIGNING FOR RESURFACING PROJECTS

LEGEND

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



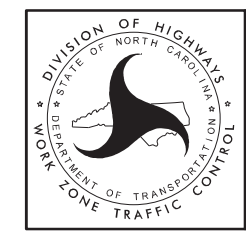
MAINLINE (-L-) SIGNING

-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 CONSTRUCTION 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, 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> W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. </div> <div> W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
		<p>- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.</p> <p>- AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.</p>	
		<p>- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS.</p> <p>- DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS.</p> <p>- INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE.</p> <p>- 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.</p> <p>- 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>- FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.</p>	
	<p>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.</p>		

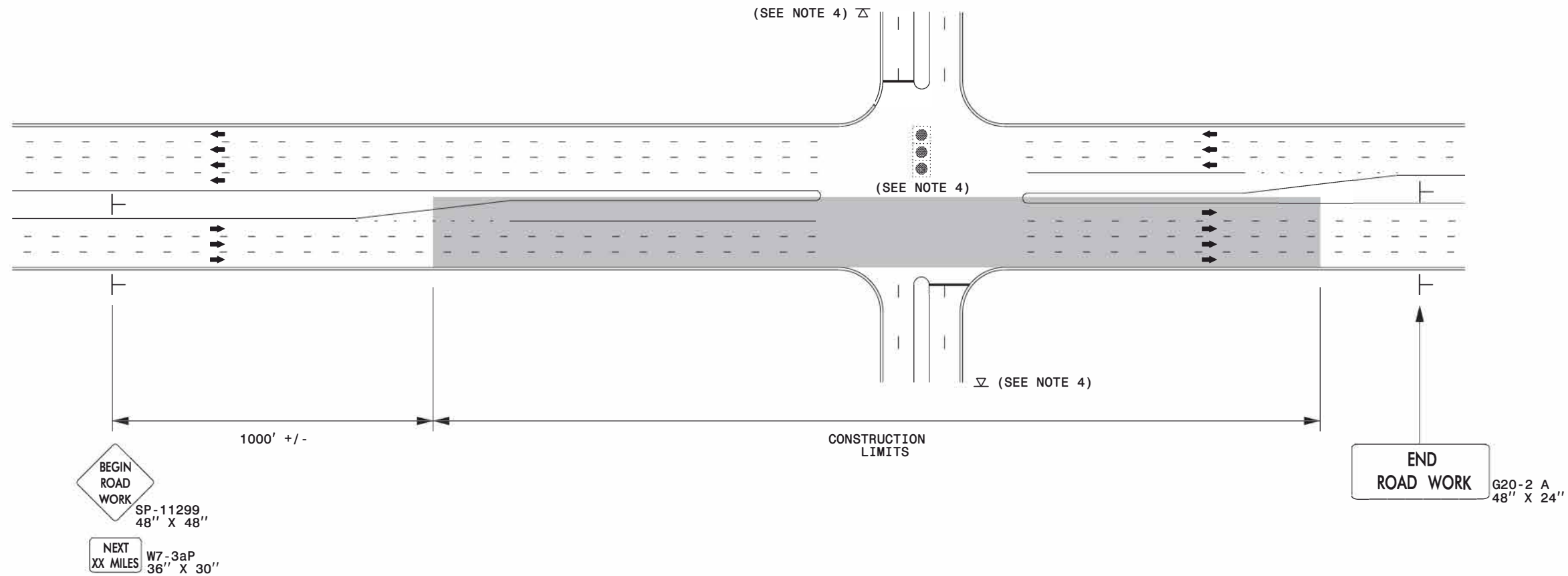
MAPS LESS THAN 2 MILES

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**

SIGN NUMBER: SP13106
 TYPE: STATIONARY
 QUANTITY: SEE PLANS

BACKG COLOR: Fluorescent Orange
 COPY COLOR: Black

DESIGN BY: B. RASHID
 PROJECT ID:

CHECKED BY: AIA
 DIV:

DATE: Apr 26, 2013

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 4'-0"
 HEIGHT: 4'-0"
 TOTAL AREA: 16.00 Sq.Ft.

