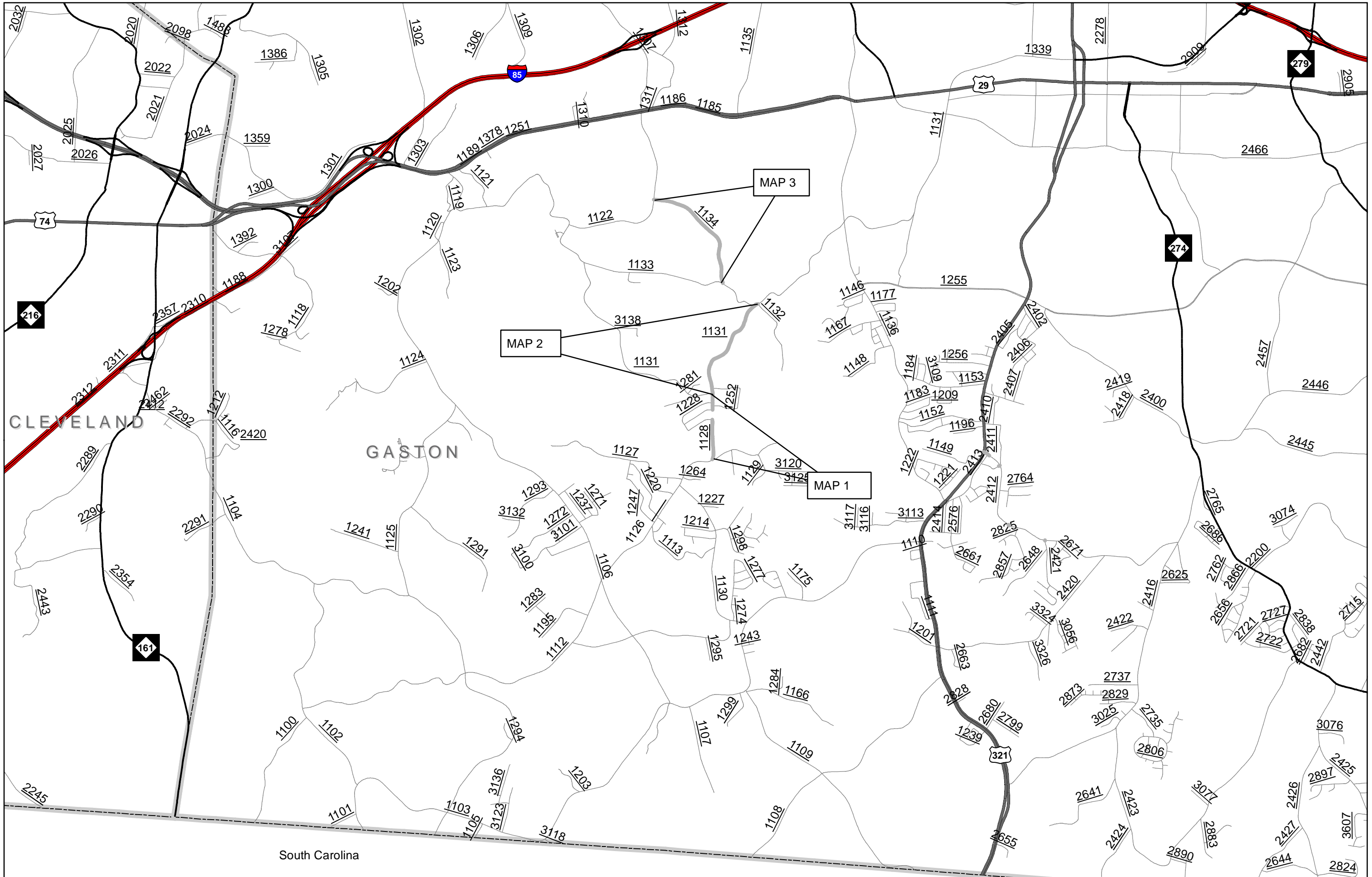
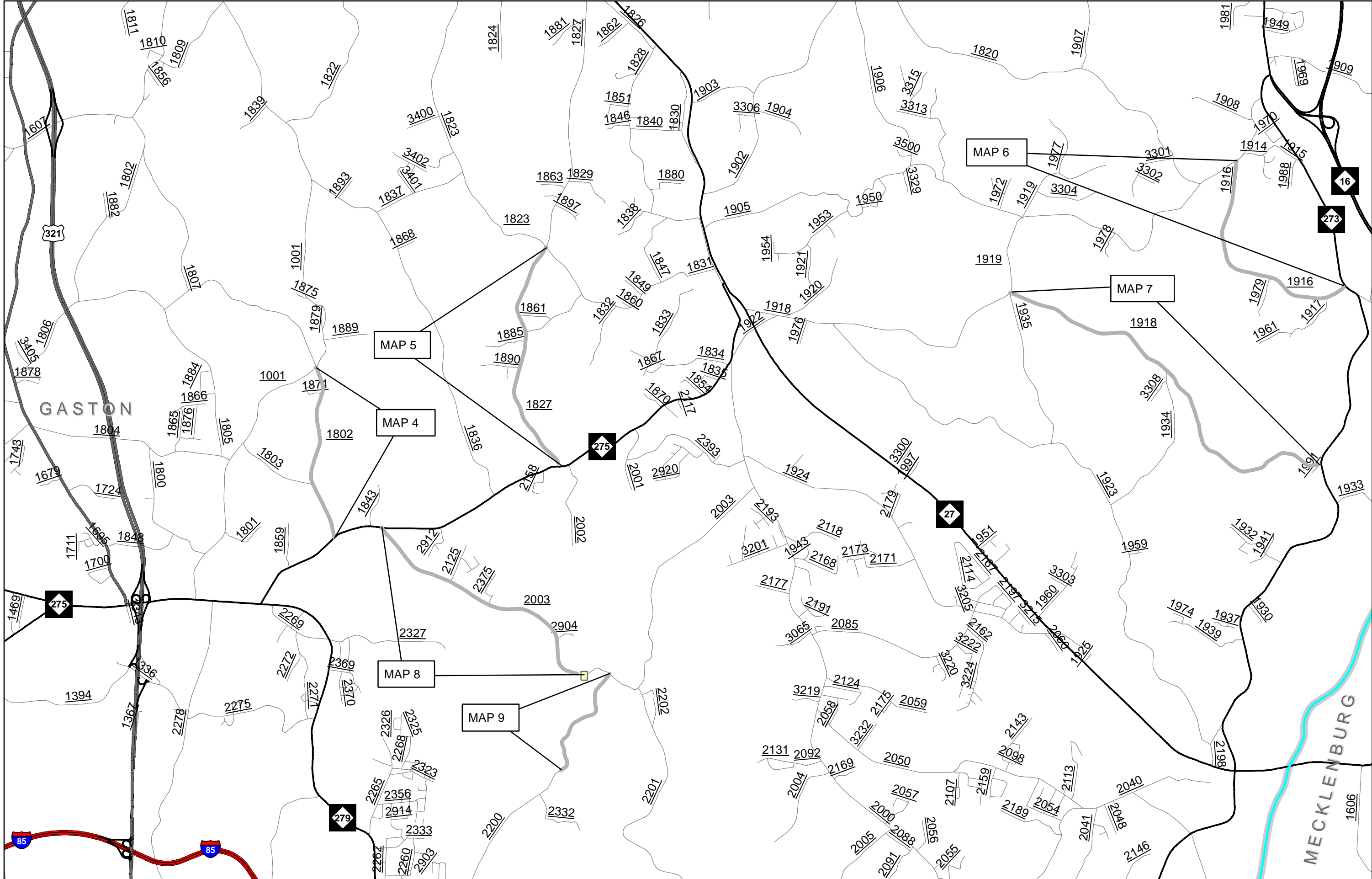


**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

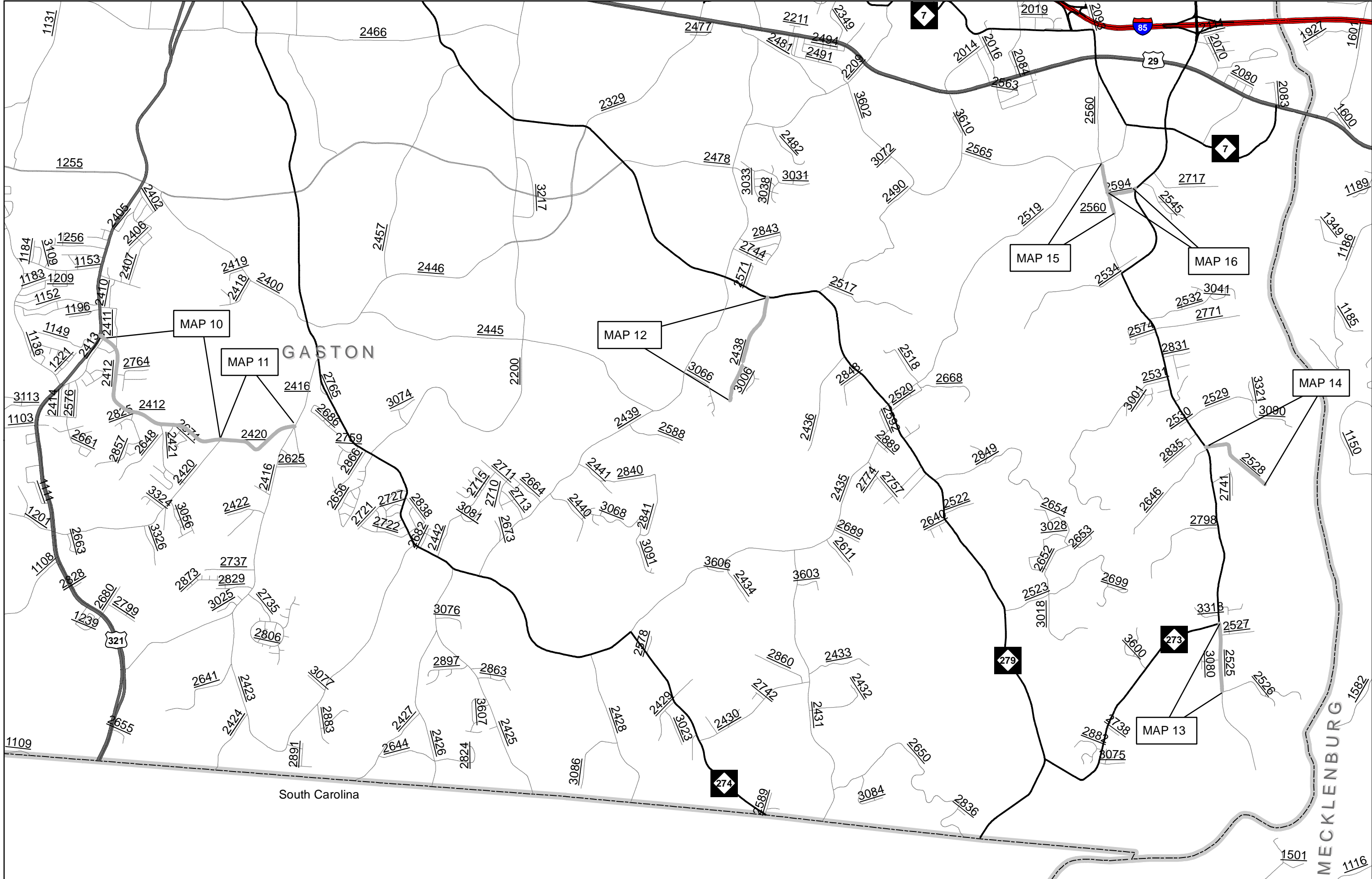
**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

