

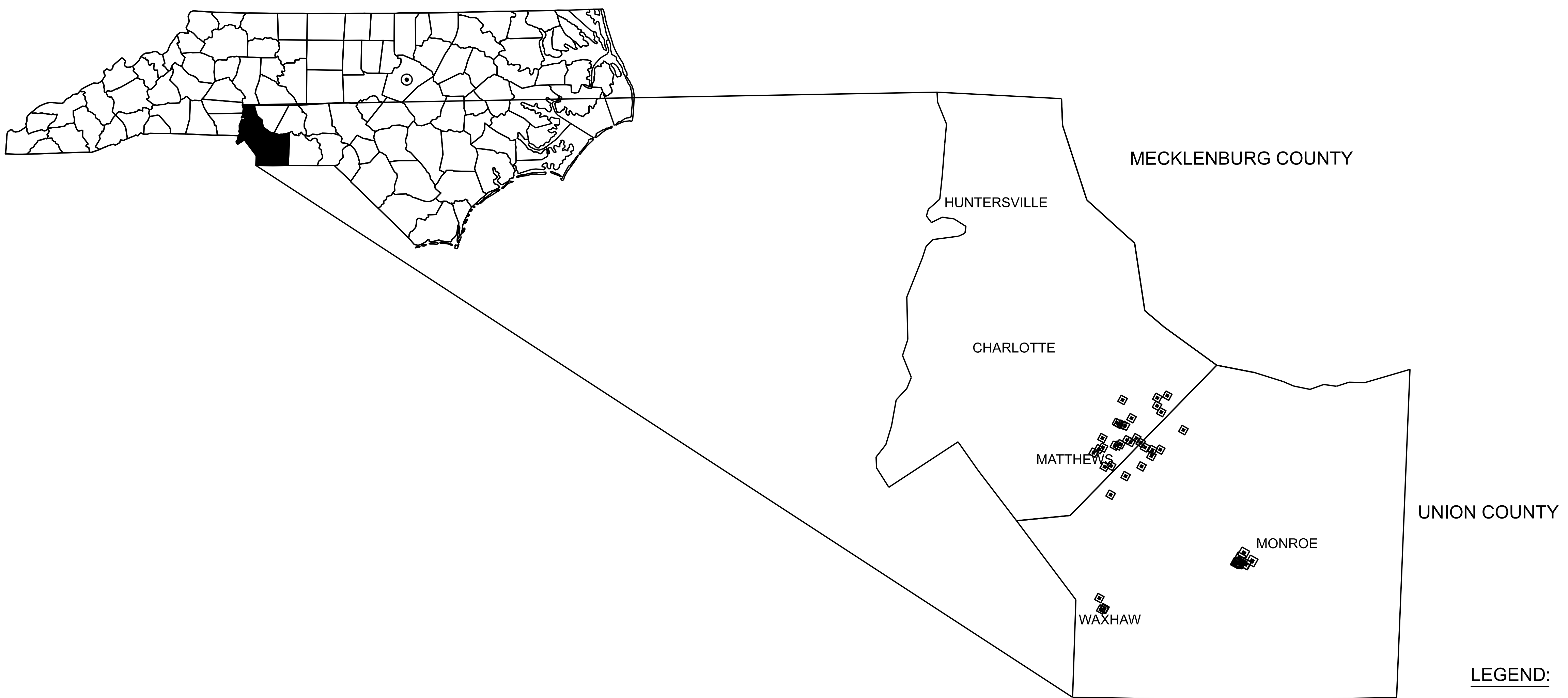
PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
44920.1.17	1	28

CURB RAMP INSTALLATION AND MODIFICATIONS

PREPARED FOR

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS DIVISION 10: MECKLENBURG & UNION COUNTIES

PROJECT: R-5790JI



LEGEND:

▣ RAMP LOCATION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT DATA

NO. OF RAMPS:
CONTRACT 2: 132

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
2 THRU 3	QUANTITIES
4 THRU 18	STANDARD DRAWINGS
19 THRU 28	PLAN LAYOUTS

PREPARED IN THE OFFICE OF:



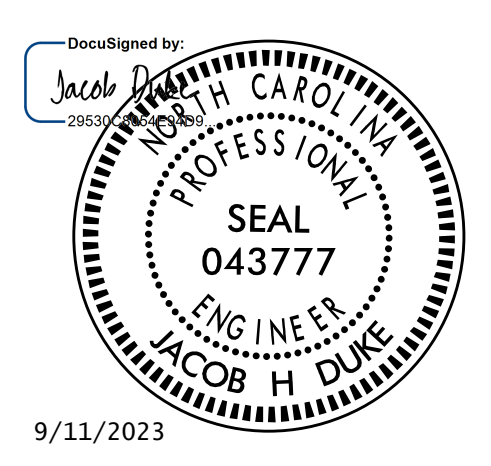
2137 SOUTH BLVD.,
SUITE 200
CHARLOTTE, NC 28203
(980) 327-1300
NC LICENSE No.: C-1506

DESIGN CONTACTS

JACOB H. DUKE, P.E.
PROJECT ENGINEER - KCA

ALLEN J. MCSWAIN
PROJECT DESIGN ENGINEER - KCA

MORGAN S. RINEHART
PROJECT GIS SPECIALIST - KCA



PREPARED FOR THE OFFICE OF:

DIVISION OF HIGHWAYS
DIVISION 10
716 WEST MAIN STREET
ALBEMARLE, NC 28001
(704) 983-4400

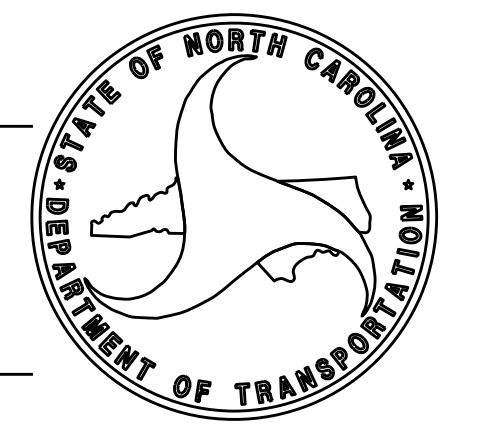
DIVISION CONTACT

TIMOTHY M. KIRK, P.E.
DIVISION 10 PROGRAM MANAGER

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
OCTOBER 18, 2023

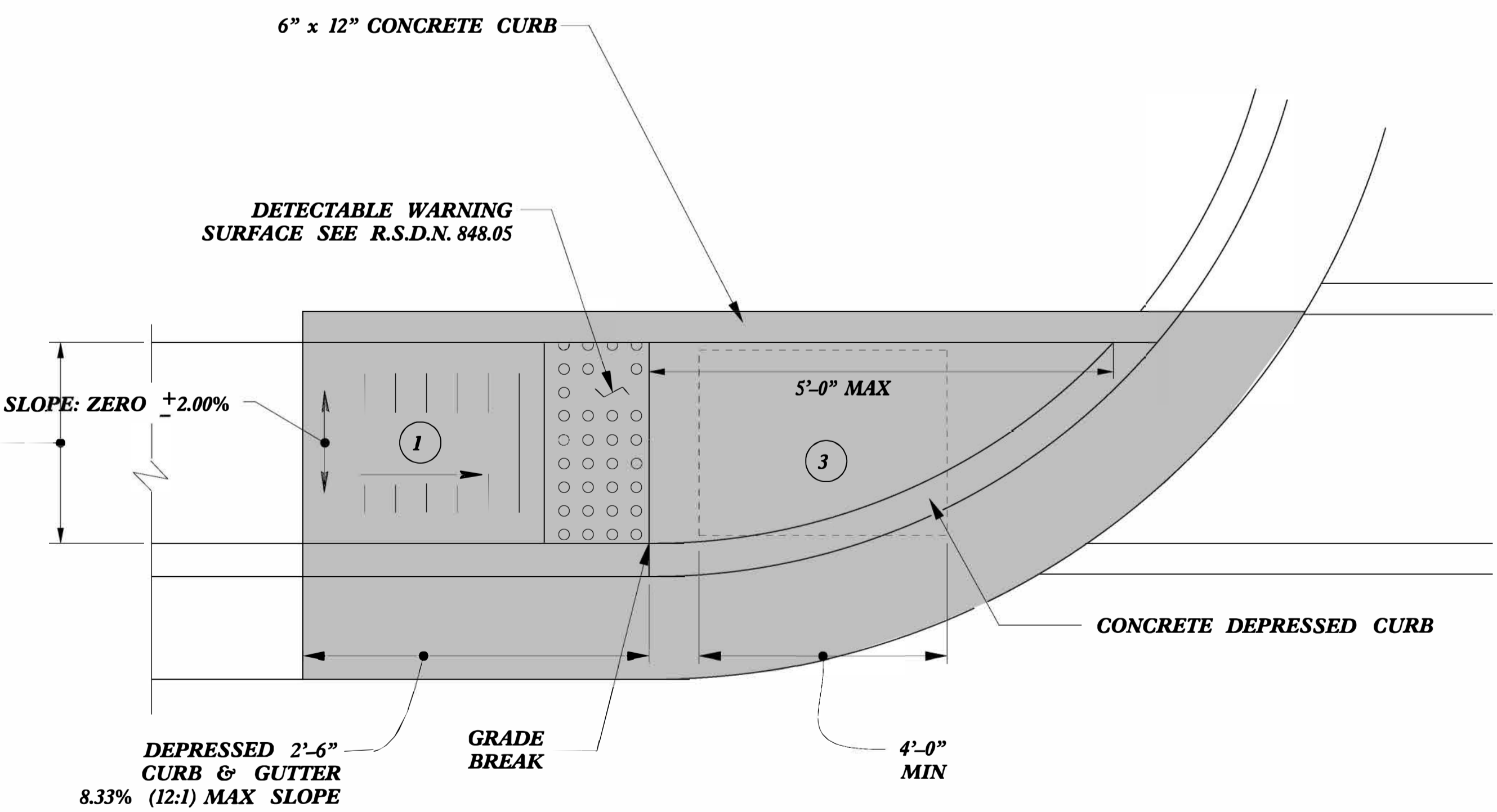
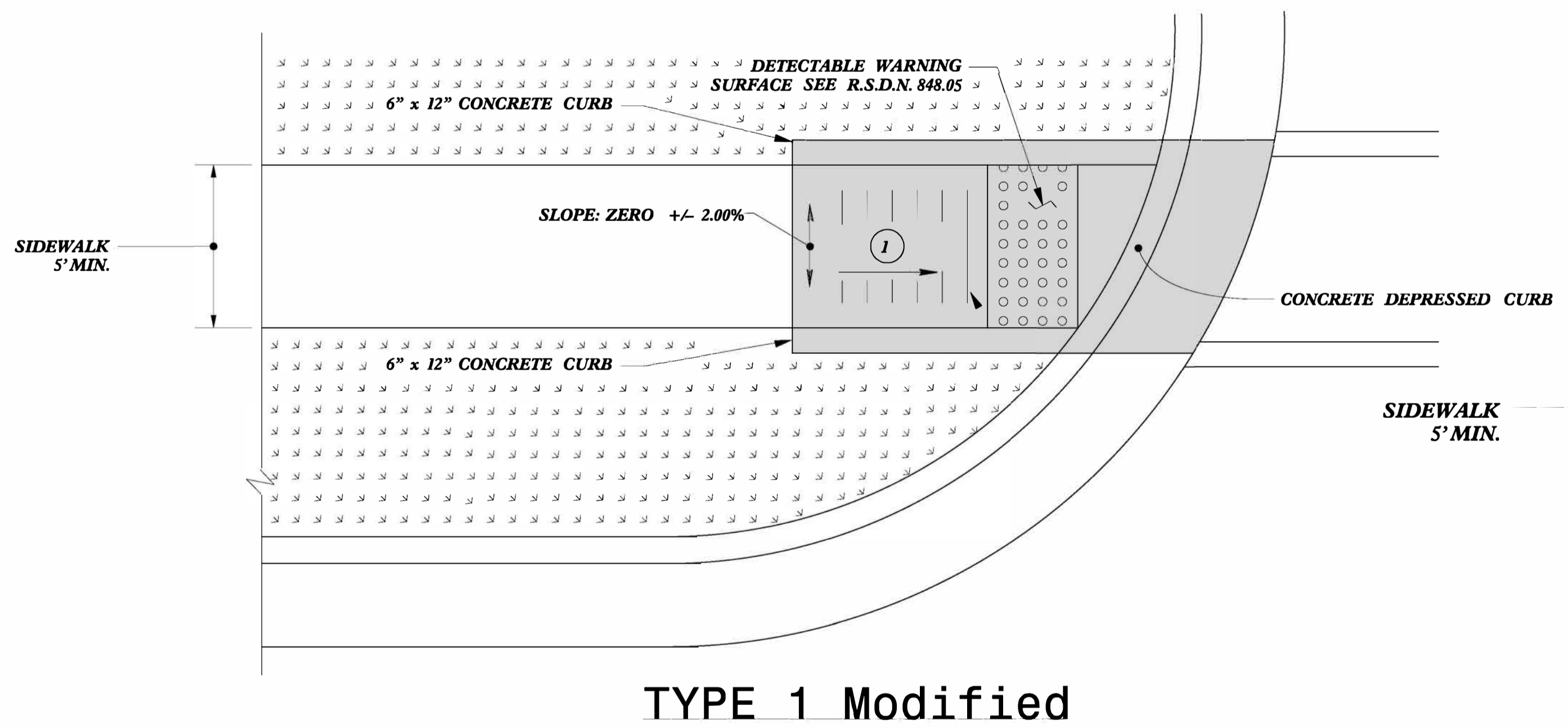
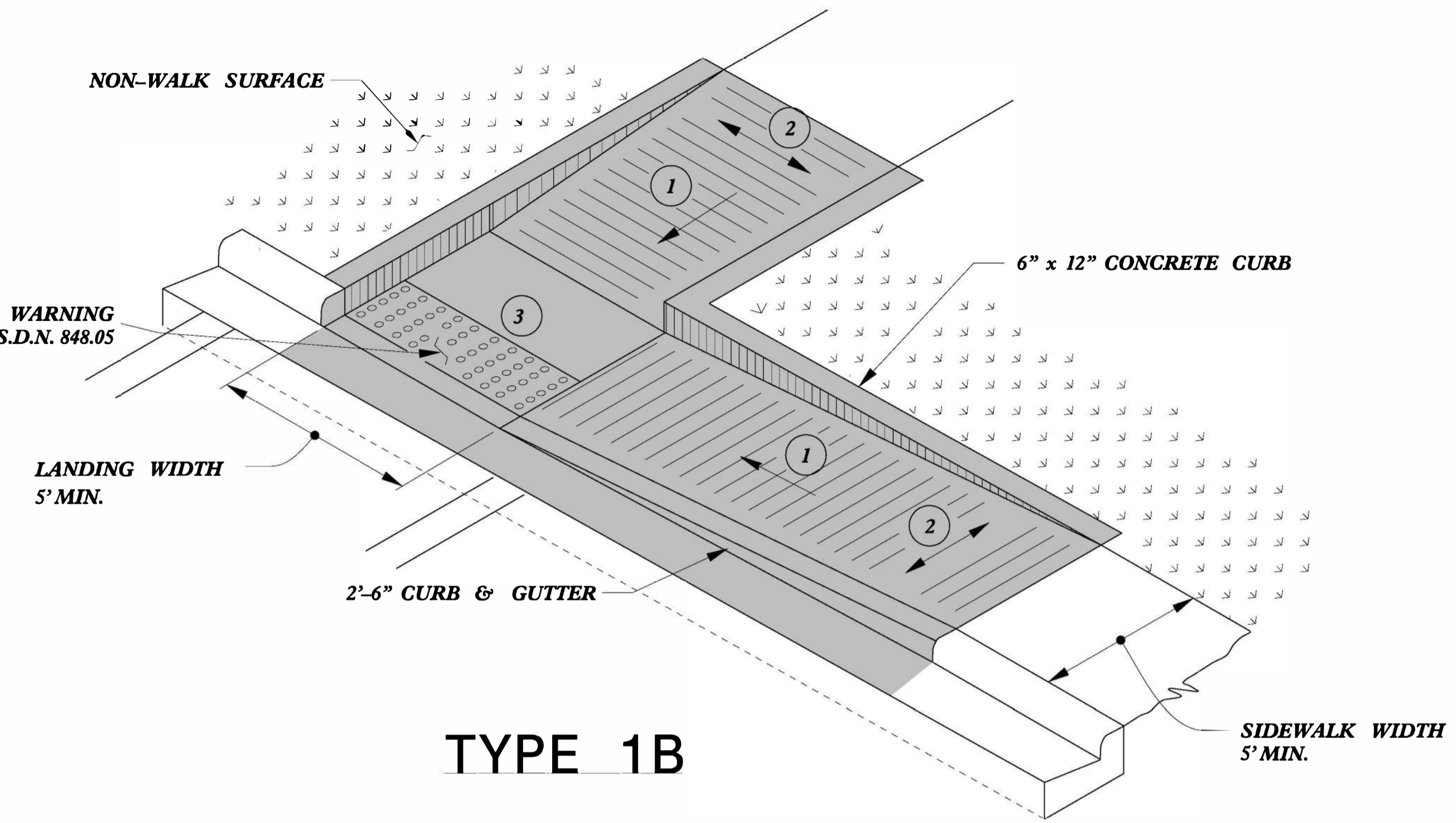
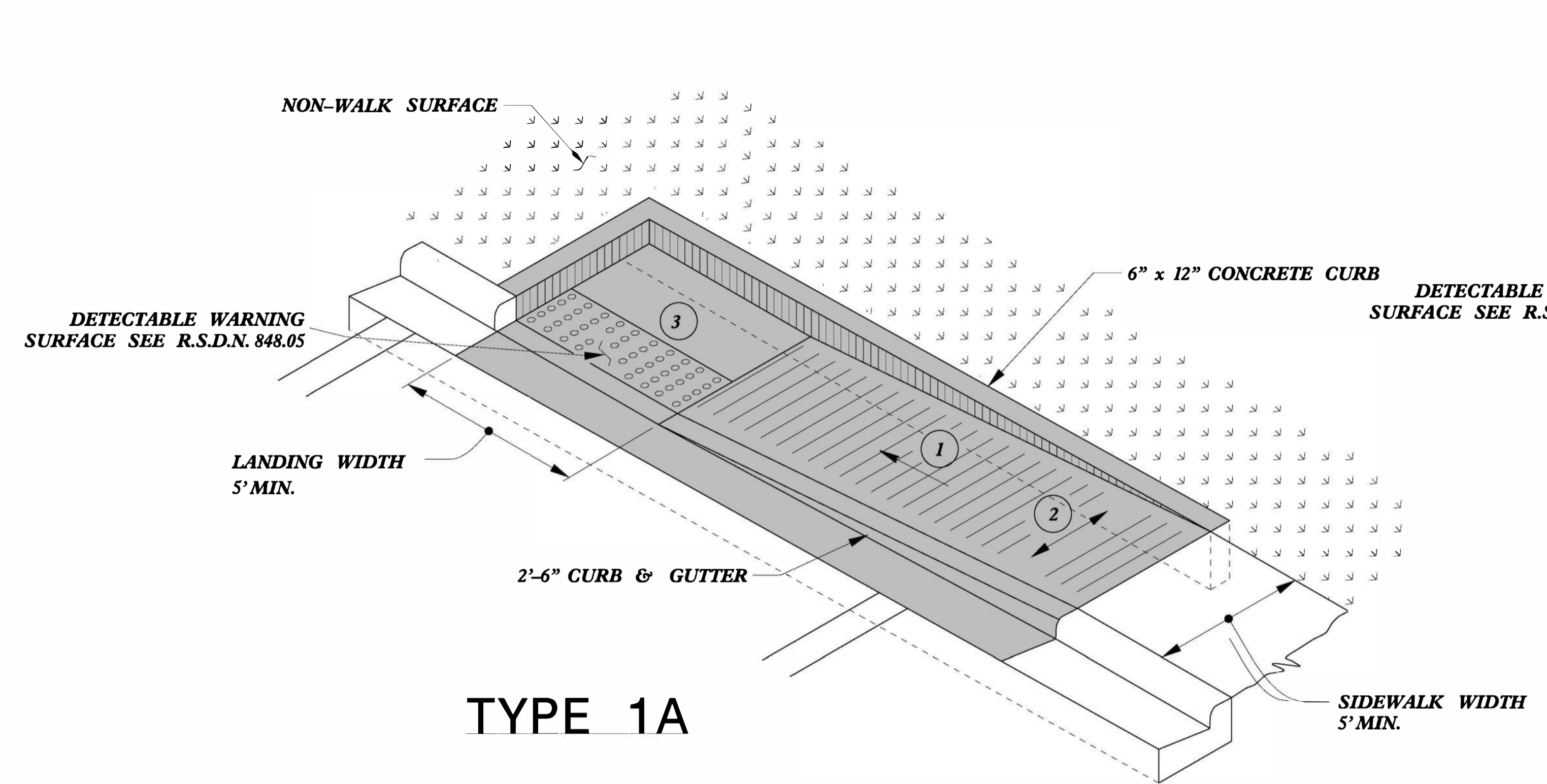


Summary of Quantities

Ramp ID	Map Number	Inset Number	Route 1	Route 2	2549000000-E	2591000000-E			2845000000-N	2830000000-N	5882000000-N	4362000000-N	2549000000-E	Dome Style/Color	2600000000-N	2613000000-N	2605000000-N	Ramp Type		
					2'-6" Concrete Curb & Gutter	4" Concrete Sidewalk (Remove and Replace)	Prop 4" Concrete Sidewalk	Adjust Valve/Meter Box	Adjust Manhole	Adjust Utility Box	Relocate Sign	RCP-III 15"	Retrofit Existing Curb Ramps		Remove & Replace Ramps	Concrete Curb Ramps				
					LF	SY	SY	EA	EA	EA	EA	LF				EA	EA	EA		
1	2-1	1	NC 51	Elizabeth Ln			3							Black		1		Type 1A		
2	2-1	1	NC 51	Elizabeth Ln			12							Black		1		Type 3 Modified		
3	2-1	1	NC 51	Elizabeth Ln			23							Black		1		Type 3 Modified		
4	2-1	1	NC 51	Elizabeth Ln										Black			1	Type 2B		
5	2-5	25	Stallings Road	Middlesborough Drive/ Brook Path Lane							1			Black		1		Standard 848.06		
6	2-5	25	Stallings Road	Middlesborough Drive/ Brook Path Lane							1			Black		1		Standard 848.06		
7	2-5	25	Stallings Road	Middlesborough Drive/ Brook Path Lane										Black		1		Type 2B		
8	2-3	15	Williams Rd (SR 3165)	Windsor Chase Dr		16								Black				Curb & Gutter		
9	2-3	15	Williams Rd (SR 3165)	Windsor Chase Dr		8					3			Black		1		Type 2A Modified		
11	2-3	15	Williams Rd (SR 3165)	Windsor Chase Dr										Black		1		Standard 848.06		
12	2-2	8	NC 51	NE Pkwy (SR 5215)		8								Black		1		Standard 848.06		
13	2-2	8	NC 51	NE Pkwy (SR 5215)			6							Black		1		Type 2B		
14	2-2	8	NC 51	NE Pkwy (SR 5215)										Black		1		Type 3 Modified		
15	2-2	8	NC 51	NE Pkwy (SR 5215)										Black			1	Standard 848.06		
16	2-2	8	NC 51	NE Pkwy (SR 5215)										Black			1	Standard 848.06		
17	2-1	4	Monroe Rd. (SR 100)	Gander Cove		12								Black		1		Type 1A		
18	2-1	4	Monroe Rd. (SR 100)	Gander Cove			6							Black		1		Type 3 Modified		
19	2-1	4	Monroe Rd. (SR 100)	Gander Cove		23								Black		1		Type 3 Modified		
20	2-6	28	Matthews-Weddington Road	Chestnut Lane								1		Yellow		1		Standard 848.06		
21	2-6	28	Matthews-Weddington Road	Chestnut Lane										Yellow	2			Retrofit		
22	2-6	28	Matthews-Weddington Road	Chestnut Lane										Yellow		1		Standard 848.06		
23	2-1	3	NC 51	Fullwood Ln			23							Black		1		Type 2B		
24	2-1	3	NC 51	Fullwood Ln		32					2			Black		1		Type 2B		
25	2-8	44	Morgan Mill Road (SR 2188)	Walkup Ave.										Black		1		Type 2B		
26	2-8	44	Morgan Mill Road (SR 2188)	Walkup Ave.		10					1			Black		1		Type 2B		
27	2-8	44	Morgan Mill Road (SR 2188)	Walkup Ave.							1			Black		1		Type 2B		
28	2-8	44	Morgan Mill Road (SR 2188)	Walkup Ave.		15						1		Black		1		Type 2B		
29	2-6	29, 29a, 29b	Pleasant Plains Road	Morningwood Drive/Privette Park Place					264					Black				Sidewalk		
30	2-6	29, 29a	Pleasant Plains Road	Morningwood Drive/Privette Park Place			17							Black		1		Type 1 Modified		
31	2-6	29, 29a, 29b	Pleasant Plains Road	Morningwood Drive/Privette Park Place			9							Black		1		Type 1 Modified		
32	2-6	29, 29b	Pleasant Plains Road	Morningwood Drive/Privette Park Place					167					Black		1		Standard 848.06		
34	2-5	23	Stallings Road	Matthews-Indian Trail Road										Black	1			Retrofit		
37	2-7	35	N. Church St	W North Main			6							Black		1		Type 1		
38	2-7	35	N. Church St	W North Main										Black		1		Type 1		
39	2-7	35	N. Church St	W North Main			6							Black		1		Type 5A		
40	2-7	35	N. Church St	W North Main			6							Black		1		Type 5A		
41	2-7	34	N. Church St	W North Main			6							Black	1			Retrofit		
42	2-7	34	N. Church St	W North Main			6							Black		1		Type 1A		
43	2-7	33	N. Church St	W North Main										Black		1		Type 3		
44	2-7	35	N. Church St	W North Main										Black		1		Type 1A		
45	2-4	22	8612 Fairview Road	Quail Park Drive			23							Black		1		Type 3 Modified		
46	2-4	22	8612 Fairview Road	Quail Park Drive								1		Black		1		Type 3 Modified		
50	2-8	43	Franklin Street (SR 2100)	E. Sunset Drive (SR 2181)										Black		1		Type 2B		
51	2-8	43	Franklin Street (SR 2100)	E. Sunset Drive (SR 2181)			17							Black		1		Type 2B		
52	2-8	43	Franklin Street (SR 2100)	E. Sunset Drive (SR 2181)		11	17							Black		1		Type 2B		
53	2-8	43	Franklin Street (SR 2100)	E. Sunset Drive (SR 2181)			9							Black		1		Type 1 Modified		
54	2-5	24	Stallings Road	Stevens Mill Road										Black		1		Type 1 Modified		
55	2-5	24	Stallings Road	Stevens Mill Road										Black		2		Type 4A		
57	2-2	7	NC 51	Independence Pointe Pkwy.										Black		1		Type 2B		
58	2-2	7	NC 51	Independence Pointe Pkwy.			17							Black		1		Type 2B		
61	2-2	6	NC 51	Hospital Driveway/ Paces Ave.							1			Black		1		Standard 848.06		
62	2-2	6	NC 51	Hospital Driveway/ Paces Ave.			17				1			Black		1		Standard 848.06		
63	2-2	6	NC 51	Hospital Driveway/ Paces Ave.			6							Black		1		Standard 848.06		
64	2-2	5	NC 51	N Trade St/Sam Newell Rd (SR 3474)										Black		1		Type 2B		
65	2-2	5	NC 51	N Trade St/Sam Newell Rd (SR 3474)										Black		1		Type 2B		
66	2-2	5	NC 51	N Trade St/Sam Newell Rd (SR 3474)			3							Black		1		Type 1A		
67	2-2	5	NC 51	N Trade St/Sam Newell Rd (SR 3474)										Black		1		Type 2B		
68	2-6	31	Weddington Rd (SR 3468)	Briar Ridge Dr			6							Black		1		Type 3 Modified		
69	2-6	31	Weddington Rd (SR 3468)	Briar Ridge Dr			12							Black		1		Type 3 Modified		
72	2-2	10	NC 51	Phillips Rd (SR 3176)										Black		1		Standard 848.06		
73	2-2	10	NC 51	Phillips Rd (SR 3176)										Black		1		Type 1 Modified		
74	2-2	10	NC 51	Phillips Rd (SR 3176)										Black		1		Type 1 Modified		
75	2-2	10	NC 51	Phillips Rd (SR 3176)			3							Black		1		Standard 848.06		
76	2-9	45	Charles Street (SR 2188)	Everette Street			9							Black		1		Type 2B		
77	2-9	45	Charles Street (SR 2188)	Everette Street					195				1	Black			1	Type 2B		
78	2-9	46	Charles Street (SR 2188)	Everette Street					84					Black		1		Type 2A		
79	2-9	46	Charles Street (SR 2188)	Everette Street										Black			1	Type 2A		
81	2-8	41	E Sunset Drive (SR 2181)	Willow Glen Apartments										Black		1		Type 2B		
85	2-7	36a	N. Church St	McDonald St										Black		2		Type 4A		
86	2-7	36a	N. Church St	McDonald St										Black		2		Type 4A		
87	2-7	36a	N. Church St	McDonald St										Black		2		Type 5A		
88	2-7	36a	N. Church St	McDonald St										Black		2		Type 5A		
89	2-7	36a	N. Church St	McDonald St		7								Black		2		Type 4A		
90	2-7	36	Providence Rd	Strip Mall/Sherwin Williams entrance		15	12							Black		1		Type 1 Modified		
91	2-7	36	Providence Rd	Strip Mall/Sherwin Williams entrance		5	9							Black		1		Type 1 Modified		
92	2-7	36	Providence Rd	Strip Mall/Sherwin Williams entrance			9							Black		1		Type 3 Modified		
93	2-7	36	Providence Rd	Strip Mall/Sherwin Williams entrance			4							Black		1		Type 3 Modified		
94	2-2	9	NC 51	Senna Dr							1			Black		1		Standard 848.06		
95	2-2	9	NC 51	Senna Dr		15								Black		1		Standard 848.06		
96	2-2	9	NC 51	Senna Dr								1		Black		1		Standard 848.06		
97	2-2	9	NC 51	Senna Dr										Black		1		Standard 848.06		
98	2-6	30	Pleasant Plains Rd (SR 3448)	Thornblade Ridge/ Park Entrance			14							Black		1		Type 3 Modified		
99	2-6	30	Pleasant Plains Rd (SR 3448)	Thornblade Ridge/ Park Entrance			12				1			Black		1		Type 3 Modified		
100	2-6	30	Pleasant Plains Rd (SR 3448)	Thornblade Ridge/ Park Entrance										Black			1	Type 1 Modified		
101	2-2	11	Phillips Rd (SR 3176)	Annabel		10								Black		1		Standard 848.06		
102	2-2	11	Phillips Rd (SR 3176)	Annabel							1			Black		1		Type 3 Modified		
103	2-2	11	Phillips Rd (SR 3176)	Annabel										Black			1	Type 3 Modified		
104	2-2	11	Phillips Rd (SR 3176)	Annabel										Black			1	Type 1 Modified		
105	2-1	2	Sardis Rd (SR 3356)	Sardis Grove Ln			6							Black		1		Type 2A Modified		
106	2-1	2	Sardis Rd (SR 3356)	Sardis Grove Ln						1				Black		1		Type 1		
107	2-1	2	Sardis Rd (SR 3356)	Sardis Grove Ln										Black		1		Type 1 Modified		
109	2-3	13	Williams Rd (SR 3165)	Sam Newell Rd (SR 3474)					9					Black			1	Type 1A		