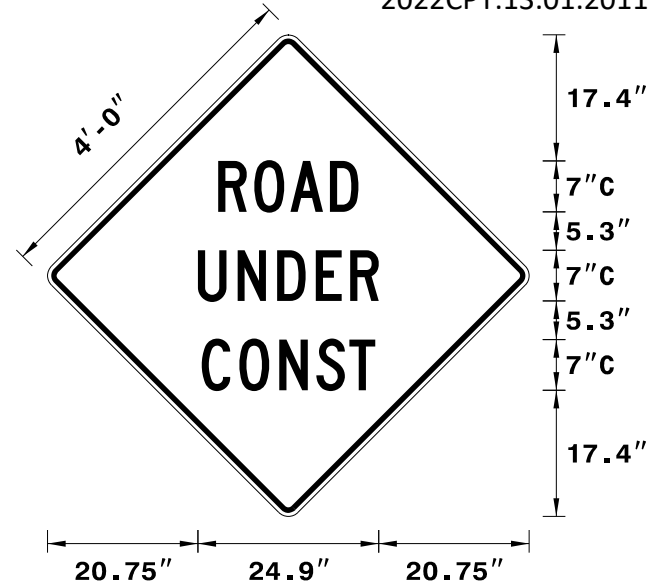
BORDER TYPE: INSET
 RECESS: 0.75"
 WIDTH: 1.25"
 RADII: 3"

NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

2022CPT.13.01.10111,
 2022CPT.13.01.20111

TMP-4



Spacing Factor is 1 unless specified otherwise

USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter spacings are to start of next letter

Letter spacings are to start of next letter																		Series/Size Text Length
		R	O	A	D													C 2000
	23.5	5	5	5.5	3.9	23.5												19.3
		U	N	D	E	R												C 2000
	20.7	5.5	5.5	5.3	4.8	3.9	20.7											24.9
		C	O	N	S	T												C 2000
	21.2	5.2	5.5	5.1	4.6	3.6	21.2											23.9

SIGN NUMBER: SP13107
 TYPE: STATIONARY
 QUANTITY: SEE PLANS

BACKG COLOR: Fluorescent Orange
 COPY COLOR: Black

DESIGN BY: B. RASHID
 PROJECT ID:

CHECKED BY: AIA
 DIV:

DATE: Apr 26, 2013

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 4'-0"
 HEIGHT: 4'-0"
 TOTAL AREA: 16.00 Sq.Ft.

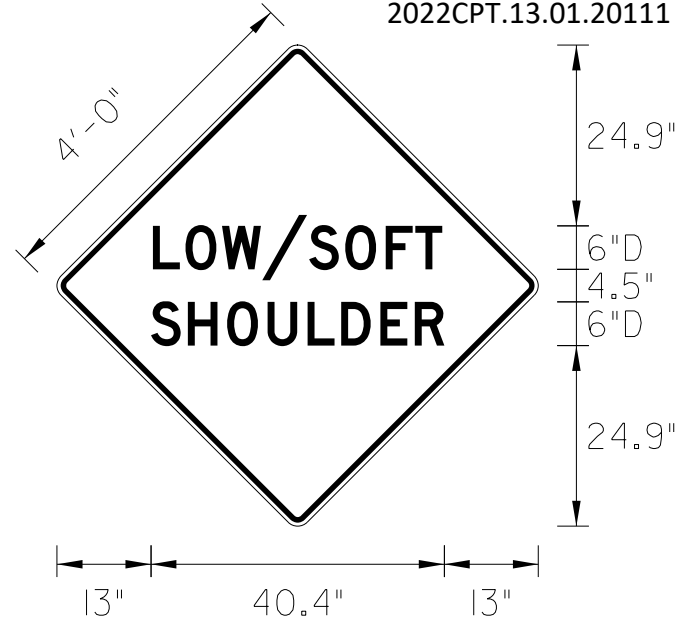
BORDER TYPE: INSET
 RECESS: 0.75"
 WIDTH: 1.25"
 RADII: 3"

NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

2022CPT.13.01.10111,
 2022CPT.13.01.20111

TMP-5



Spacing Factor is 1 unless specified otherwise

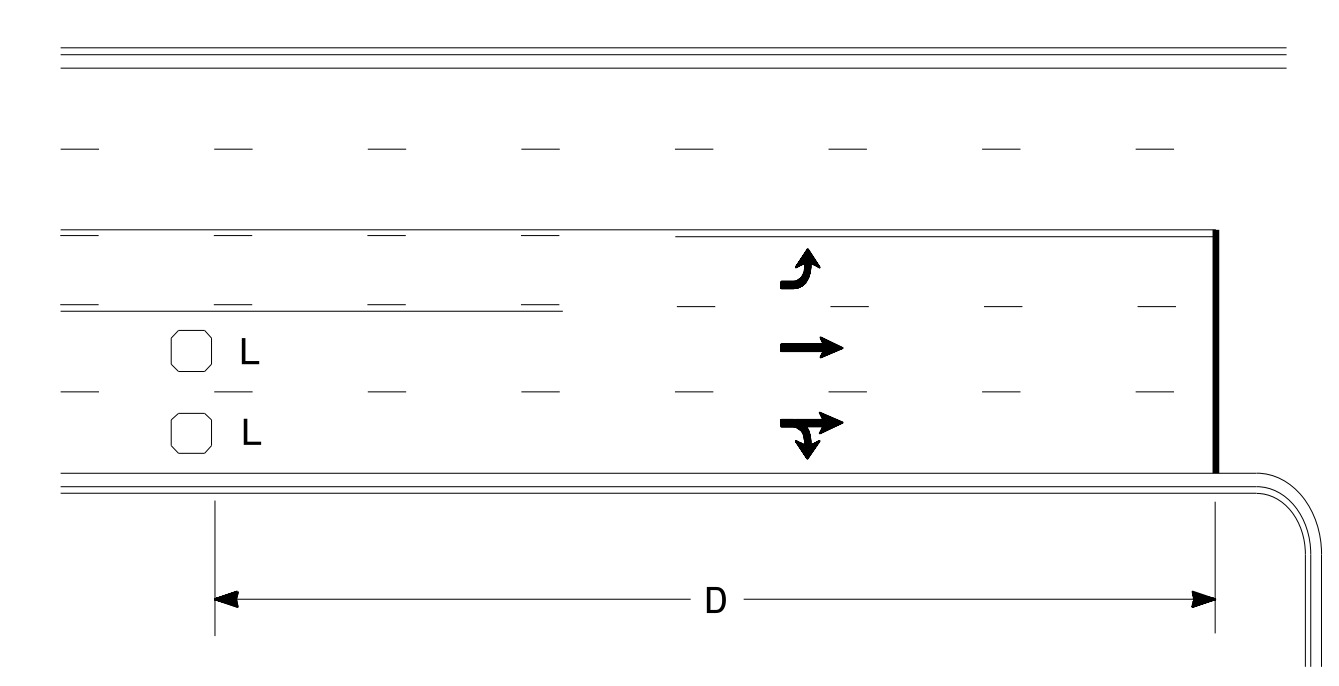
USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter spacings are to start of next letter											Series/Size
	L	O	W	/	S	O	F	T			Text Length
	13.2	4.5	5	5.5	6.5	5	5.6	4.1	3.7	13.2	D 2000
											39.9
	S	H	O	U	L	D	E	R			D 2000
	13	5.1	5.4	5.6	5.5	4.6	5.4	4.7	4.1	13	40.4

High Speed Detection (≥40 mph)