**This file or an individual page  
shall not be considered a certified document.**





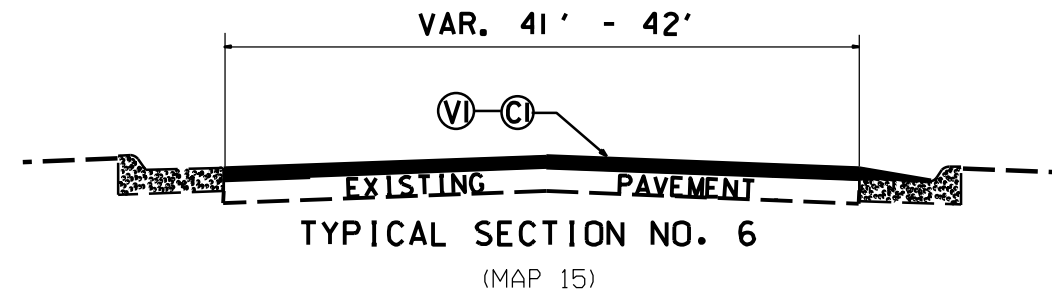
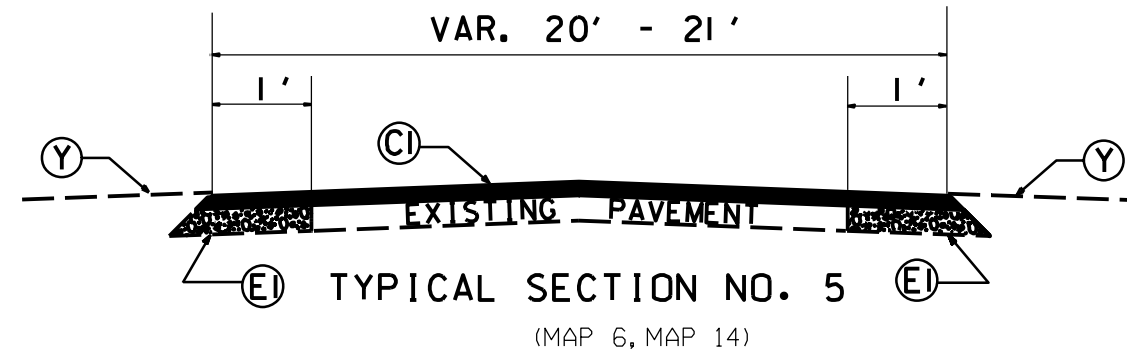
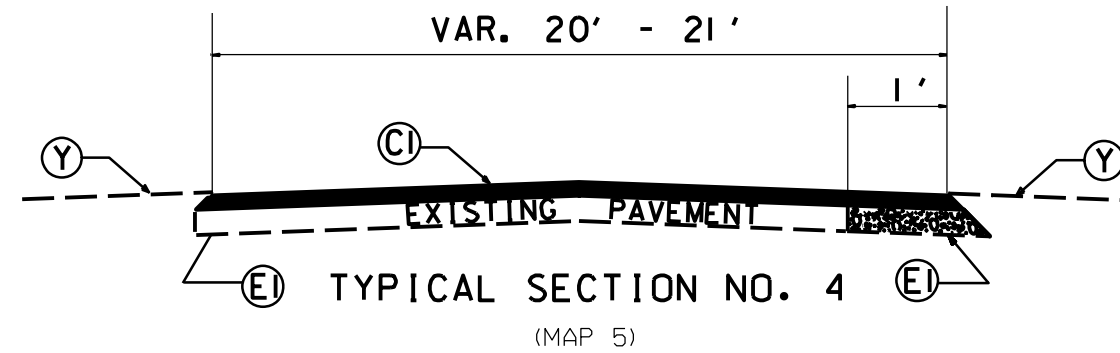
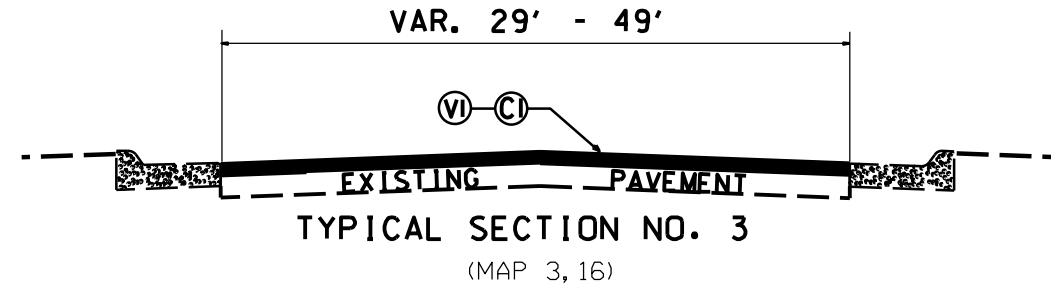
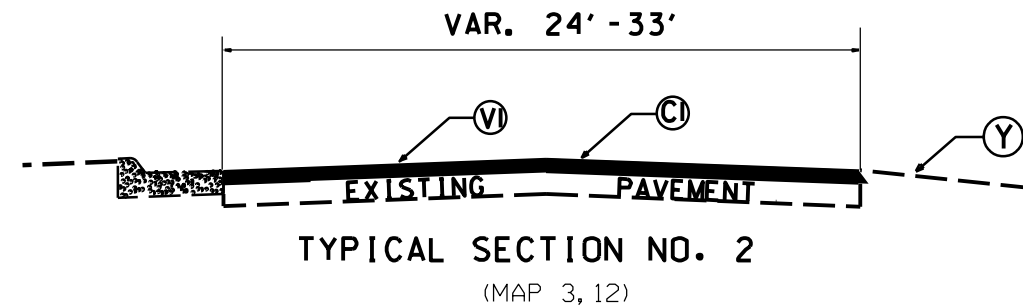
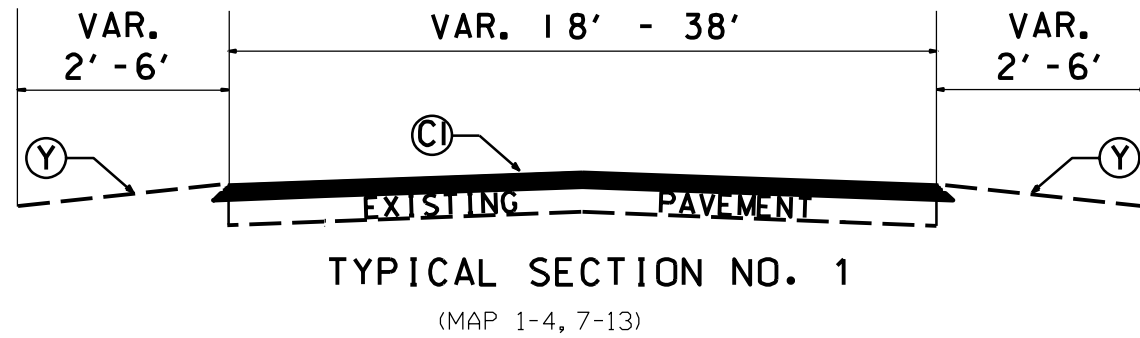




PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
GASTON COUNTY 2017-2018	5	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
2018CPT.12.02.20361		

PAVEMENT SCHEDULE	
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILL ASPHALT PAVEMENT APPROX. 1-1/2" AS DIRECTED BY ENGINEER
Y	SHOULDER RECONSTRUCTION
Z	INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER.

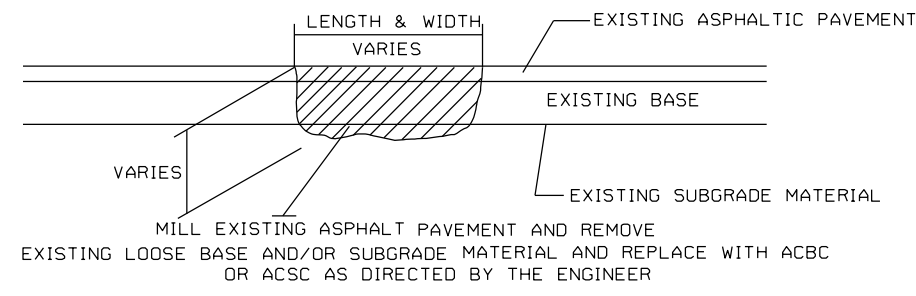
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.  
MILL BRIDGE APPROACHES & RXR APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED.  
MILL INTO GUTTER LINE WHERE SHOWN AND AS DIRECTED.  
MAINTAIN PROPER CROWN FOR DRAINAGE OF THE ROAD SURFACE.



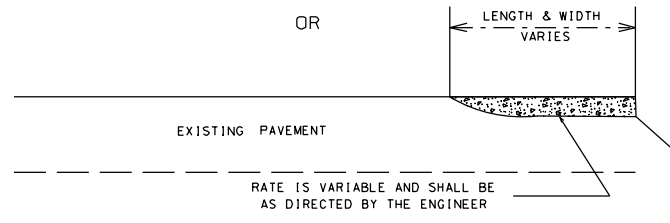
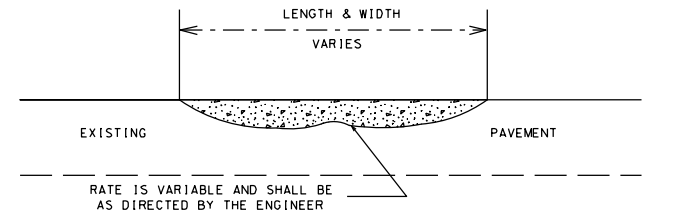
PAVEMENT SCHEDULE	
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILL ASPHALT PAVEMENT APPROX. 1-1/2" AS DIRECTED BY ENGINEER
Y	SHOULDER RECONSTRUCTION
Z	INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.  
MILL BRIDGE APPROACHES & RXR APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED.  
MILL INTO GUTTER LINE WHERE SHOWN AND AS DIRECTED.  
MAINTAIN PROPER CROWN FOR DRAINAGE OF THE ROAD SURFACE.

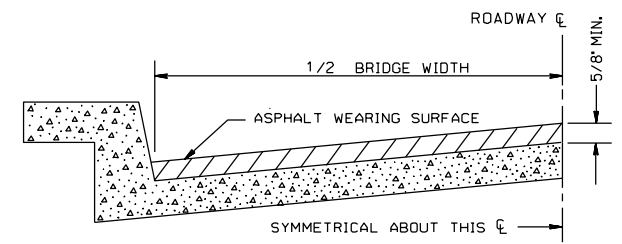
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
GASTON COUNTY 2017-2018	6	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
2018CPT. 12.02.20361		



PATCHING EXISTING PAVEMENT



ASPHALT CONCRETE SURFACE COURSE  
TYPE S9.5B (LEVELING COURSE)



BRIDGE HALF TYPICAL SECTION

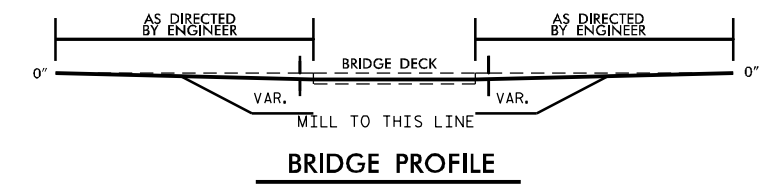
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

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

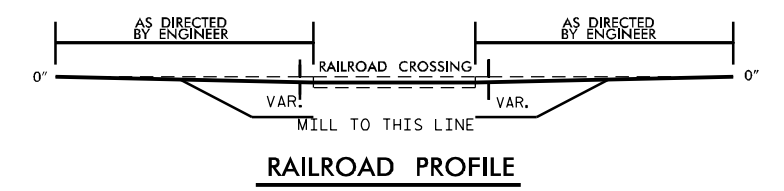
NOTES

ALL UNPAVED S.R. ROADS TO BE SURFACED 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 NOTED.  
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

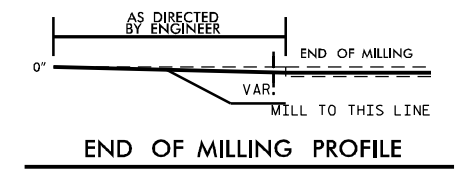
INCIDENTAL MILLING DETAILS



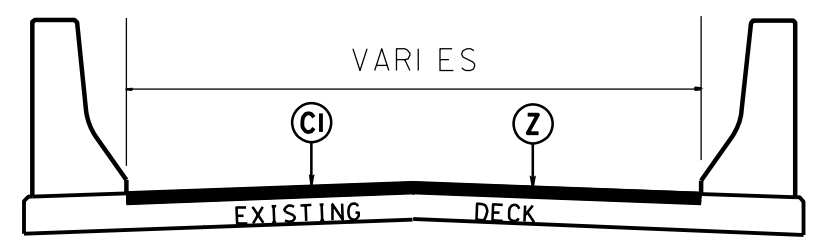
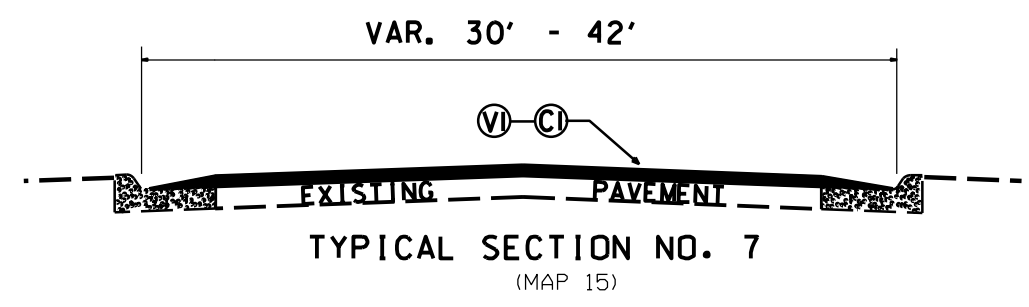
BRIDGE PROFILE