Summary of Quantities

Ramp ID	Map Number	Inset Number	Route 1	Route 2	2549000000-E	2591000000-E			2845000000-N	2830000000-N	5882000000-N	4362000000-N	2549000000-E	Dome Style/Color	2600000000-N	2613000000-N	2605000000-N	Ramp Type	
					2'-6" Concrete Curb & Gutter	4" Concrete Sidewalk (Remove and Replace)	Prop 4" Concrete Sidewalk	Adjust Valve/Meter Box	Adjust Manhole	Adjust Utility Box	Relocate Sign	RCP-III 15"	Retrofit Existing Curb Ramps		Remove & Replace Ramps	Concrete Curb Ramps			
					LF	SY	SY	EA	EA	EA	EA	LF				EA	EA	EA	
110	2-3	13	Williams Rd (SR 3165)	Sam Newell Rd (SR 3474)								1	Black		1			Type 3 Modified	
111	2-3	13	Williams Rd (SR 3165)	Sam Newell Rd (SR 3474)		6							Black			1		Type 3	
112	2-3	14	Williams Rd (SR 3165)	Dunnwood Hills Dr		12							Black		1			Standard 848.06	
113	2-3	14	Williams Rd (SR 3165)	Dunnwood Hills Dr					1				Black		1			Standard 848.06	
114	2-3	14	Williams Rd (SR 3165)	Dunnwood Hills Dr									Black			1		Type 3	
115	2-3	14	Williams Rd (SR 3165)	Dunnwood Hills Dr									Black		1			Type 3	
116	2-3	16	Williams Rd (SR 3165)	Williams Station Rd			9		1				Black		1			Type 3 Modified	
117	2-3	16	Williams Rd (SR 3165)	Williams Station Rd	10								Black		1			Standard 848.06	
118	2-3	16	Williams Rd (SR 3165)	Williams Station Rd					1				Black		1			Standard 848.06	
119	2-3	16	Williams Rd (SR 3165)	Williams Station Rd									Black		1			Type 3 Modified	
120	2-2	12	Phillips Rd (SR 3176)	Oakcroft Dr	15					1			Black		1			Standard 848.06	
121	2-2	12	Phillips Rd (SR 3176)	Oakcroft Dr		6							Black		1			Type 2A Modified	
122	2-2	12	Phillips Rd (SR 3176)	Oakcroft Dr									Black		1			Type 3	
123	2-3	17	Shadow Vista Ct	Hidden View Dr									Black		1			Type 1A	
124	2-3	17	Shadow Vista Ct	Hidden View Dr									Black		1			Type 3 Modified	
125	2-3	17	Shadow Vista Ct	Hidden View Dr									Black		1			Type 1A	
126	2-8	37	E Sunset Drive (SR 2181)	Church Street			6						Yellow		1			Type 1 Modified	
127	2-8	37	E Sunset Drive (SR 2181)	Church Street			6						Yellow		1			Type 1B	
128	2-8	37	E Sunset Drive (SR 2181)	Church Street	13								Yellow		1			Type 1 Modified	
129	2-5	26	Stevens Mill Road	Houston Blair Road					1				Black			1		Type 3 Modified	
130	2-5	26	Stevens Mill Road	Houston Blair Road									Black			1		Type 1A	
131	2-5	26	Stevens Mill Road	Houston Blair Road									Black		1			Standard 848.06	
136	2-3	18	Stoney Glen Dr	Margaret Wallace Rd			6	23				1	Black			1		Type 1 Modified	
137	2-3	18	Stoney Glen Dr	Margaret Wallace Rd									Black		1			Type 2A	
138	2-3	20	Hollow Oak Drive	Lawyers Rd									Black		1			Type 3 Modified	
139	2-3	20	Hollow Oak Drive	Lawyers Rd									Black		1			Type 1A	
140	2-3	19	Health Lake Drive	Lawyers Rd					1				Black		1			Type 1 Modified	
141	2-3	19	Health Lake Drive	Lawyers Rd									Black		1			Type 3 Modified	
142	2-4	21	Matthews-Mint Hill Rd	Bain School Rd	10								Black		1			Type 2B	
143	2-4	21	Matthews-Mint Hill Rd	Bain School Rd	10								Black		1			Type 2B	
144	2-7	32	Rehobeth	W North Main			9						Black		1			Type 1 Modified	
145	2-7	32	Rehobeth	W North Main			25						Black		1			Type 1 Modified	
146	2-7	33	W. North Main St	Hicks St			12						Black		1			Type 1 Modified	
147	2-7	33	W. North Main St	Hicks St			12						Black		1			Type 1 Modified	
148	2-8	38	E Sunset Drive (SR 2181)	Valley Creek Dr.	10		9						Black		1			Type 1 Modified	
149	2-8	38	E Sunset Drive (SR 2181)	Valley Creek Dr.			6						Black		1			Type 4B	
150	2-8	39	E Sunset Drive (SR 2181)	Maurice St.									Black		1			Type 1 Modified	
151	2-8	39	E Sunset Drive (SR 2181)	Maurice St.	5								Black		1			Type 2B	
152	2-8	40	E Sunset Drive (SR 2181)	Charles St. (SR 2188)									Black		1			Type 1 Modified	
153	2-8	40	E Sunset Drive (SR 2181)	Charles St. (SR 2188)									Black		1			Retrofit	
Totals					260	499	742	21	3	5	6	40		1	5	118	14		
					2549000000-E	2591000000-E			2845000000-N	2830000000-N	5882000000-N	4362000000-N	0366000000-E						
					2'-6" Concrete Curb & Gutter	4" Concrete Sidewalk (Remove and Replace)	Prop 4" Concrete Sidewalk	Adjust Valve/Meter Box	Adjust Manhole	Adjust Utility Box	Relocate Sign	RCP-III 15"				Retrofit Existing Curb Ramps	Remove & Replace Ramps	Concrete Curb Ramps	
					LF	SY	SY	EA	EA	EA	EA	LF				EA	EA	EA	

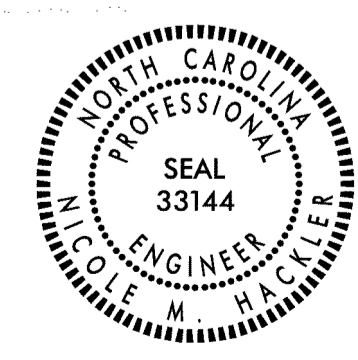


- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



PAY LIMITS FOR 1 CURB RAMP

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



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

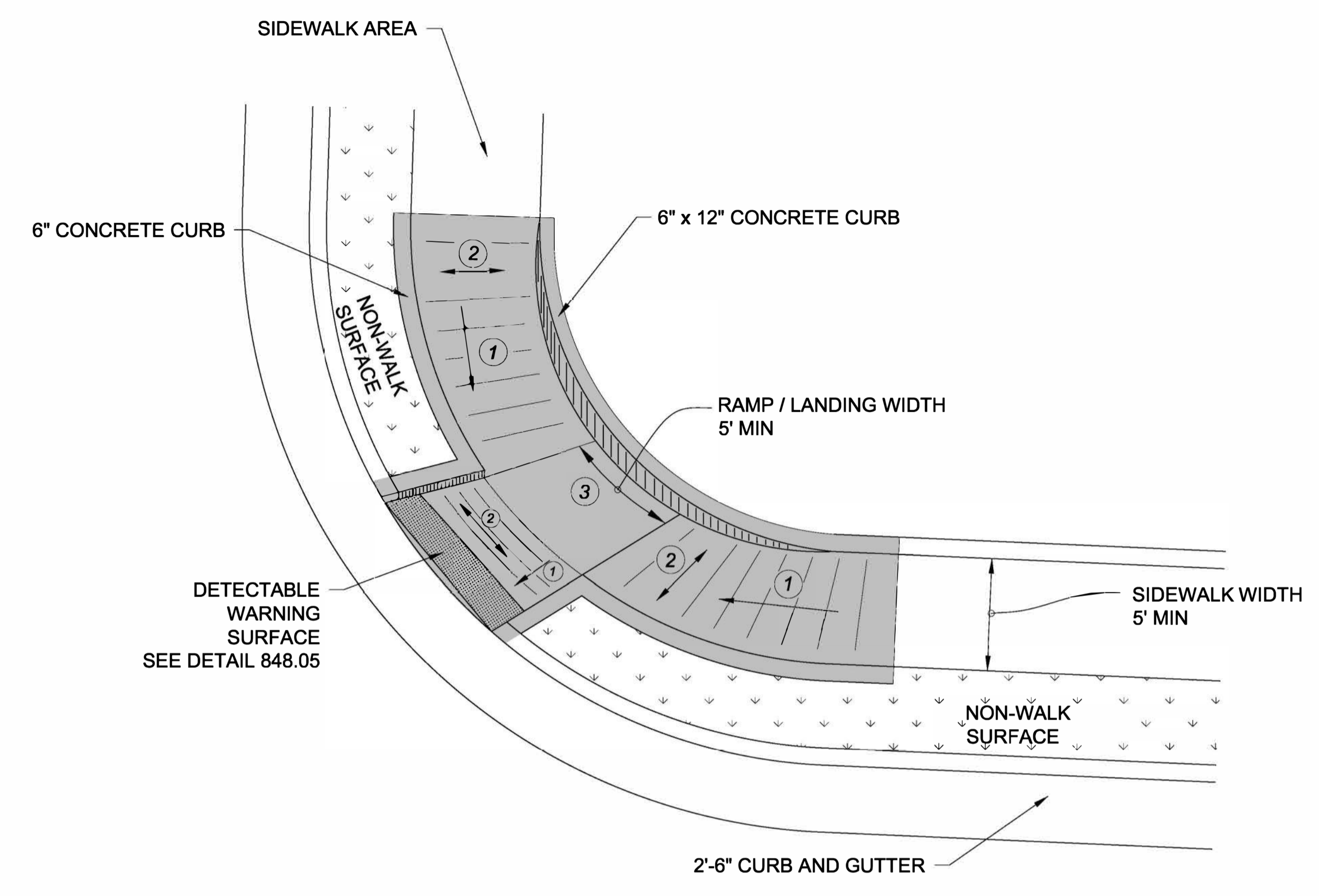
CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
 Directional Ramps

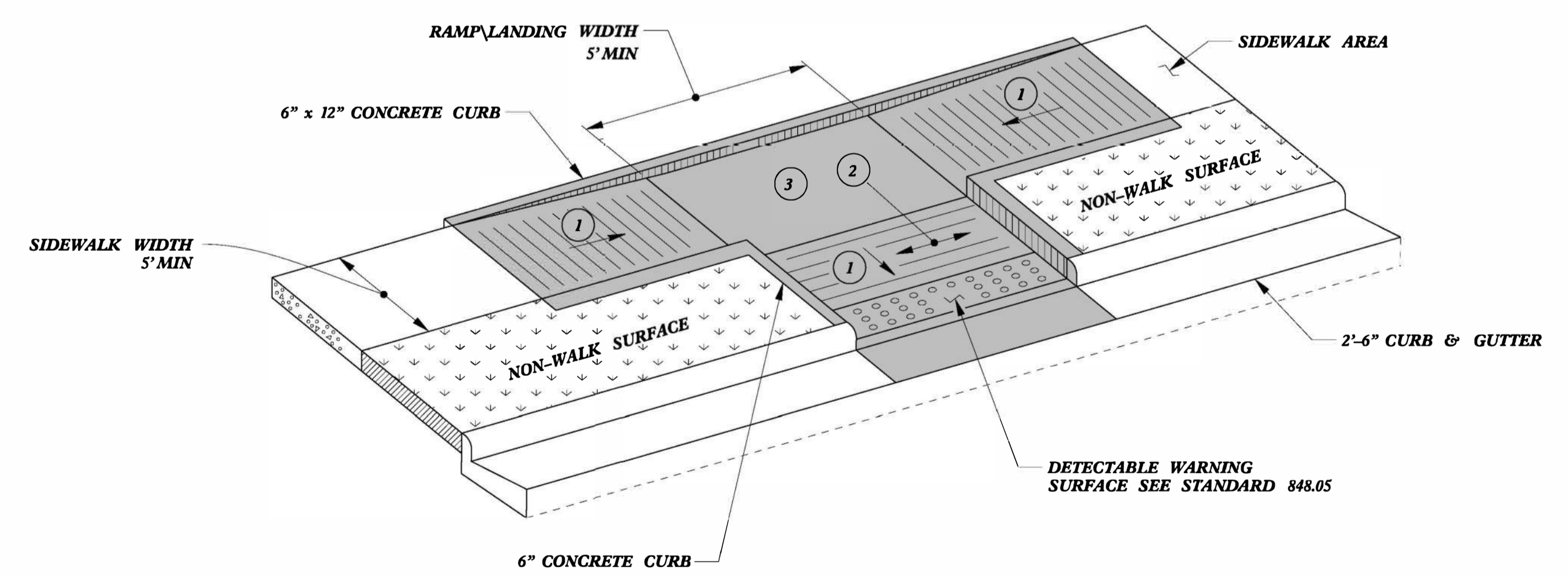
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 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
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5/14/99

PAY LIMITS FOR 1 CURB RAMP

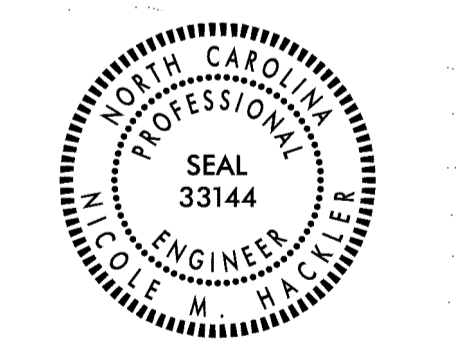


TYPE 3 MODIFIED
INSTALLATION IN A RADIUS



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.



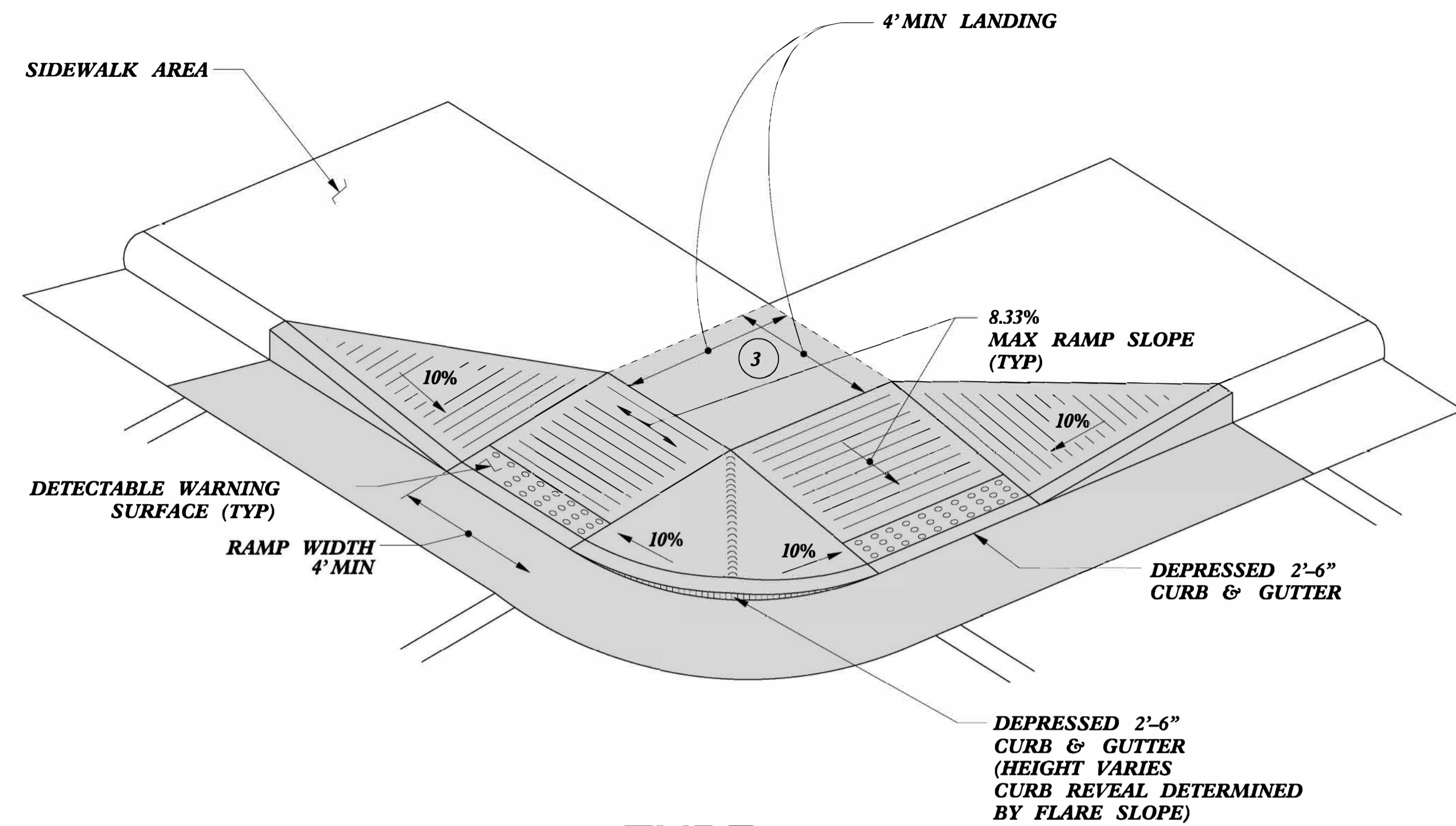
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

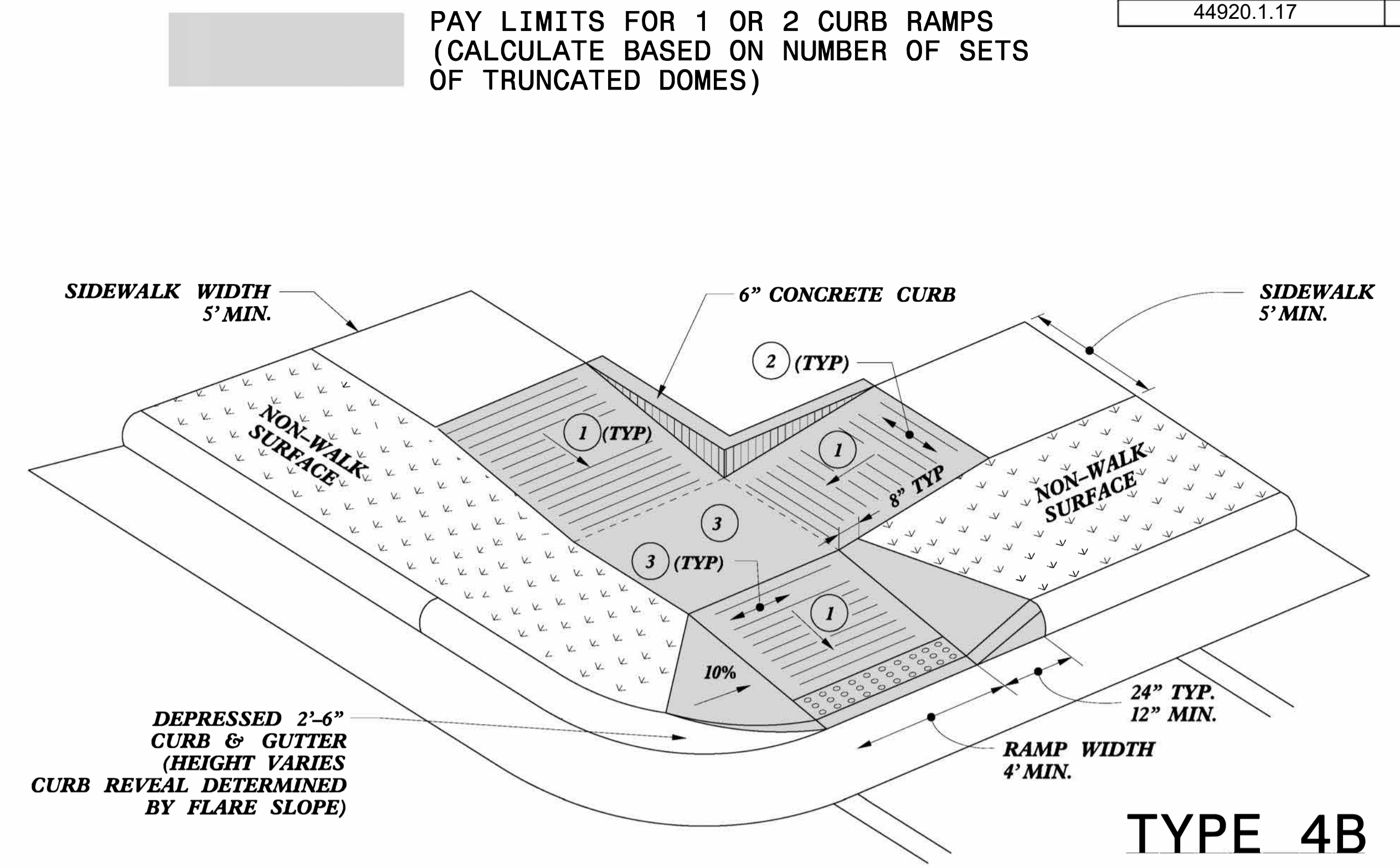
CURB RAMPS

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

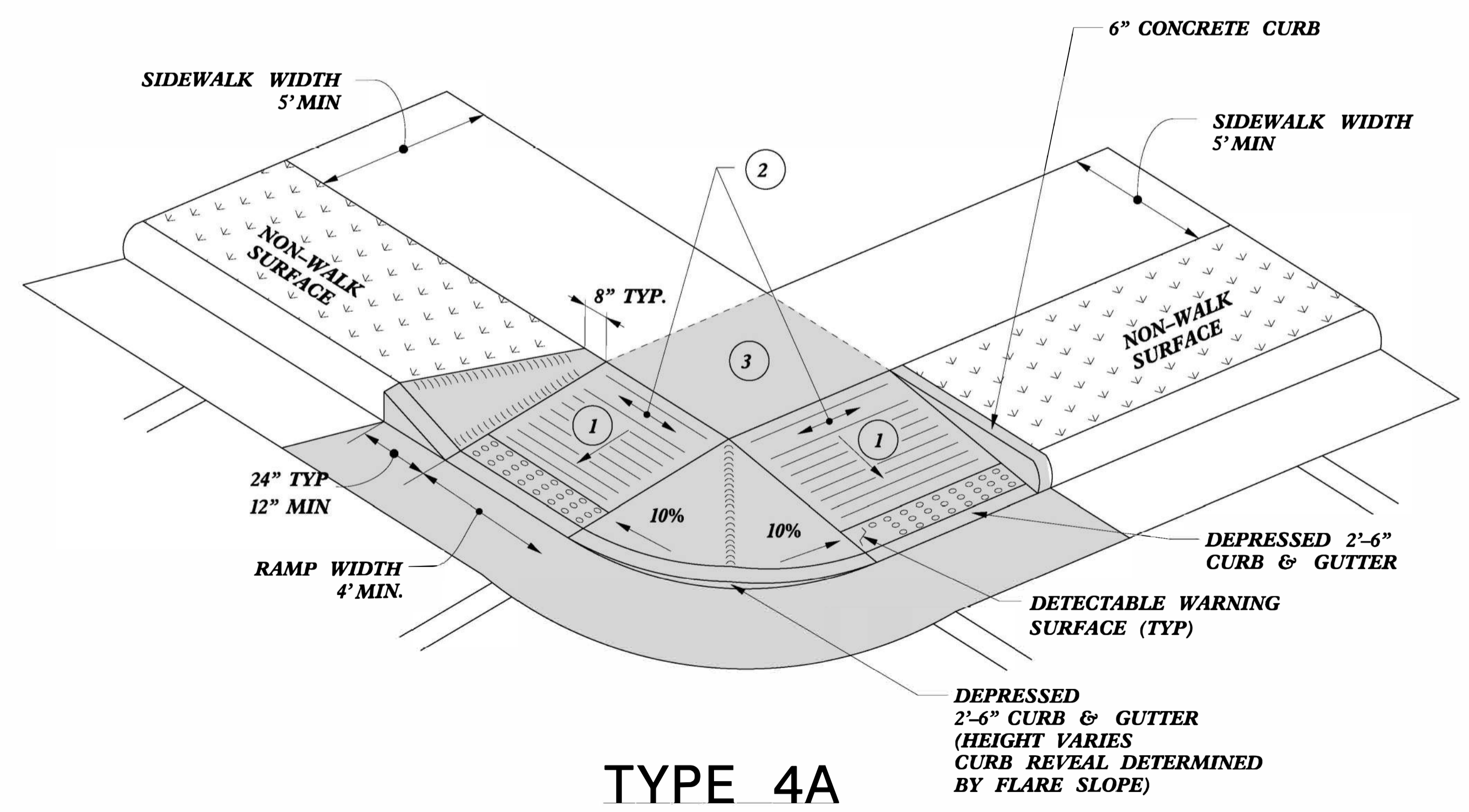
5/14/99



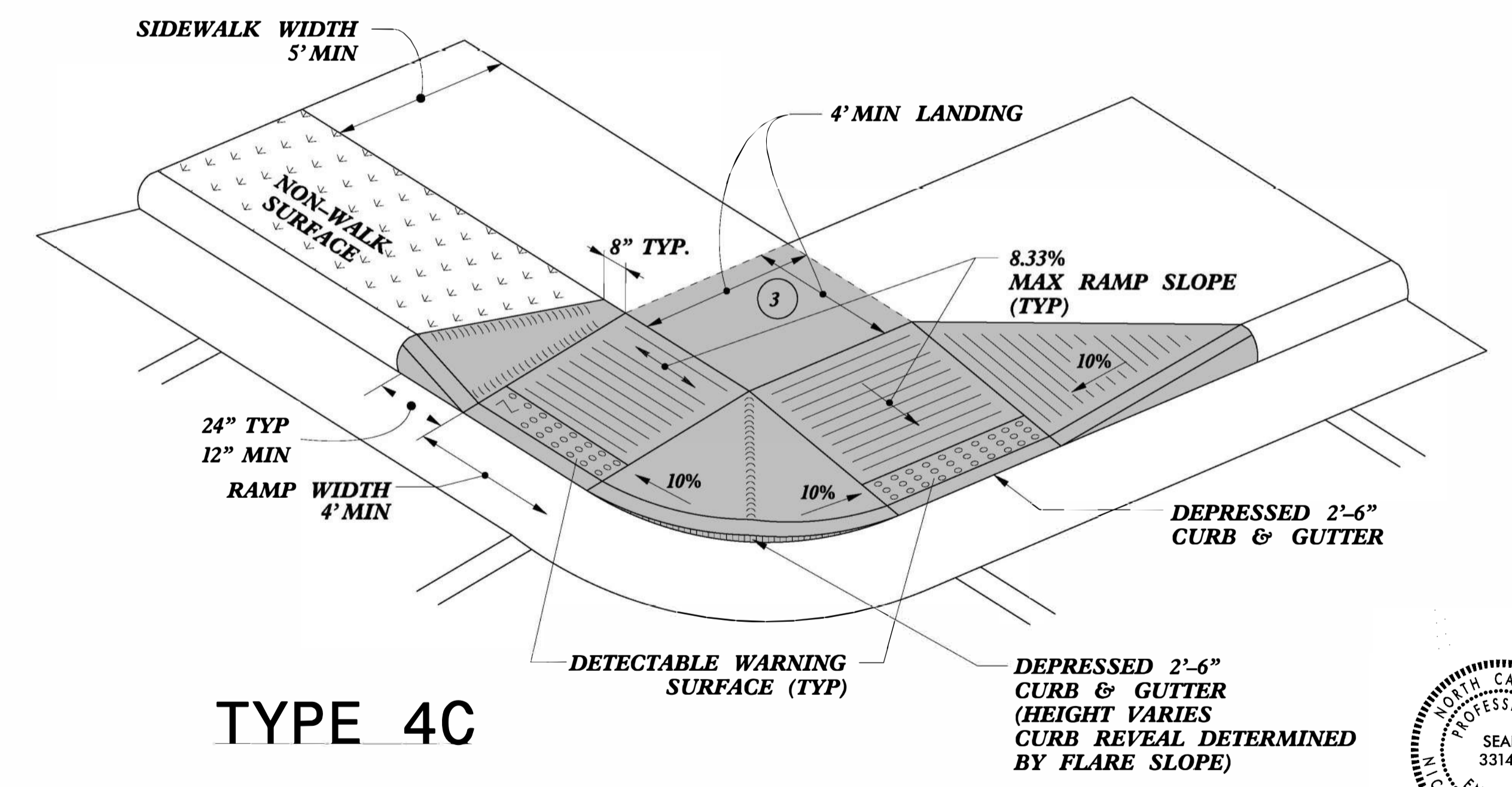
TYPE 4



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.



