09/08/99

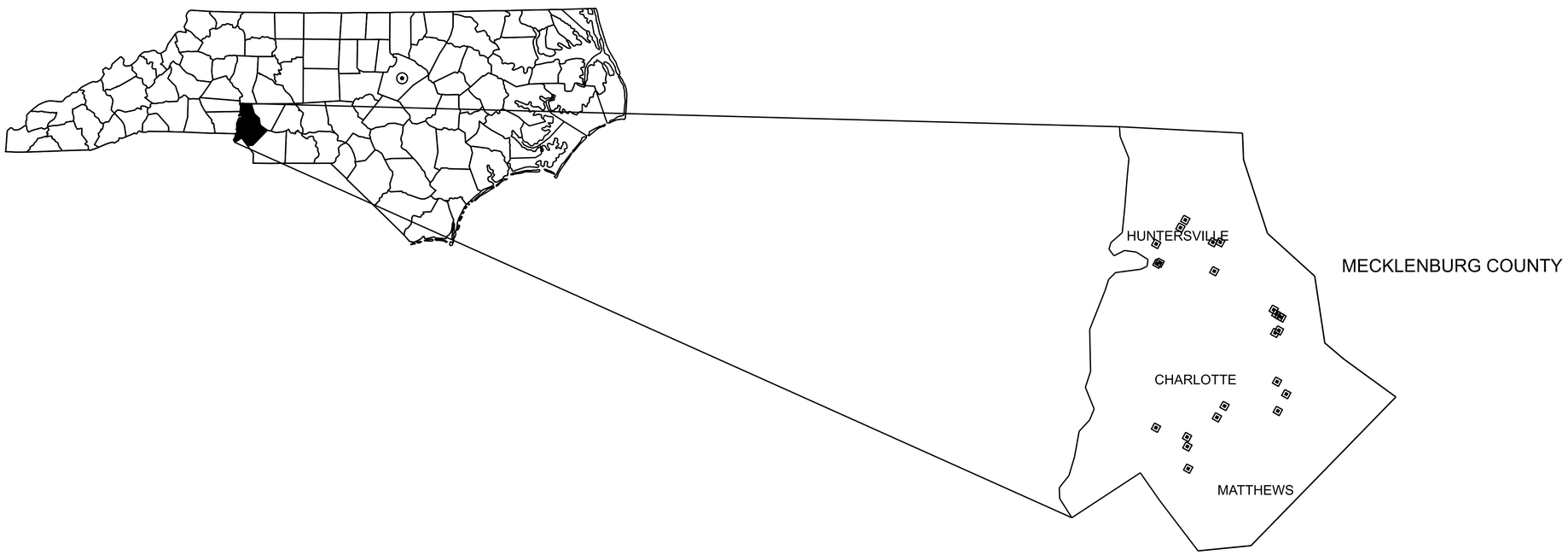
PROJECT: R-5790JJ

PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
44920.1.18	1	30

CURB RAMP INSTALLATION AND MODIFICATIONS

PREPARED FOR

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS
DIVISION 10: MECKLENBURG COUNTY



GROUP 3

LEGEND:

▣ RAMP LOCATION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT DATA

LOCATIONS:

CONTRACT 3: 23

NO. OF RAMPS:

CONTRACT 3: 162

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
2 THRU 3	QUANTITIES
4 THRU 18	STANDARD DRAWINGS
19 THRU 30	PLAN LAYOUTS

PREPARED IN THE OFFICE OF:

KCA
KISINGER CAMPO & ASSOCIATES
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