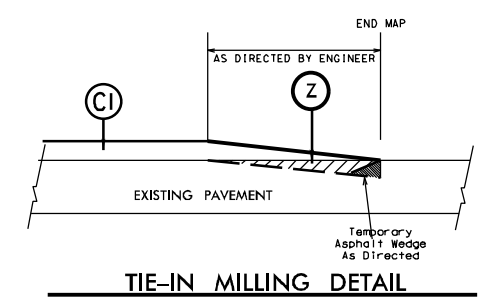
RAILROAD PROFILE



END OF MILLING PROFILE

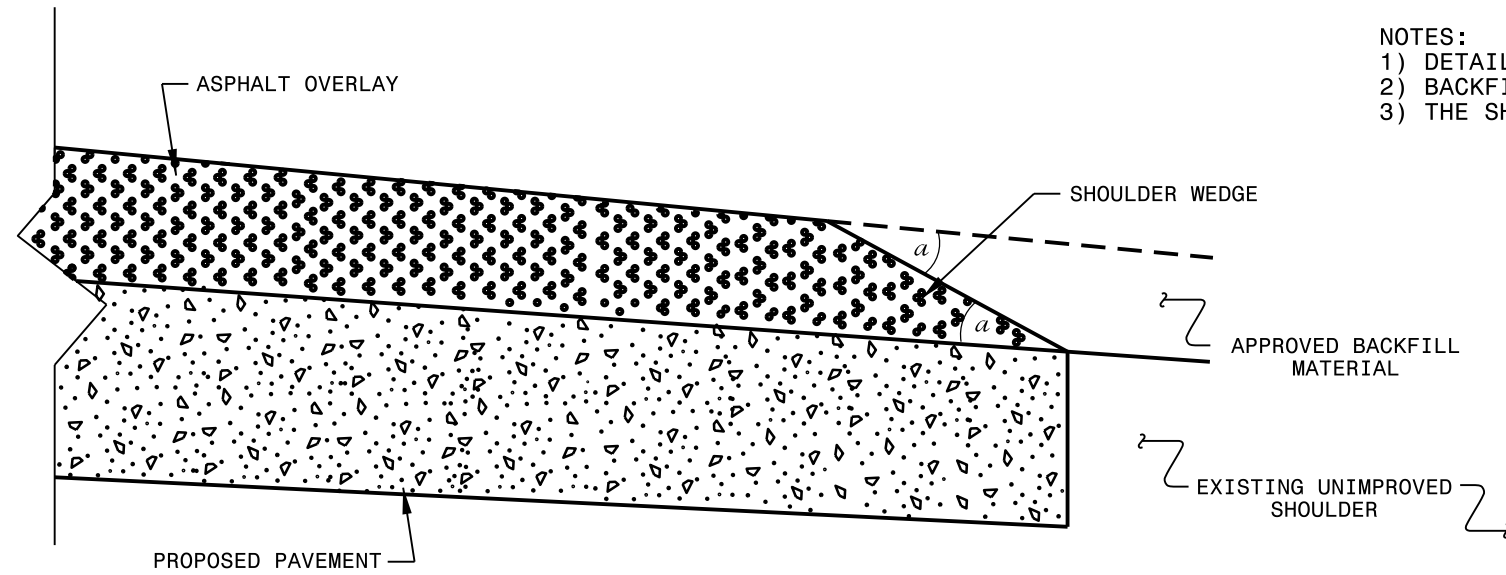


ASPHALT BRIDGE SECTION

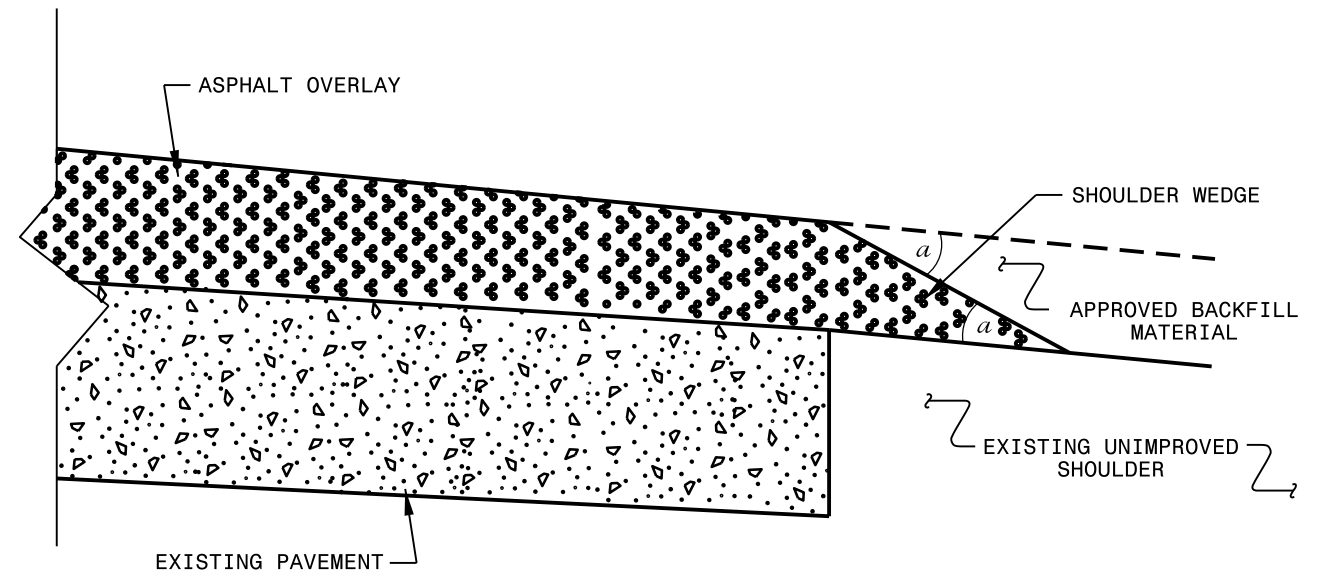


TIE-IN MILLING DETAIL

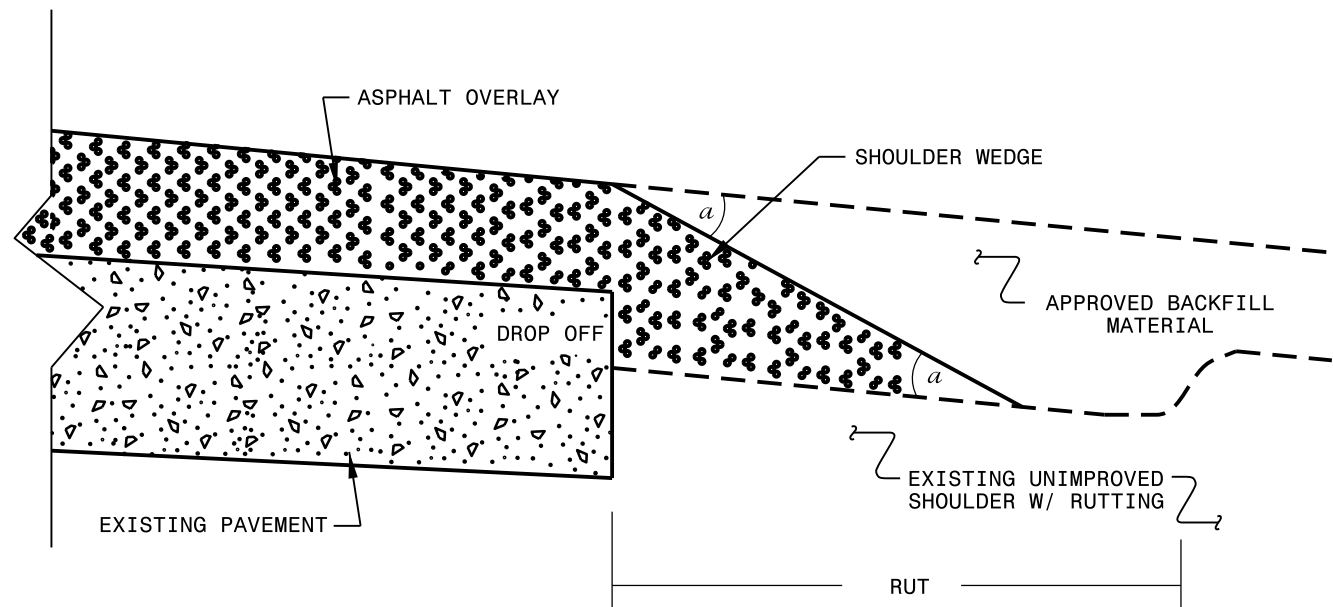
- NOTES:  
 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.  
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



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



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

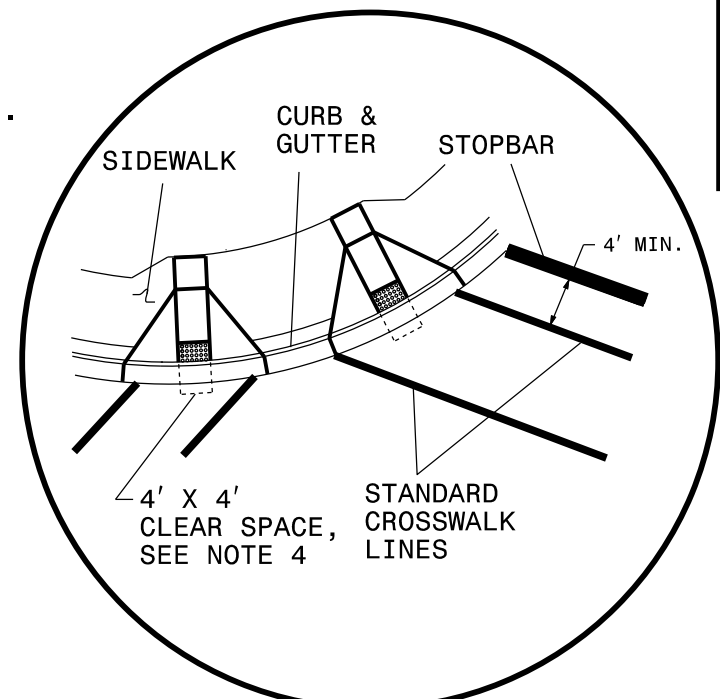
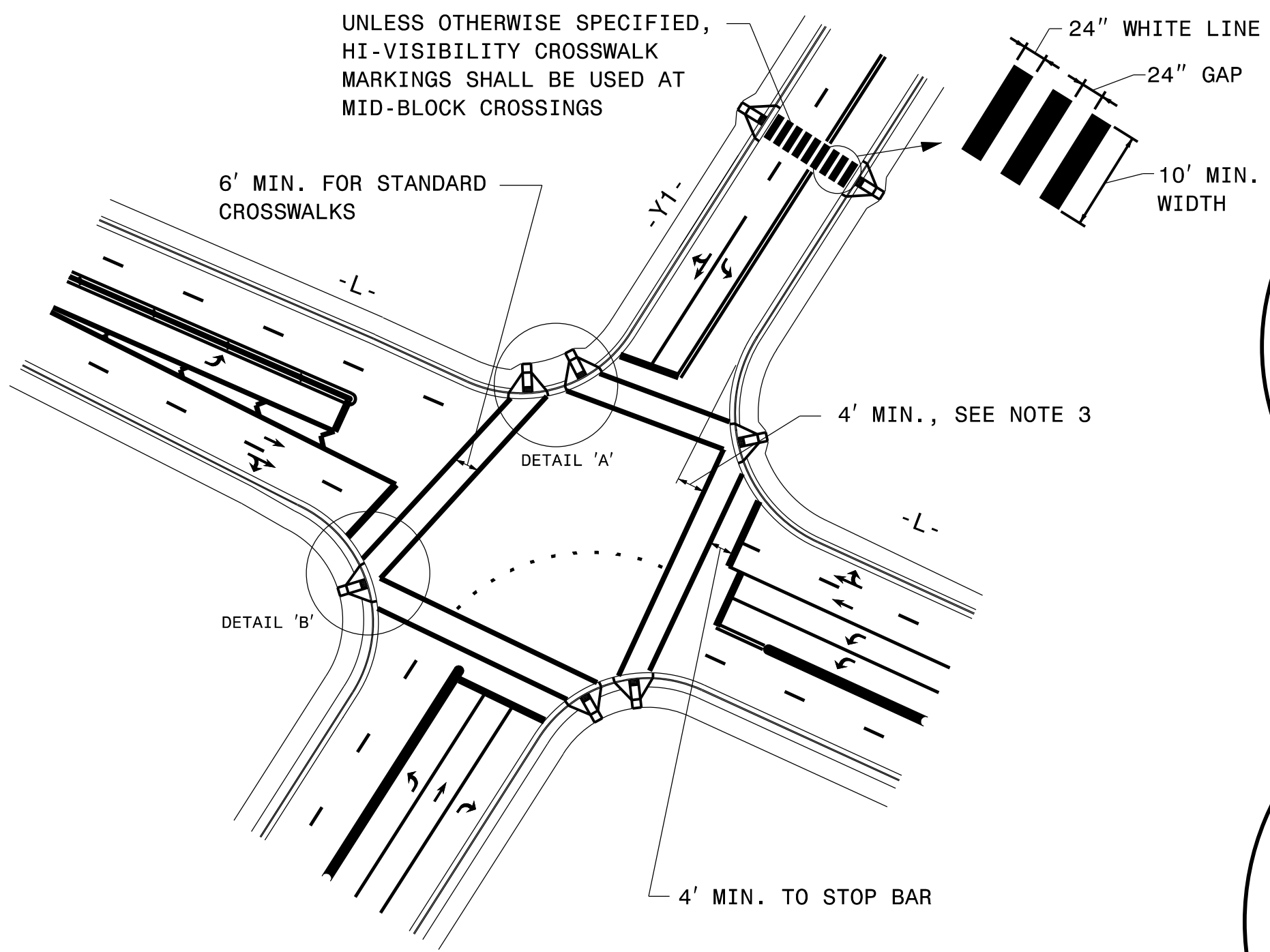
- SHOULDER WEDGE ANGLE = 30°

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

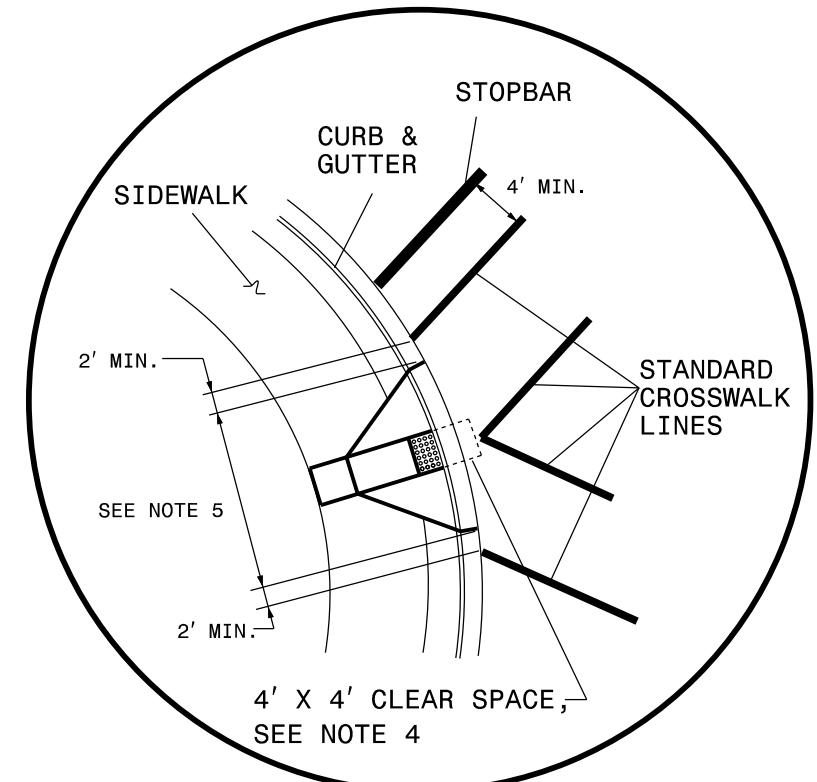
**SHOULDER WEDGE  
 DETAILS**

ORIGINAL BY: T.SPELL DATE: 7-19-11  
 MODIFIED BY: DATE: 10/16/12  
 CHECKED BY: DATE:  
 FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn

SYSTEMS DESIGN  
 USER NAME



DETAIL 'A'- DUAL CURB RAMPS



DETAIL 'B'- SINGLE DIAGONAL CURB RAMP

**GUIDANCE DETAIL FOR CROSSWALK MARKINGS**

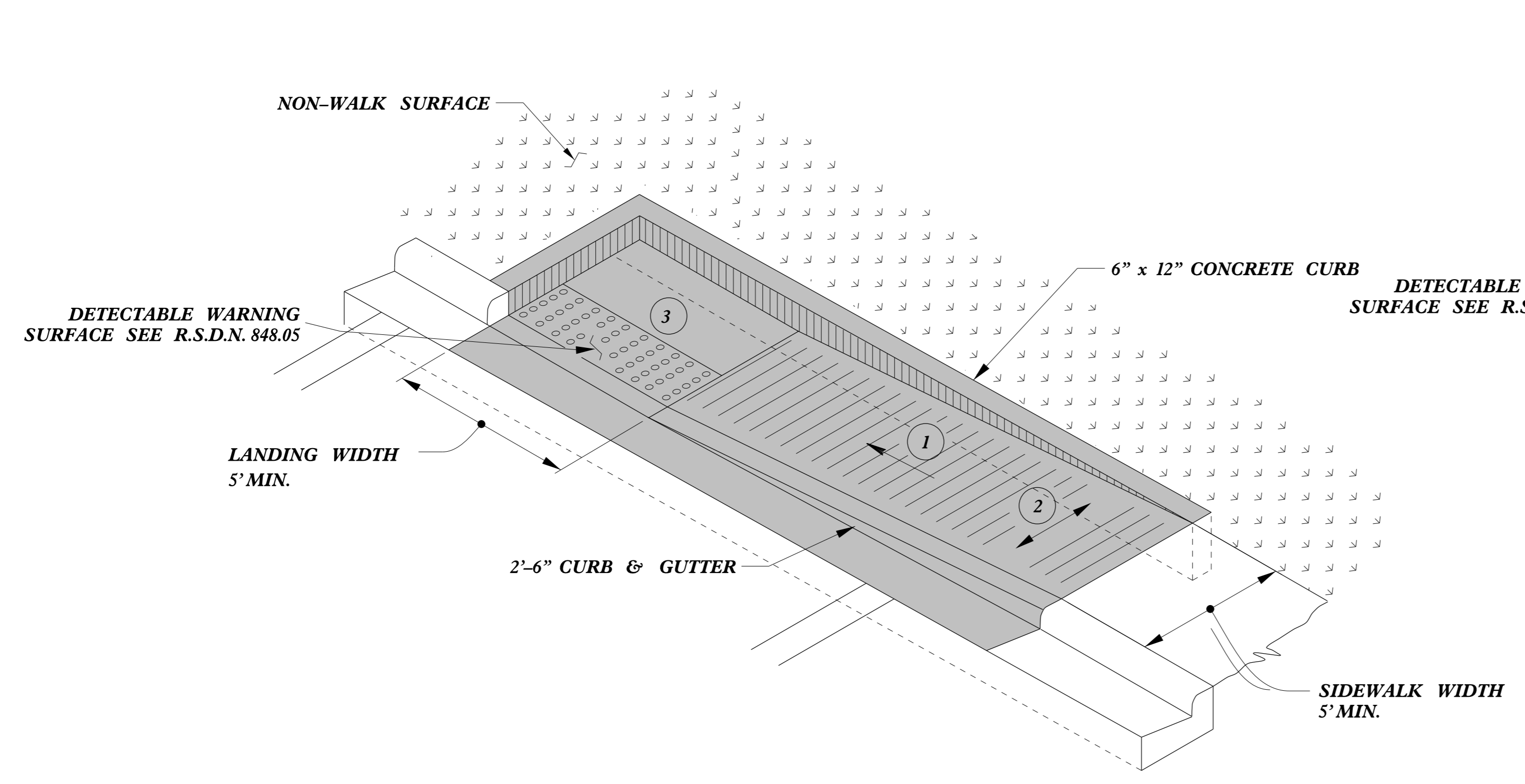
**NOTES:**

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

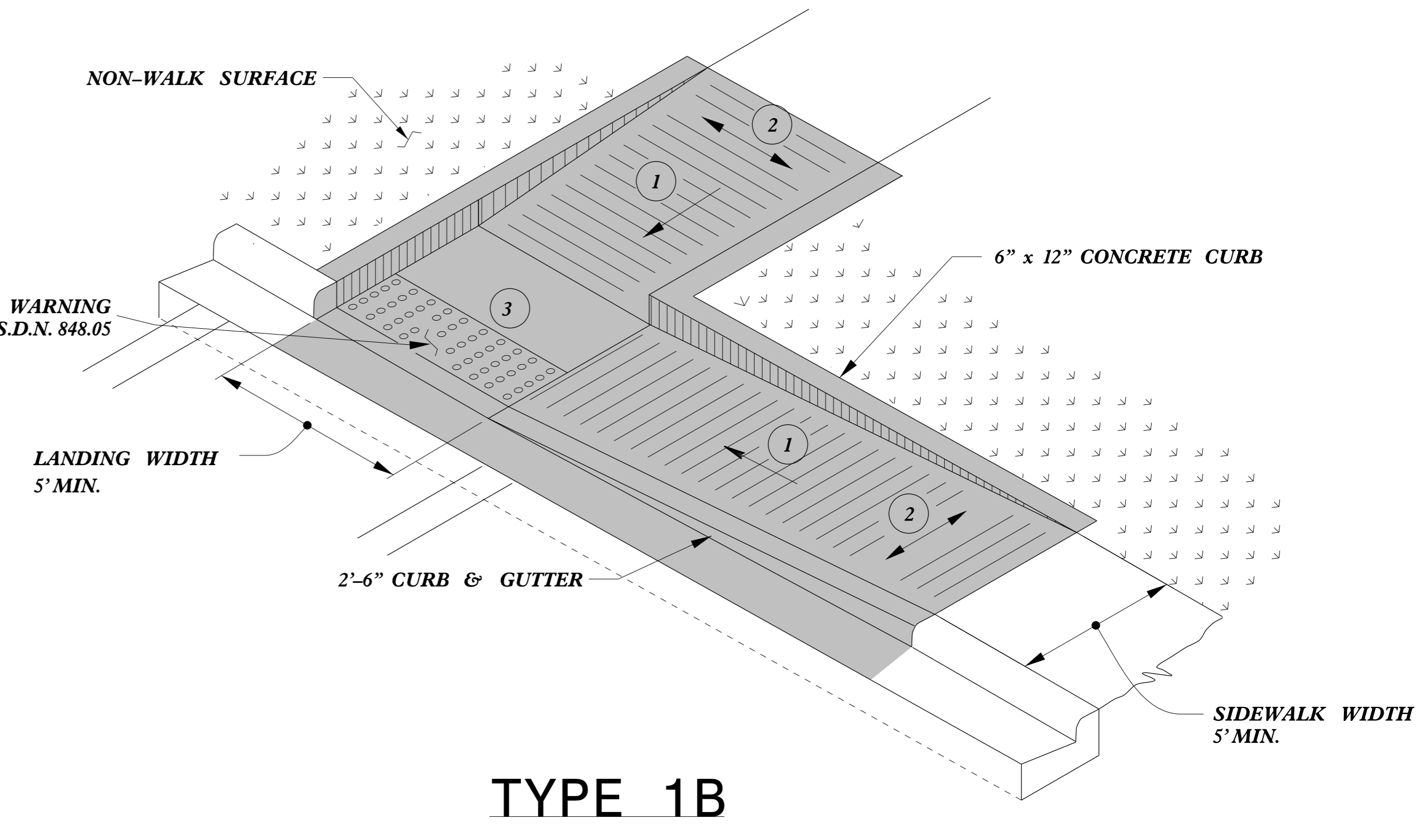
\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DCN\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$



5/14/99



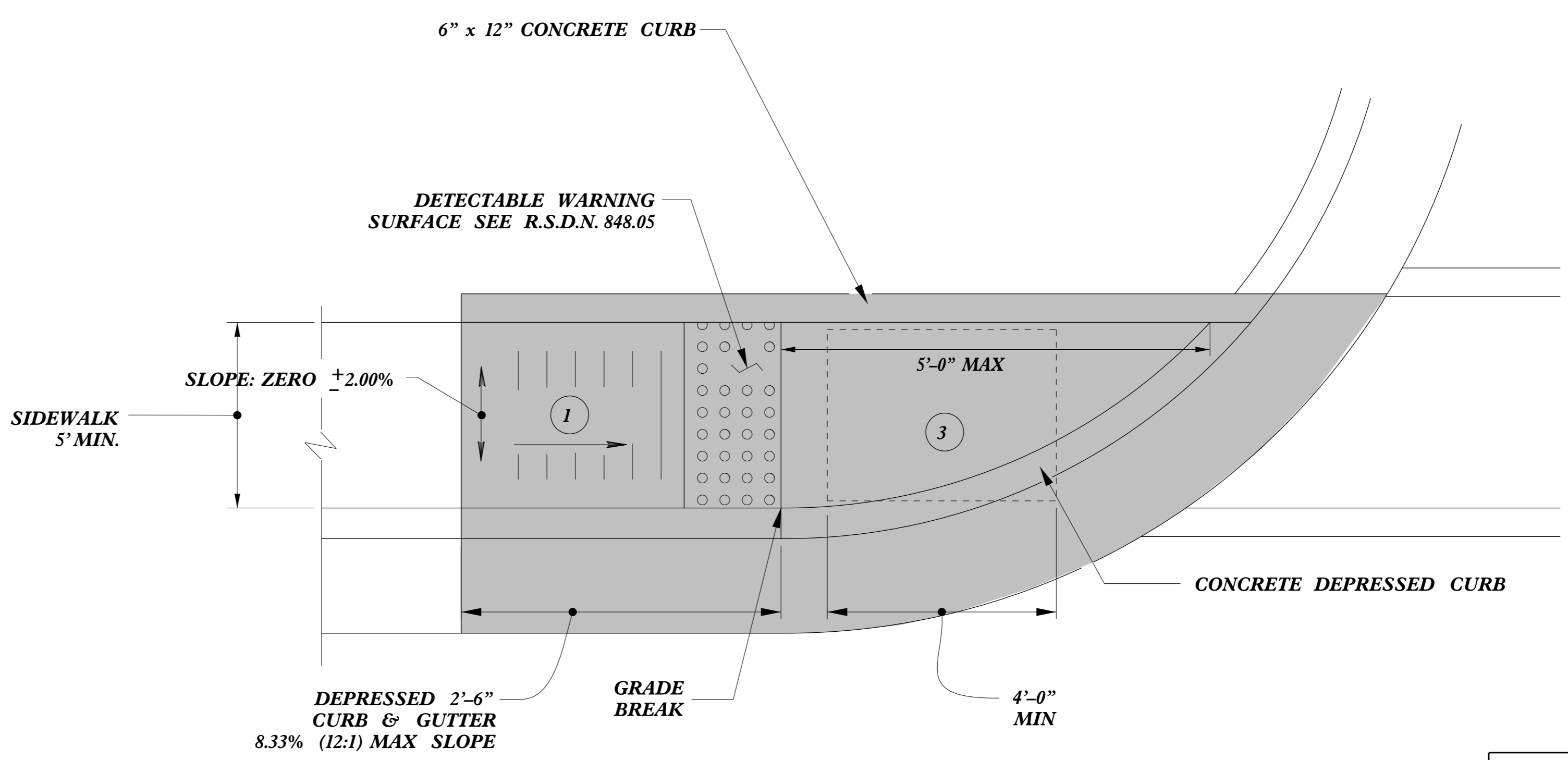
**TYPE 1A**



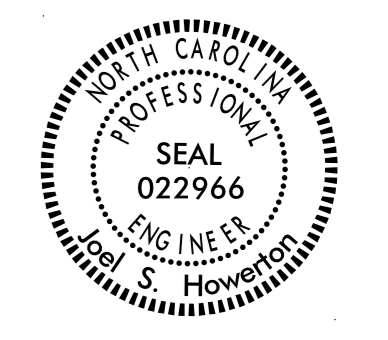
**TYPE 1B**

**PAY LIMITS FOR 1 CURB RAMP**

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



**TYPE 1**




DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

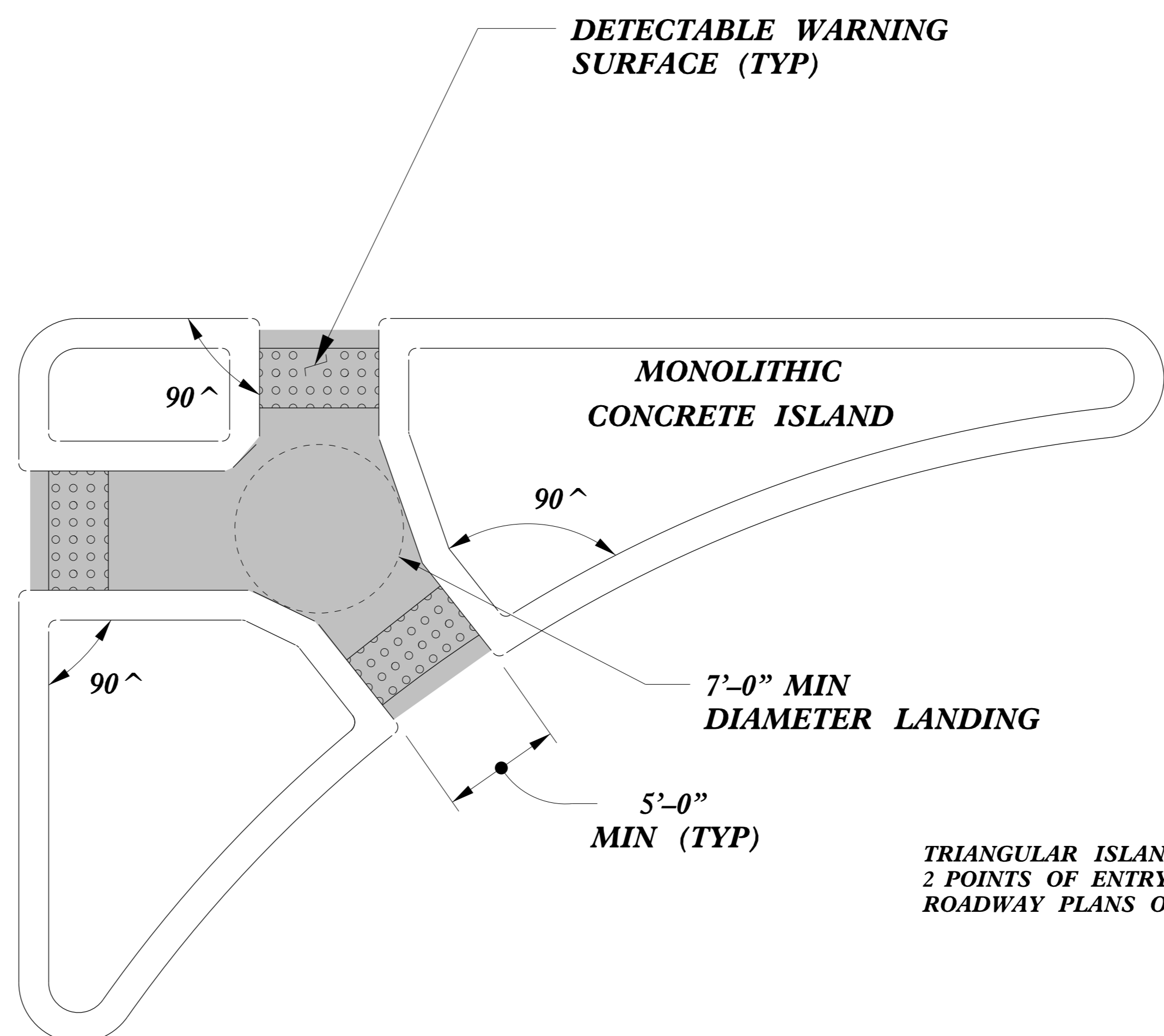
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

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

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 USER: JSH  
 DATE: 7/7/11 10:58:11 AM