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

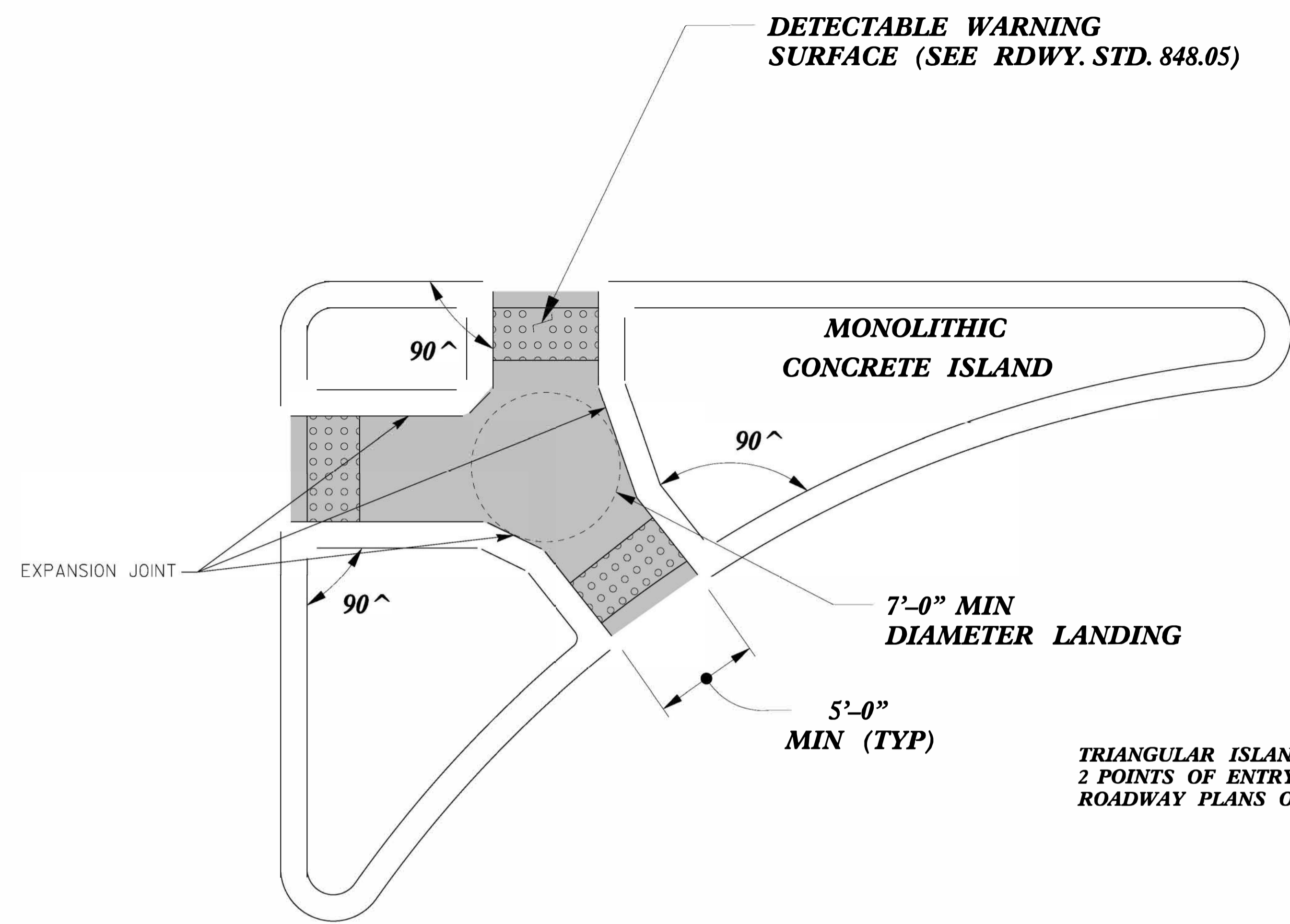
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

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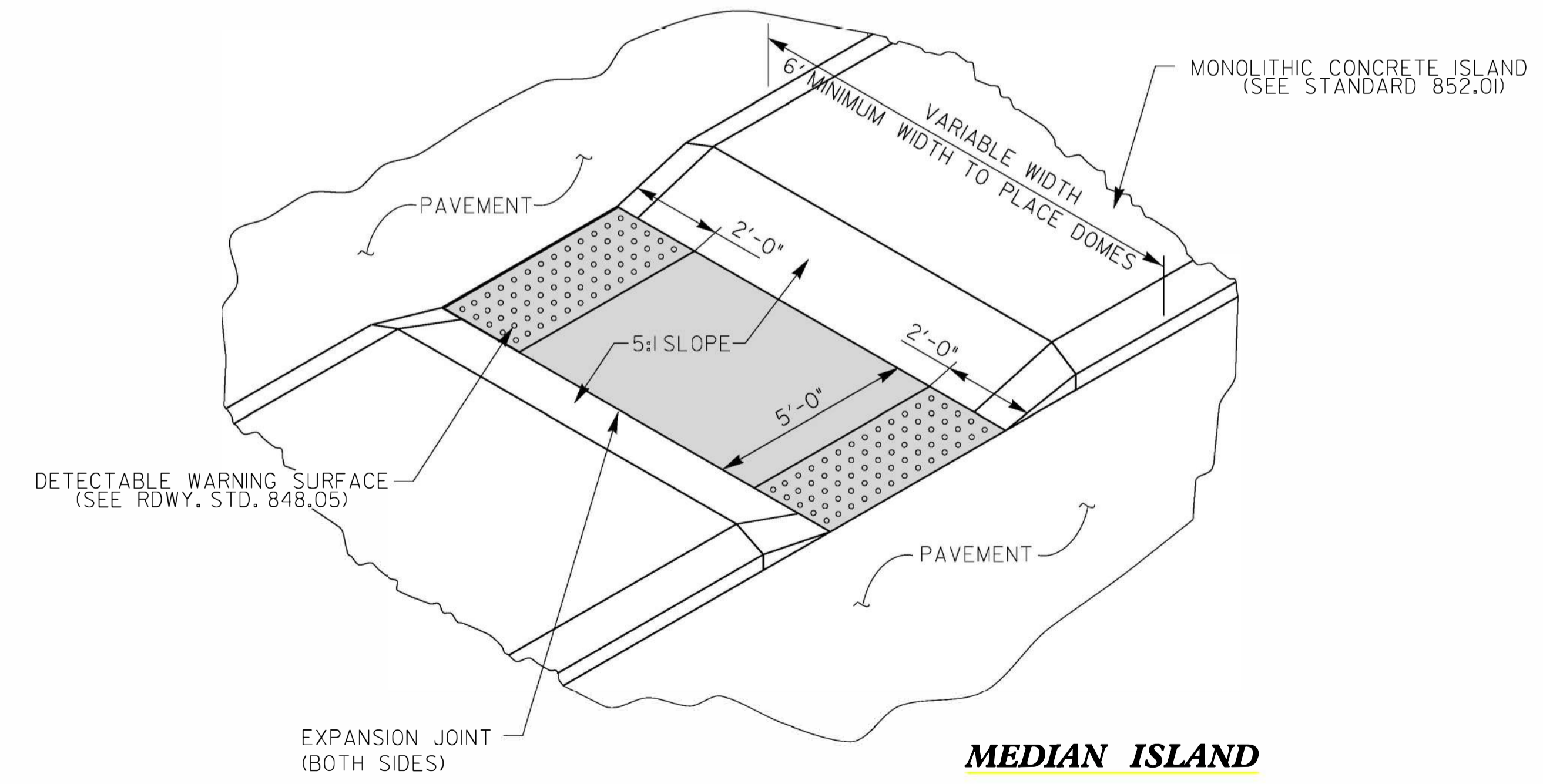
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99

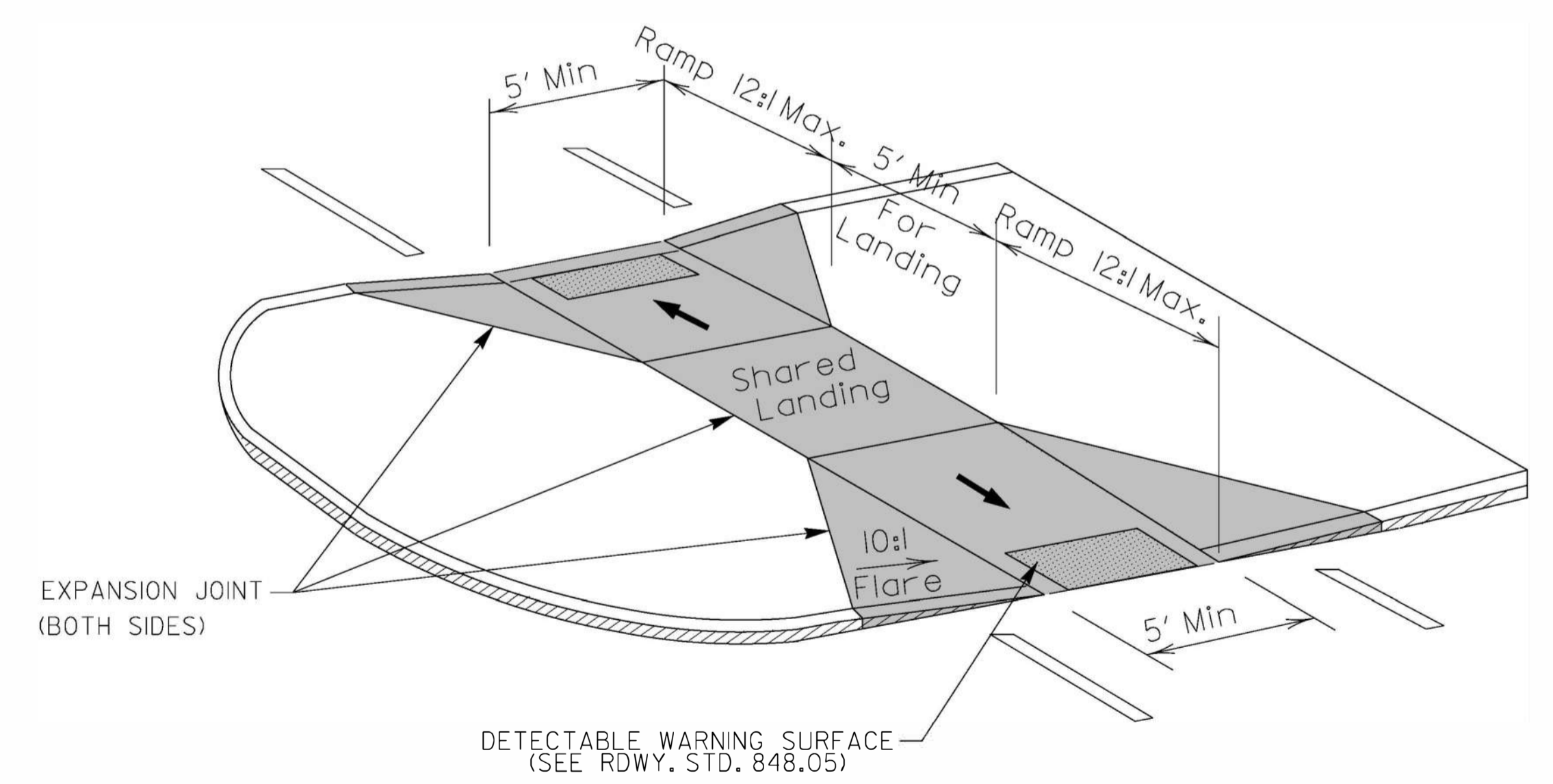


**PAY LIMITS FOR 2 OR 3 CURB RAMPS
(CALCULATE BASED ON NUMBER OF
SETS OF TRUNCATED DOMES)**

**TRIANGULAR ISLAND
WITH CUT THROUGH
TYPE 6**



**MEDIAN ISLAND
WITH CUT THROUGH
TYPE 7**



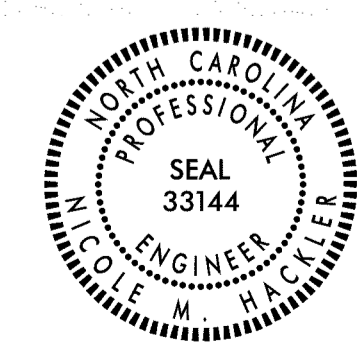
**MEDIAN ISLAND
CURB RAMPS
TYPE 8**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

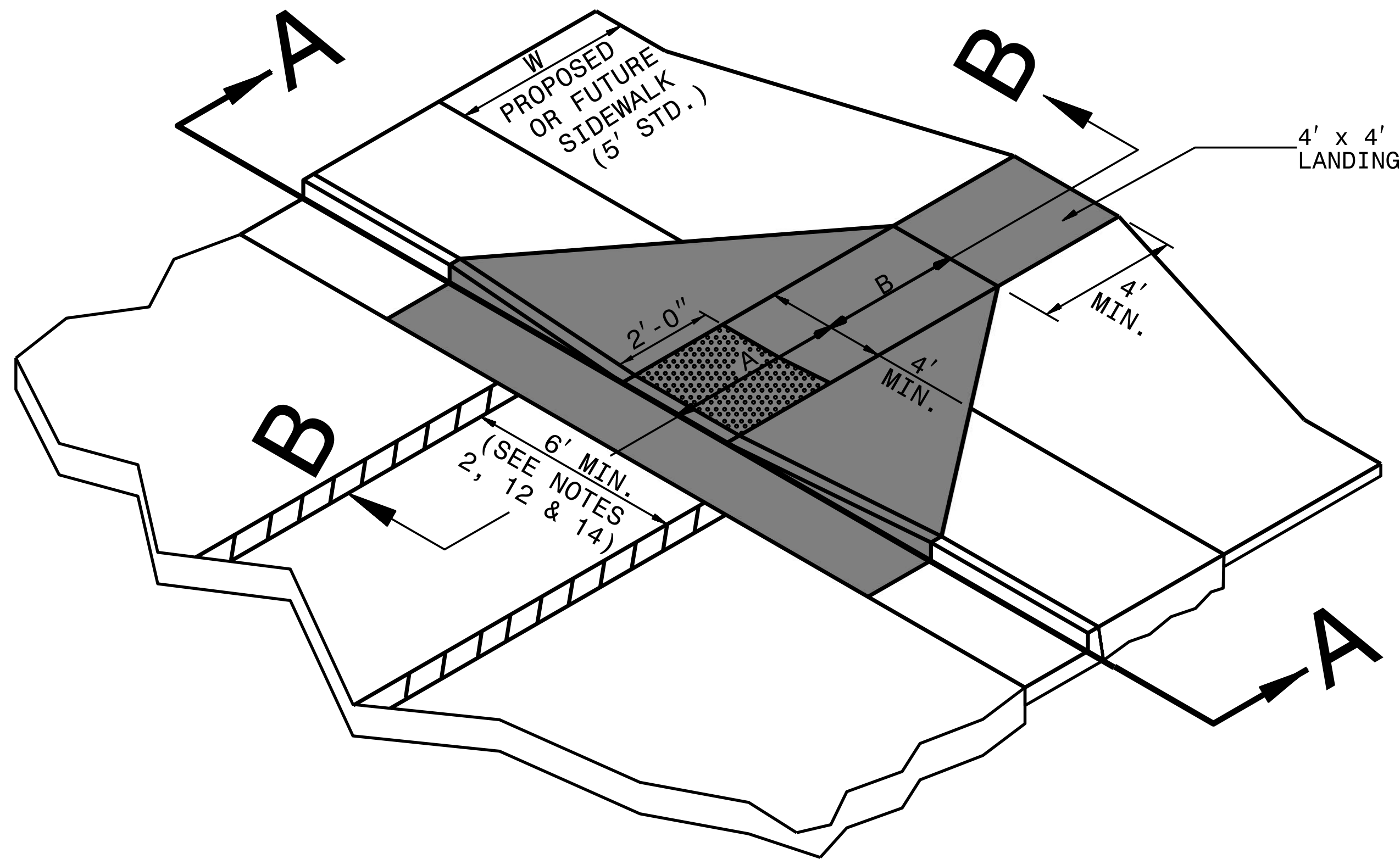
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
Median or Turn Lane Islands

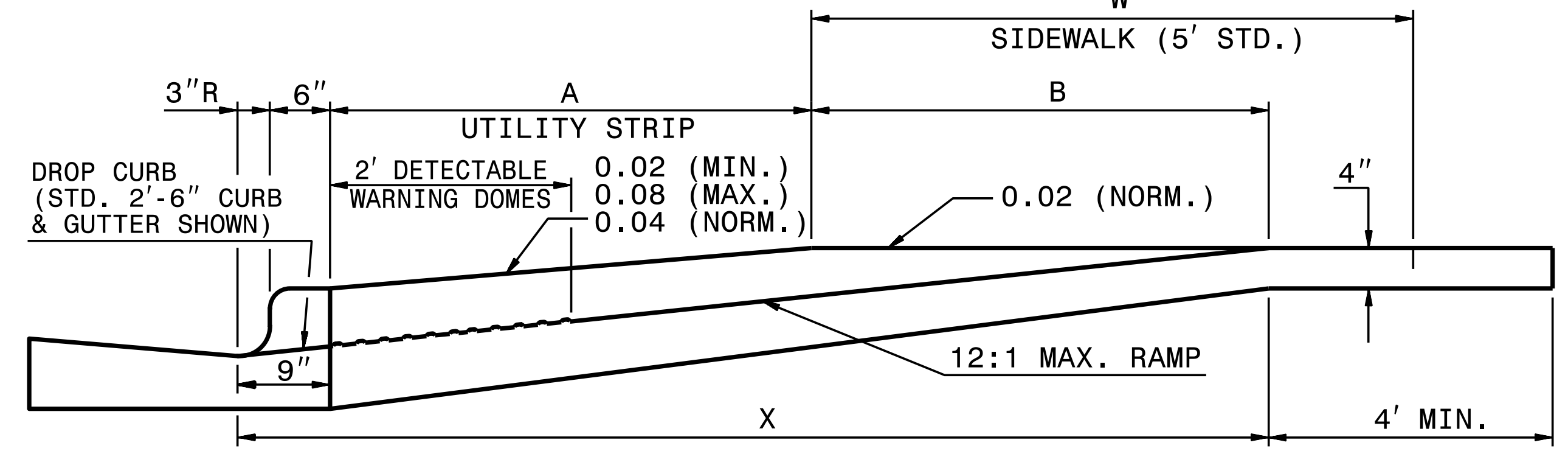
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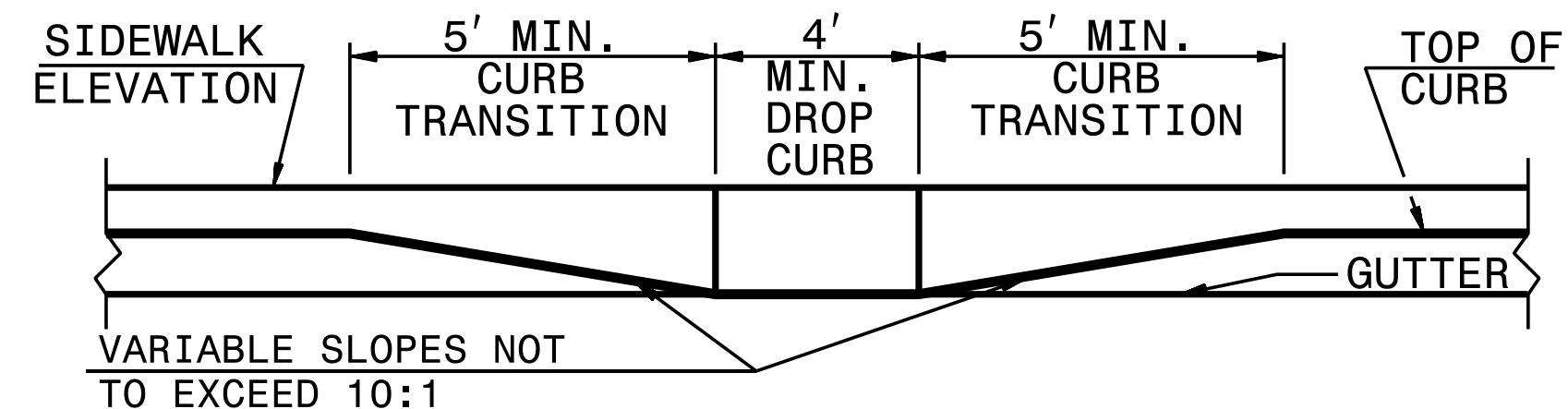
5/14/99
SYTIME
SUGERNAVE



ISOMETRIC VIEW



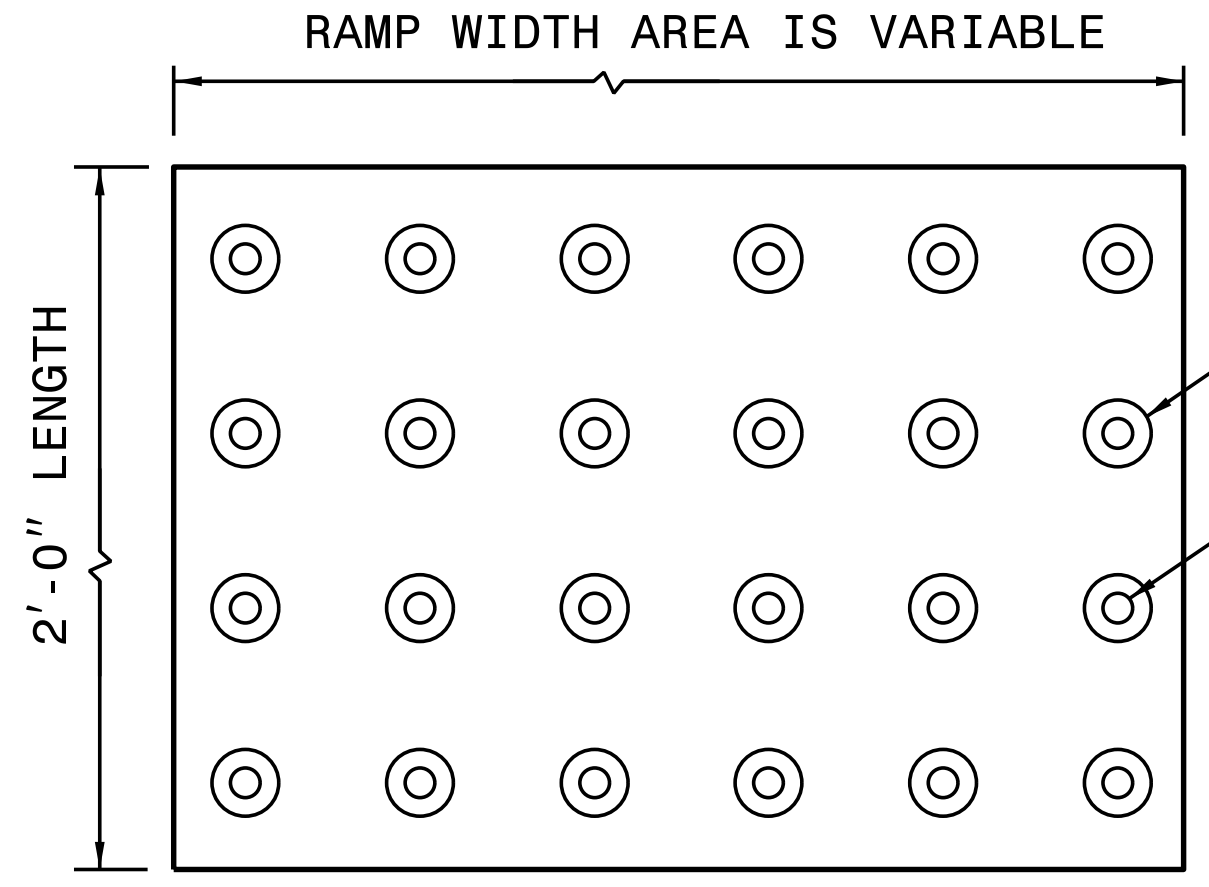
SECTION B-B



SECTION A-A

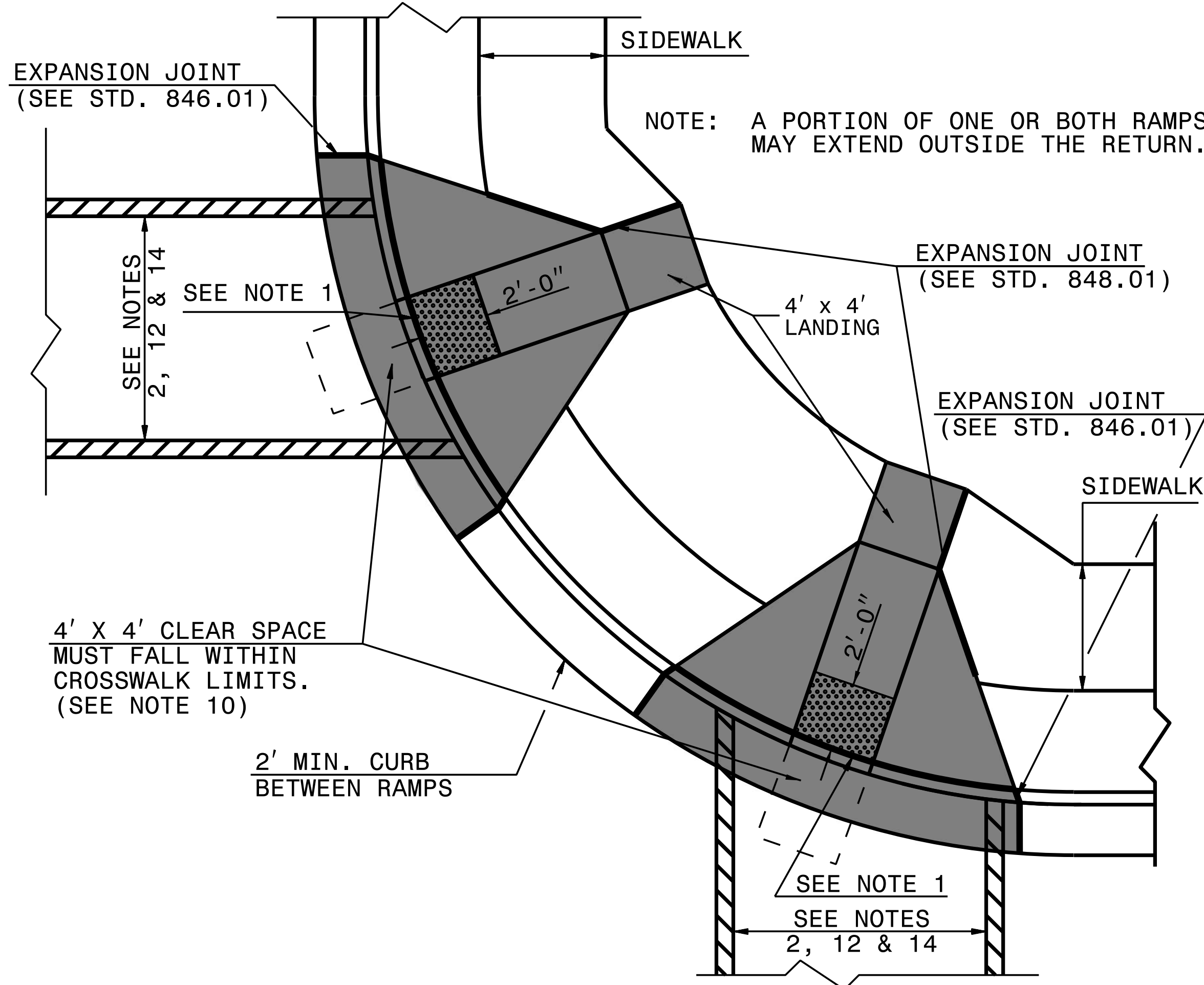
PAY LIMITS FOR CURB RAMP

- NOTES:**
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'***
7'	0.0'	7.8'	7.3'	6.5'***
8'	0.0'	8.8'	7.3'	6.5'***
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