NORTH CAROLINA PROFESSIONAL SEAL 043777 ENGINEER JACOB H DUKE

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:
AUGUST 2023

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

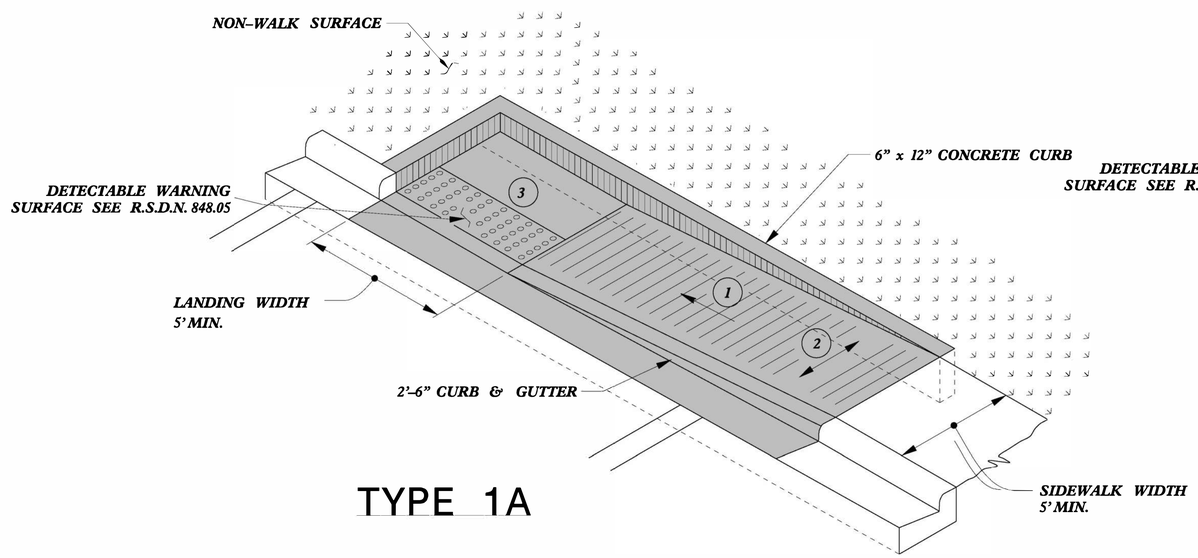
Summary of Quantities

Ramp ID	Map Number	Inset Number	Route 1	Route 2	2549000000-E	2591000000-E		2845000000-N	2830000000-N	5882000000-N	4362000000-N	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		Retrofit Existing Curb Ramps	Remove & Replace Ramps	Concrete Curb Ramps	
					LF	SY	SY	EA	EA	EA	EA		EA	EA	EA	
1	3-1	5	Broadrick Blvd.	University City Blvd	1	33						Black	1			Retrofit
2	3-1	5	Broadrick Blvd.	University City Blvd					1			Black	1			Retrofit
3	3-1	5	Broadrick Blvd.	University City Blvd								Black	1			Retrofit
4	3-1	4	Broadrick Blvd.	University City Blvd	18					2		Black	1			Retrofit
5	3-1	4	Broadrick Blvd.	University City Blvd								Black	1			Retrofit
6	3-1	4	Broadrick Blvd.	University City Blvd								Black	1			Retrofit
7	3-1	4	Broadrick Blvd.	University City Blvd								Black	1			Retrofit
8	3-1	7	Broadrick Blvd.	University City Blvd		18						Black		1		Standard 848.06
9	3-1	7	Broadrick Blvd.	University City Blvd	43							Black		1		Standard 848.06
11	3-1	6	Broadrick Blvd.	University City Blvd		6						Black	2			Retrofit
12	3-1	6	Broadrick Blvd.	University City Blvd	19							Black				Curb & Gutter
13	3-1	6	Broadrick Blvd.	University City Blvd								Black		1		Type 1 Modified
14	3-1	5	Broadrick Blvd.	University City Blvd		5						Black	1			Retrofit
15	3-4	21	Albemarle Rd	Farm Pond Ln		3						Black		1		Standard 848.06
16	3-4	21	Albemarle Rd	Farm Pond Ln	7	4						Black		1		Standard 848.06
17	3-4	21	Albemarle Rd	Farm Pond Ln								Black		1		Type 7
18	3-4	21	Albemarle Rd	Farm Pond Ln	7							Black		1		Type 7
19	3-4	20	Albemarle Rd	Farm Pond Ln	6							Black				Curb & Gutter
20	3-4	22	Albemarle Rd	Farm Pond Ln	5	3		1				Black		1		Standard 848.06
21	3-4	22	Albemarle Rd	Farm Pond Ln								Black		1		Standard 848.06
22	3-4	22	Albemarle Rd	Farm Pond Ln								Black		1		Type 7
23	3-4	23	Albemarle Rd	Farm Pond Ln		7						Black	1			Retrofit
24	3-4	23	Albemarle Rd	Farm Pond Ln								Black		1		Standard 848.06
25	3-4	23	Albemarle Rd	Farm Pond Ln		4						Black		1		Standard 848.06
26	3-1	1	University City Blvd	Cameron Blvd	22							Brick		1		Type 1A
31	3-1	2	University City Blvd	Cameron Blvd								Brick		1		Type 3
36	3-1	3	University City Blvd	Cameron Blvd	25							Black		1		Standard 848.06
37	3-1	3	University City Blvd	Cameron Blvd	12							Black		1		Standard 848.06
38	3-8	44	E 7th St	Pecan Ave								Black		1		Standard 848.06
39	3-8	44	E 7th St	Pecan Ave	20	6						Black		1		Standard 848.06
40	3-8	44	E 7th St	Pecan Ave		6						Black				Sidewalk
41	3-8	44	E 7th St	Pecan Ave								Black		1		Type 2
42	3-6	30	E Arrowood Rd	South Blvd		1						Black		1		Standard 848.06
43	3-6	29	E Arrowood Rd	South Blvd	8	4						Black		1		Type 2B
44	3-6	29	E Arrowood Rd	South Blvd								Black		1		Type 6
45	3-6	29	E Arrowood Rd	South Blvd								Black		1		Type 6
46	3-6	29	E Arrowood Rd	South Blvd		3						Black		1		Type 1A
47	3-6	29	E Arrowood Rd	South Blvd								Black		1		Type 6
48	3-6	30	E Arrowood Rd	South Blvd		16				1		Black		1		Standard 848.06
49	3-6	30	E Arrowood Rd	South Blvd		9				1		Black		1		Standard 848.06
50	3-6	30	E Arrowood Rd	South Blvd		3						Black		1		Standard 848.06
51	3-6	32	South Blvd	Tyvola Rd		11				1		Black		1		Type 3
52	3-6	32	South Blvd	Tyvola Rd								Black		1		Type 7
53	3-6	32	South Blvd	Tyvola Rd								Black		1		Type 3 Modified
54	3-6	31	South Blvd	Tyvola Rd								Black		1		Type 2B
55	3-6	31	South Blvd	Tyvola Rd								Black		1		Type 2
56	3-6	31	South Blvd	Tyvola Rd								Black		1		Type 7
57	3-6	33	South Blvd	Tyvola Rd								Black		1		Type 2B
58	3-6	33	South Blvd	Tyvola Rd								Black		1		Type 7
59	3-6	33	South Blvd	Tyvola Rd							1	Black		1		Type 3 Modified
60	3-2	9	E Mallard Creek Church Rd	Mary Alexander Rd								Black		1		Type 3 Modified
61	3-2	9	E Mallard Creek Church Rd	Mary Alexander Rd	33							Black		1		Type 3 Modified
62	3-2	9	E Mallard Creek Church Rd	Mary Alexander Rd								Black		1		Type 4A
63	3-2	9	E Mallard Creek Church Rd	Mary Alexander Rd								Black		1		Type 4A
64	3-2	8	E Mallard Creek Church Rd	Mary Alexander Rd								Black		1		Type 3 Modified
65	3-2	8	E Mallard Creek Church Rd	Mary Alexander Rd		2						Black		1		Type 3 Modified
66	3-2	8	E Mallard Creek Church Rd	Mary Alexander Rd								Black		1		Standard 848.06
67	3-2	8	E Mallard Creek Church Rd	Mary Alexander Rd								Black	1			Retrofit
68	3-2	10	E Mallard Creek Church Rd	Stone Quarry Rd	5							Black		1		Standard 848.06
69	3-2	10	E Mallard Creek Church Rd	Stone Quarry Rd								Black		1		Standard 848.06
70	3-2	10	E Mallard Creek Church Rd	Stone Quarry Rd	10							Black		1		Type 3 Modified
71	3-2	12	E Mallard Creek Church Rd	Stone Quarry Rd		8		1				Black		1		Type 3
72	3-2	12	E Mallard Creek Church Rd	Stone Quarry Rd								Black		1		Standard 848.06
73	3-2	12	E Mallard Creek Church Rd	Stone Quarry Rd								Black		1		Standard 848.06
74	3-2	11	E Mallard Creek Church Rd	Stone Quarry Rd								Black		1		Standard 848.06
75	3-2	11	E Mallard Creek Church Rd	Stone Quarry Rd								Black		1		Standard 848.06
76	3-10	55	Sam Furr Road	Holly Point Dr								Black		1		Type 3 Modified
77	3-10	55	Sam Furr Road	Holly Point Dr		11						Black		1		Standard 848.06
78	3-10	55	Sam Furr Road	Holly Point Dr								Black		1		Standard 848.06
80	3-10	53	Sam Furr Road	Holly Point Dr								Black		1		Standard 848.06
81	3-10	53	Sam Furr Road	Holly Point Dr								Black		1		Standard 848.06
82	3-10	54	Sam Furr Road	Holly Point Dr		3						Black		1		Type 3 Modified
83	3-4	24	E W T Harris Blvd	Hickory Grove Rd		6						Black		1		Type 2B
84	3-4	24	E W T Harris Blvd	Hickory Grove Rd		6						Black				Type 2B
85	3-4	26	E W T Harris Blvd	Hickory Grove Rd		5				1		Black		1		Type 2B
86	3-4	26	E W T Harris Blvd	Hickory Grove Rd								Black		1		Type 2B
87	3-4	25	E W T Harris Blvd	Hickory Grove Rd								Black	2			Retrofit
88	3-4	25	E W T Harris Blvd	Hickory Grove Rd								Black		1		Type 2B
89	3-4	25	E W T Harris Blvd	Hickory Grove Rd								Black		1		Type 2B
90	3-4	24	E W T Harris Blvd	Hickory Grove Rd								Black		1		Type 2B
91	3-8	41	Harvard Pl	Queens Rd	40							Black		1		Type 5A
92	3-8	42	Harvard Pl	Queens Rd	40							Black		1		Type 5A
93	3-8	42	Harvard Pl	Queens Rd	40	14						Black		1		Type 5A
94	3-8	42	Harvard Pl	Queens Rd	35	14						Black		1		Type 5A
95	3-8	43	Harvard Pl	Queens Rd	50		11					Black			1	Type 1 Modified
96	3-8	43	Harvard Pl	Queens Rd	50							Black			1	Type 1 Modified
97	3-8	43	Harvard Pl	Queens Rd	20			1				Black			1	Type 3
98	3-8	41	Harvard Pl	Queens Rd	25			2				Black			1	Type 3
99	3-8	41	Harvard Pl	Queens Rd	50				1			Black			1	Type 1 Modified
100	3-8	41	Harvard Pl	Queens Rd	50							Black			1	Type 1 Modified
101	3-3	19	W. Mallard Creek Church Rd	Berkeley Place Dr								Black		1		Type 2B
102	3-3	19	W. Mallard Creek Church Rd	Berkeley Place Dr								Black		1		Type 2B