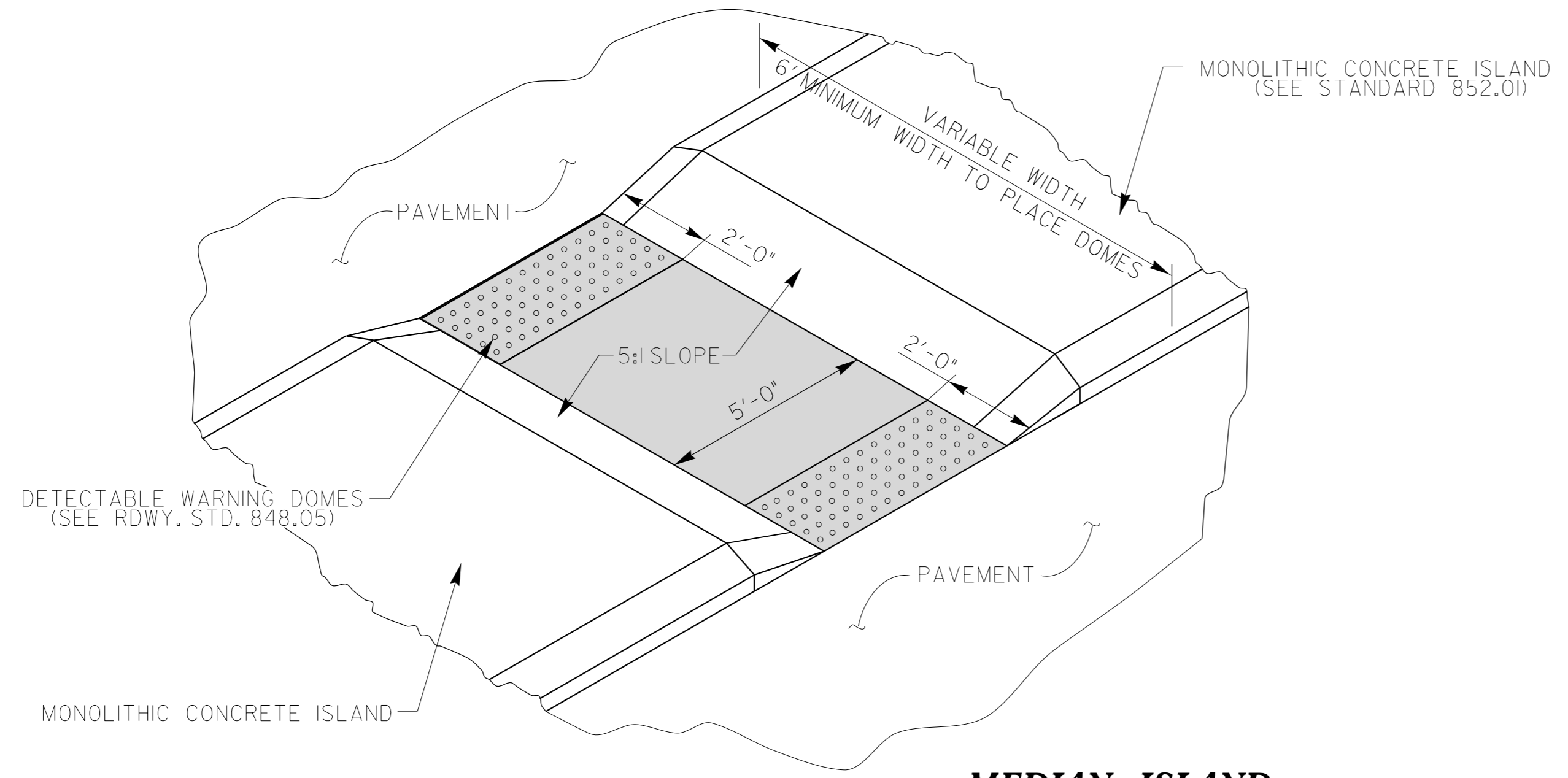
5/14/99

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

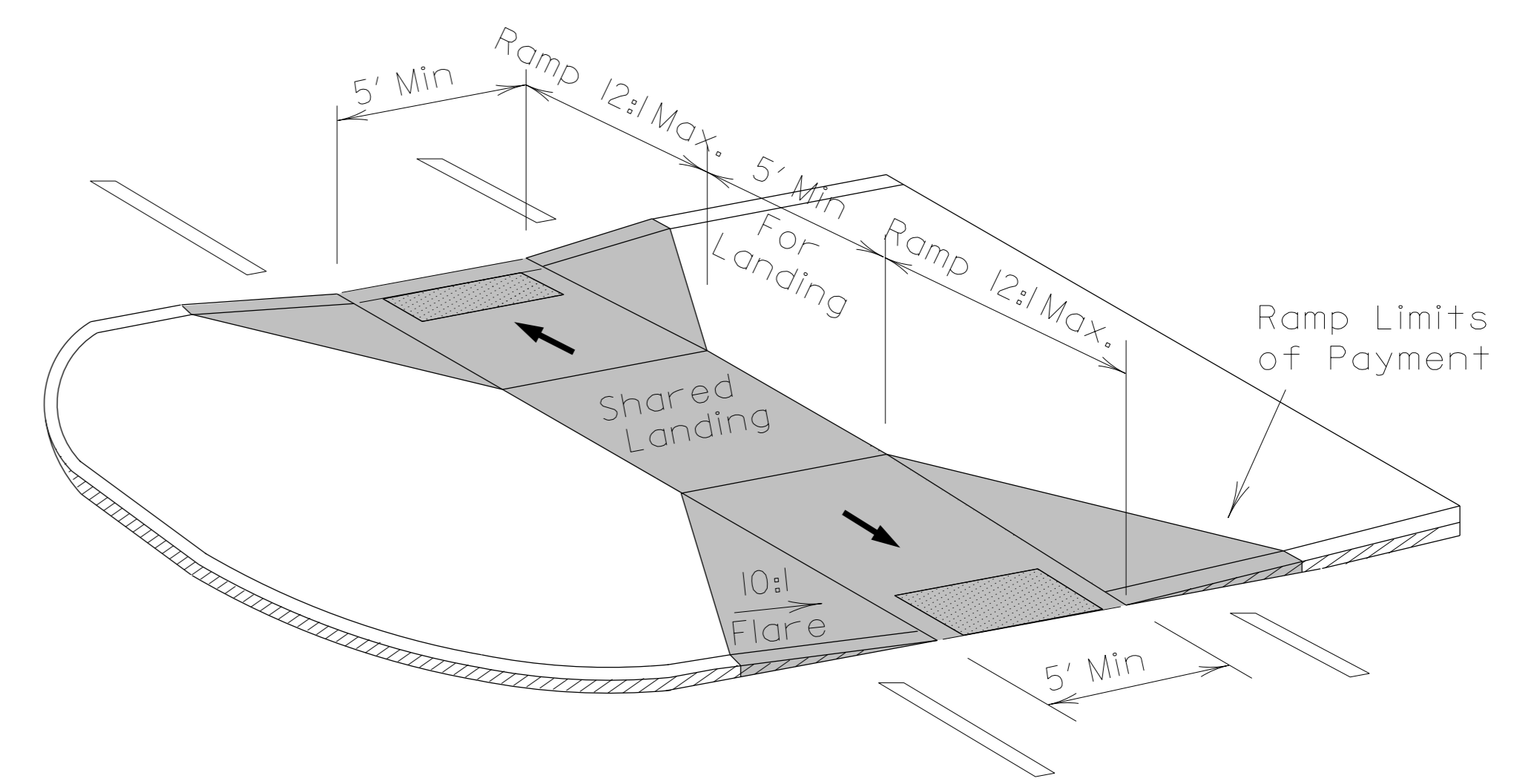


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY  
2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE  
ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

**TRIANGULAR ISLAND  
WITH CUT THROUGH**

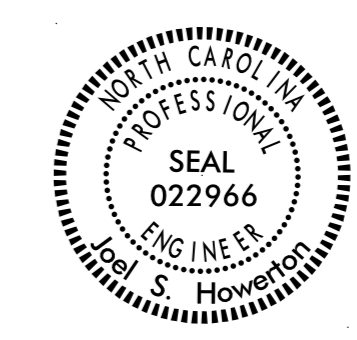


**MEDIAN ISLAND  
WITH CUT THROUGH**



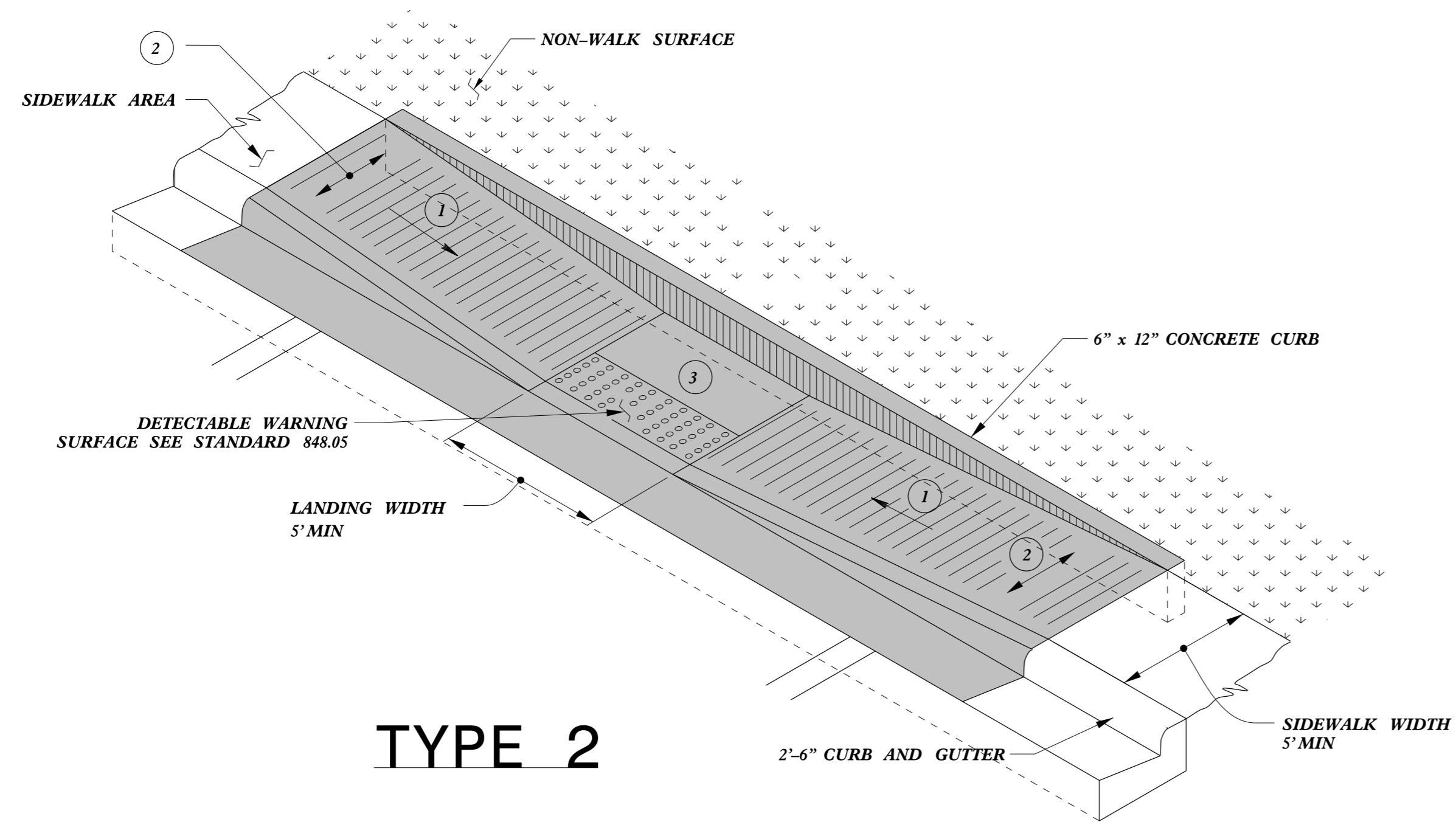
**MEDIAN ISLAND  
CURB RAMPS**

5/14/99  
C:\P\2018\2018CPT\2018CPT.12.02.20361\2018CPT.12.02.20361.dwg  
J.S. HOWERTON  
02/29/2011



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

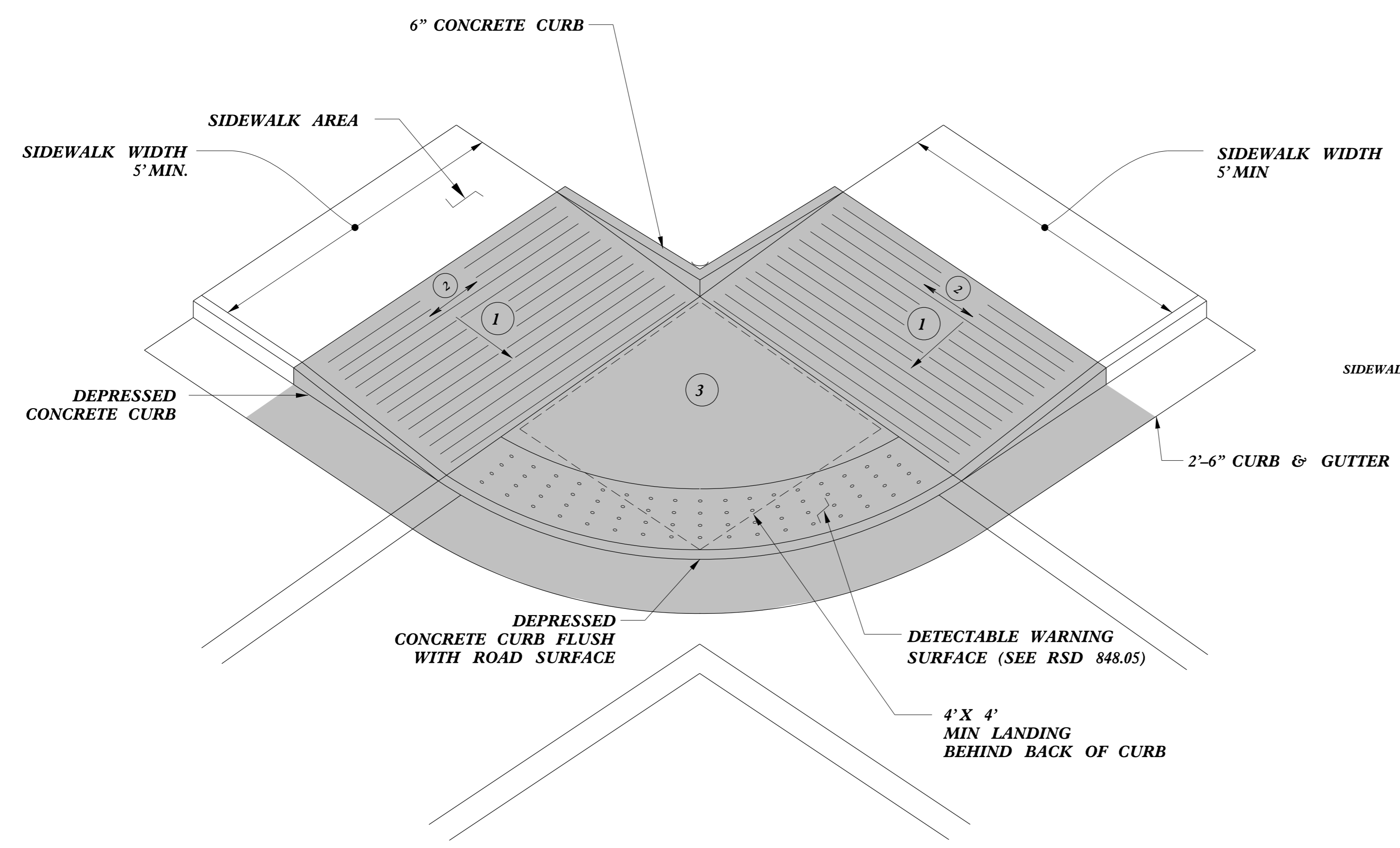
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn	