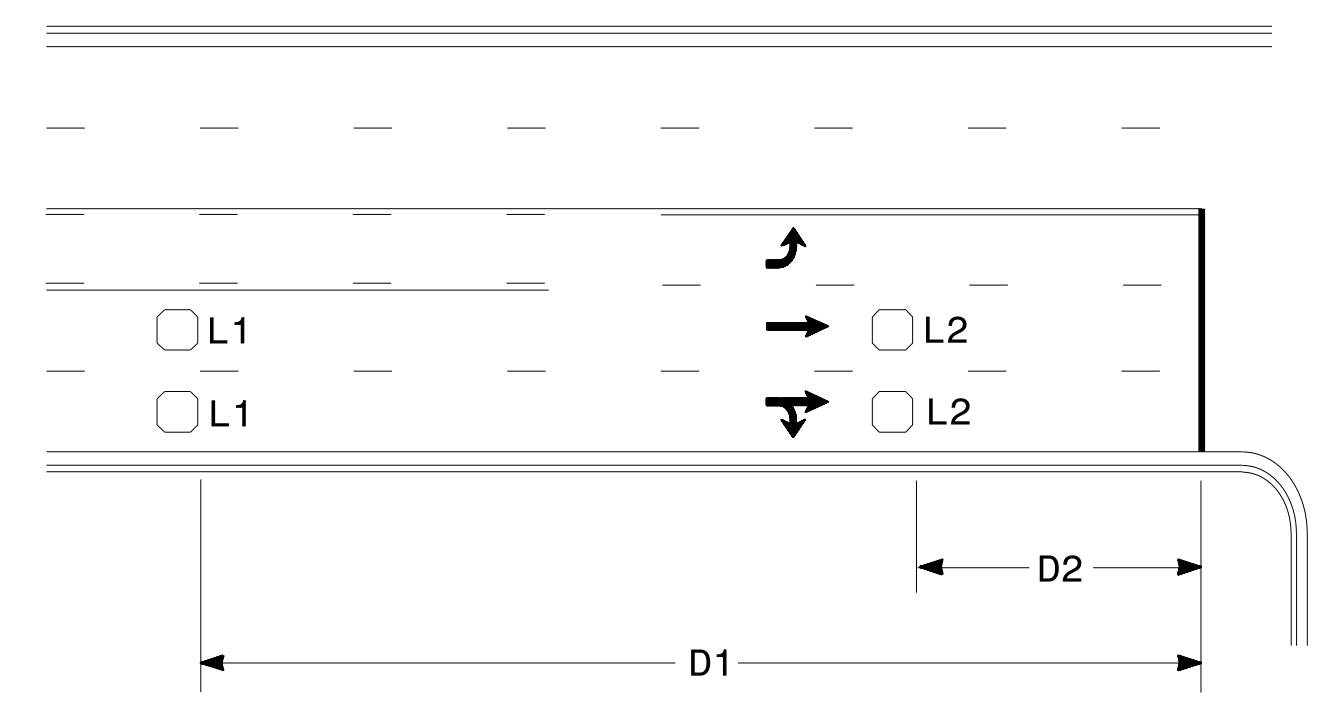


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



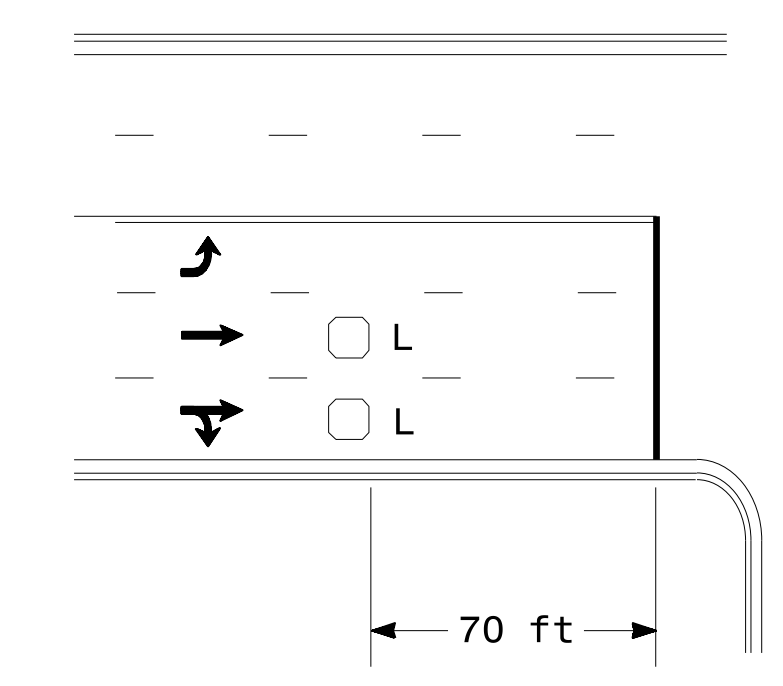
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