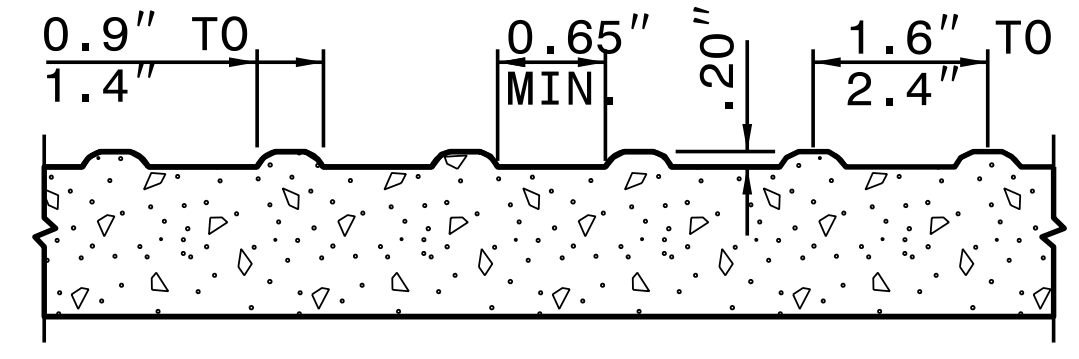
$B = X - (A + 9")$
 B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
 * BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
 ** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

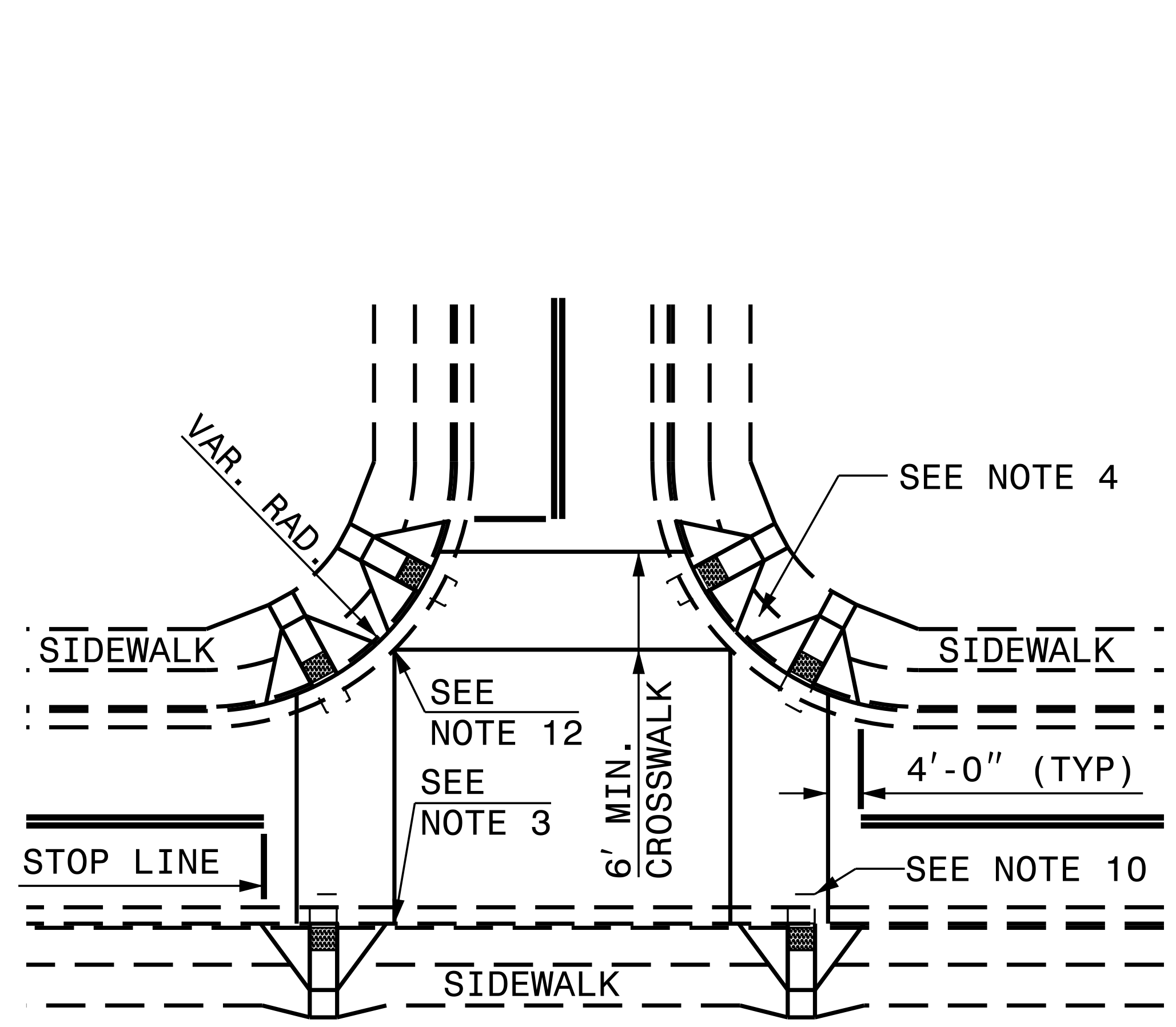


PLAN VIEW

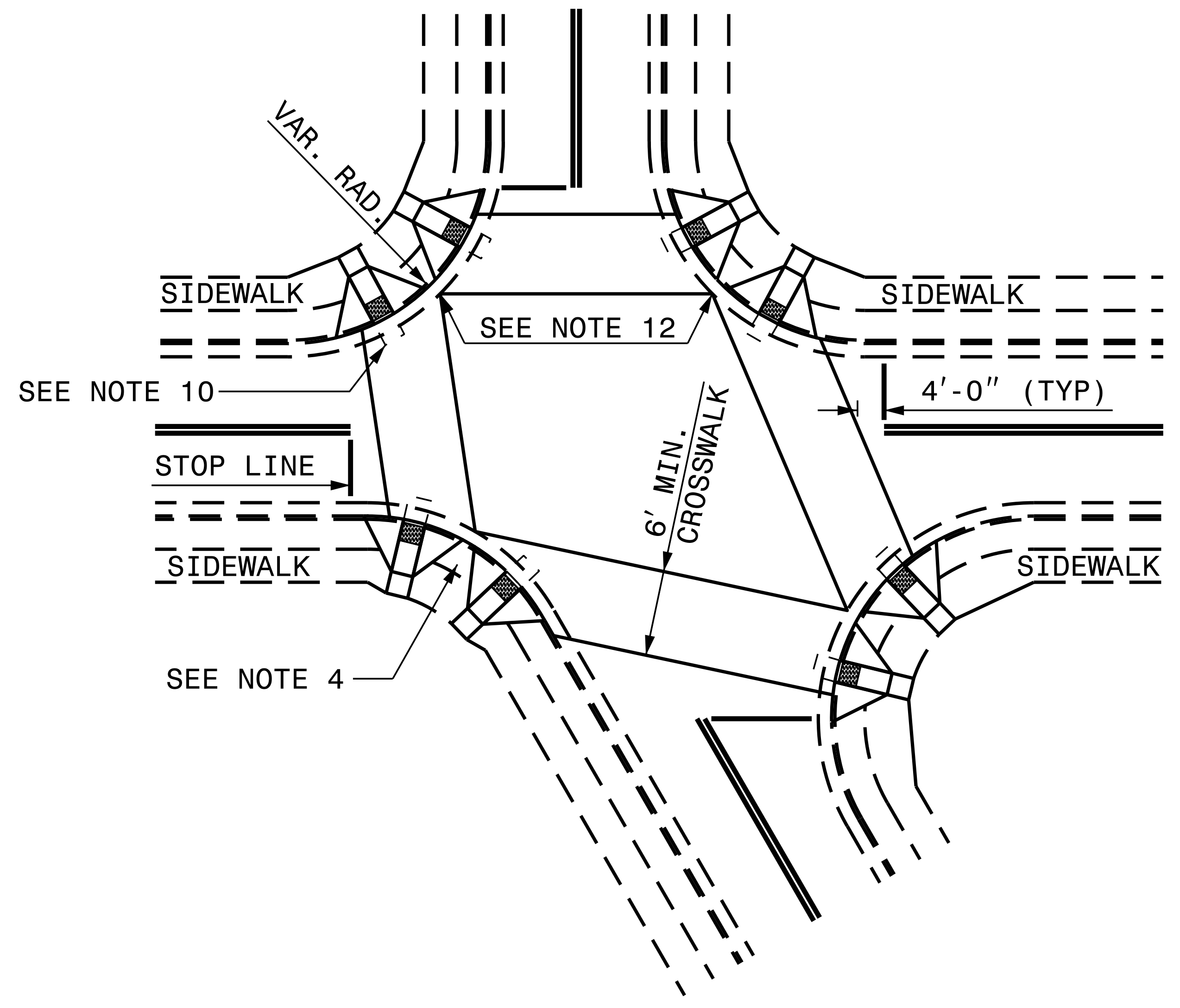
DUAL RAMPS
 ANY RADII
 (4' MIN. FLOOR WIDTH)

DETECTABLE WARNING DOMES



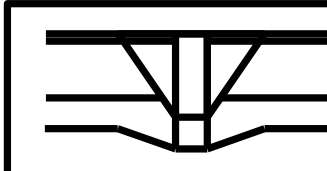



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPs, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPs, PEDESTRIAN CROSSWALKS AND STOP LINES

ROADWAY
PLAN SYMBOL
CR
FOR PROPOSED
CURB RAMP

 PROPOSED CURB RAMP W/ LANDING
 PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
 DUAL RAMP RADII.....ANY

ROADWAY STANDARD DRAWING FOR

CURB RAMP
 PROPOSED CURB AND GUTTER

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

1-18

ROADWAY STANDARD DRAWING FOR

CURB RAMPS

NOTES

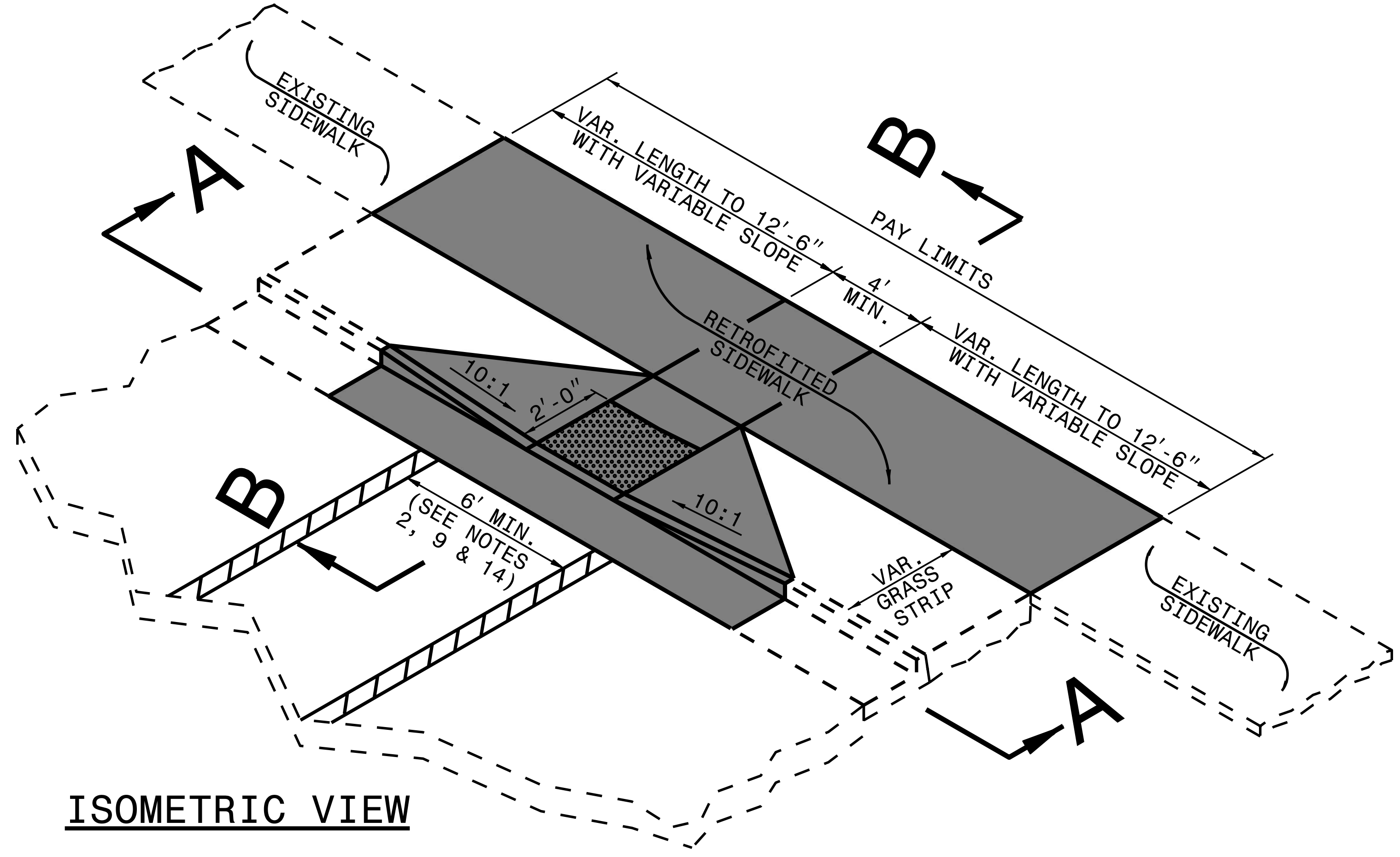
STATE OF

NORTH CAROLINA

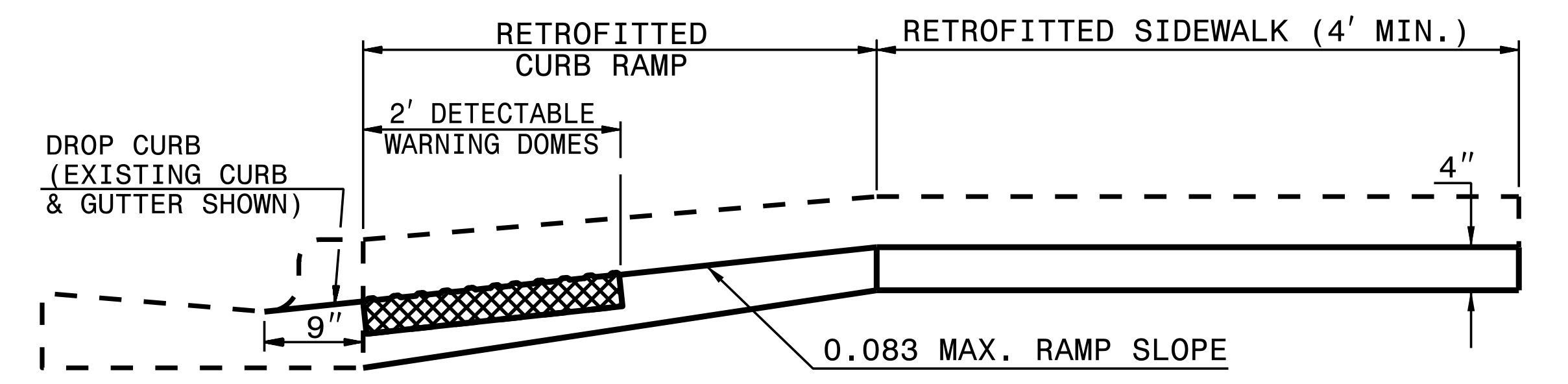
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

RALEIGH, N.C.

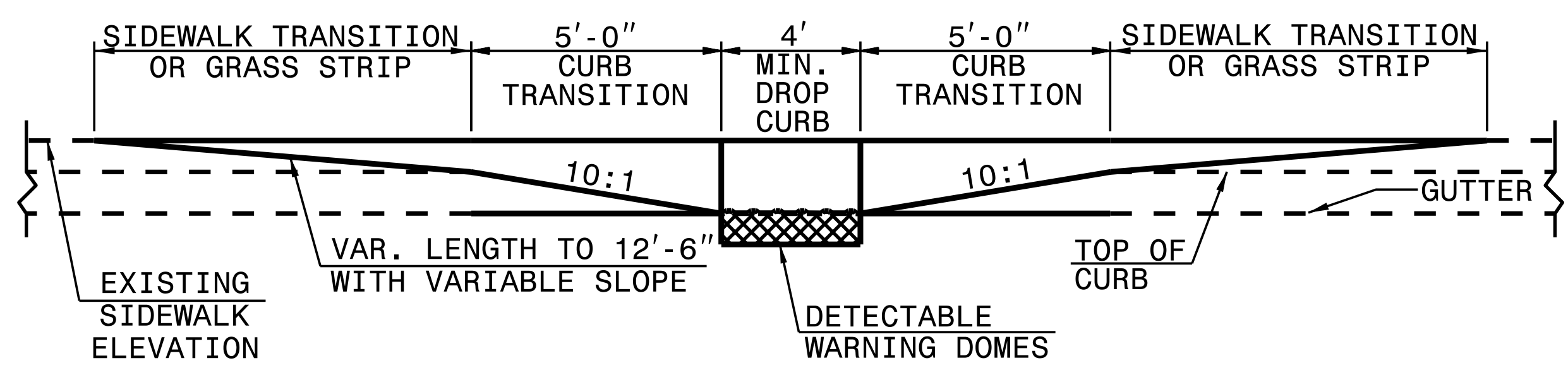
CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



ISOMETRIC VIEW

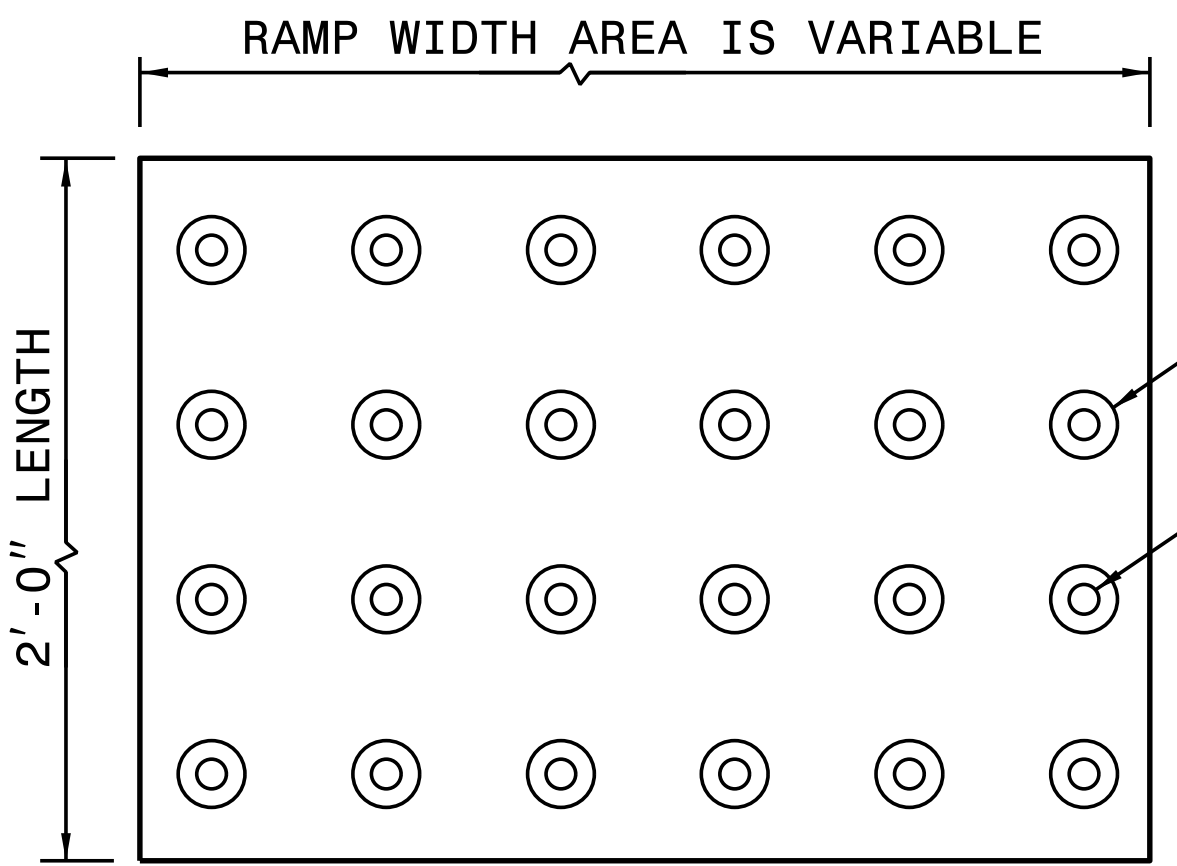


SECTION B-B



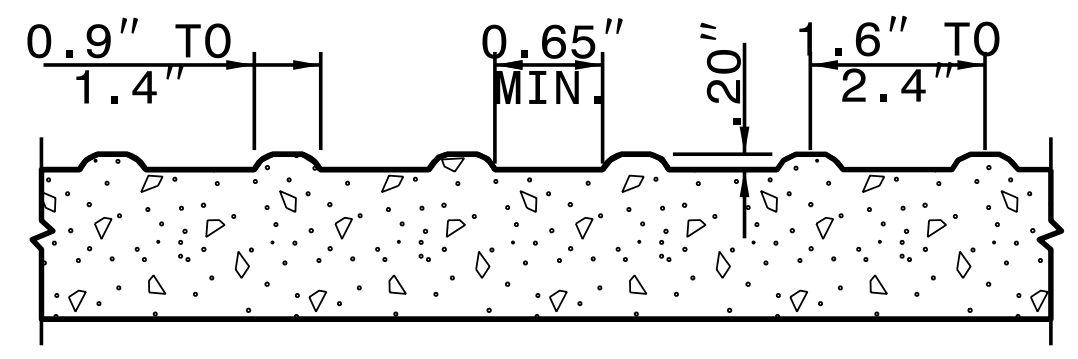
SECTION A-A

PAY LIMITS OF CURB RAMP



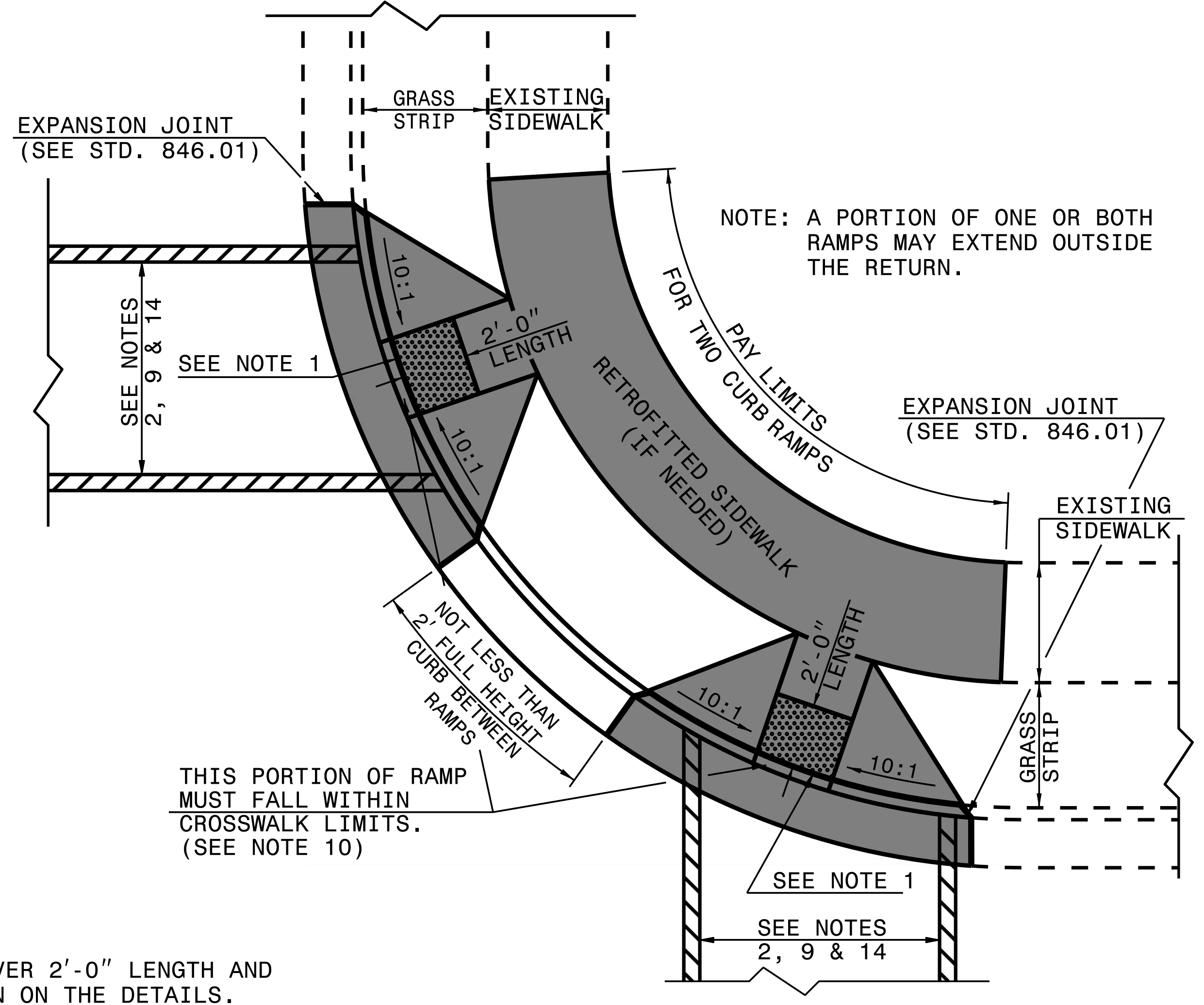
BASE DIAMETER
0.90"R TO 1.40"R

TOP DIAMETER OF NO LESS
THAN 50% TO NO MORE
THAN 65% OF THE BASE
DIAMETER



DETECTABLE WARNING DOMES

- NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



PLAN VIEW

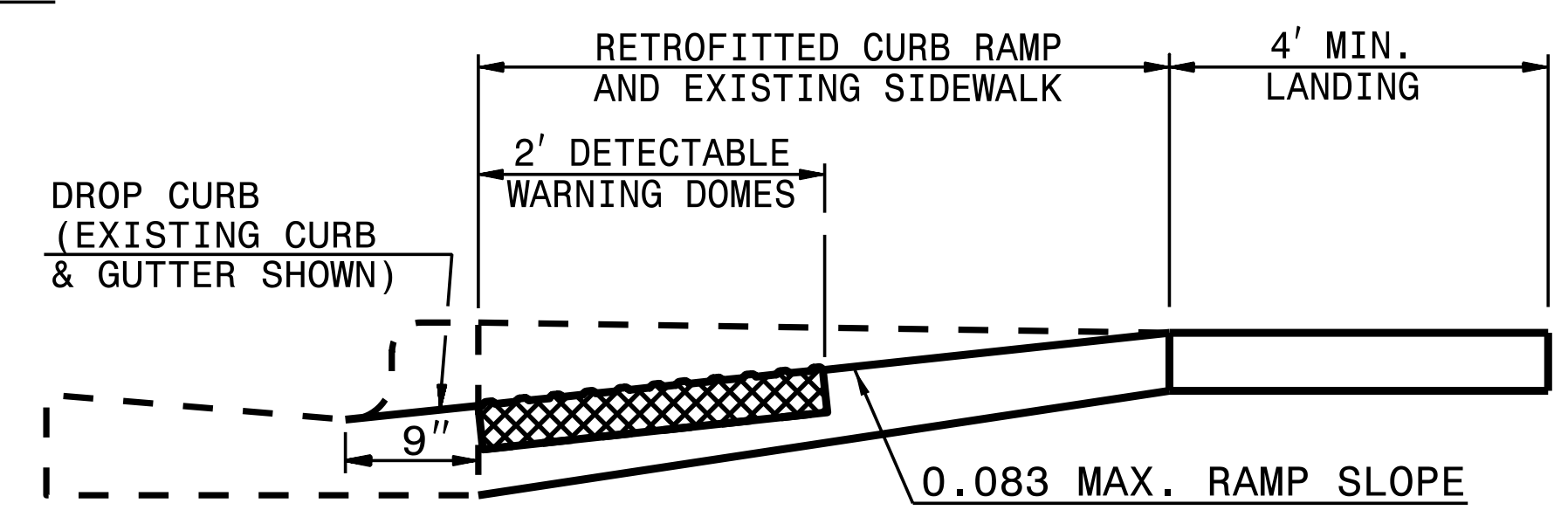
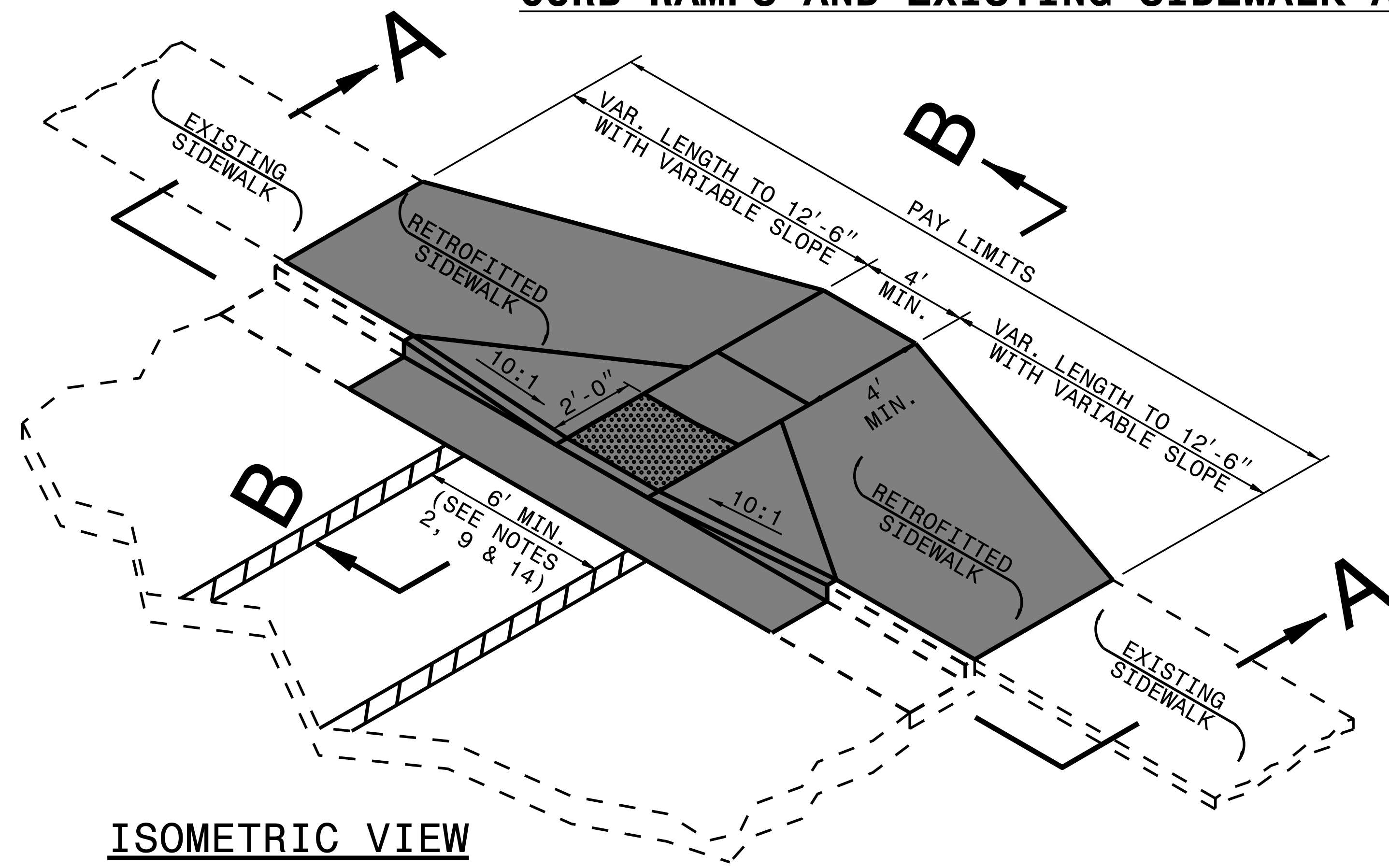
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