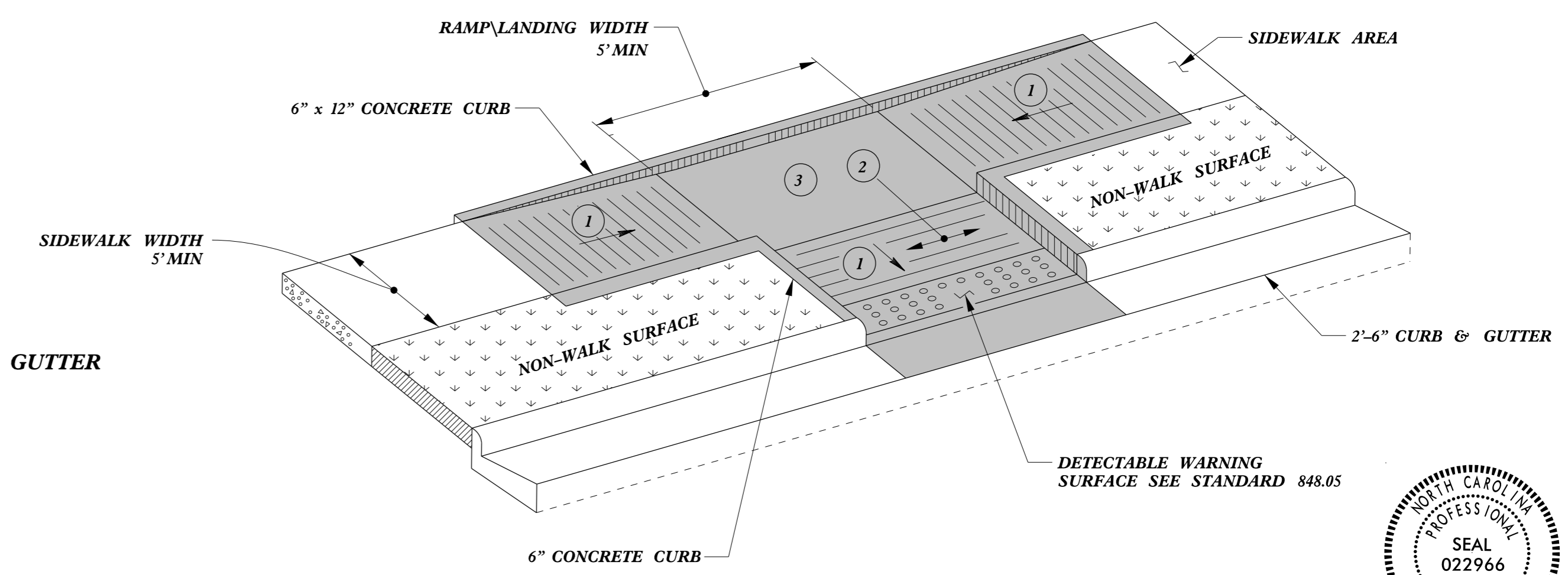
**TYPE 2**

**PAY LIMITS FOR 1 CURB RAMP**

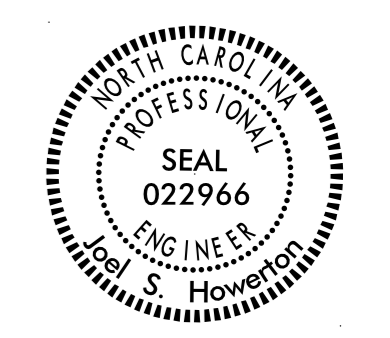
- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



**TYPE 2A**



**TYPE 3**

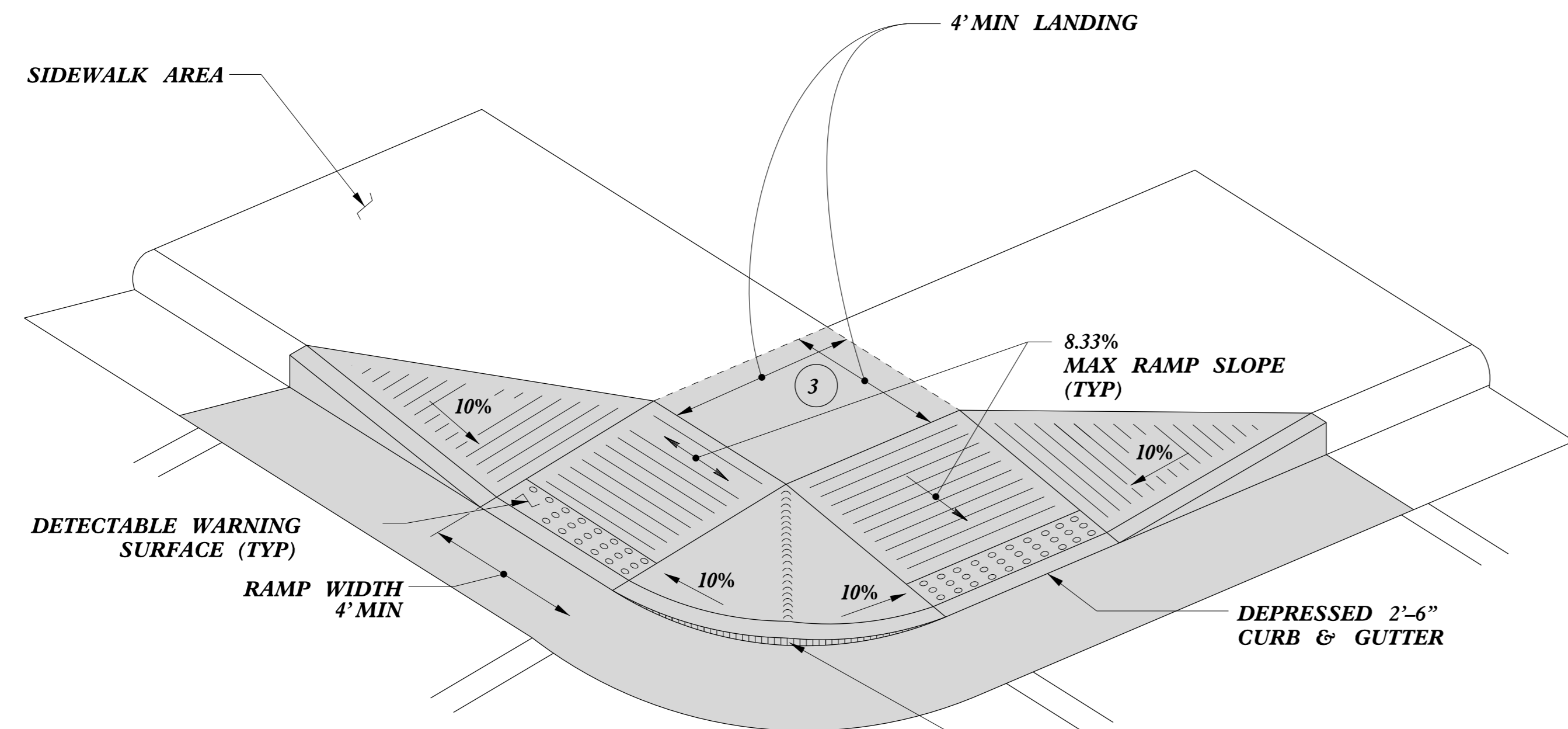


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

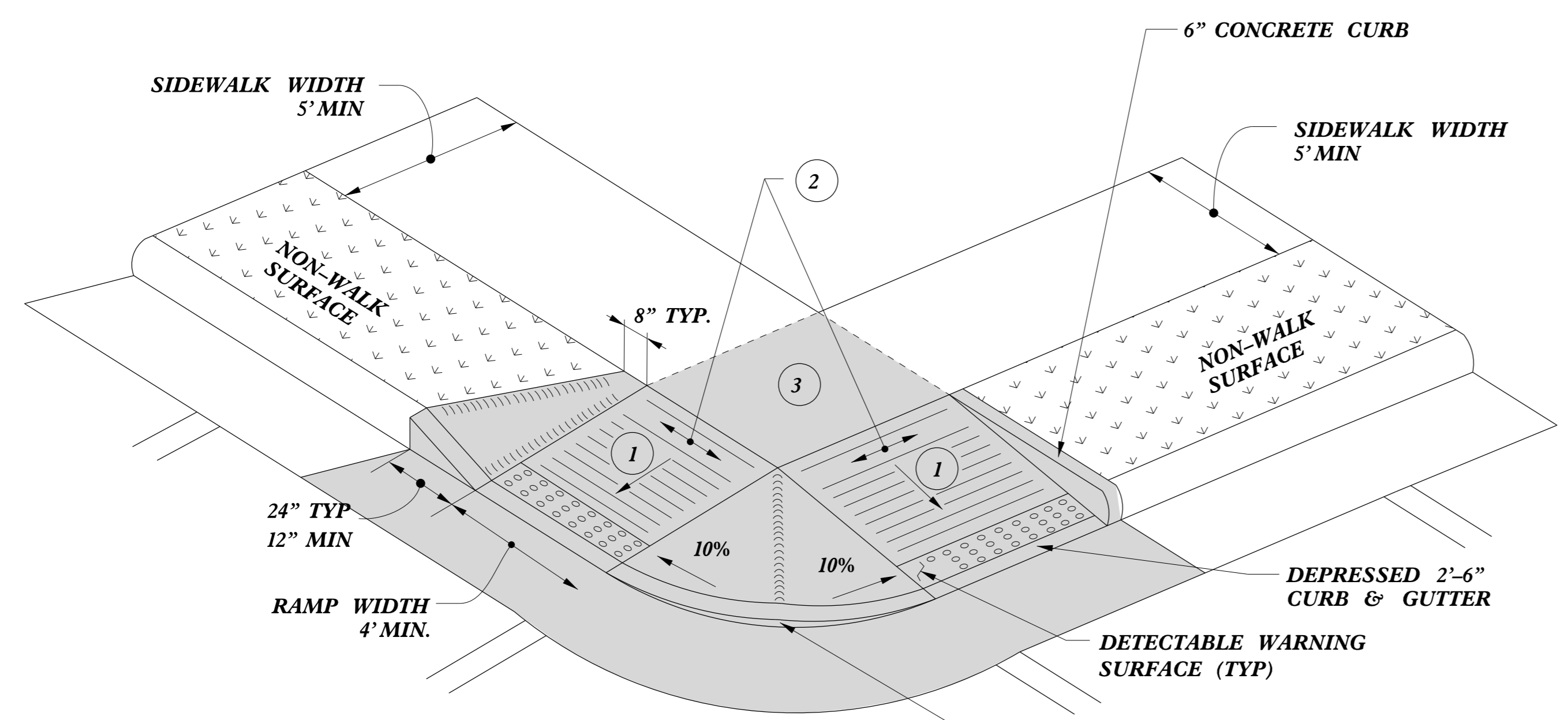
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. :stds\2012CurbRamp\CurbRampDetails.dgn	