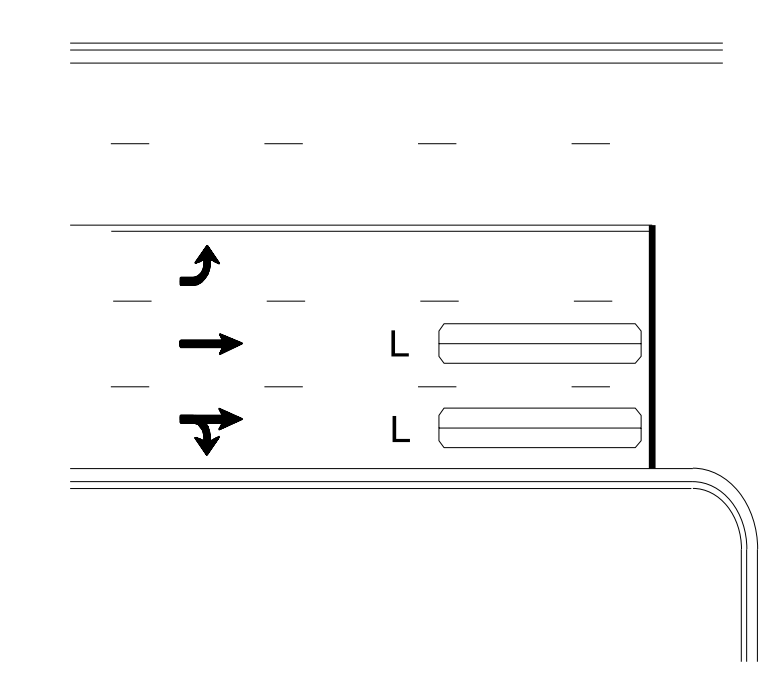
"Stretch" Operation

Low Speed Detection (≤35 mph)