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	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		Retrofit Existing Curb Ramps	Remove & Replace Ramps	Concrete Curb Ramps	
					LF	SY	SY	EA	EA	EA	EA		EA	EA	EA	
103	3-3	19	W. Mallard Creek Church Rd	Berkeley Place Dr								Black		1		Standard 848.06
104	3-3	18	W. Mallard Creek Church Rd	Berkeley Place Dr								Black		1		Standard 848.06
105	3-3	18	W. Mallard Creek Church Rd	Berkeley Place Dr	26							Black		1		Standard 848.06
106	3-3	18	W. Mallard Creek Church Rd	Berkeley Place Dr								Black		1		Standard 848.06
107	3-3	14	W. Mallard Creek Church Rd	Berkeley Place Dr		2						Black		1		Standard 848.06
108	3-7	39	W Tyvola Rd	Yorkmont Rd		7						Black		1		Type 4A
109	3-7	39	W Tyvola Rd	Yorkmont Rd		6						Black		1		Type 4A
110	3-7	38	W Tyvola Rd	Yorkmont Rd		8						Black		1		Type 2B
111	3-7	38	W Tyvola Rd	Yorkmont Rd								Black		1		Type 2B
112	3-7	37	W Tyvola Rd	Yorkmont Rd		11						Black		1		Type 2B
113	3-7	37	W Tyvola Rd	Yorkmont Rd		11						Black		1		Type 2B
114	3-7	40	W Tyvola Rd	Yorkmont Rd								Black		1		Type 4C
115	3-7	40	W Tyvola Rd	Yorkmont Rd								Black		1		Type 4C
116	3-9	45	Hambright Road	Bryton Corporate Center Drive								Black		1		Standard 848.06
117	3-9	45	Hambright Road	Bryton Corporate Center Drive		8						Black		1		Standard 848.06
119	3-9	46	Hambright Road	Bryton Corporate Center Drive								Black		1		Standard 848.06
120	3-9	46	Hambright Road	Bryton Corporate Center Drive		3						Black		1		Standard 848.06
122	3-9	47	Hambright Road	Bryton Corporate Center Drive								Black		1		Standard 848.06
123	3-9	47	Hambright Road	Bryton Corporate Center Drive								Black		1		Standard 848.06
125	3-9	48	Hambright Road	Bryton Corporate Center Drive		6						Black		1		Standard 848.06
126	3-9	48	Hambright Road	Bryton Corporate Center Drive								Black		1		Standard 848.06
128	3-3	16	E Mallard Creek Church Rd	N Tryon St								Black		1		Type 2B
129	3-3	16	E Mallard Creek Church Rd	N Tryon St	7	4						Black		1		Type 2B
130	3-3	14	E Mallard Creek Church Rd	N Tryon St								Black		1		Standard 848.06
131	3-3	14	E Mallard Creek Church Rd	N Tryon St	20	6						Black		1		Type 4A
132	3-3	14	E Mallard Creek Church Rd	N Tryon St			167					Black		1		Type 4A
133	3-3	15	E Mallard Creek Church Rd	N Tryon St								Black			1	Standard 848.06
134	3-5	27	E W T Harris Blvd	N Sharon Amity Rd								Black		1		Type 2B
135	3-5	27	E W T Harris Blvd	N Sharon Amity Rd	2							Black		1		Type 2B
136	3-5	28	E W T Harris Blvd	N Sharon Amity Rd								Black	1			Retrofit
137	3-5	28	E W T Harris Blvd	N Sharon Amity Rd								Black	1			Retrofit
138	3-5	28	E W T Harris Blvd	N Sharon Amity Rd								Black	1			Retrofit
139	3-5	28	E W T Harris Blvd	N Sharon Amity Rd		3						Black		1		Type 2B
140	3-5	28	E W T Harris Blvd	N Sharon Amity Rd		13						Black		1		Type 2B
141	3-6	34	E Woodlawn Rd	South Blvd								Black	1			Retrofit
142	3-6	34	E Woodlawn Rd	South Blvd								Black	1			Retrofit
143	3-6	34	E Woodlawn Rd	South Blvd								Black	1			Retrofit
144	3-6	34	E Woodlawn Rd	South Blvd								Black		1		Type 7
145	3-6	36	E Woodlawn Rd	South Blvd								Black		1		Type 4A
146	3-6	36	E Woodlawn Rd	South Blvd		8						Black		1		Type 4A
147	3-6	35	E Woodlawn Rd	South Blvd								Black		1		Type 1 Modified
148	3-6	35	E Woodlawn Rd	South Blvd								Black		1		Type 3
149	3-6	35	E Woodlawn Rd	South Blvd								Black		1		Type 4A
150	3-6	35	E Woodlawn Rd	South Blvd								Black		1		Type 4A
151	3-11	59	Gilead Road	Shady Vale Lane		5						Black				Sidewalk
152	3-11	59	Gilead Road	Shady Vale Lane	31	6						Black		1		Type 3 Modified
153	3-11	59	Gilead Road	Shady Vale Lane	20	11						Black		1		Type 3 Modified
154	3-9	51	Huntersville-Concord Road	Centennial Forest Dr/Eastgate Dr		4						Black		1		Type 3 Modified
155	3-9	51	Huntersville-Concord Road	Centennial Forest Dr/Eastgate Dr	6							Black		1		Type 7
156	3-9	51	Huntersville-Concord Road	Centennial Forest Dr/Eastgate Dr		4						Black		1		Type 3 Modified
157	3-9	50	Huntersville-Concord Road	Centennial Forest Dr/Eastgate Dr								Black		1		Type 3 Modified
158	3-9	50	Huntersville-Concord Road	Centennial Forest Dr/Eastgate Dr		4						Black		1		Type 3 Modified
161	3-9	49	Huntersville-Concord Road	Loch Raven Rd/Morningate St								Black		1		Standard 848.06
162	3-9	49	Huntersville-Concord Road	Loch Raven Rd/Morningate St								Black		1		Standard 848.06
163	3-9	49	Huntersville-Concord Road	Loch Raven Rd/Morningate St								Black		1		Type 7
164	3-9	49	Huntersville-Concord Road	Loch Raven Rd/Morningate St		6						Black		1		Standard 848.06
165	3-9	49	Huntersville-Concord Road	Loch Raven Rd/Morningate St		4						Black		1		Standard 848.06
166	3-11	56	McIlwaine Road	Aberdeen Park Dr								Black		1		Standard 848.06
167	3-11	56	McIlwaine Road	Aberdeen Park Dr		6						Black				Sidewalk
168	3-11	56	McIlwaine Road	Aberdeen Park Dr		14						Black		1		Standard 848.06
169	3-11	56	McIlwaine Road	Aberdeen Park Dr								Black	1			Retrofit
170	3-11	58	McIlwaine Road	Thistlebrook Ln/Lognford Crossing Pl								Black		1		Standard 848.06
171	3-11	58	McIlwaine Road	Thistlebrook Ln/Lognford Crossing Pl								Black		1		Standard 848.06
172	3-11	57	McIlwaine Road	Thistlebrook Ln/Lognford Crossing Pl		3						Black		1		Standard 848.06
173	3-11	57	McIlwaine Road	Thistlebrook Ln/Lognford Crossing Pl		11						Black		1		Standard 848.06
174	3-11	57	McIlwaine Road	Thistlebrook Ln/Lognford Crossing Pl								Black	1			Retrofit
175	3-10	52	Northcross Drive	Bridgeford Ln	22							Black		1		Type 2B
176	3-10	52	Northcross Drive	Bridgeford Ln	22	23						Black		1		Type 3 Modified
177	3-10	52	Northcross Drive	Bridgeford Ln								Black		1		Standard 848.06
178	3-10	52	Northcross Drive	Bridgeford Ln		8						Black		1		Standard 848.06
				Totals	797	416	178	5	2	6	1	-	22	129	7	
					2549000000-E	2591000000-E		2845000000-N	2830000000-N	5882000000-N	4362000000-N		2600000000-N	2613000000-N	2605000000-N	
					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		Retrofit Existing Curb Ramps	Remove & Replace Ramps	Concrete Curb Ramps	
					LF	SY	SY	EA	EA	EA	EA		EA	EA	EA	