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

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

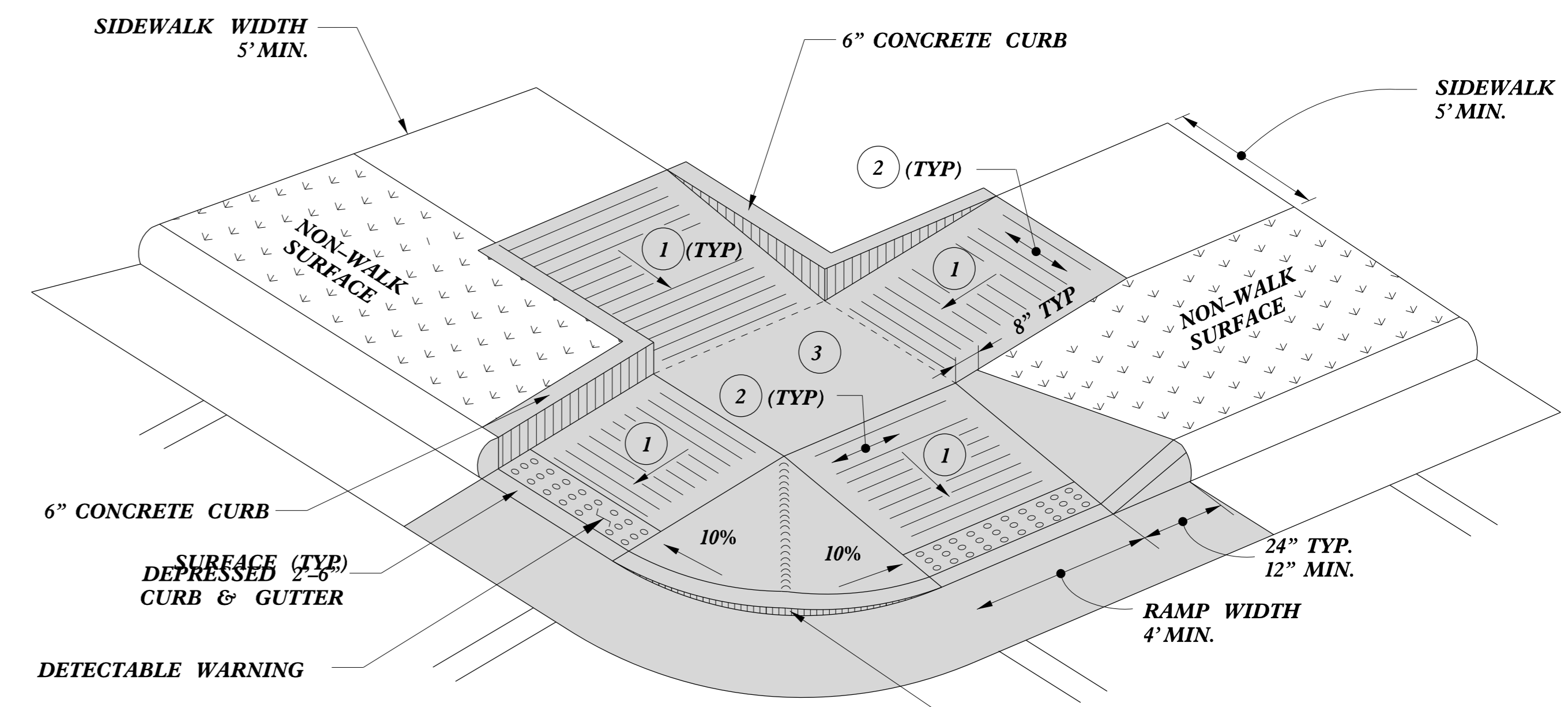


**TYPE 4**



**TYPE 4A**

 PAY LIMITS FOR 2 CURB RAMPS



**TYPE 5**

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



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

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

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

5/14/99  
C:\P\2012\STDS\2012CurbRamp\CurbRampDetails.dgn



### High Speed Detection (≥40 mph)



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

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

Volume Density Operation

OR



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

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

"Stretch" Operation

### Low Speed Detection (≤35 mph)



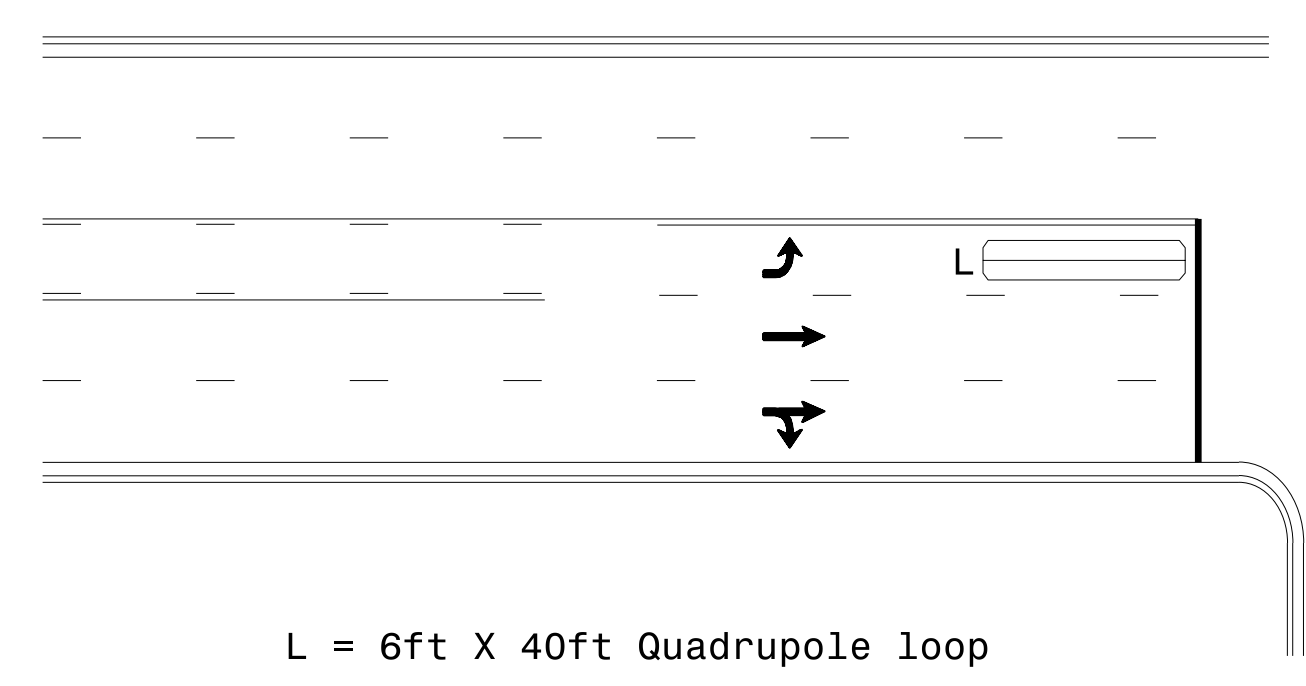
L = 6ft X 6ft  
Wired in series

OR



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

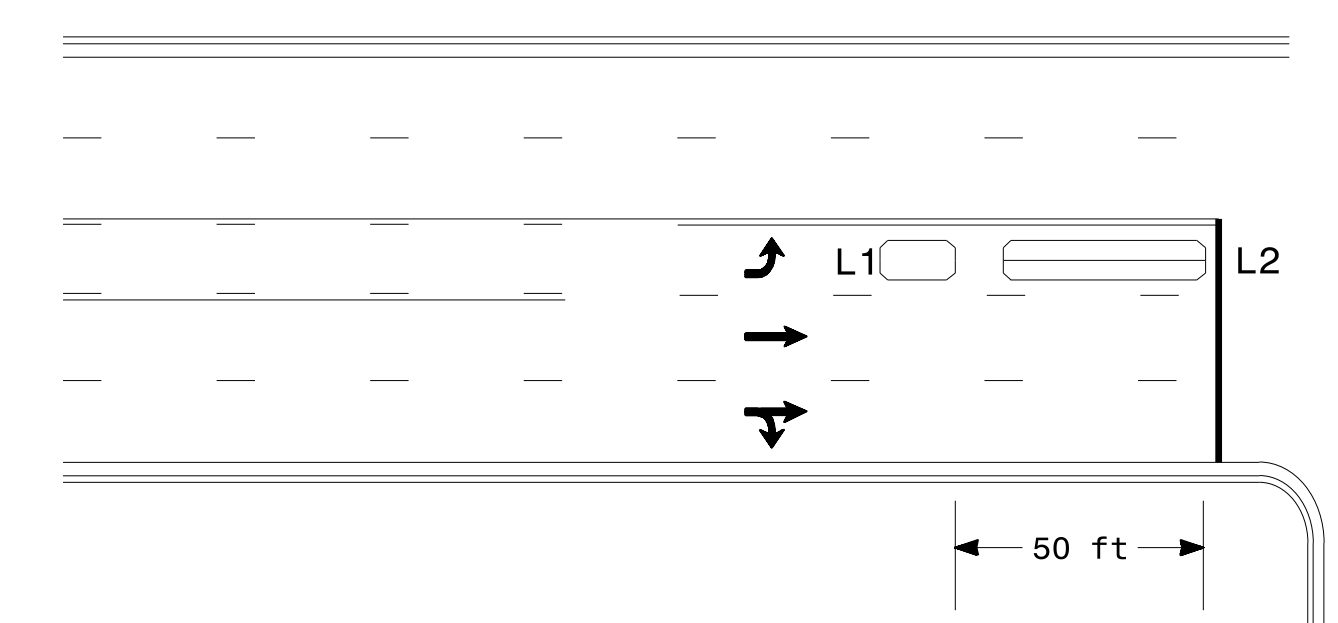
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

OR



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

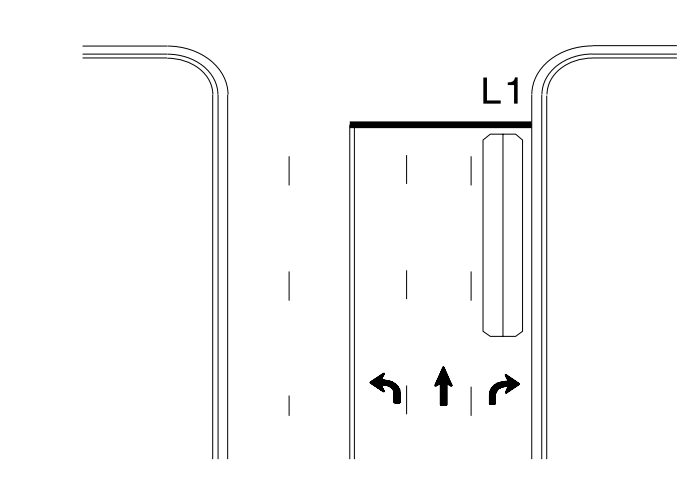
Queue Loop Detection

### Right Turn Lane Detection



Shared Lane/  
Wide Radius Turn

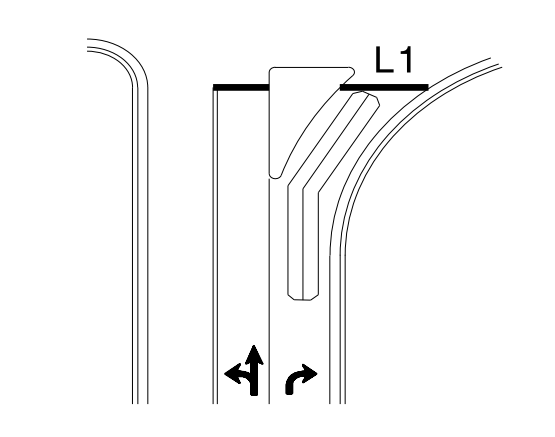
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn



Wide Radius Turn



Channelized Turn

### Side Street Detection



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

### Presence Loop Placement at Stop Lines



Locate loop slightly  
behind leading  
edge of stop line

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

### Recommended Number of Turns

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

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

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

750 N. Greenfield Pkwy, Garner, NC 27529

#### Typical Signal Loop Locations

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

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
PAMELA L. ALEXANDER  
23489

1/30/2015

3D:\1116-2015\_12\319  
 S:\1116\2015\1116-2015-Signal\Signal Design Section\Eastern Region\loop\loop\yp\lca\2015.dgn  
 paalexander



PROJECT NO.	SHEET NO.	TOTAL NO.
2018CPT.12.02.20361	14	

### SUMMARY OF QUANTITIES

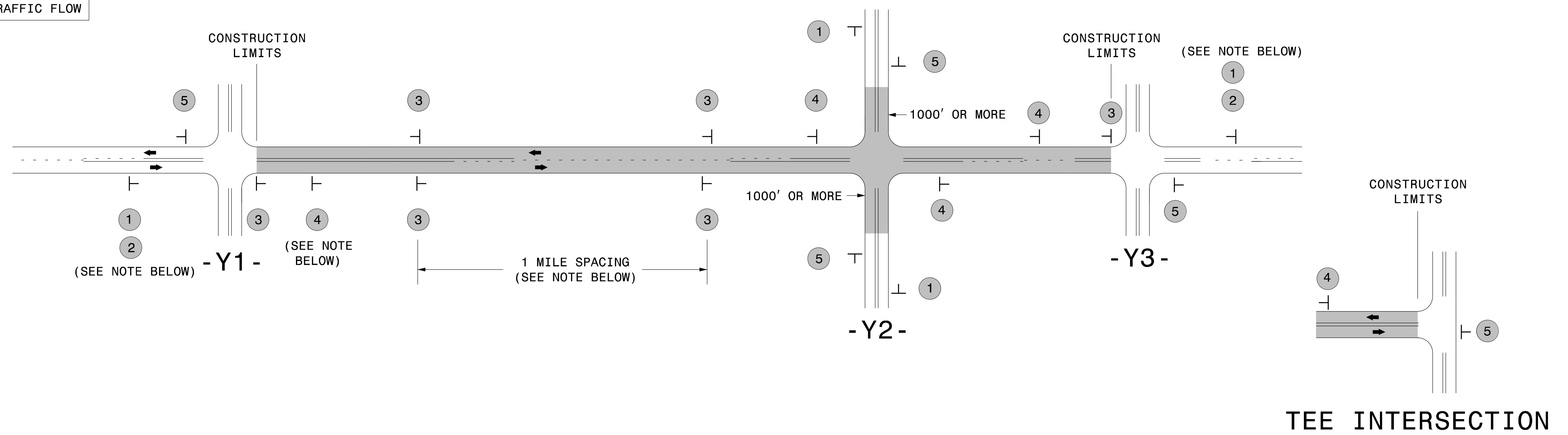
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH	WIDTH	0255000000-E	1220000000-E	1245000000-E	1297000000-E	1330000000-E	1489000000-E	1519000000-E	1520000000-E	1575000000-E	1704000000-E	2600000000-N	2605000000-N	2815000000-N	2830000000-N	2845000000-N	7324000000-N	7444000000-E	7456000000-E		
								AGGREGATE SHOULDER BORROW	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	1 1/2" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0B	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	RETROFIT EXISTING CURB RAMP	CONCRETE CURB RAMPS	ADJ. OF DROP INLET	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	JUNCTION BOX (STANDARD SIZE)	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)		
						MI	FT	TON	TONS	SMI	SY	SY	TONS	TONS	TONS	TONS	TONS	EA	EA	EA	EA	EA	EA	EA	EA	EA	
2018CPT.12.02.20361	Gaston	1	SR 1128 (CHAPEL GROVE RD)	FROM SR 1126 (Lewis Rd) TO SR 1131 (Camp Rotary Rd)	1	0.601	VAR. 21-31	210	45	1.20		45		749	71	50	160										
2018CPT.12.02.20361	Gaston	2	SR 1131 (CHAPEL GROVE RD)	FROM SR 1128 (Chapel Grv Rd) TO SR 1133 (Linwood Rd)	1	0.974	VAR. 22-25	341	60	1.95		490		1,221	115	81	258										
2018CPT.12.02.20361	Gaston	3	SR 1134 (CARSON RD)	FROM SR 1122 (Archie Whitesides Rd) TO SR 1133 (Linwood Rd)	1 2 3	0.784 0.21 0.13	VAR. 19-30 VAR. 24-33 VAR. 29-33	310	35	1.78	5,400	90		1,718	170	114	553	8	1		1	3					
2018CPT.12.02.20361	Gaston	4	SR 1802 (KISER DAIRY RD)	FROM NC 275 TO SR 1001 (Philadelpha Ch Rd)	1	1.608	20	563	96	3.22		100		1,711	75	108	390										
2018CPT.12.02.20361	Gaston	5	SR 1827 (UPPER SPENCER MTN RD)	FROM NC 275 TO SR 1823 (Rhyne Rd)	4	2.196	VAR. 20-21	769	120	4.39		200	600	2,425	361	195	436										
2018CPT.12.02.20361	Gaston	6	SR 1916 (COX LAKE RD)	FROM SR 1905(Stanley Lucia Rd) TO NC 273	5	2.115	VAR. 20-21	742	65	4.23		100	1,200	2,307	417	214	231										
2018CPT.12.02.20361	Gaston	7	SR 1918 (SANDY FORD RD)	FROM NC 273 TO SR 1919 (Stanley Lucia Rd)	1	3.628	VAR. 20-32	1,270	170	7.26		670		4,318	100	266	690	8									
2018CPT.12.02.20361	Gaston	8	SR 2003 (DALLAS SPENCER MTN RD)	NC 275 TO BRIDGE #168 (Long Crk)	1	2.31	VAR. 20-26	809	70	4.62		300		2,802	524	202	785										
2018CPT.12.02.20361	Gaston	9	SR 2200 (RANLO SPENCER MTN RD)	FROM RANLO CITY LIMIT TO SR 2003 (Main St)	1	1.1	VAR. 24-25	492	30	2.20		300		1,468	282	106	400										
2018CPT.12.02.20361	Gaston	10	SR 2412 (LITTLE MTN RD)	FROM US 321 TO SR 2420 (Forbes Rd)	1	1.724	VAR. 19-38	604	90	3.45		450		1,857	70	116	200				1	1					
2018CPT.12.02.20361	Gaston	11	SR 2420 (LITTLE MTN RD)	FROM SR 2420 (Forbes Rd) TO SR 2416 (Robinson Rd)	1	0.759	VAR. 19-20	266	42	1.52		50		807	40	51	110										
2018CPT.12.02.20361	Gaston	12	SR 2438 (HUFFSTETLER RD)	FROM NC 279 TO END PVMT	1 2	0.90 0.11	VAR. 18-20 VAR. 20-33	350	45	1.80	2,500	60		1,181	248	87	150				2						
2018CPT.12.02.20361	Gaston	13	SR 2525 (SOUTH POINT RD)	FROM NC 273 TO SR 2526 (Reese Wilson Rd)	1	0.614	VAR. 20-22	214	55	1.22		300		728	127	52	400										
2018CPT.12.02.20361	Gaston	14	SR 2528 (BOATCLUB RD)	FROM NC 273 TO END MAINT	5	0.771	VAR. 20-21	270	50	1.54		45	400	841	114	75	230										
2018CPT.12.02.20361	Gaston	15	SR 2560 (S CENTRAL AVE)	FROM SR 2519 (S. Main St.) SOUTH TO END C&G	6 7	0.10 0.46	VAR. 41-42 30				11,600			980	100	65	196	2		4	6	3	1	250	100		
2018CPT.12.02.20361	Gaston	16	SR 2594 (KEENER BLVD)	FROM SR 2560 (S. Central Ave) TO NC 273	3	0.248	VAR. 36-49				7,397			626	65	42	194	9	2		4	3		250	100		
<b>TOTAL FOR PROJ NO. 2018CPT.12.02.20361</b>								<b>21.342</b>		<b>7,210</b>	<b>973</b>	<b>40.38</b>	<b>26,897</b>	<b>3,200</b>	<b>2,200</b>	<b>25,739</b>	<b>2,879</b>	<b>1,824</b>	<b>5,383</b>	<b>27</b>	<b>3</b>	<b>4</b>	<b>14</b>	<b>12</b>	<b>1</b>	<b>500</b>	<b>200</b>
<b>GRAND TOTAL</b>								<b>21.342</b>		<b>7,210</b>	<b>973</b>	<b>40.38</b>	<b>26,897</b>	<b>3,200</b>	<b>2,200</b>	<b>25,739</b>	<b>2,879</b>	<b>1,824</b>	<b>5,383</b>	<b>27</b>	<b>3</b>	<b>4</b>	<b>14</b>	<b>12</b>	<b>1</b>	<b>500</b>	<b>200</b>