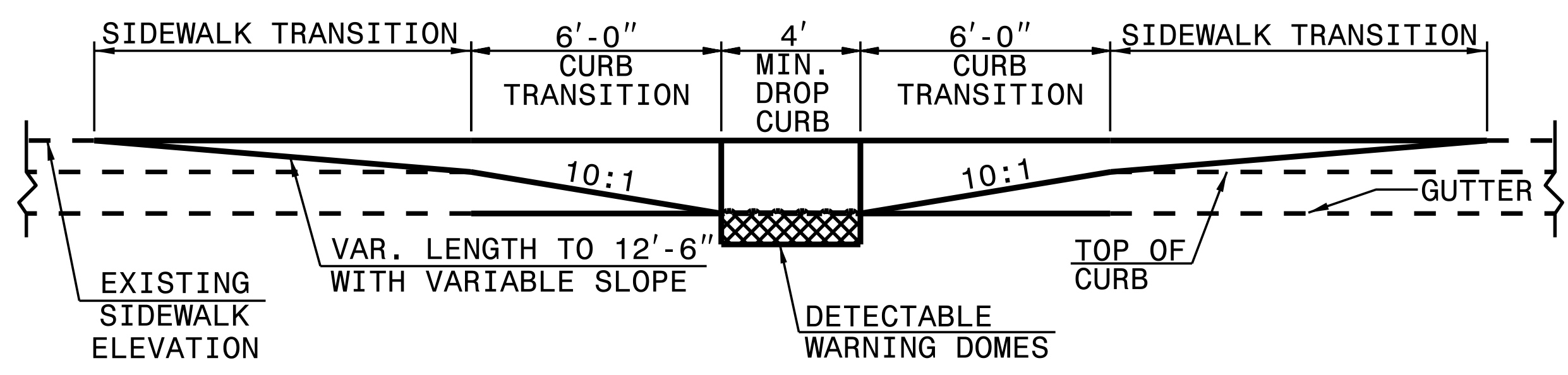
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ROADWAY STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER

CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB

PROJECT REFERENCE NO. 44920.1.17	SHEET NO. 14
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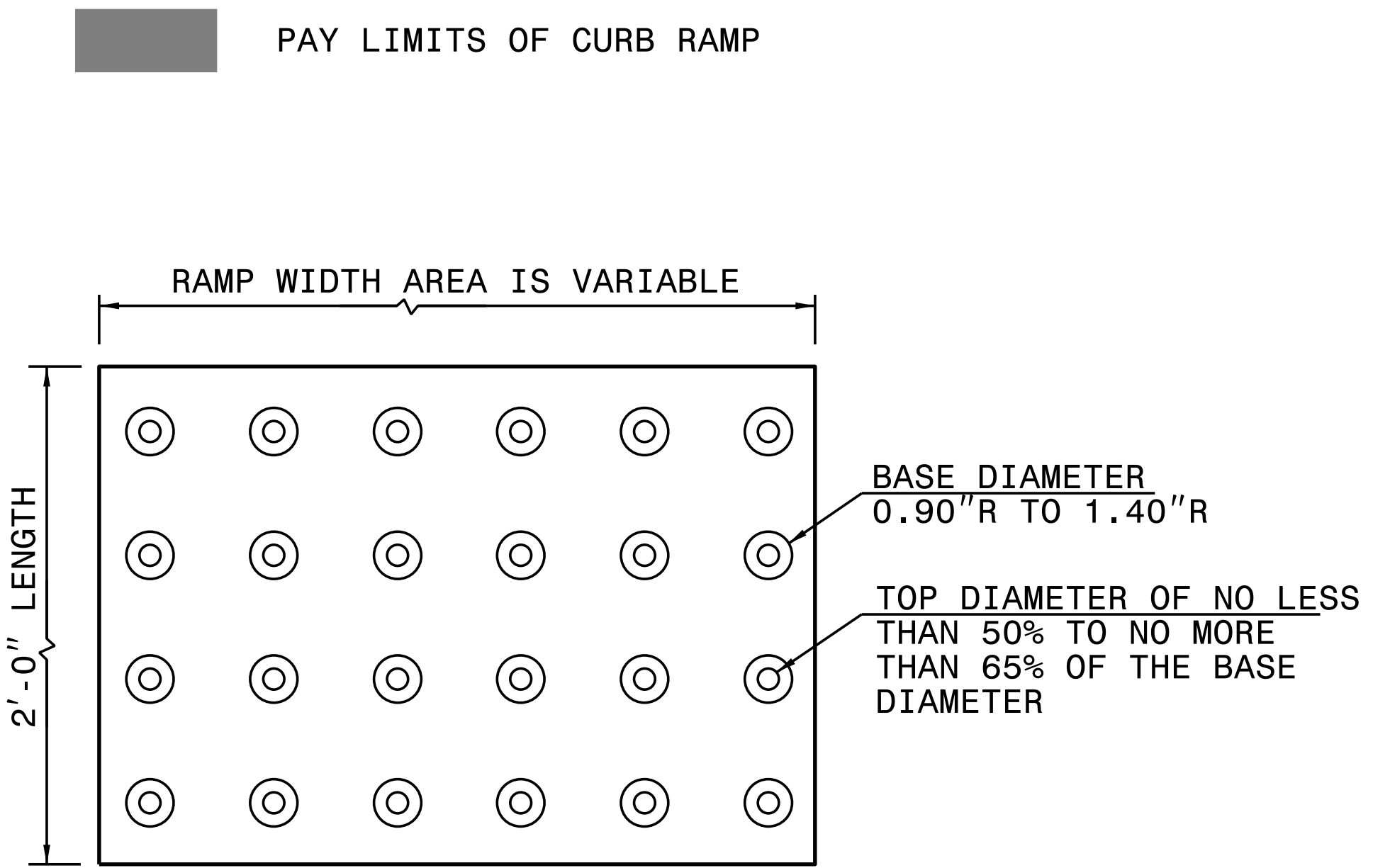


SECTION B-B



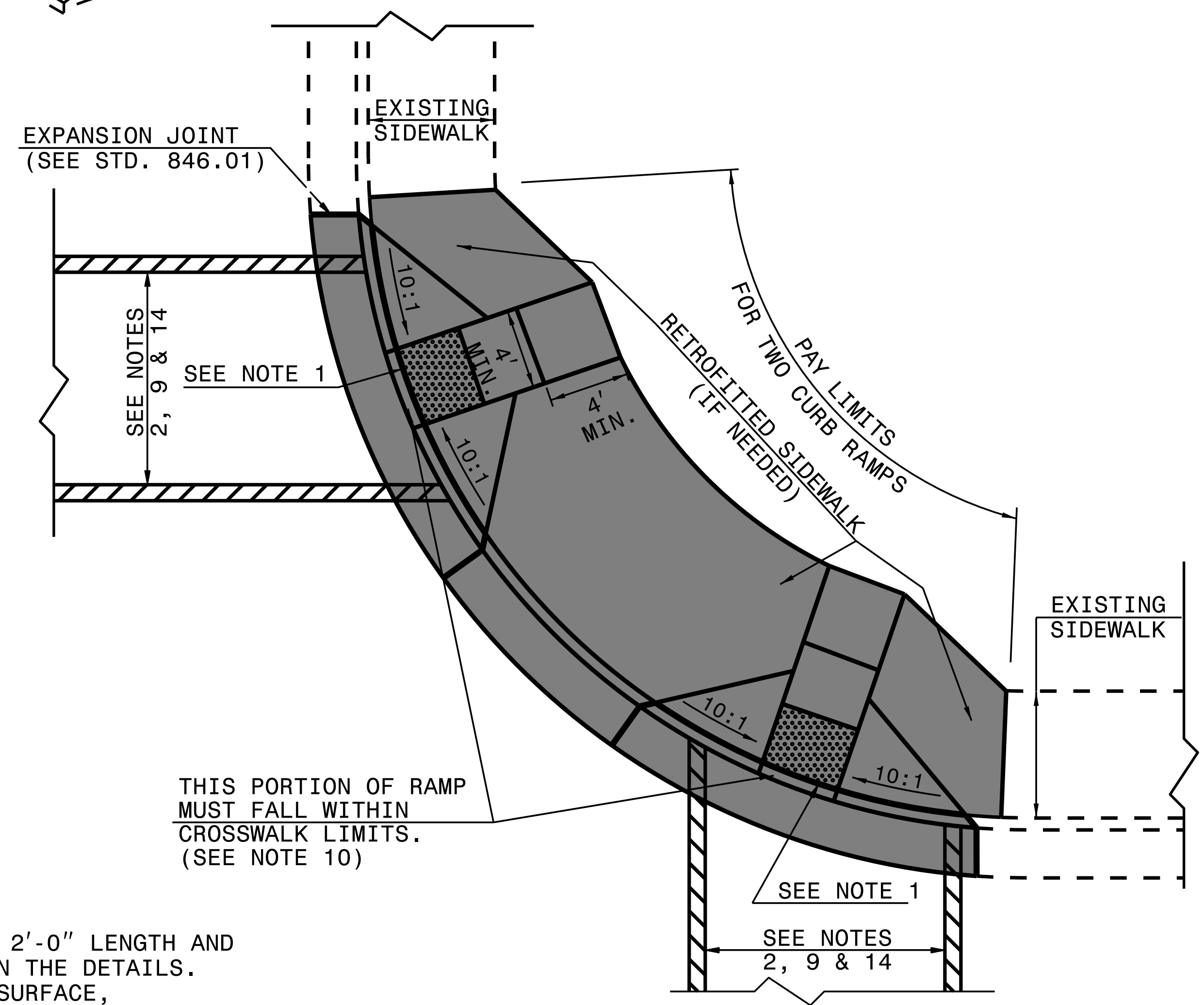
SECTION A-A

ISOMETRIC VIEW



- NOTES:**
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

DETECTABLE WARNING DOMES



PLAN VIEW

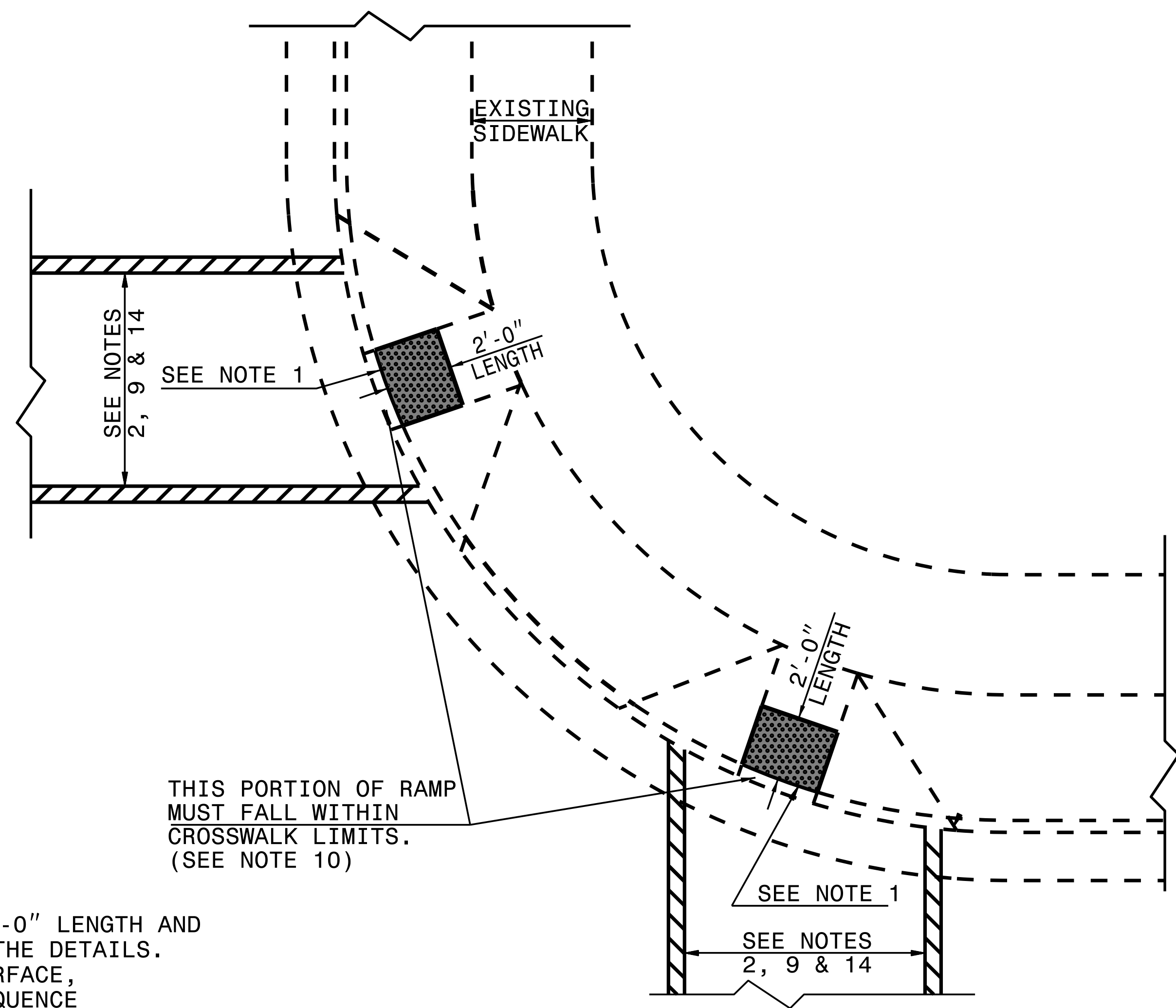
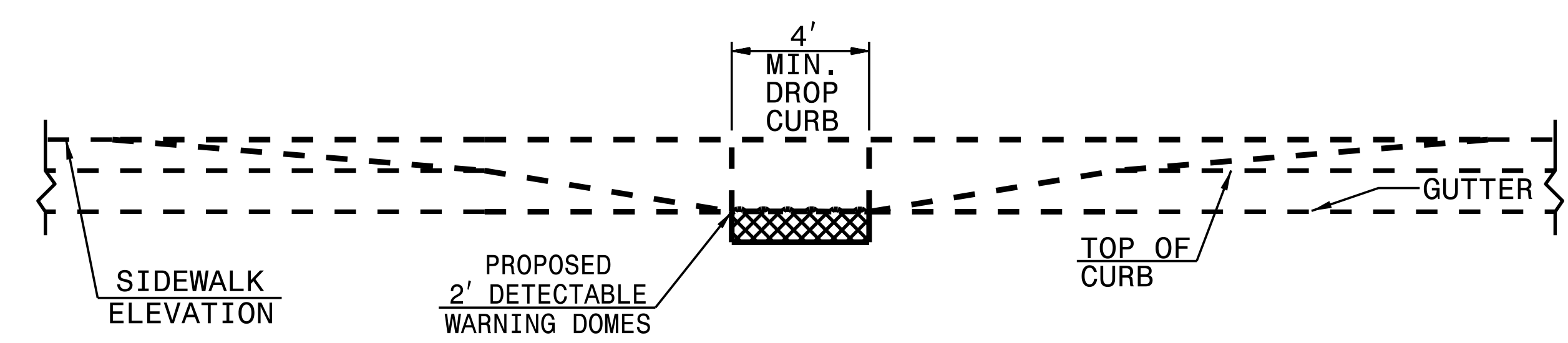
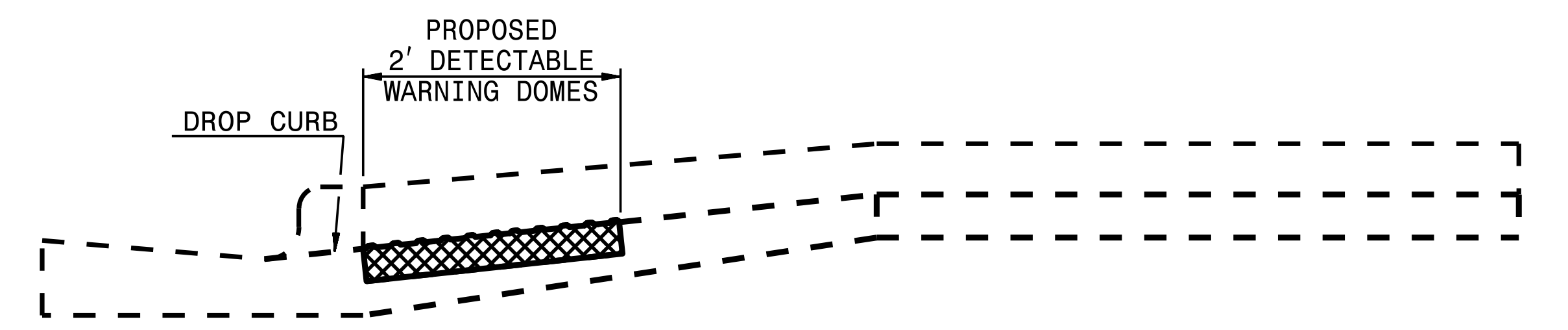
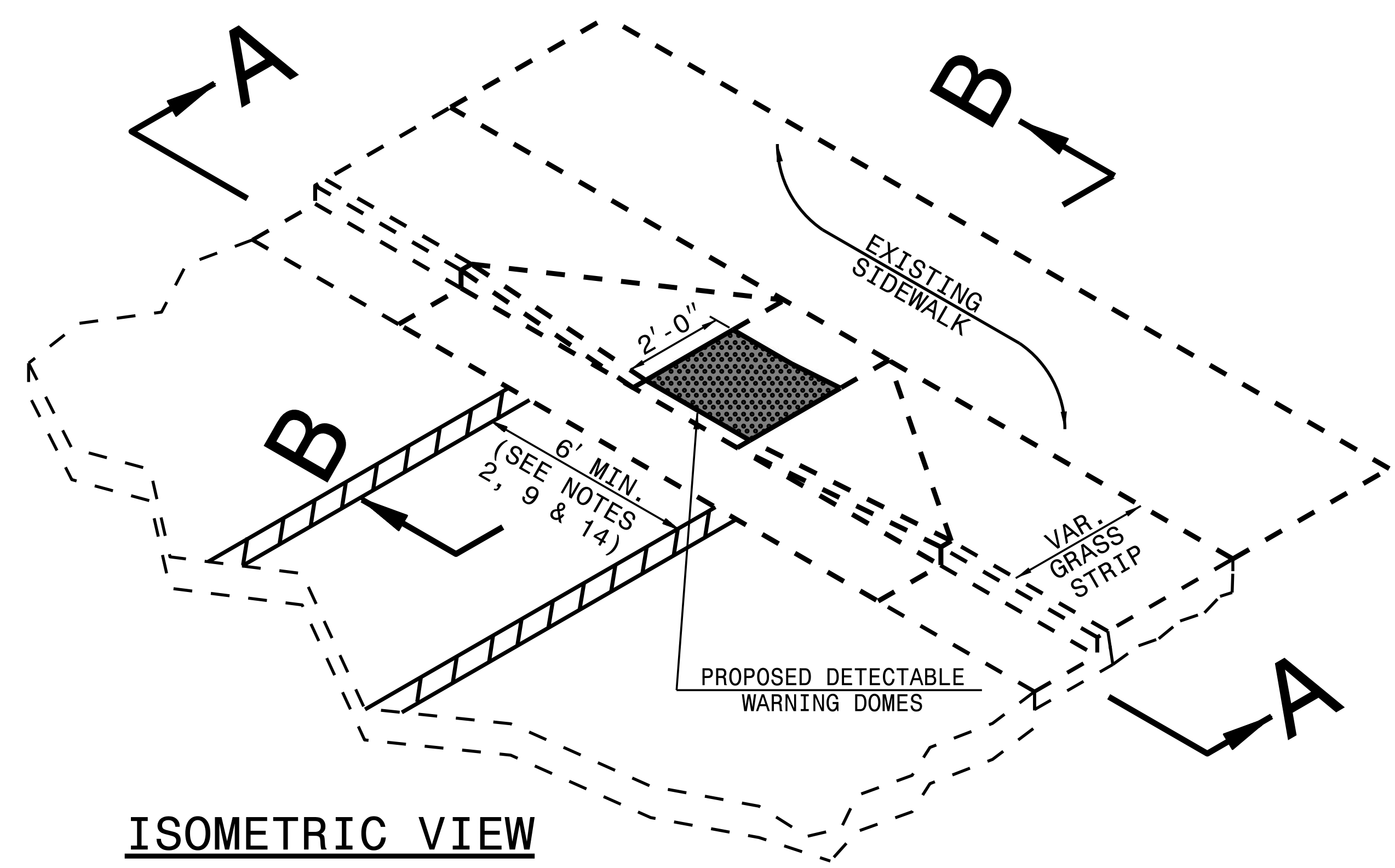
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

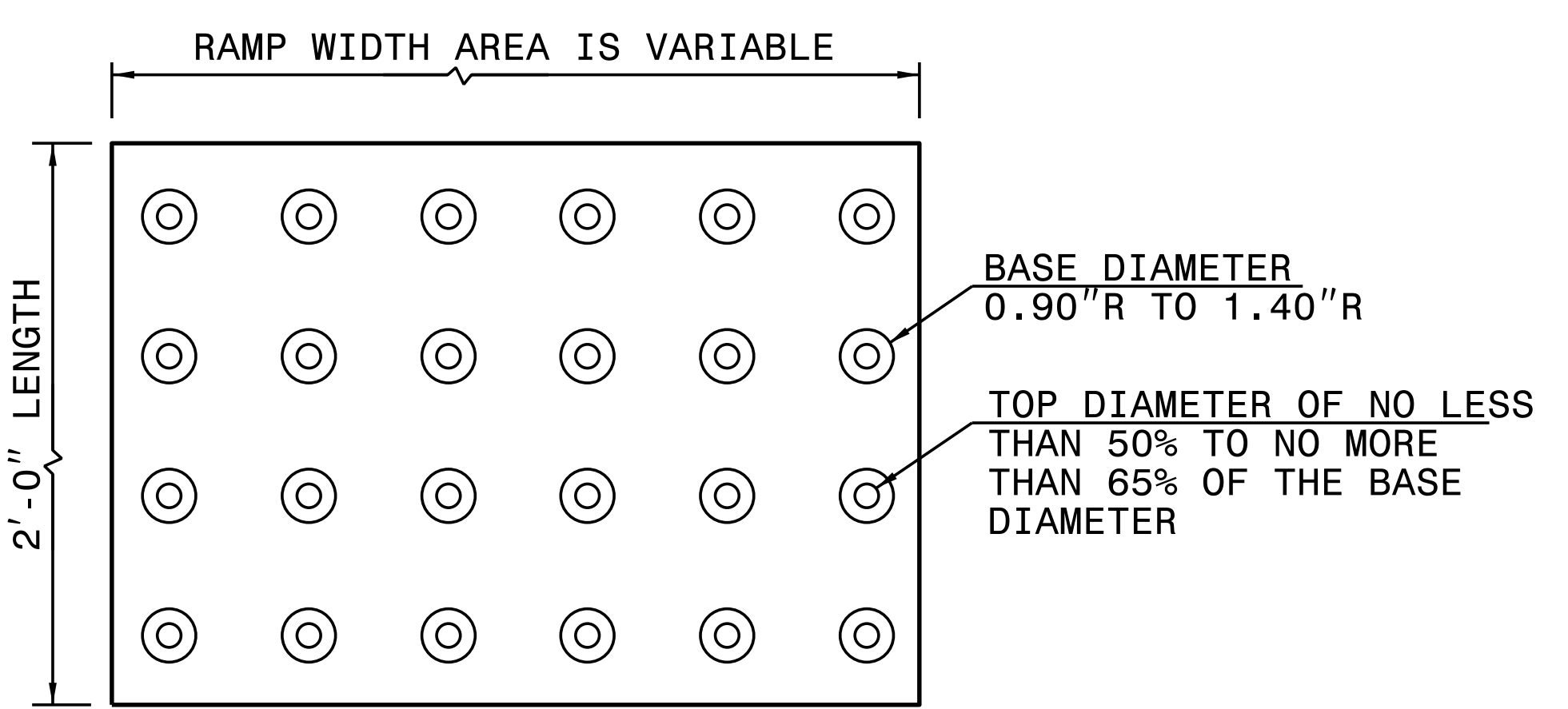
ROADWAY STANDARD DRAWING FOR
CURB RAMP
 EXISTING CURB AND GUTTER

RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP

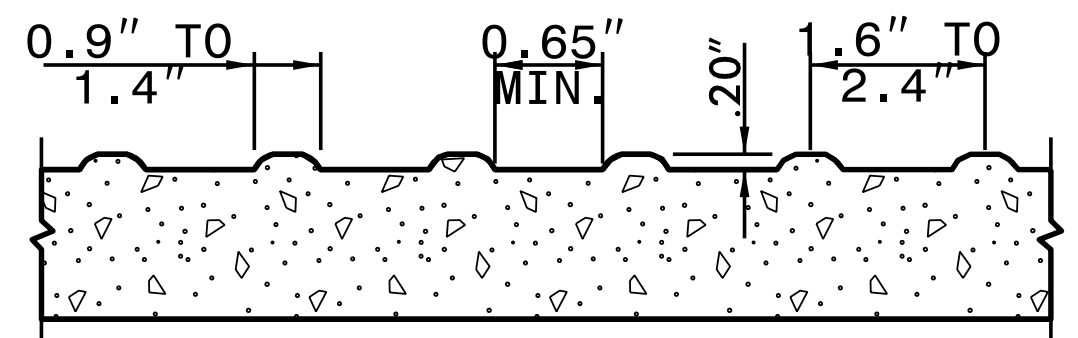
PROJECT REFERENCE NO. 44920.1.17	SHEET NO. 15
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■ PAY LIMITS OF RETROFIT CURB RAMP