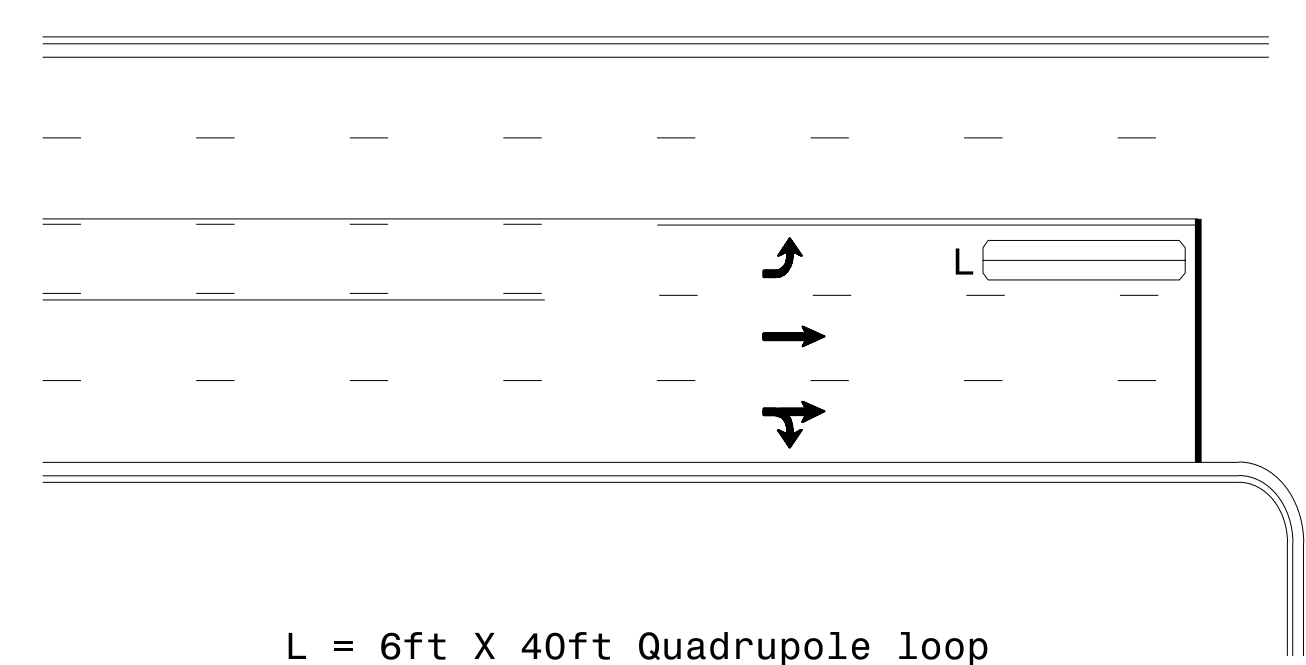
L = 6ft X 6ft
Wired in series

OR



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

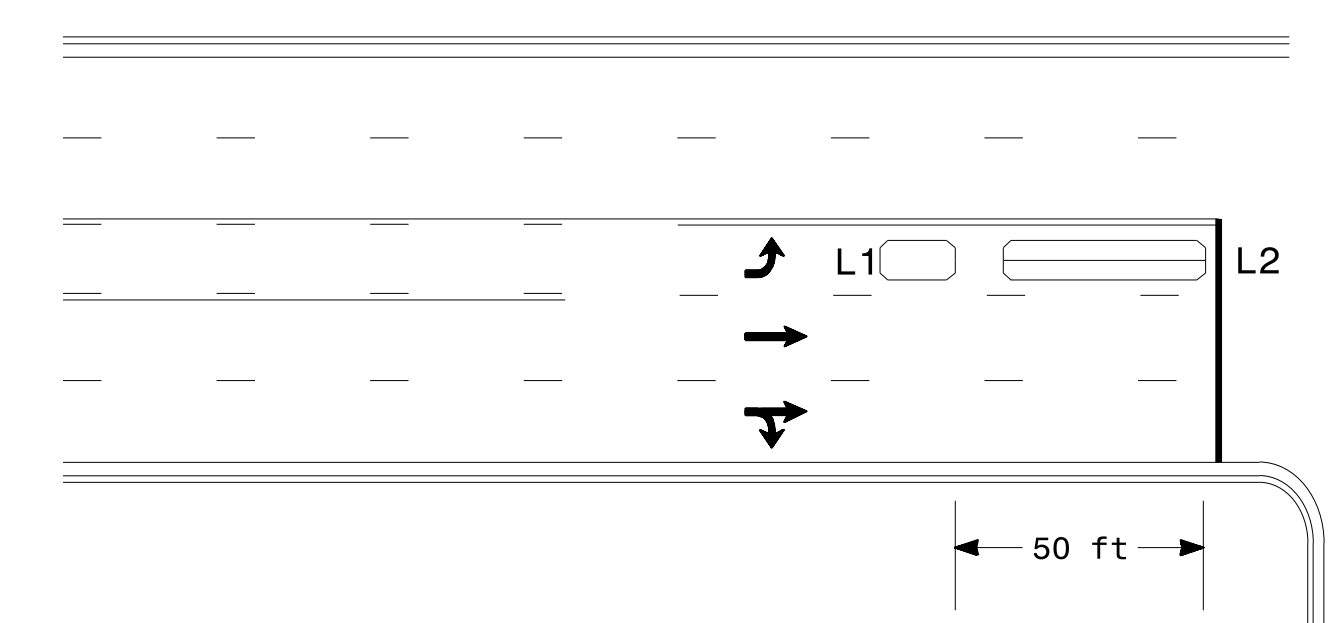
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