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	4



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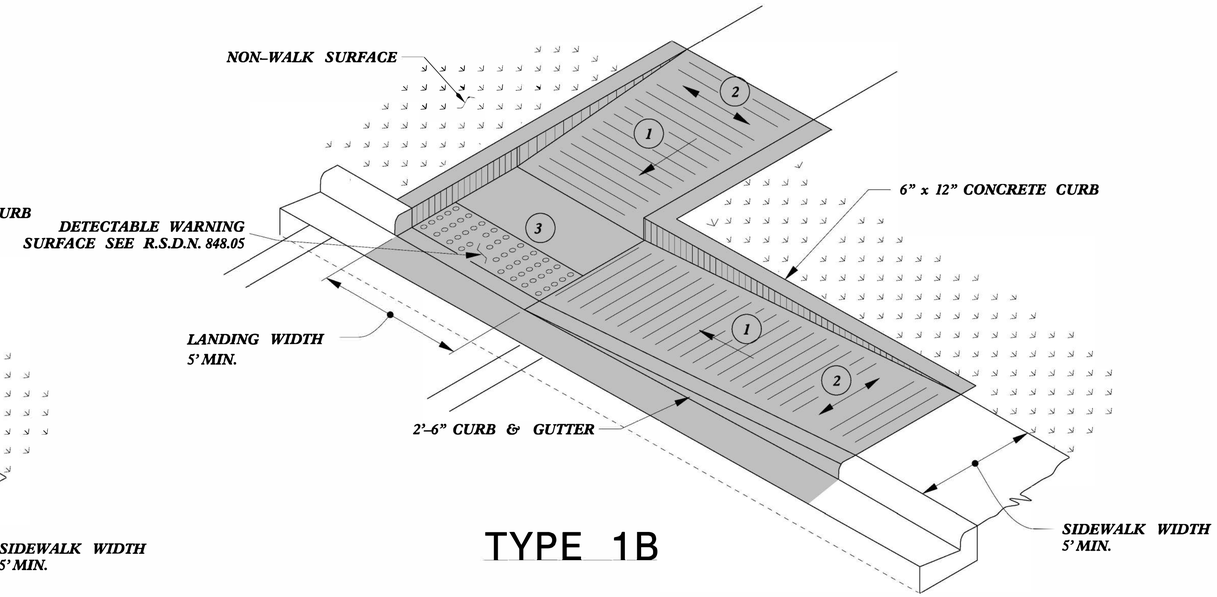