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH	WIDTH	4413000000-E	4457000000-N	4695000000-E	4697000000-E	4705000000-E	4710000000-E	4721000000-E				4725000000-E				4810000000-E		4820000000-E	4835000000-E	4845000000-N	4847000000-E		4850000000-E	4905000000-N				
								WK ZONE ADV/GEN WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	8" X 90 M YELLOW THERMO	8" X 120 M WHITE THERMO	16" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO RXR 120 M	THERMO MSG SCHOOL 120 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & LT ARROW 90 M	THERMO STR & RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	8" YELLOW PAINT	24" WHITE PAINT	PAINT LT ARROW	4" YELLOW POLYUREA (HIGHLY REFLECTIVE ELEMENTS)	4" WHITE POLYUREA (HIGHLY REFLECTIVE ELEMENTS)	4" LINE REMOVAL	SNOW PLOWABLE MARKERS						
						MI	FT	SF	LS	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA				
2018CPT.12.02.20361	Gaston	1	SR 1128 (CHAPEL GROVE RD)	FROM SR 1126 (Lewis Rd) TO SR 1131 (Camp Rotary Rd)	1	0.601	VAR. 21-31	84		100														2			6,600	6,000		45				
2018CPT.12.02.20361	Gaston	2	SR 1131 (CHAPEL GROVE RD)	FROM SR 1128 (Chapel Grv Rd) TO SR 1133 (Linwood Rd)	1	0.974	VAR. 22-25	84																			10,500	10,500		75				
2018CPT.12.02.20361	Gaston	3	SR 1134 (CARSON RD)	FROM SR 1122 (Archie Whitesides Rd) TO SR 1133 (Linwood Rd)	1 2 3	0.784 0.21 0.13	VAR. 19-30 VAR. 24-33 VAR. 29-33	164		300			14			2	3											12,000	12,500					
2018CPT.12.02.20361	Gaston	4	SR 1802 (KISER DAIRY RD)	FROM NC 275 TO SR 1001 (Philadelpha Ch Rd)	1	1.608	20	164					14														17,300	17,300		107				
2018CPT.12.02.20361	Gaston	5	SR 1827 (UPPER SPENCER MTN RD)	FROM NC 275 TO SR 1823 (Rhyne Rd)	4	2.196	VAR. 20-21	196					60														47,258	47,258						
2018CPT.12.02.20361	Gaston	6	SR 1916 (COX LAKE RD)	FROM SR 1905(Stanley Lucia Rd) TO NC 273	5	2.115	VAR. 18-20	196																			45,515	45,515						
2018CPT.12.02.20361	Gaston	7	SR 1918 (SANDY FORD RD)	FROM NC 273 TO SR 1919 (Stanley Lucia Rd)	1	3.628	VAR. 20-32	228					40			8	1										79,475	89,800	400					
2018CPT.12.02.20361	Gaston	8	SR 2003 (DALLAS SPENCER MTN RD)	NC 275 TO BRIDGE #168 (Long Crk)	1	2.31	VAR. 20-26	196					24														24,000	24,250	680	178				
2018CPT.12.02.20361	Gaston	9	SR 2200 (RANLO SPENCER MTN RD)	FROM RANLO CITY LIMIT TO SR 2003 (Main St)	1	1.1	VAR. 24-25	116																			11,836	11,836		84				
2018CPT.12.02.20361	Gaston	10	SR 2412 (LITTLE MTN RD)	FROM US 321 TO SR 2420 (Forbes Rd)	1	1.724	VAR. 19-38	164					50				2										37,100	37,100						
2018CPT.12.02.20361	Gaston	11	SR 2420 (LITTLE MTN RD)	FROM SR 2420 (Forbes Rd) TO SR 2416 (Robinson Rd)	1	0.759	VAR. 19-20	84																			16,334	16,334						
2018CPT.12.02.20361	Gaston	12	SR 2438 (HUFFSTETLER RD)	FROM NC 279 TO END PVMT	1 2	0.90 0.11	VAR. 18-20 VAR. 20-33	84								2											22,028	22,028	240					
2018CPT.12.02.20361	Gaston	13	SR 2525 (SOUTH POINT RD)	FROM NC 273 TO SR 2526 (Reese Wilson Rd)	1	0.614	VAR. 20-22	132																			13,213	13,213						
2018CPT.12.02.20361	Gaston	14	SR 2528 (BOATCLUB RD)	FROM NC 273 TO END MAINT	5	0.771	VAR. 20-21	84																			16,592	10,177						
2018CPT.12.02.20361	Gaston	15	SR 2560 (S CENTRAL AVE)	FROM SR 2519 (S. Main St.) SOUTH TO END C&G	6 7	0.10 0.46	VAR. 41-42 30	132					70														400	5,914		70	5	5,914	400	80
2018CPT.12.02.20361	Gaston	16	SR 2594 (KEENER BLVD)	FROM SR 2560 (S. Central Ave) TO NC 273	3	0.248	VAR. 36-49	84				120															715	2,619		200	7	2,619	715	90
<b>TOTAL FOR PROJ NO. 2018CPT.12.02.20361</b>								<b>21.342</b>		<b>2,192</b>	<b>1</b>	<b>400</b>	<b>120</b>	<b>50</b>	<b>567</b>	<b>2</b>	<b>6</b>	<b>19</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>278,630</b>	<b>289,958</b>	<b>640</b>	<b>270</b>	<b>14</b>	<b>90,769</b>	<b>83,501</b>	<b>680</b>	<b>659</b>			
<b>GRAND TOTAL</b>								<b>21.342</b>		<b>2,192</b>	<b>1</b>	<b>400</b>	<b>120</b>	<b>50</b>	<b>567</b>	<b>2</b>	<b>6</b>	<b>19</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>278,630</b>	<b>289,958</b>	<b>640</b>	<b>270</b>	<b>14</b>	<b>90,769</b>	<b>83,501</b>	<b>680</b>	<b>659</b>				

# SIGNING FOR RESURFACING PROJECTS

**LEGEND**  
 ┆ STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

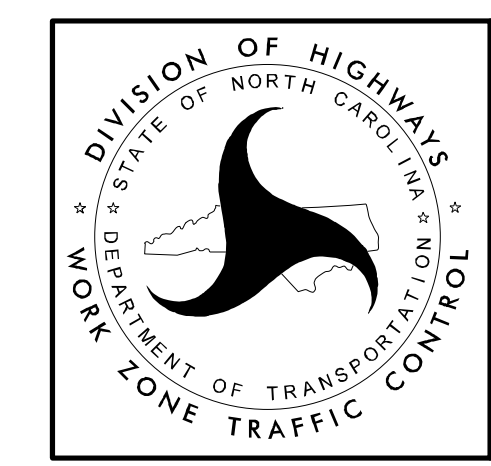
## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>SUBDIVISION ROADS</li> <li>DEAD END ROADS</li> </ol> <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">             PLACED 500' IN ADVANCE OF FLAGGER.         </div> <div style="text-align: center;">             PLACED 250' IN ADVANCE OF FLAGGER.         </div> </div>
	2		#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3		- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	4		- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

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

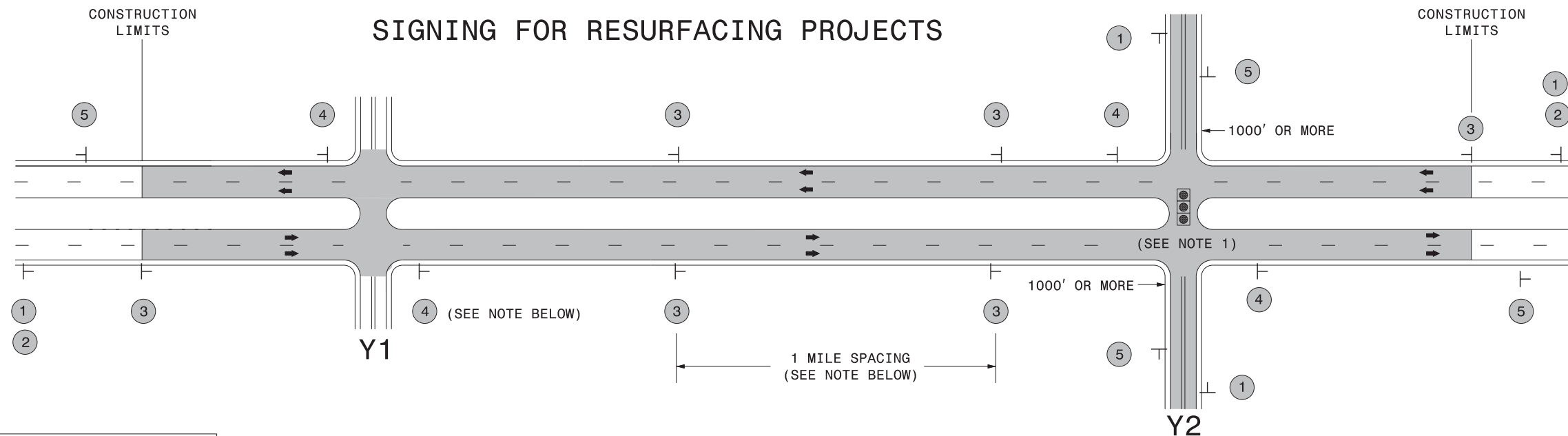
### MAPS LESS THAN 2 MILES

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



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

5/15/2017 S:\TUX\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing\_AdvWarn\_2Ln.dgn User:kadai



**LEGEND**  
 ┆ STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW

### MAINLINE (-L-) SIGNING

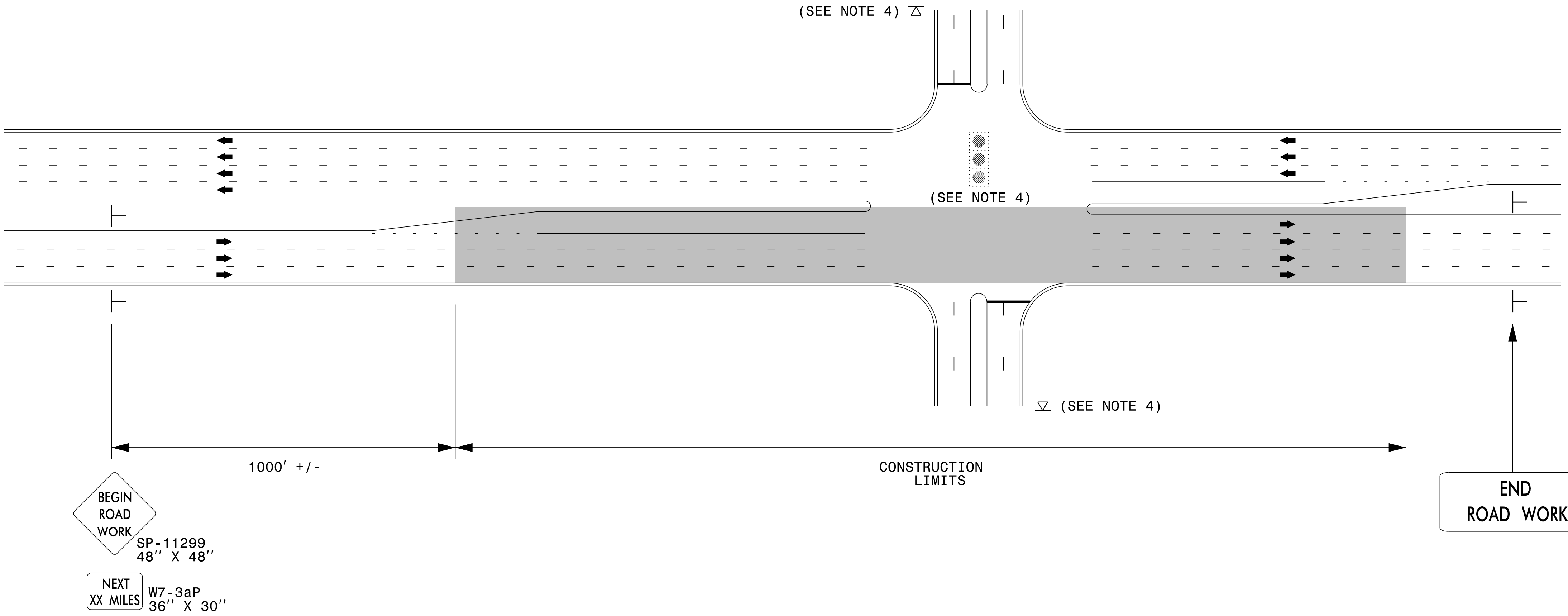
### -Y- LINE SIGNING

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"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <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; align-items: center;"> <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><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>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.</li> </ol>
		<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>	



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

# URBAN / SUBURBAN WORKZONES



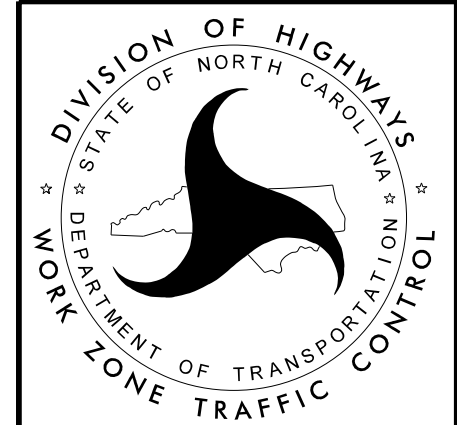
**NOTES:**

- 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**

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