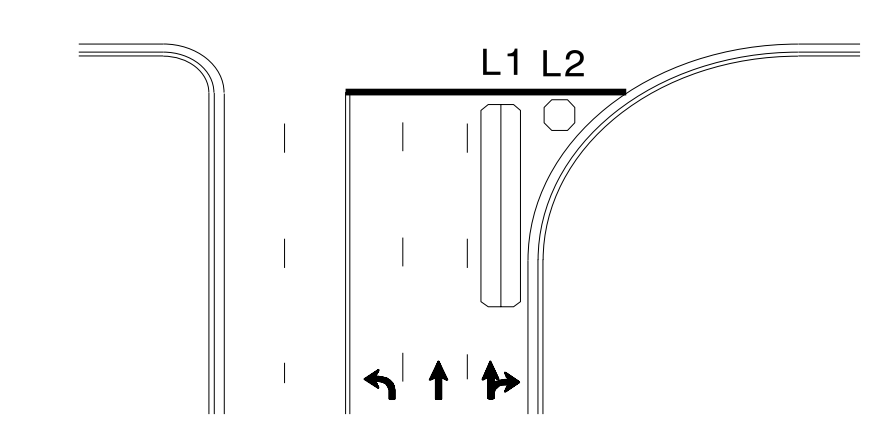
OR



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

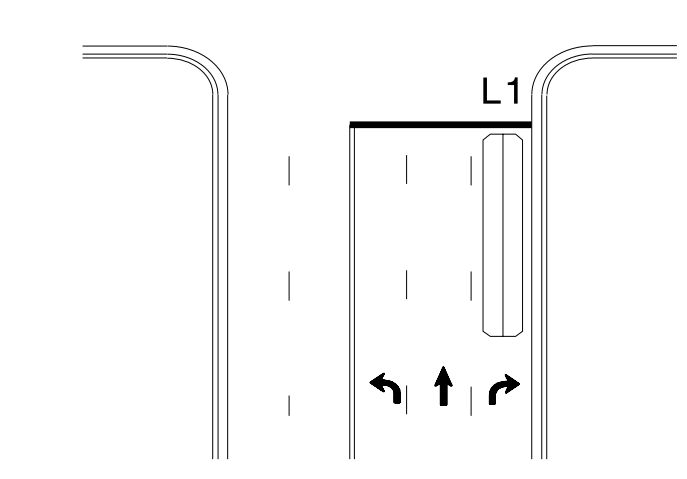
Queue Loop Detection

Right Turn Lane Detection

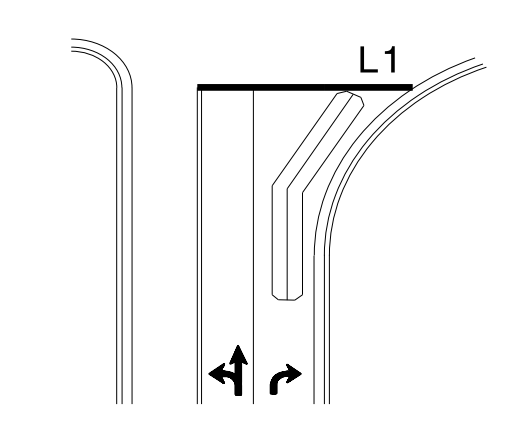


L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately

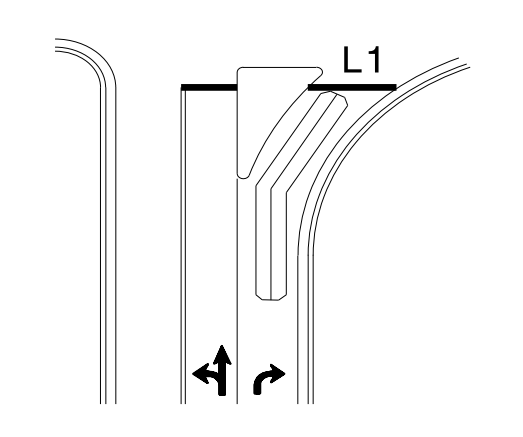
Shared Lane/
Wide Radius Turn



Standard Turn

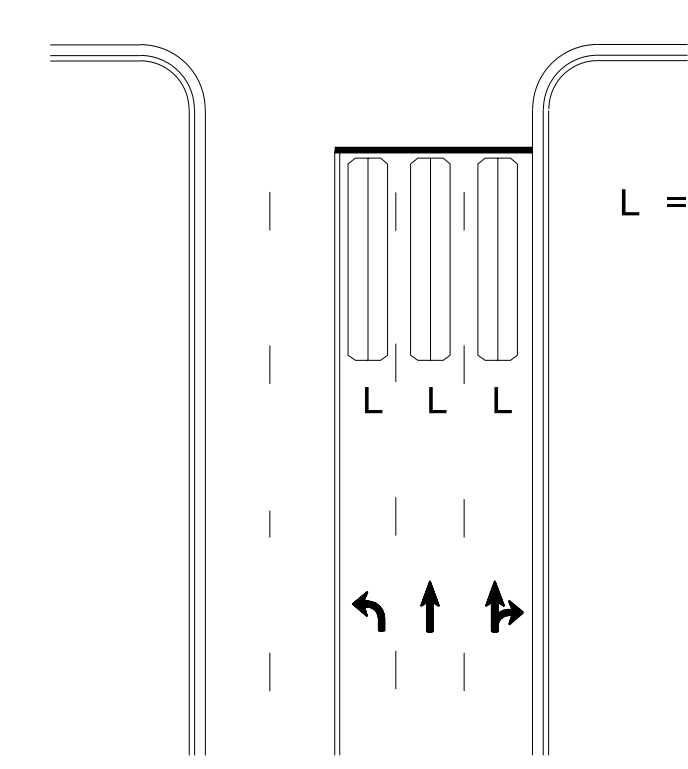


Wide Radius Turn