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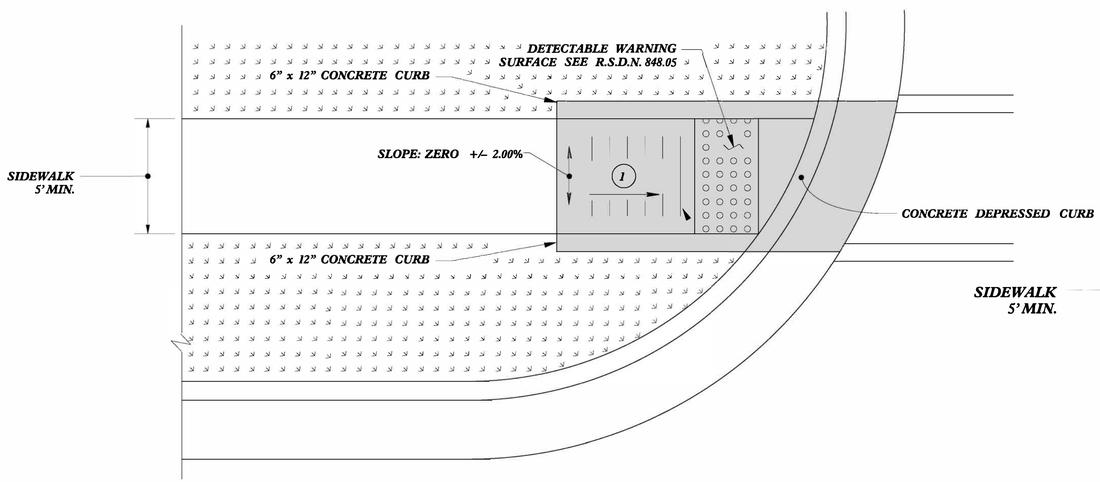

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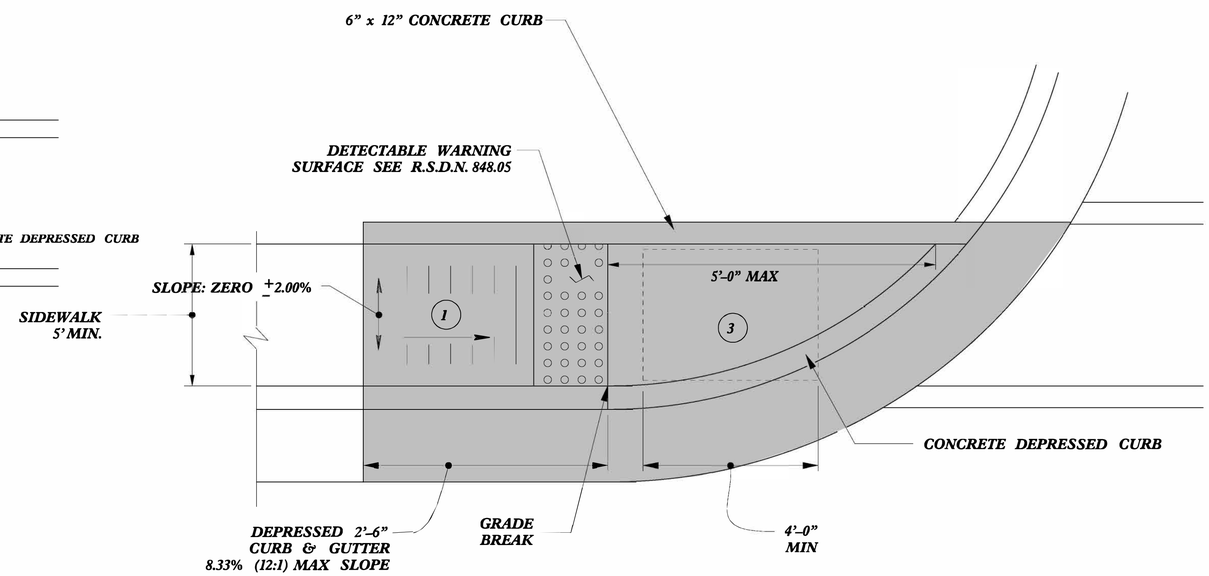


TYPE 1

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M. HACKLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS

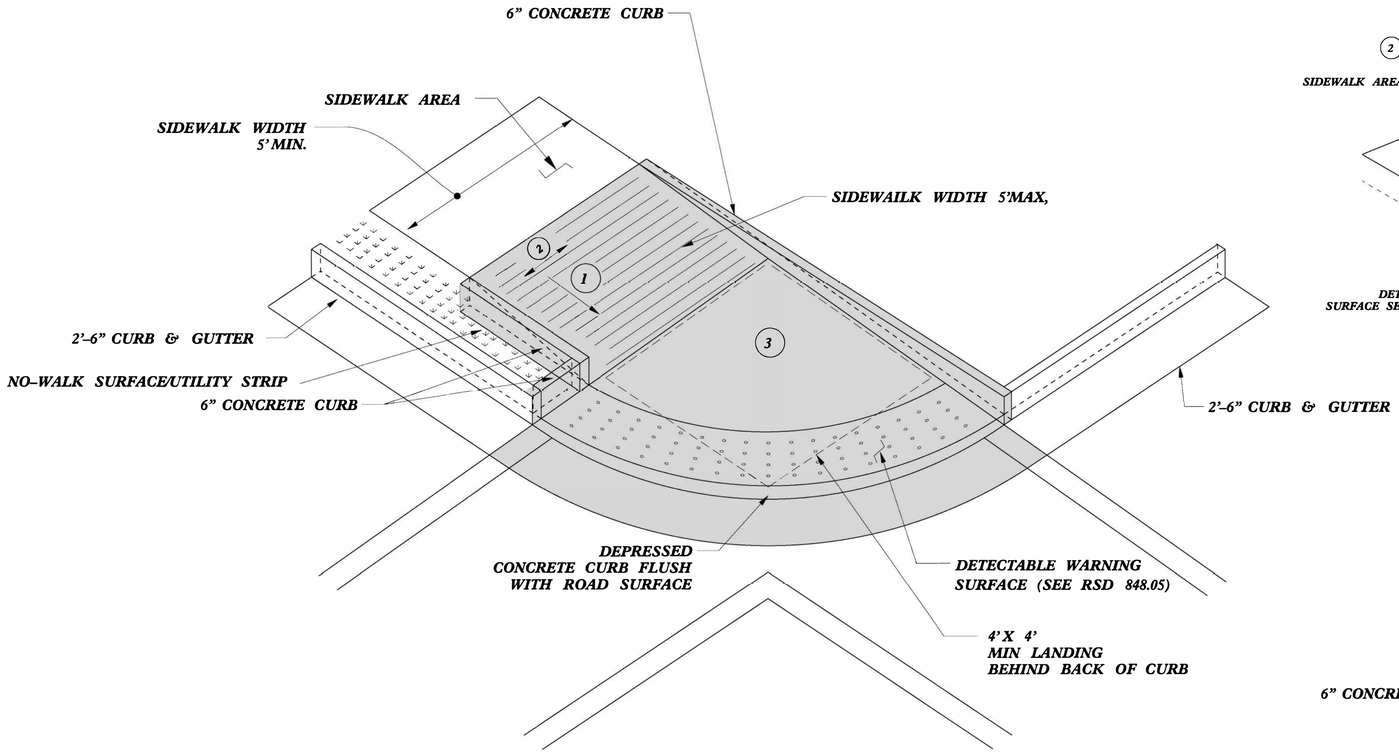
Directional Ramps

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

5/14/99

$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	5



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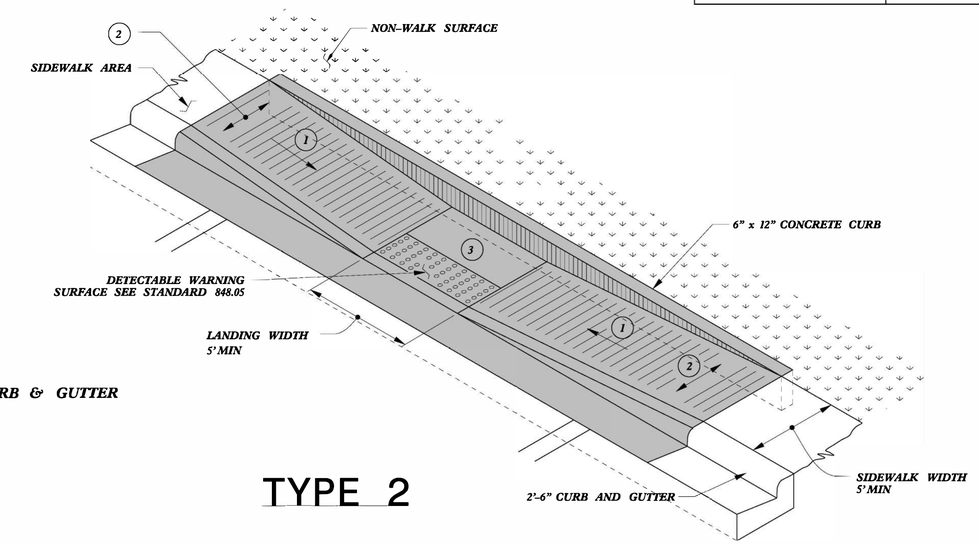

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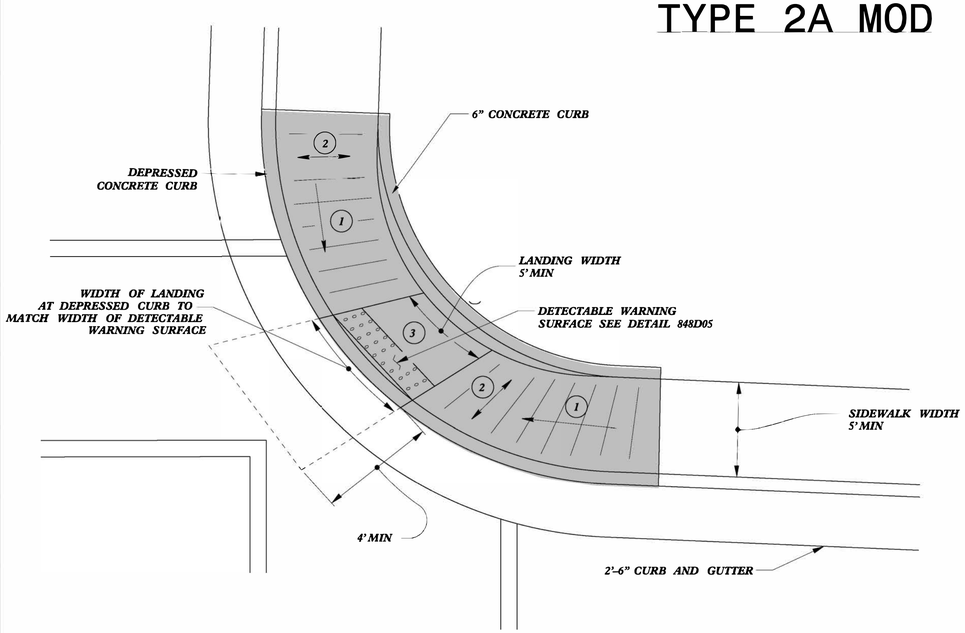
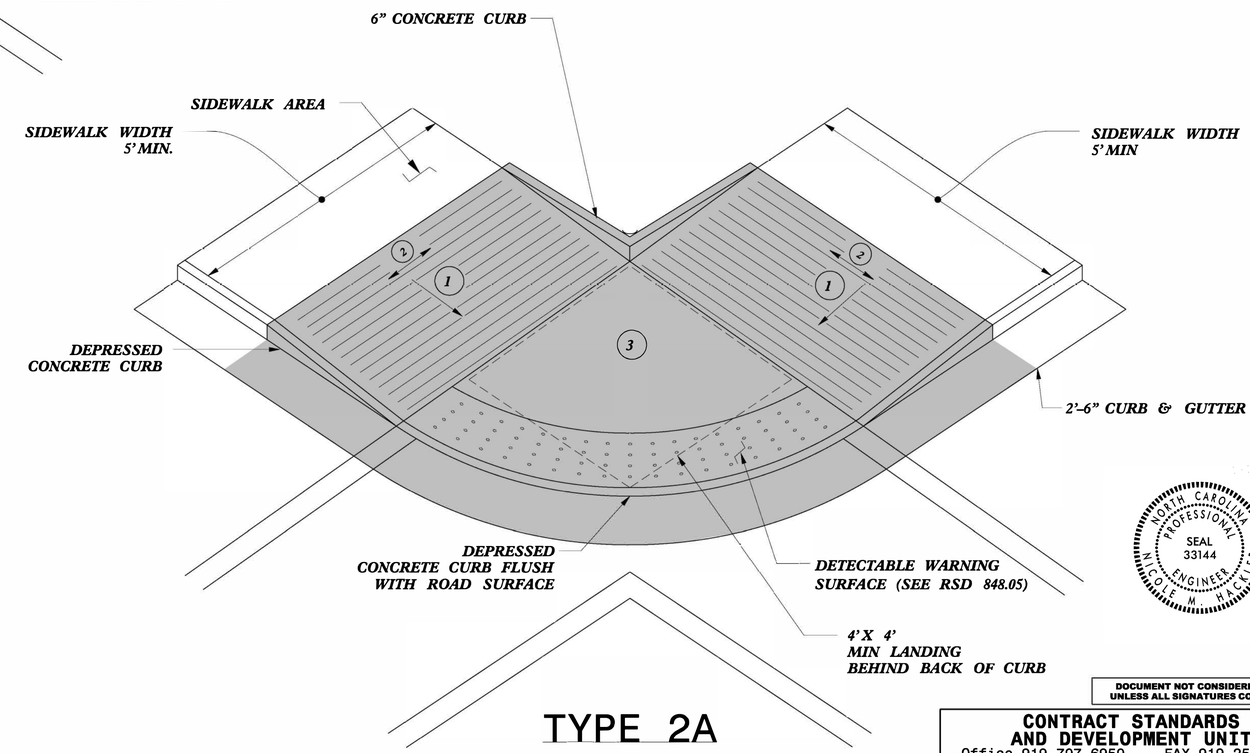