- NOTES:**
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING DOMES

DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

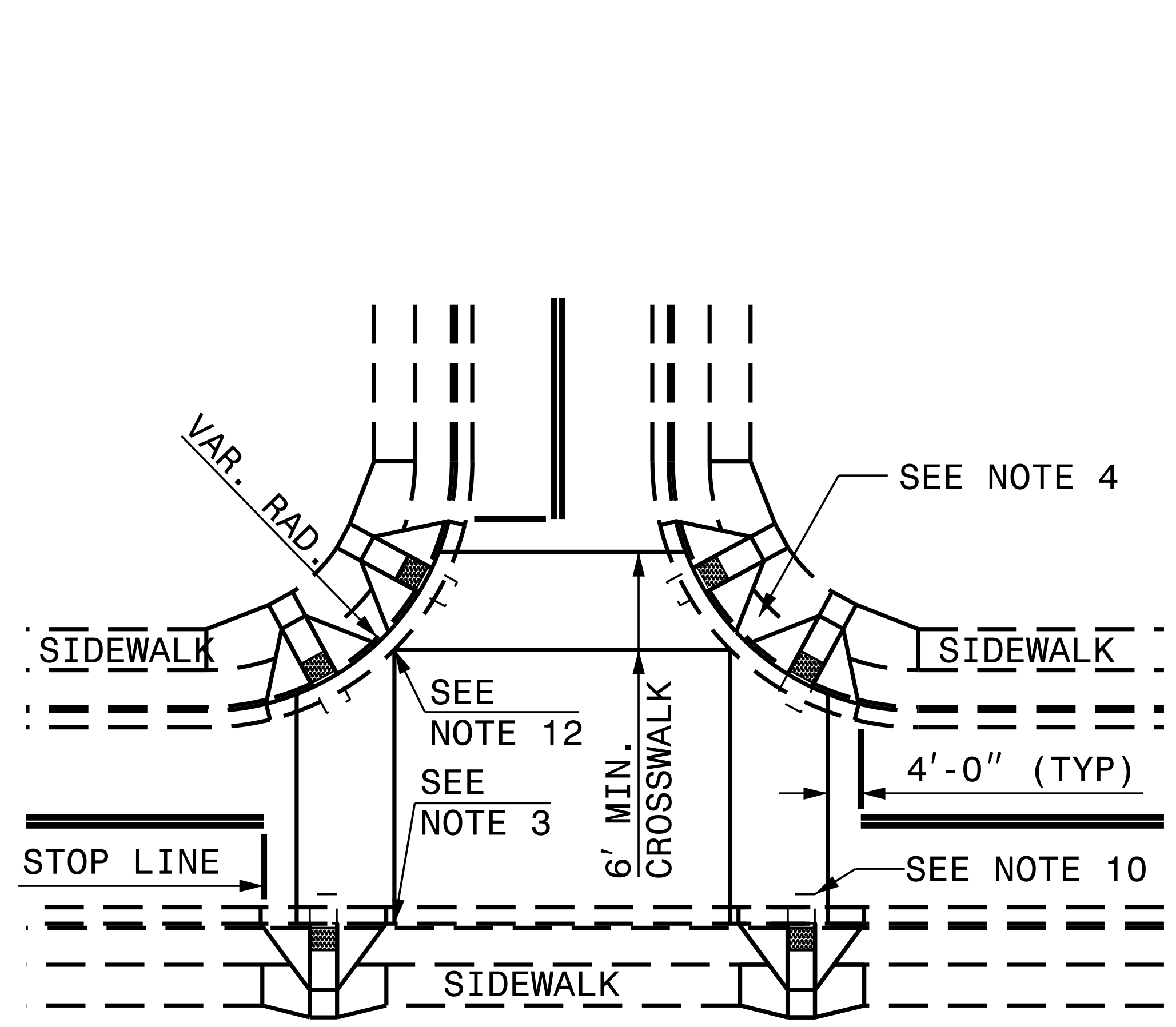
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
 EXISTING CURB AND GUTTER

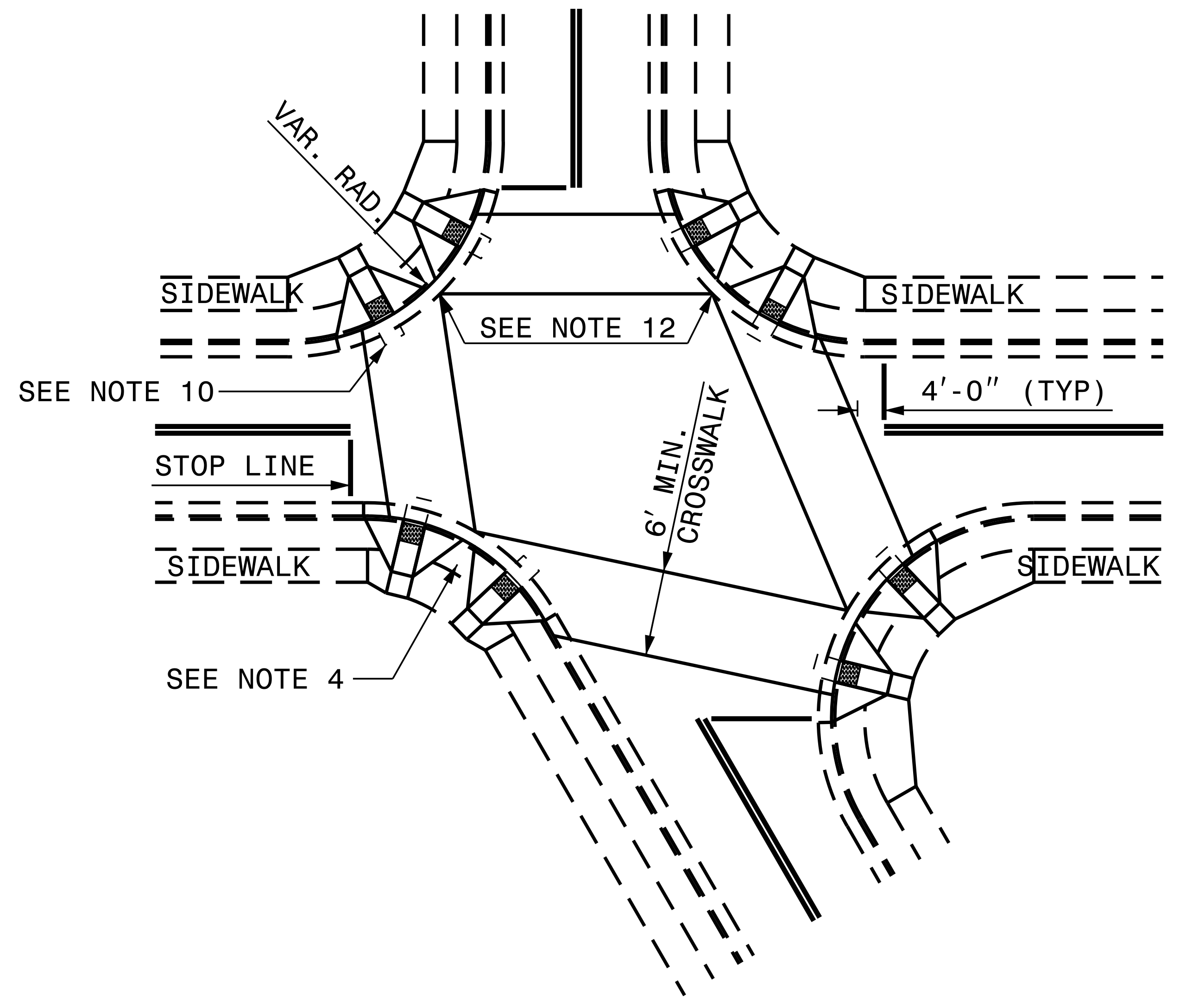
1-18

SHEET 3 OF 5
848.06

CURB RAMPS AND EXISTING SIDEWALK

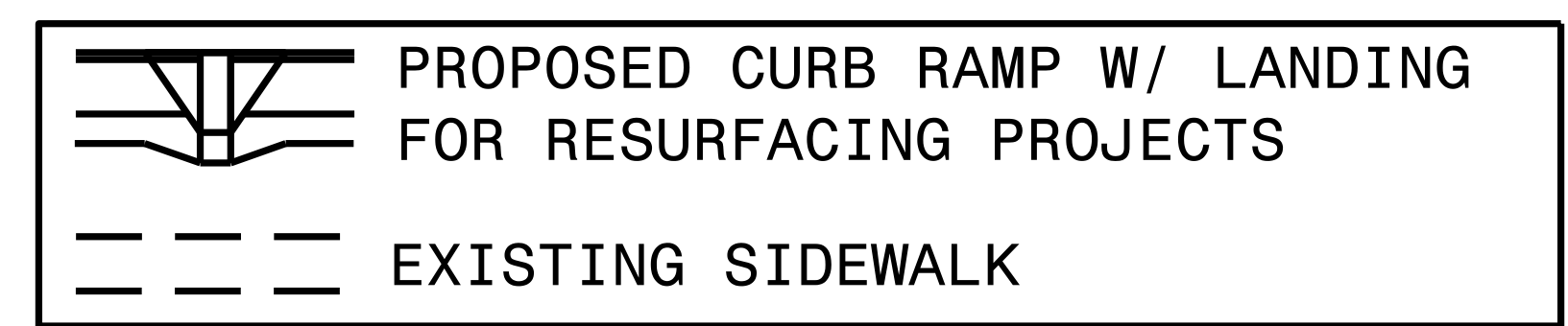


DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

RESURFACING PROJECTS



ALLOWABLE LOCATIONS
 DUAL RAMP RADII.....ANY

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CURB RAMP EXISTING CURB AND GUTTER

CURB RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

1-18

ROADWAY STANDARD DRAWING FOR

CURB RAMP

EXISTING CURB AND GUTTER

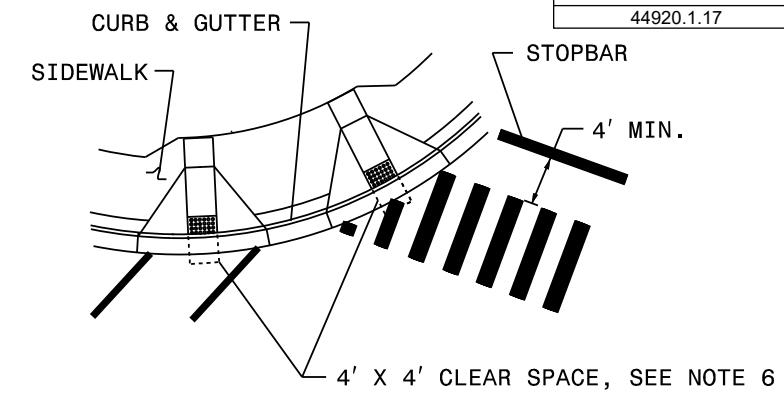
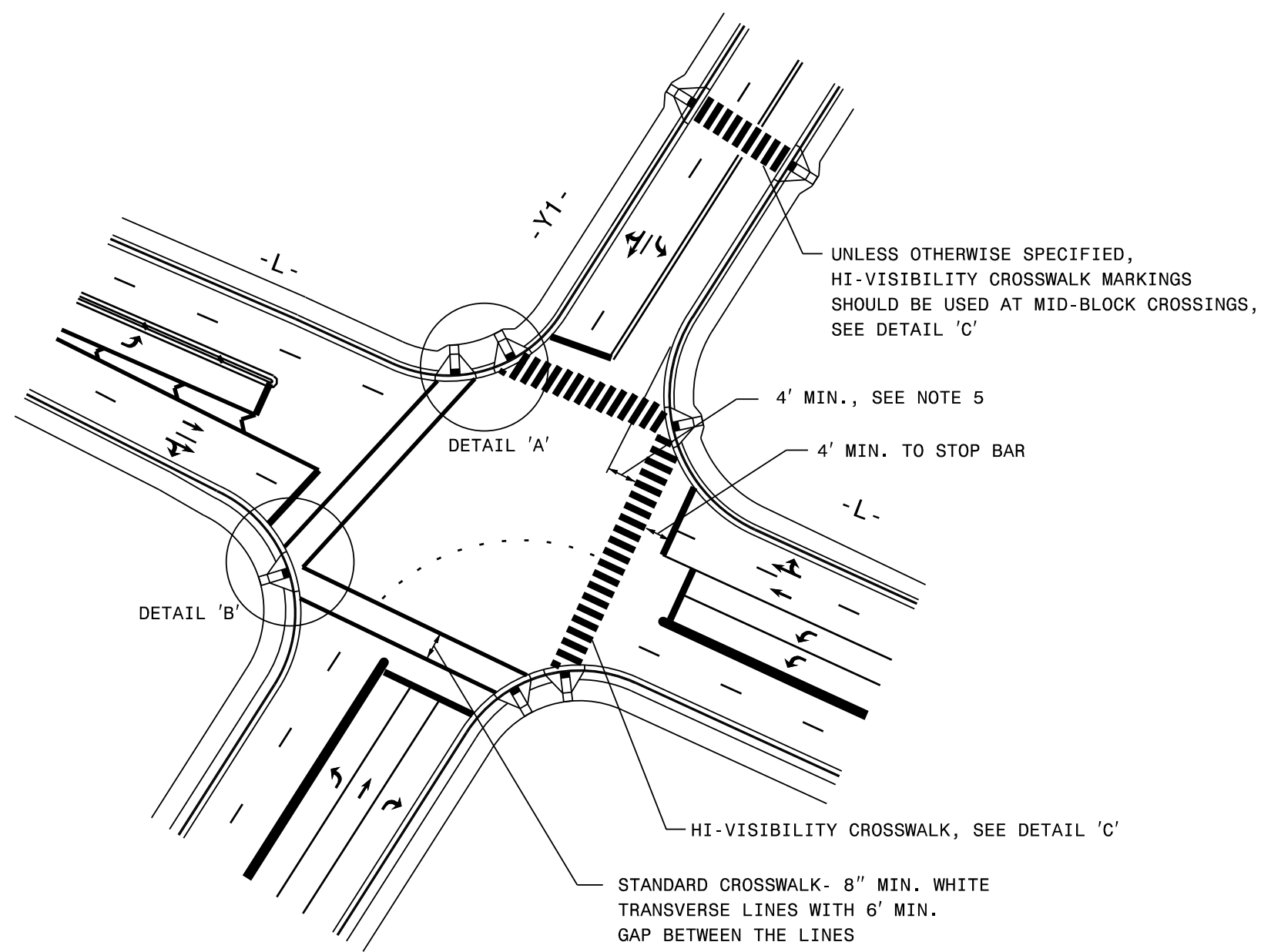
STATE OF

NORTH CAROLINA

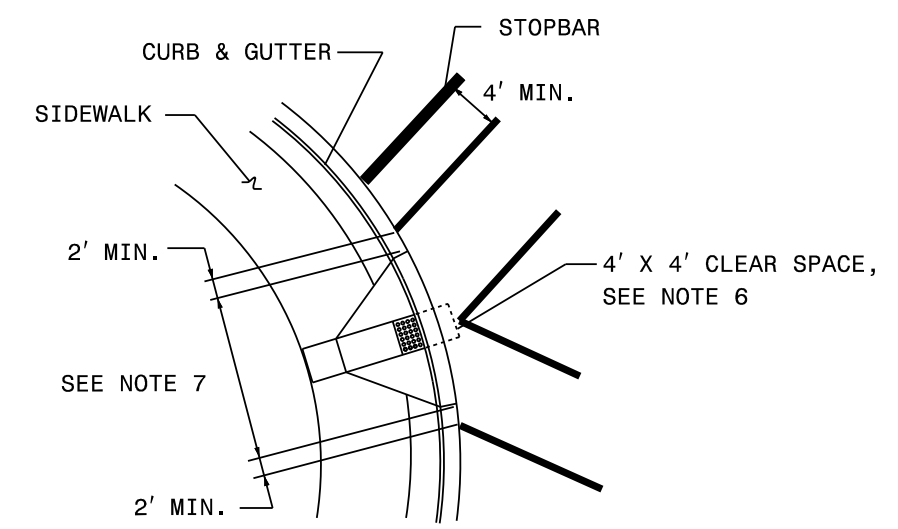
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

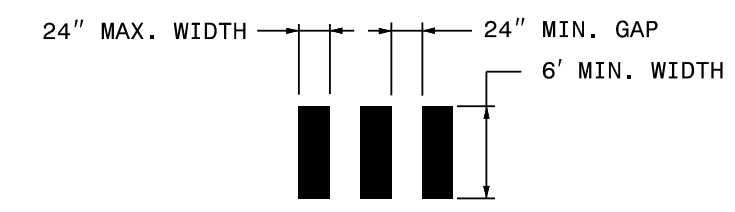
ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
 PEDESTRIAN CROSSWALKS



DETAIL 'A'- DUAL CURB RAMPS



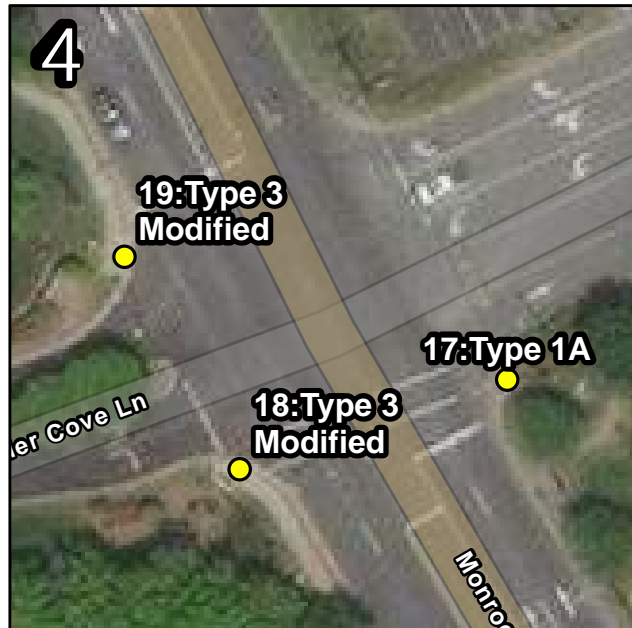
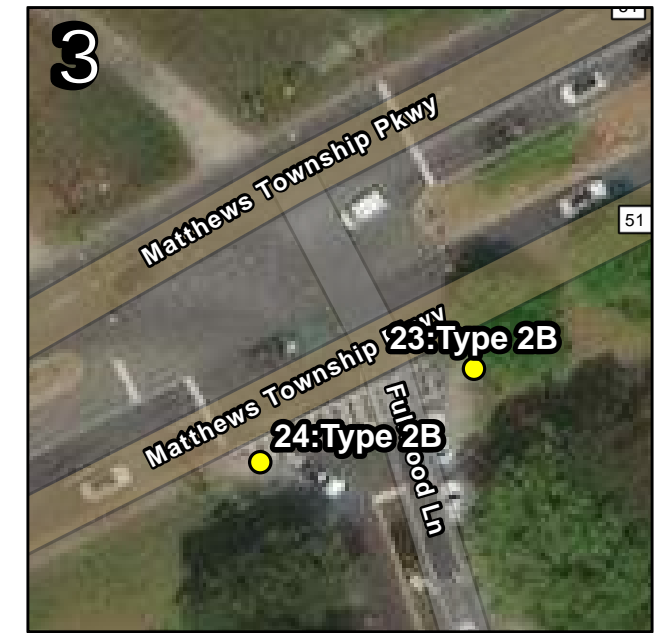
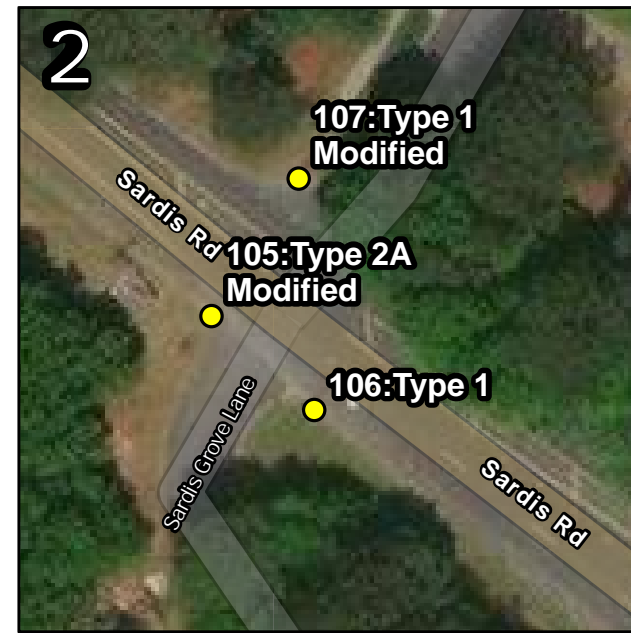
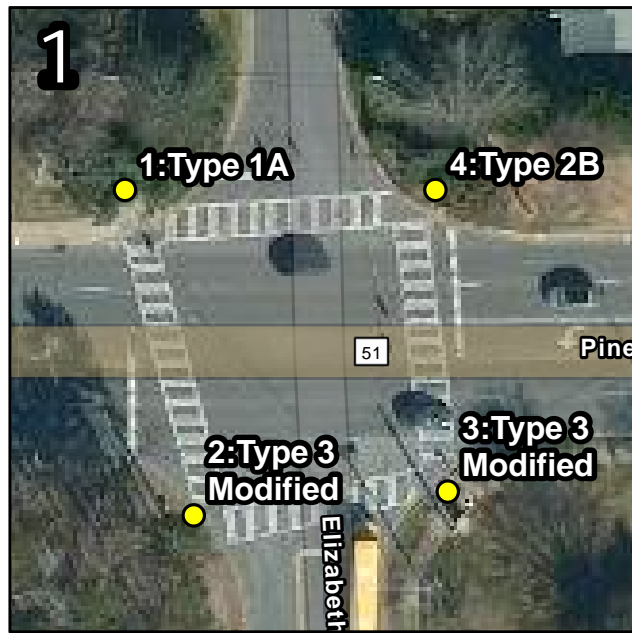
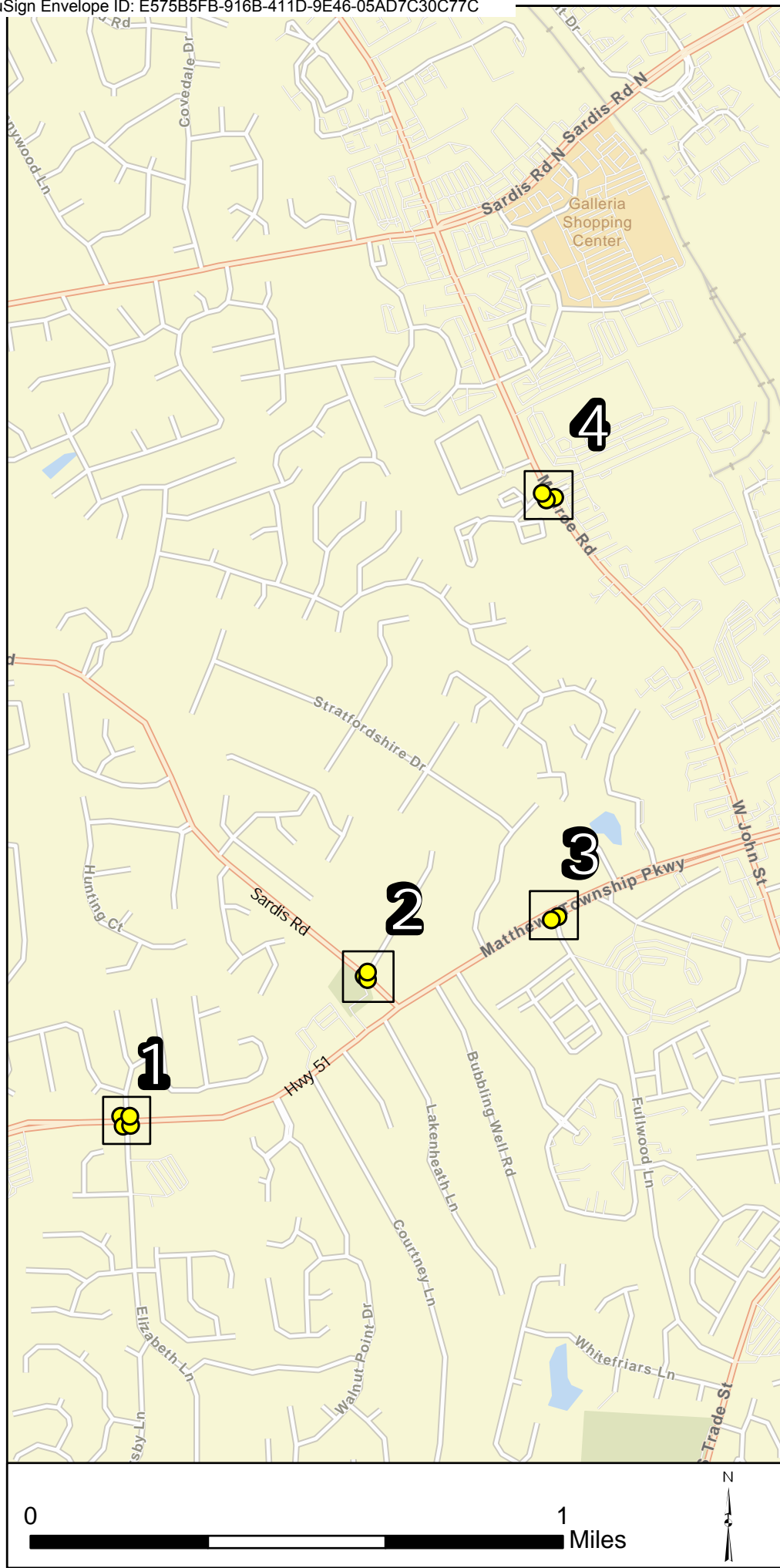
DETAIL 'B'- SINGLE DIAGONAL CURB RAMP