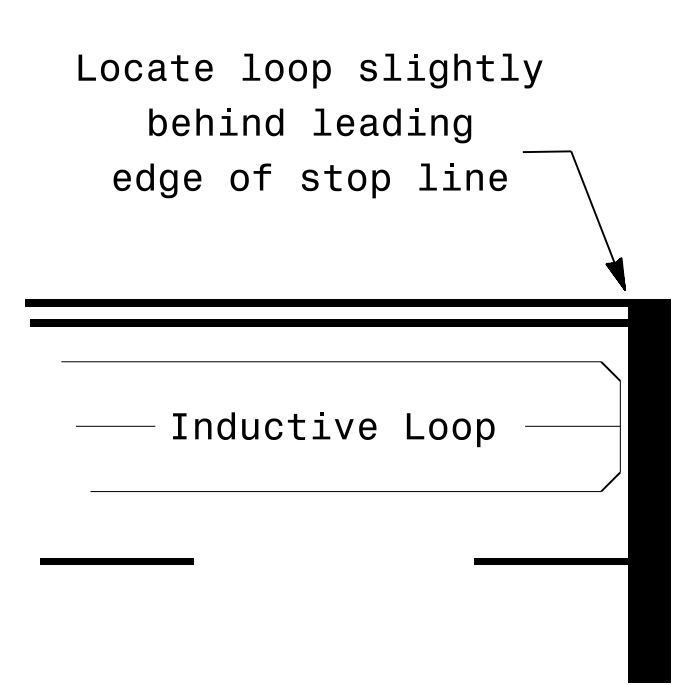
Channelized Turn

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

SCALE: N/A

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
JASON P. GALLAWAY
029904

DocuSign by:
Jason P. Gallaway 9/8/2020
7705A70481841D
DATE

SIG. INVENTORY NO.

08-SEP-2020 11:54
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 Signal Design Section\Regional\Regional.dwg
 Typ:cal*looptyp/cal2015.dgn
 7:00:11 am