TYPE 2B



TYPE 2A

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

PAY LIMITS FOR 1 CURB RAMP

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HACKLER

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

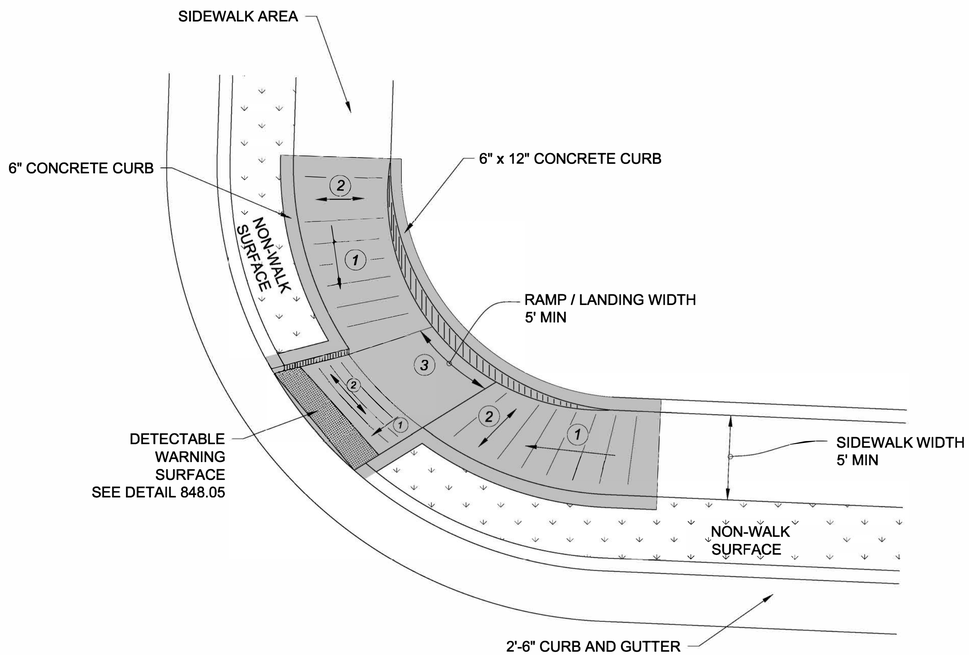
5/14/99

$$$$$SYSTIME$$$$
$$$$$USERNAME$$$$

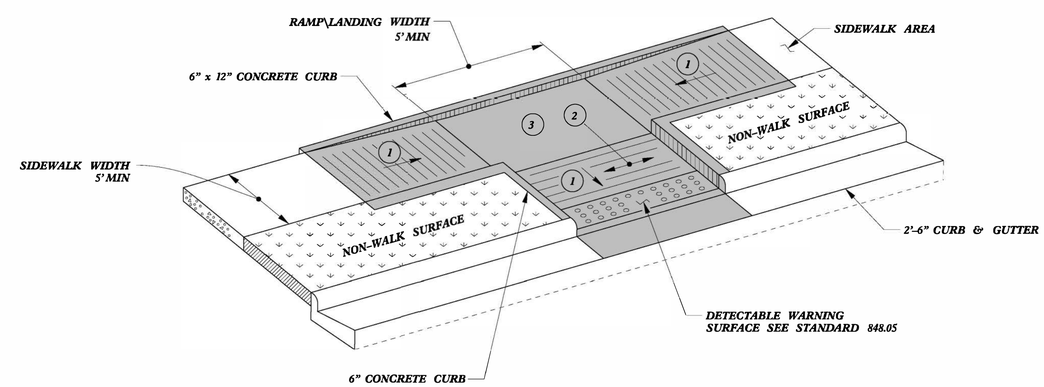
PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	6

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.*

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HACKLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