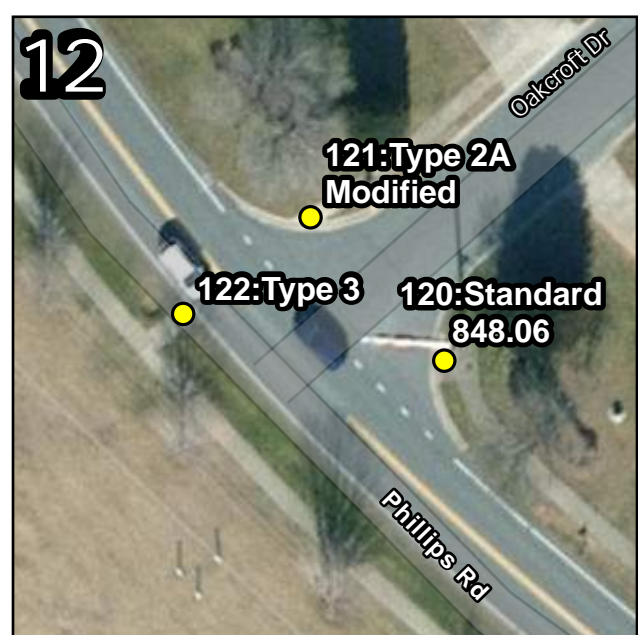
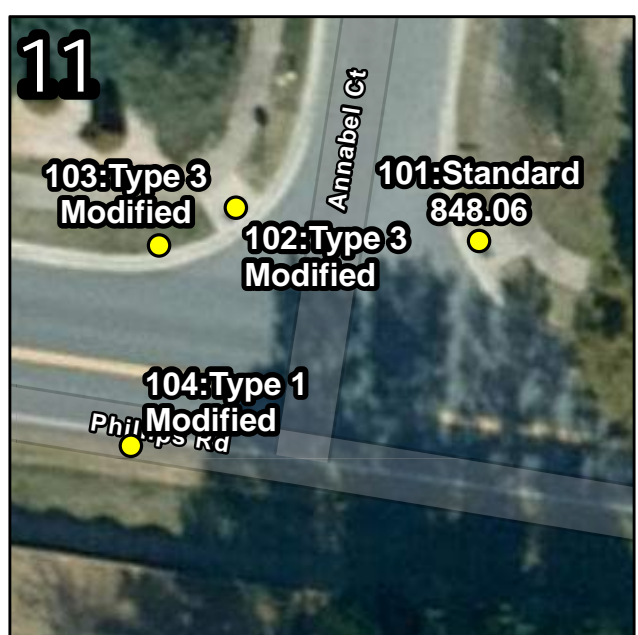
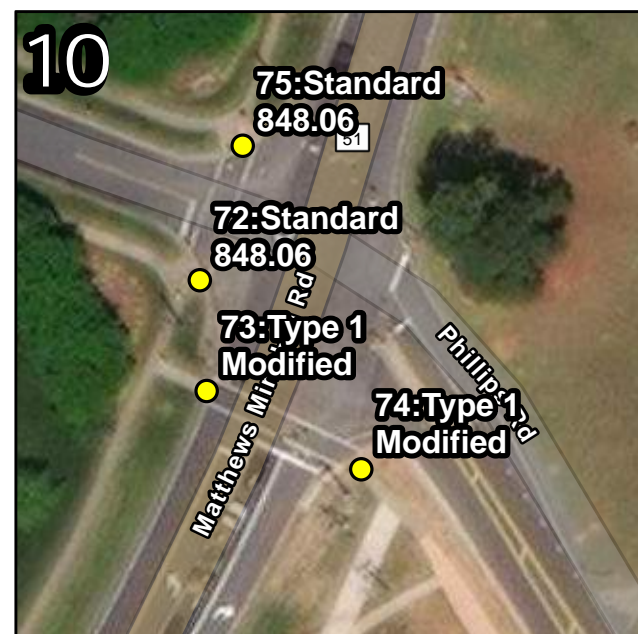
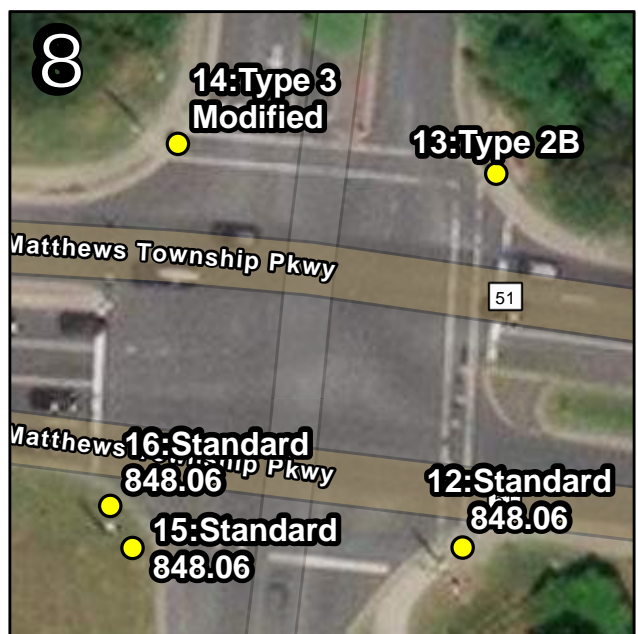
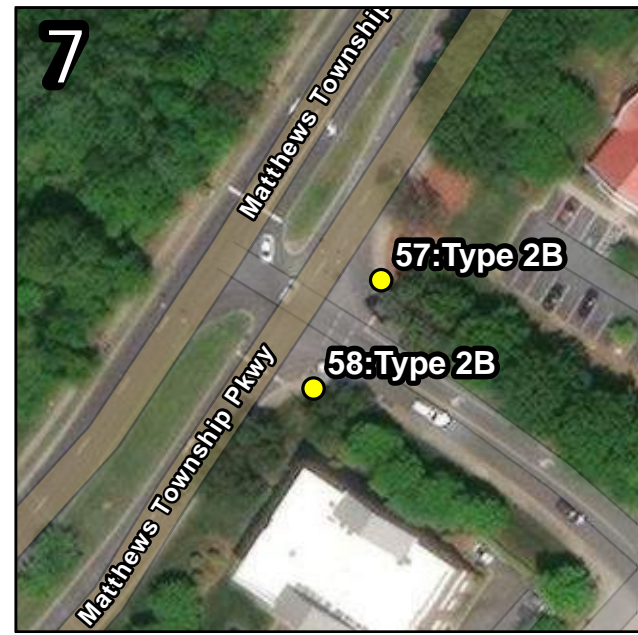
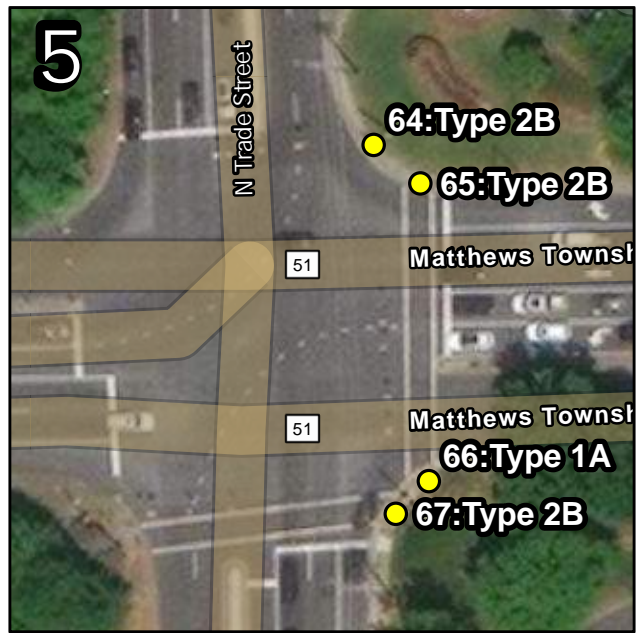
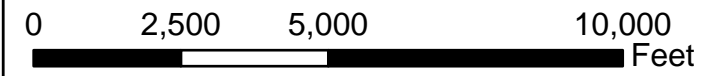
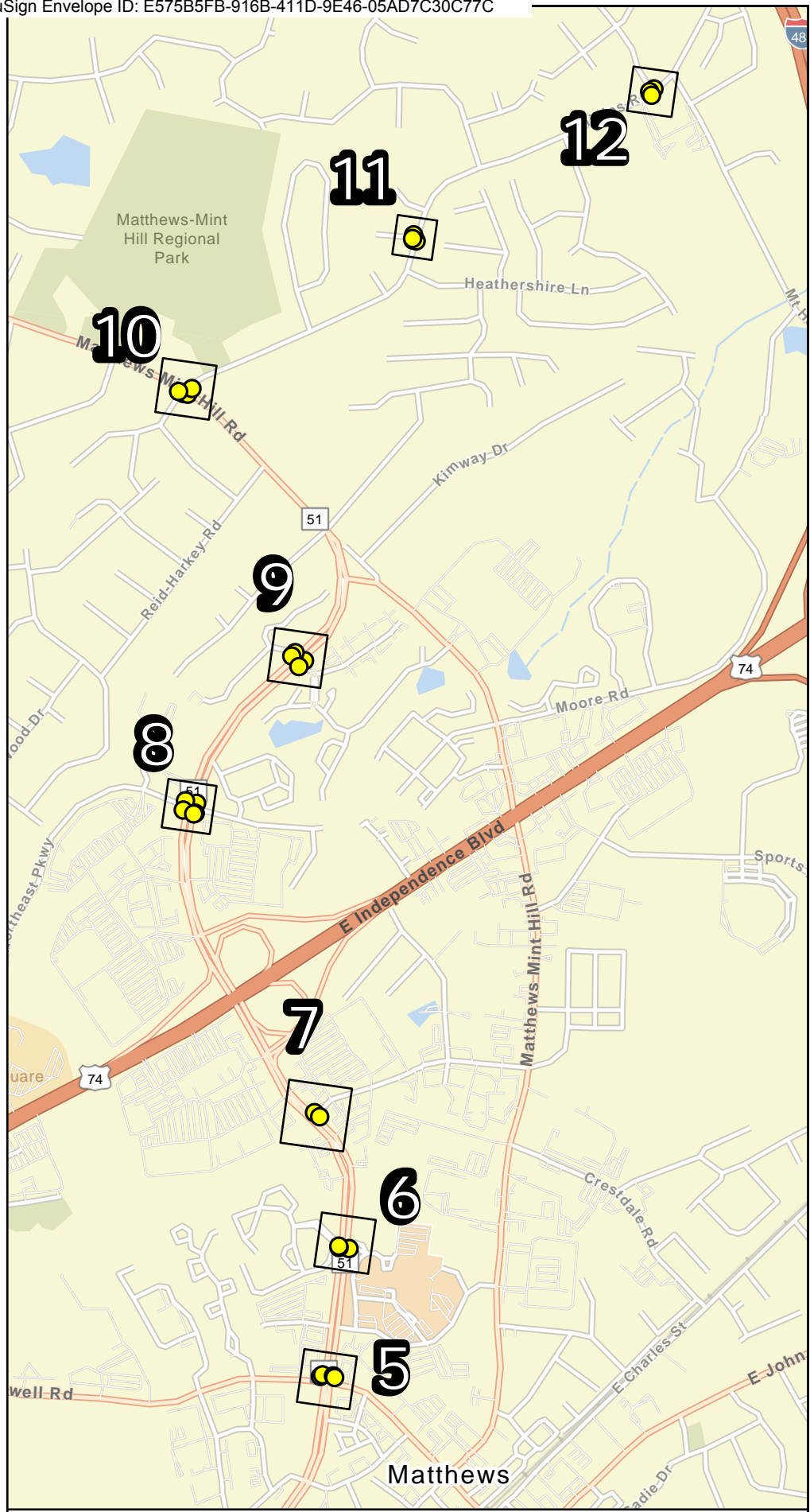
DETAIL 'C'- HI-VISIBILITY CROSSWALK

GENERAL NOTES:

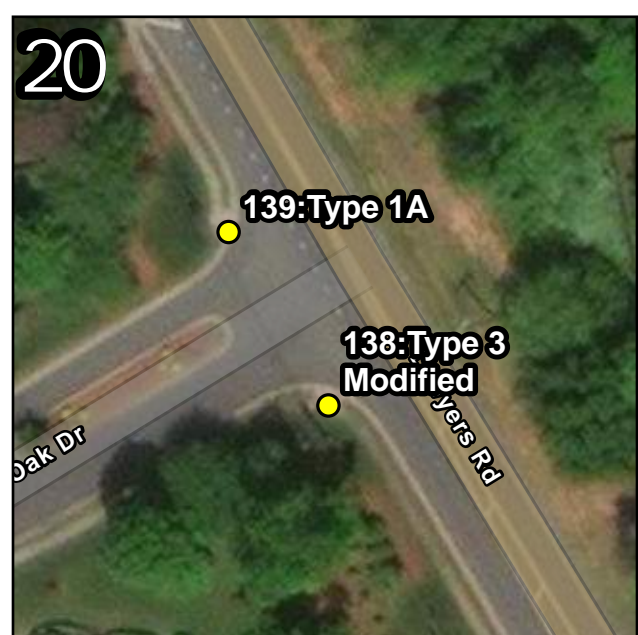
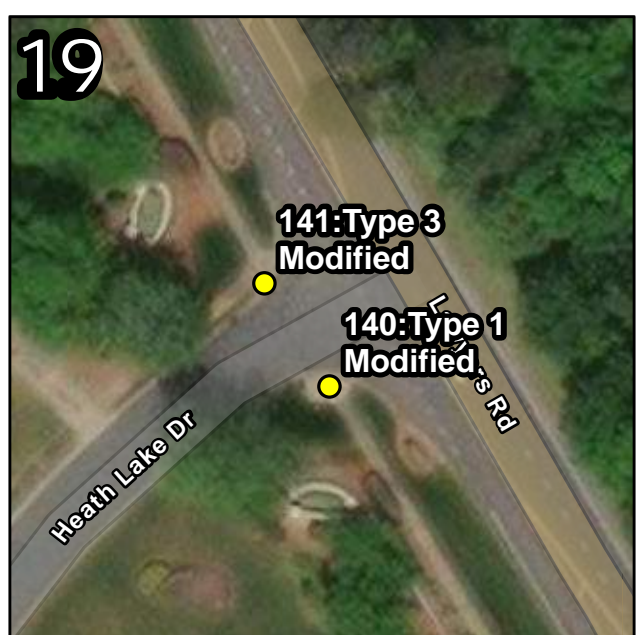
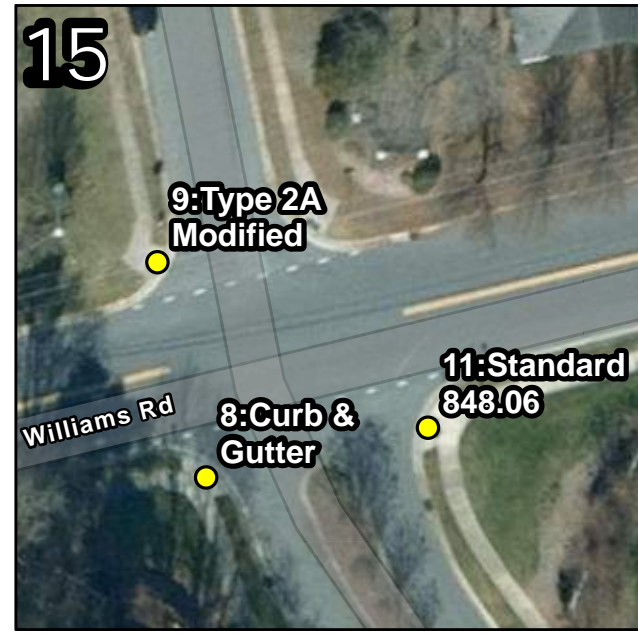
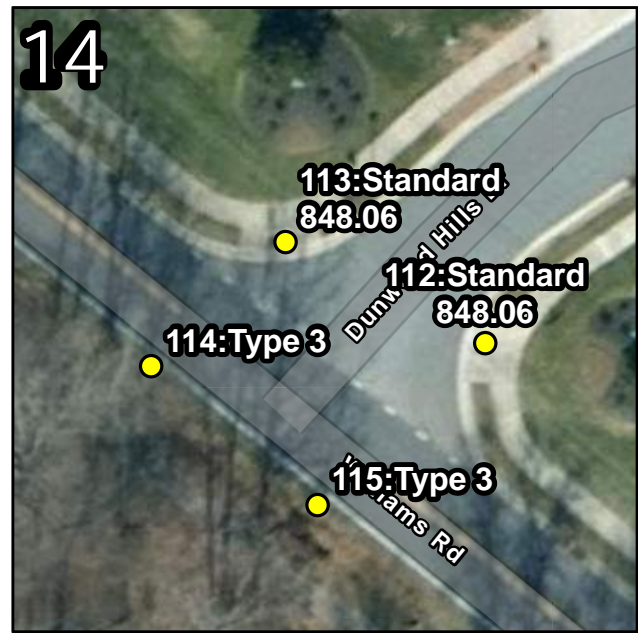
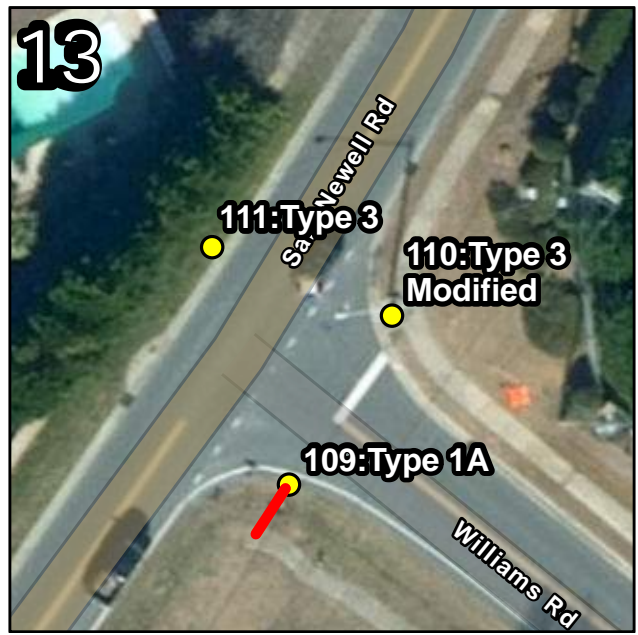
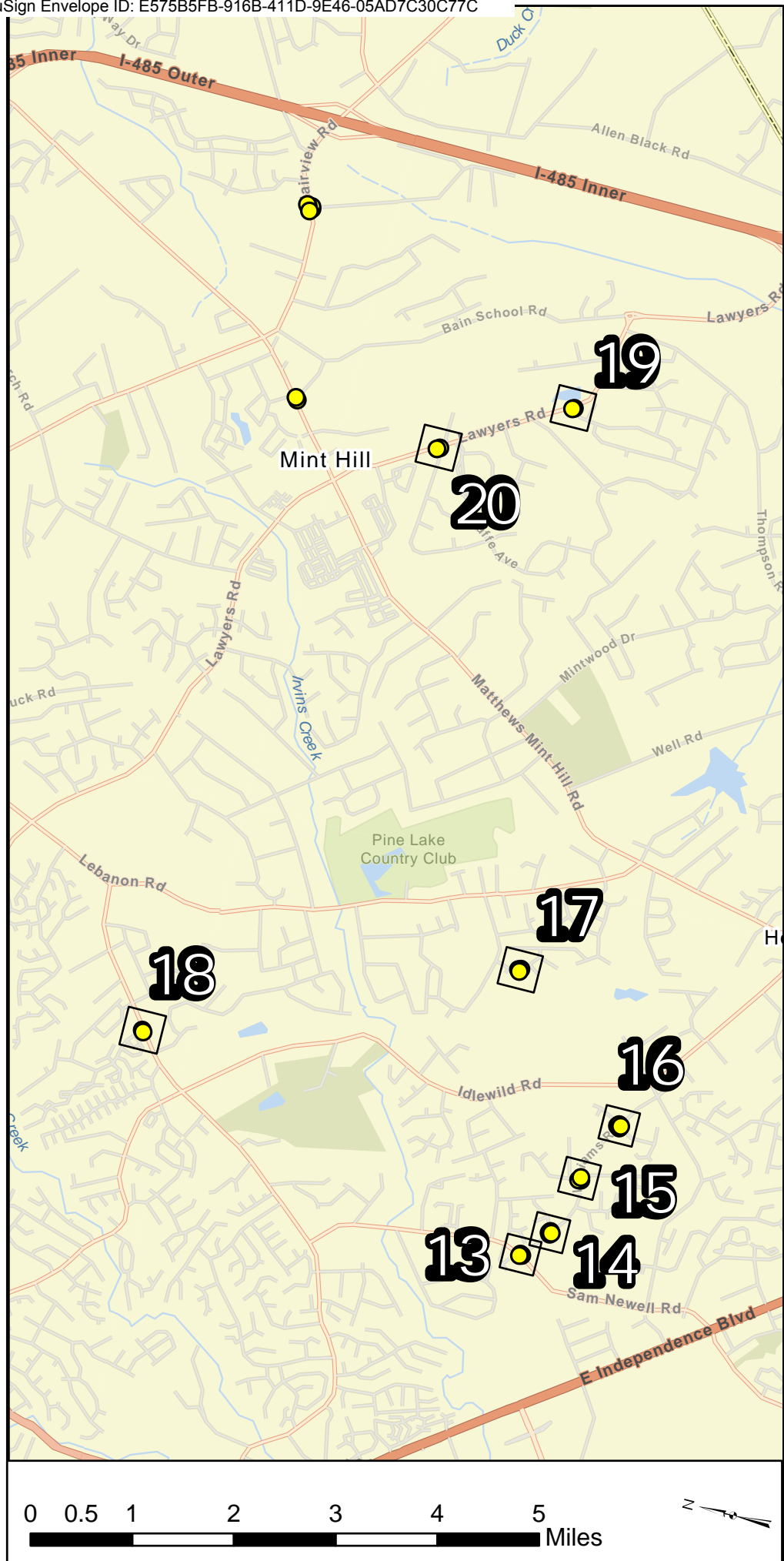
- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.
- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.
- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.
- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.
- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.
- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.
- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.
- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.



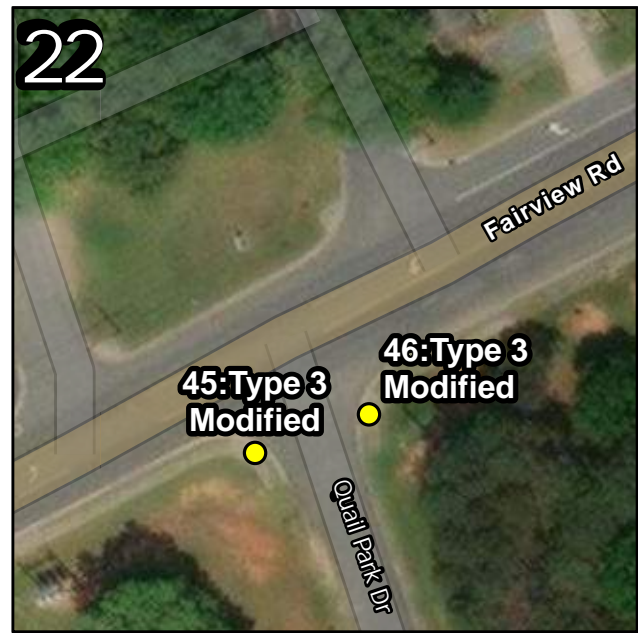
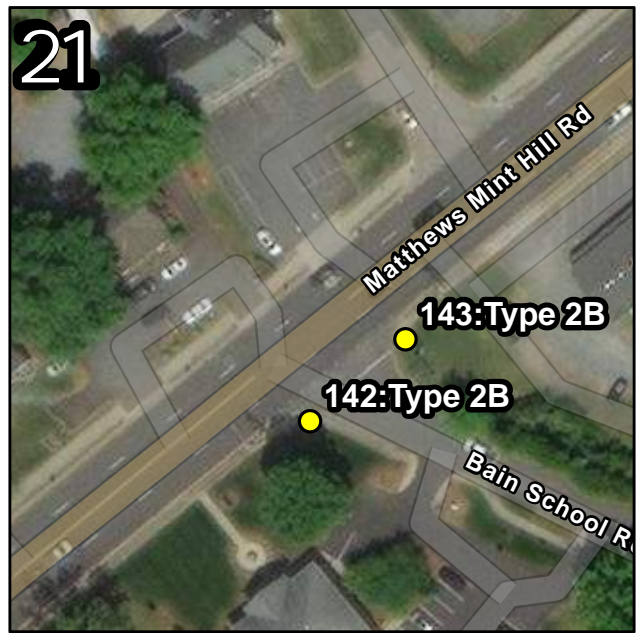
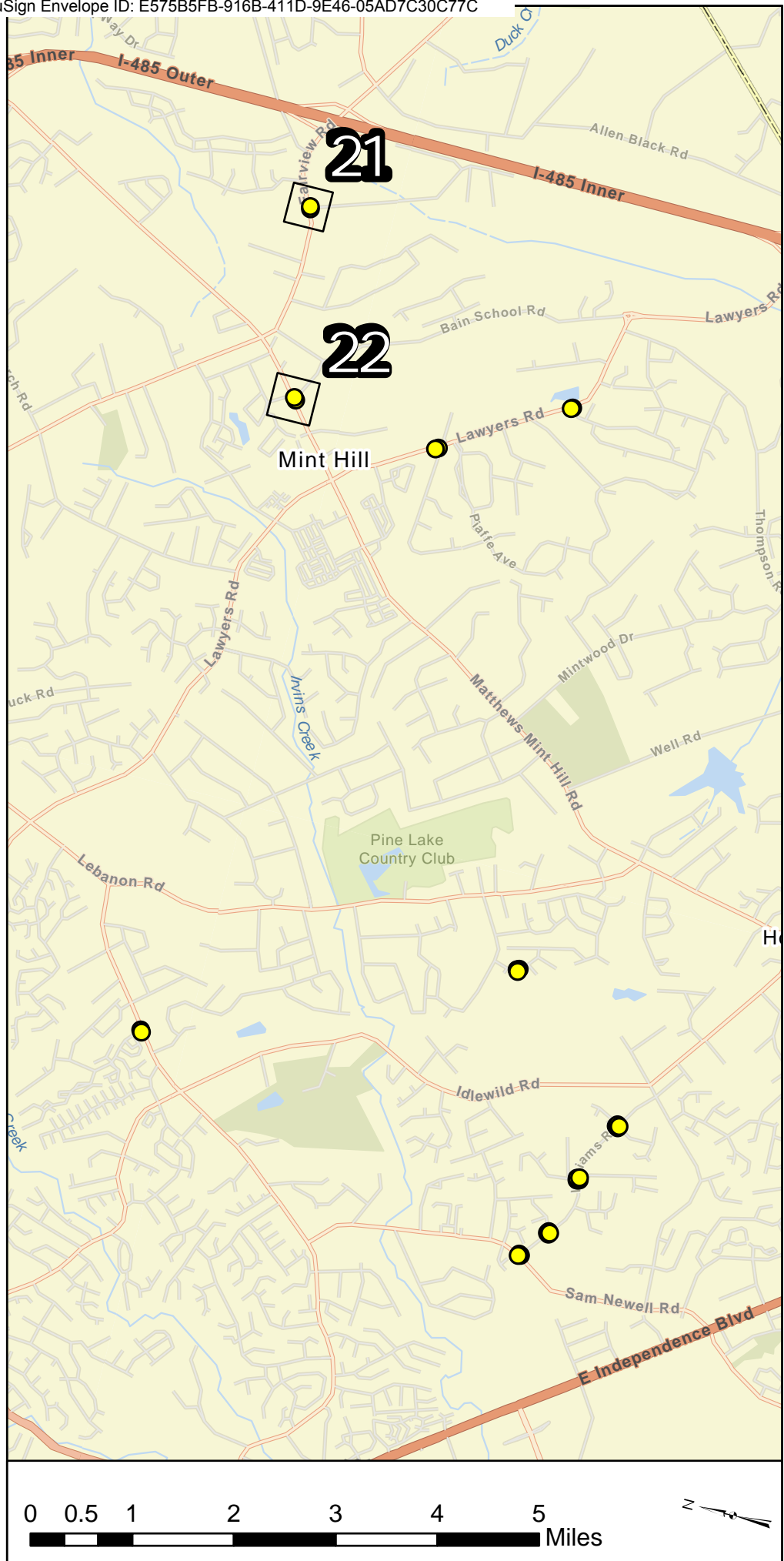
Legend		
	Ramps	
	County Boundary	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS KISINGER CAMPO & ASSOCIATES		
DIVISION 10 INTERSECTION ADA IMPROVEMENTS MECKLENBURG AND UNION COUNTIES WBS 44920.1.17 / TIP R-5790JI GROUP 2		
MAP 2-1		



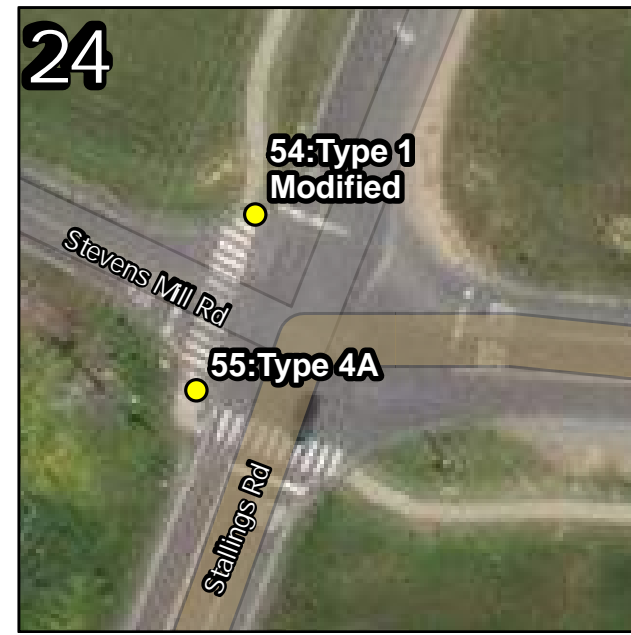
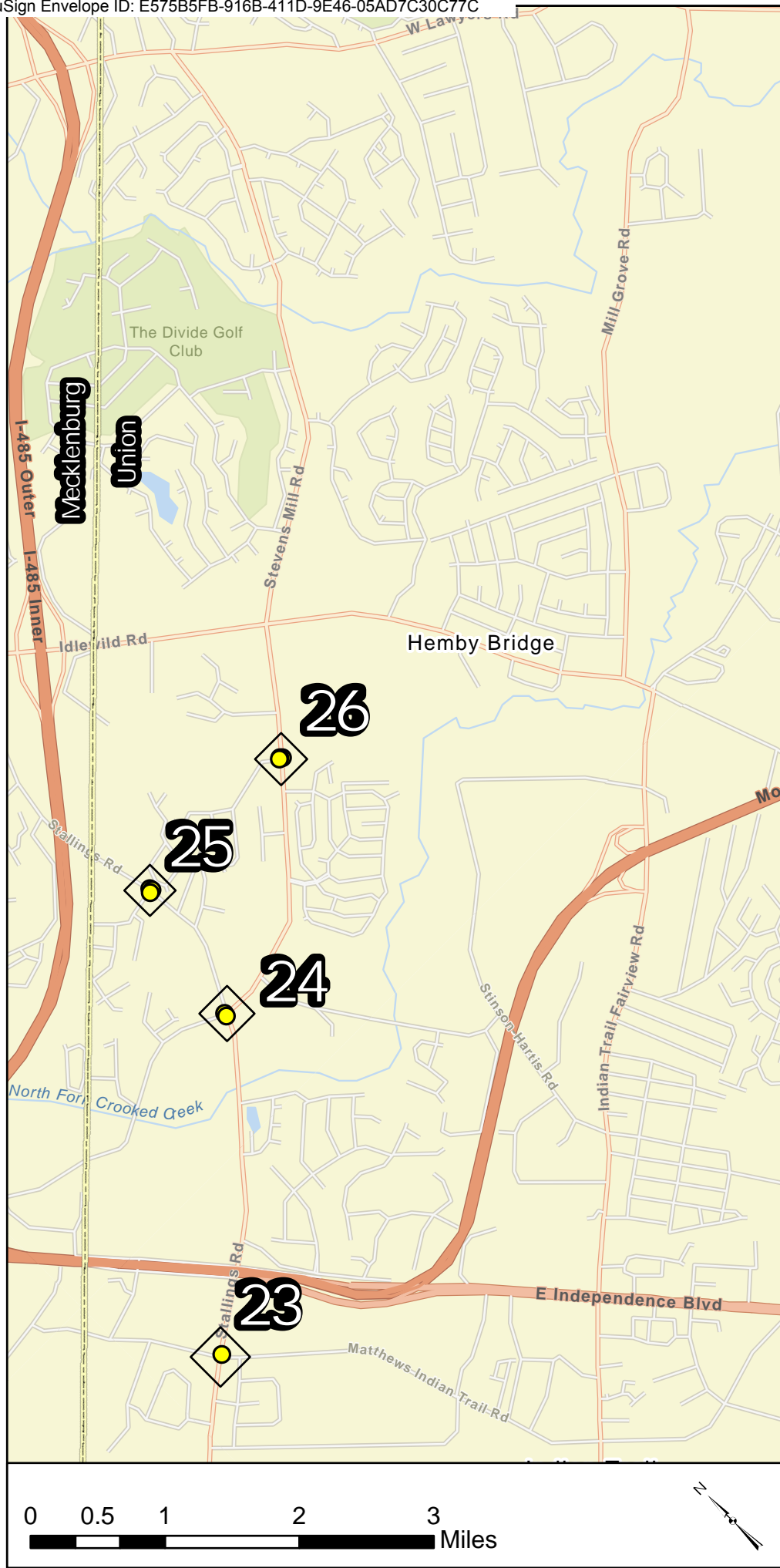
Legend Ramps County Boundary		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS KISINGER CAMPO & ASSOCIATES		
DIVISION 10 INTERSECTION ADA IMPROVEMENTS MECKLENBURG AND UNION COUNTIES WBS 44920.1.17 / TIP R-5790J1 GROUP 2		
MAP 2-2		



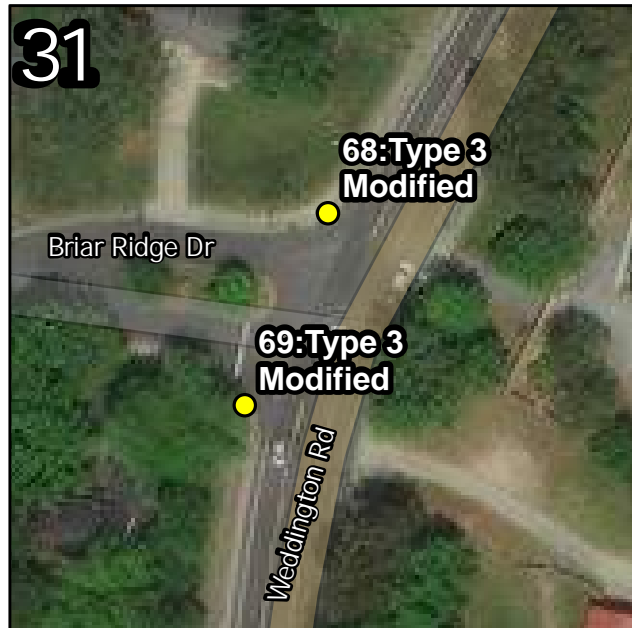
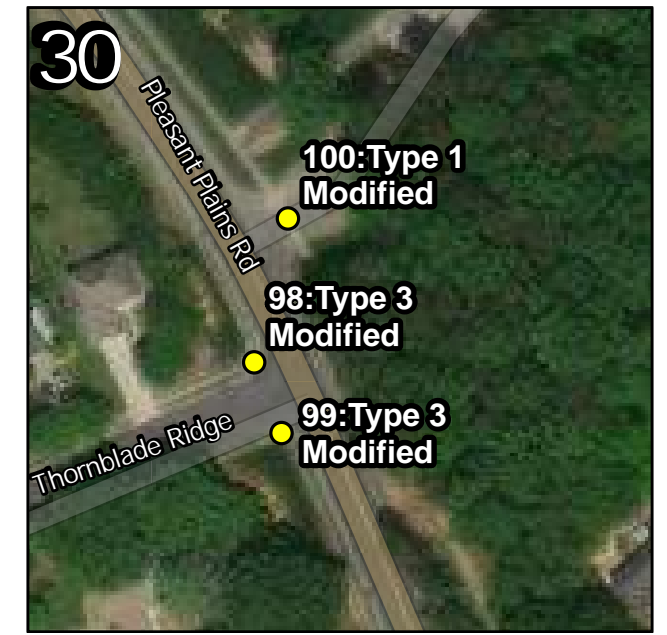
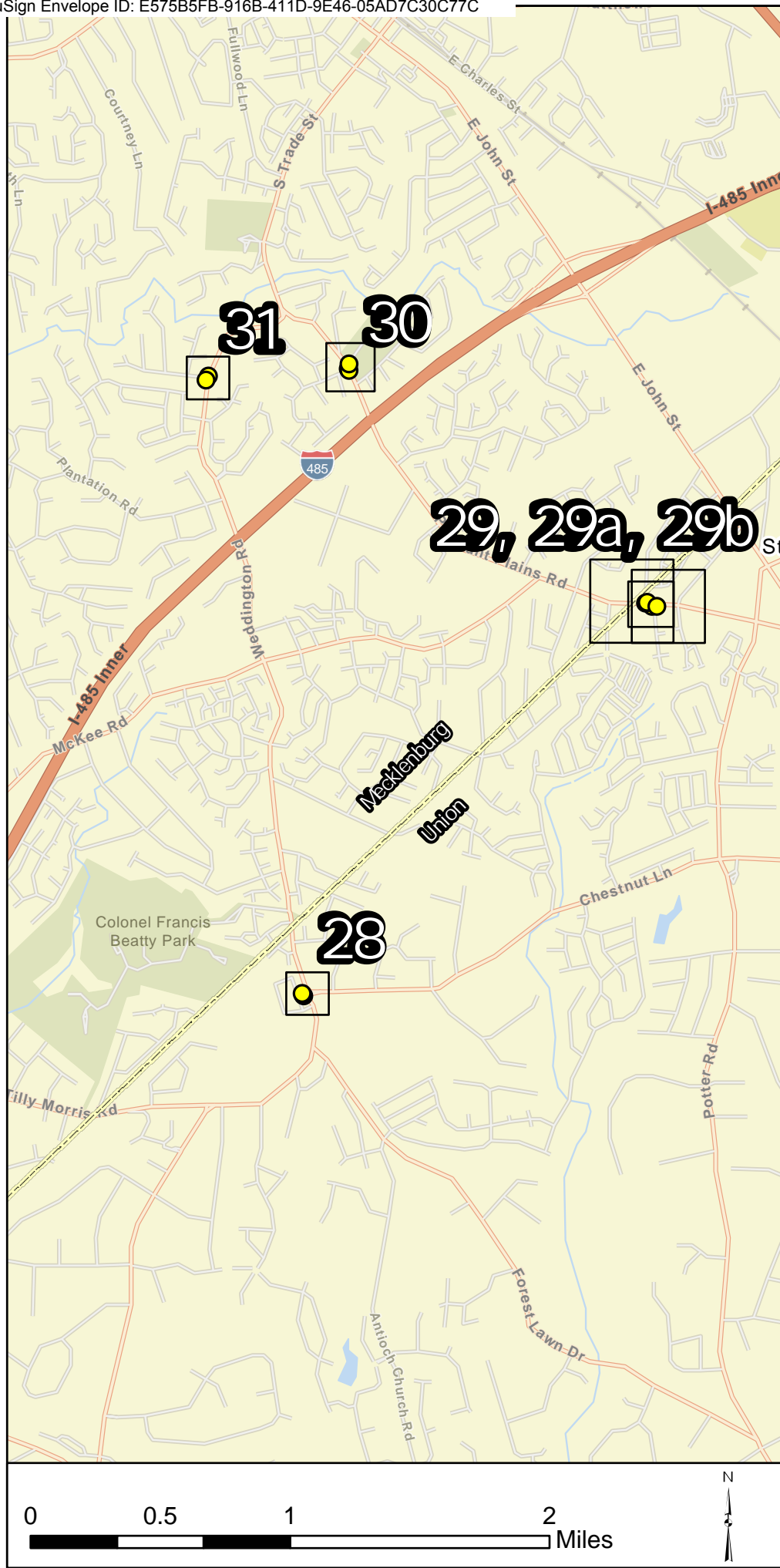
Legend <ul style="list-style-type: none"> ● Ramps County Boundary — Prop Sidewalk 		
		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS KISINGER CAMPO & ASSOCIATES
DIVISION 10 INTERSECTION ADA IMPROVEMENTS MECKLENBURG AND UNION COUNTIES WBS 44920.1.17 / TIP R-5790JI GROUP 2		
MAP 2-3		



Legend		
	Ramp	
	County Boundary	
		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS KISINGER CAMPO & ASSOCIATES
DIVISION 10 INTERSECTION ADA IMPROVEMENTS MECKLENBURG AND UNION COUNTIES WBS 44920.1.17 / TIP R-5790JI GROUP 2		
		MAP 2-4




Legend		
	Ramp	
	County Boundary	
		<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS</p> <p>KISINGER CAMPO & ASSOCIATES</p> <p>DIVISION 10 INTERSECTION ADA IMPROVEMENTS MECKLENBURG AND UNION COUNTIES</p> <p>WBS 44920.1.17 / TIP R-5790JI</p> <p>GROUP 2</p>
		MAP 2-5



Legend

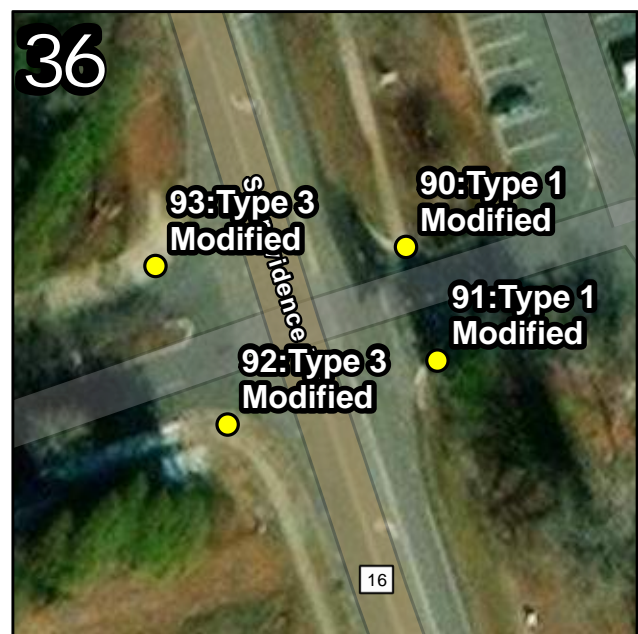
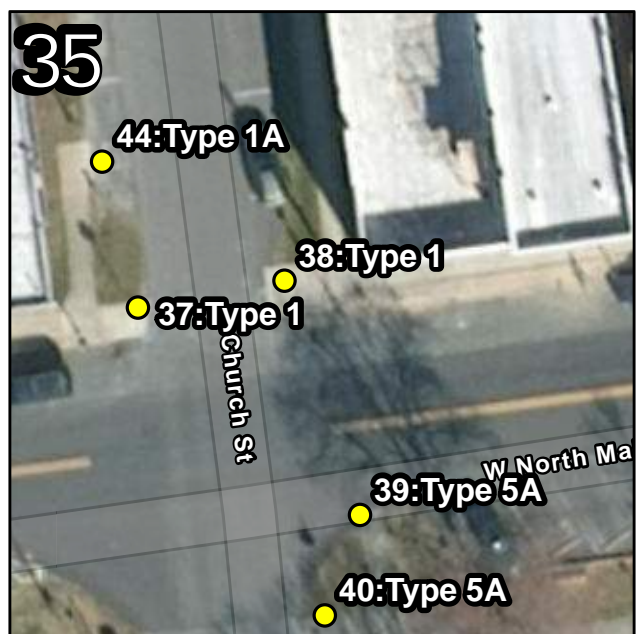
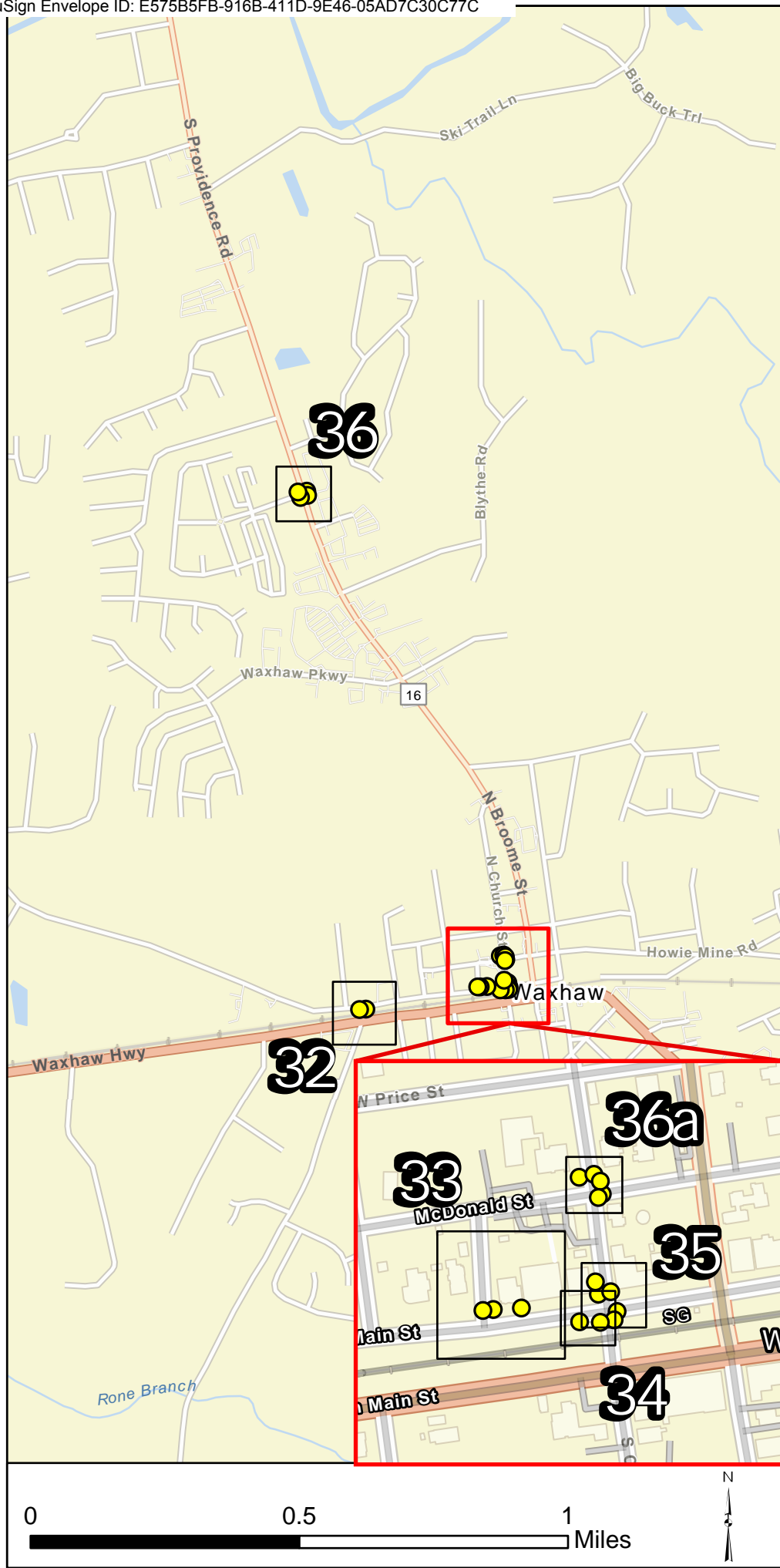
- Ramp
- County Boundary
- Sidewalk

 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

DIVISION 10 INTERSECTION ADA IMPROVEMENTS
 MECKLENBURG AND UNION COUNTIES
 WBS 44920.1.17 / TIP R-5790JI
 GROUP 2

MAP 2-6



Legend

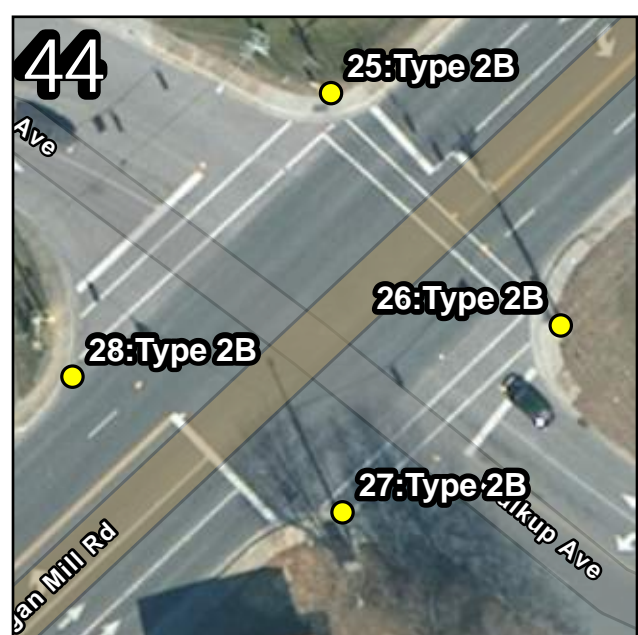
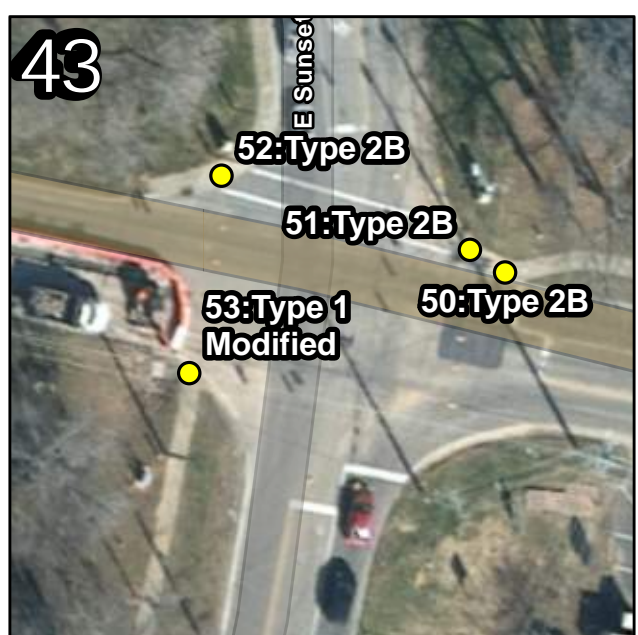
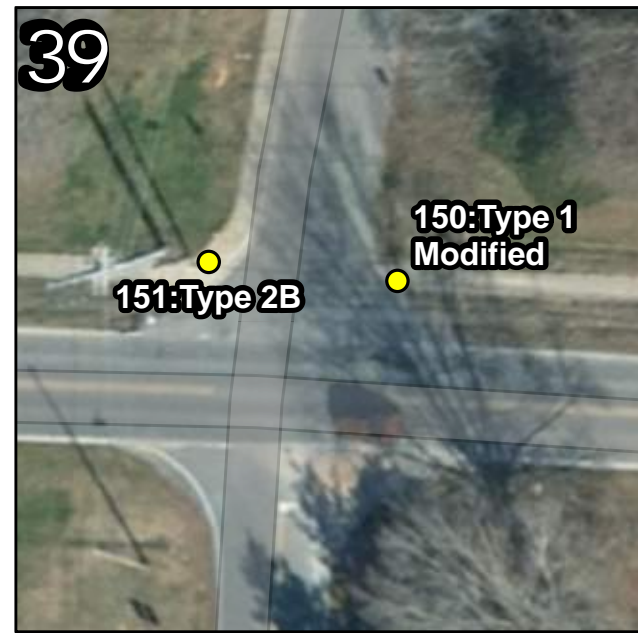
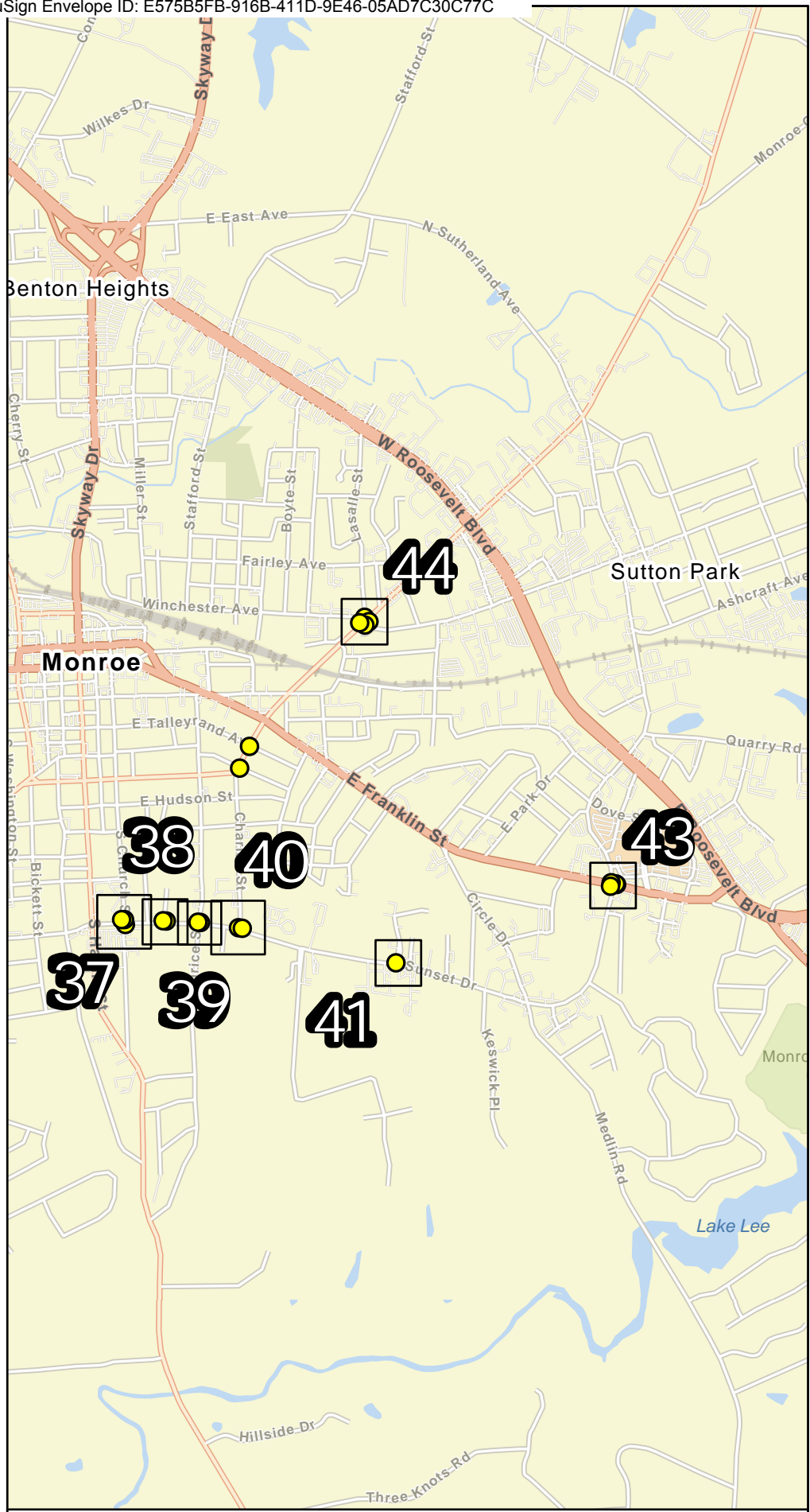
- Ramp
- County Boundary

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES


DIVISION 10 INTERSECTION ADA IMPROVEMENTS
 MECKLENBURG AND UNION COUNTIES
 WBS 44920.1.17 / TIP R-5790JI
 GROUP 2


MAP 2-7



Legend

- Ramp
- ▭ County Boundary

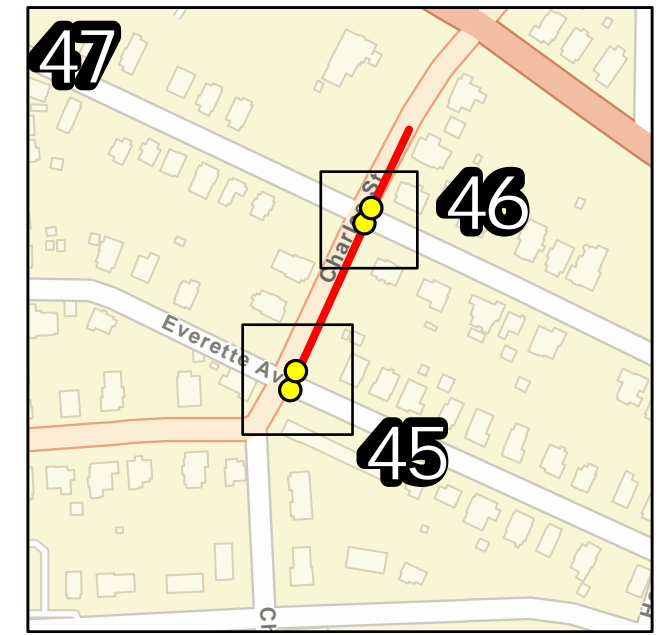
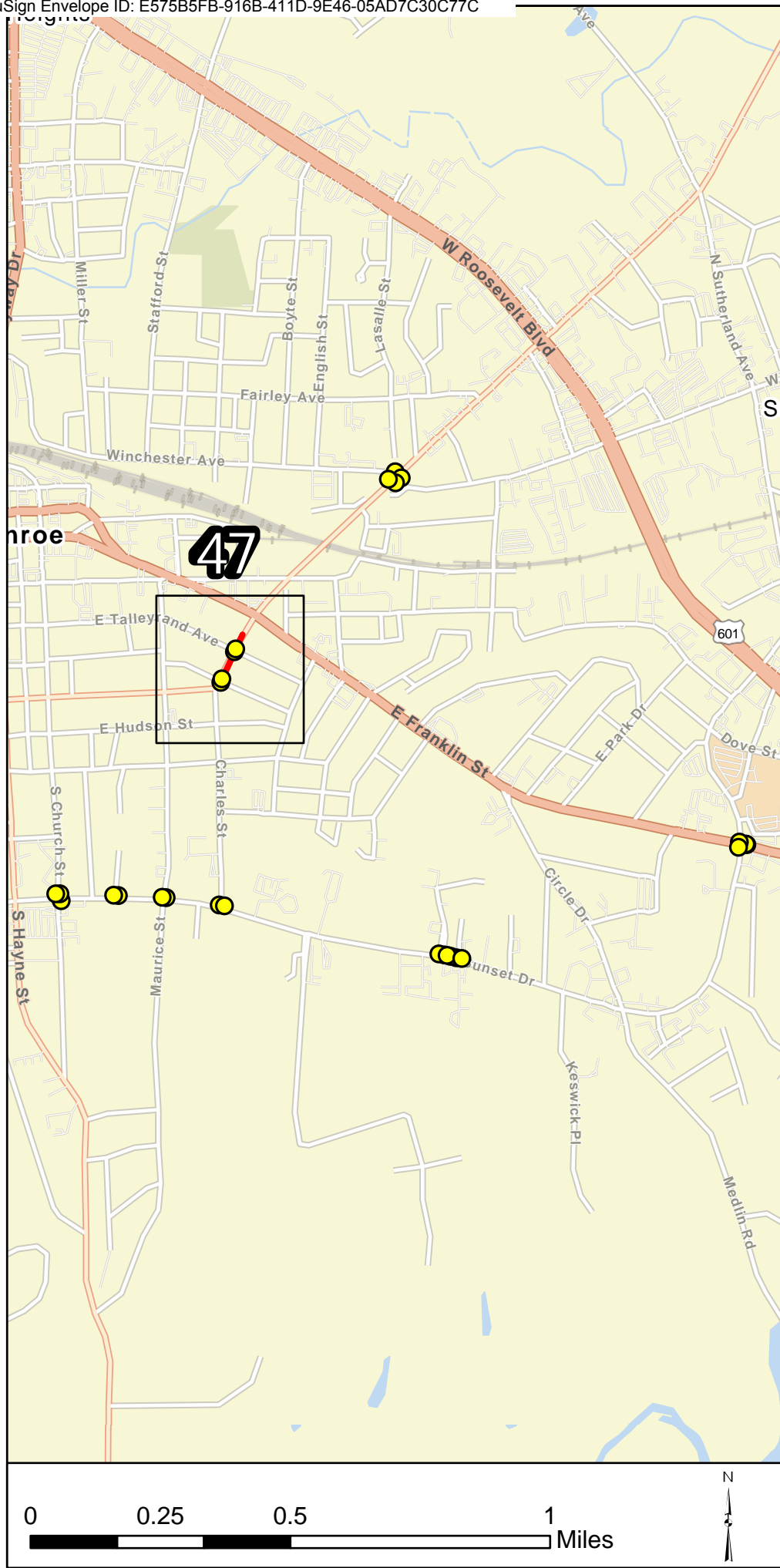


 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

DIVISION 10 INTERSECTION ADA IMPROVEMENTS
MECKLENBURG AND UNION COUNTIES
WBS 44920.1.17 / TIP R-5790J1
GROUP 2

MAP 2-8



Legend		
	County Boundary	
	Sidewalk	
	Ramps	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		
KISINGER CAMPO & ASSOCIATES		
DIVISION 10 INTERSECTION ADA IMPROVEMENTS MECKLENBURG AND UNION COUNTIES WBS 44920.1.17 / TIP R-5790JI GROUP 2		
		MAP 2-9