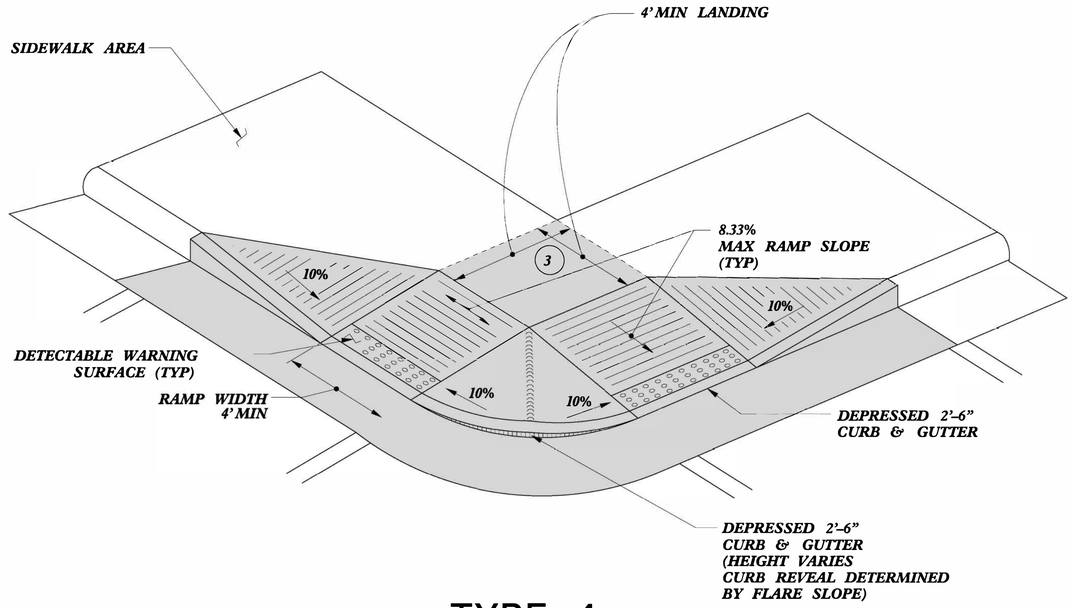
CURB RAMPS

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

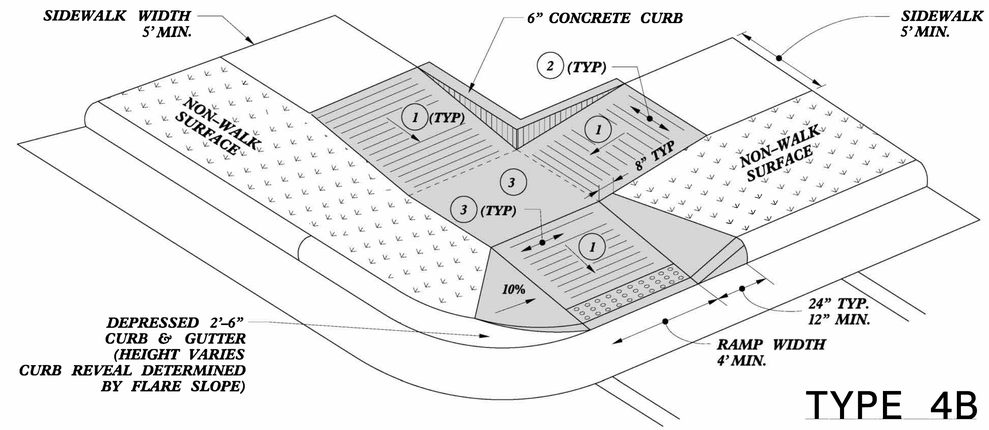
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	7

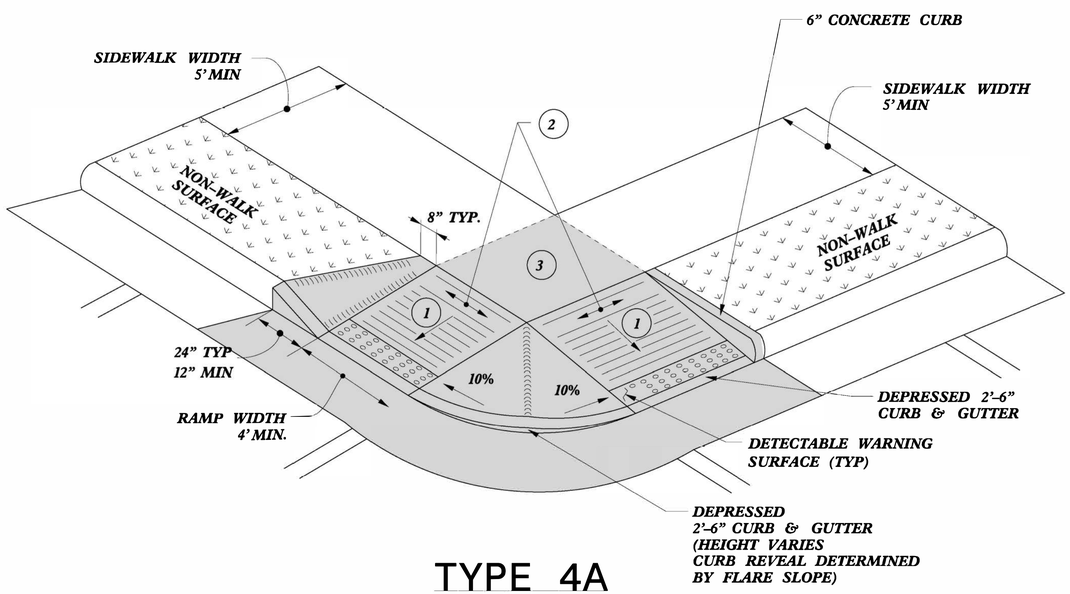
PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)



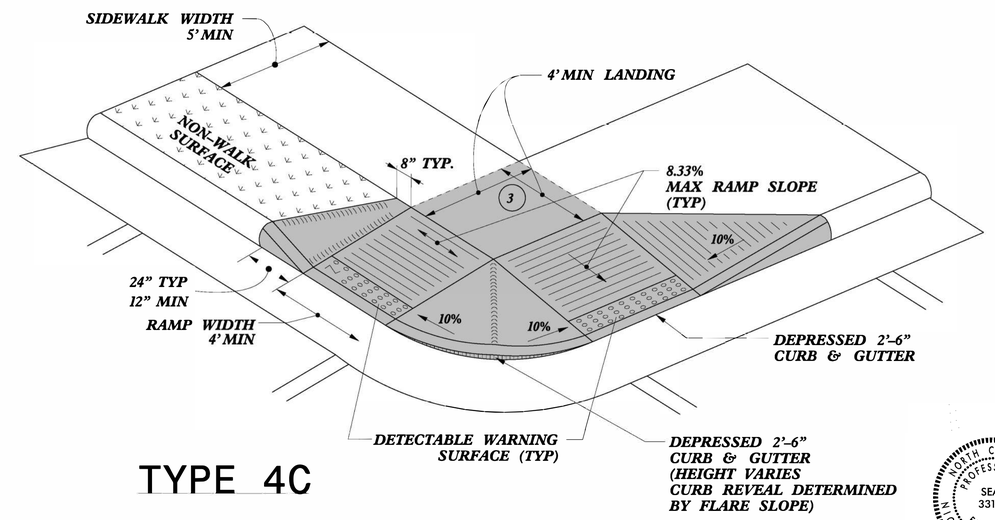
TYPE 4



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.

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

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HACKLER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS

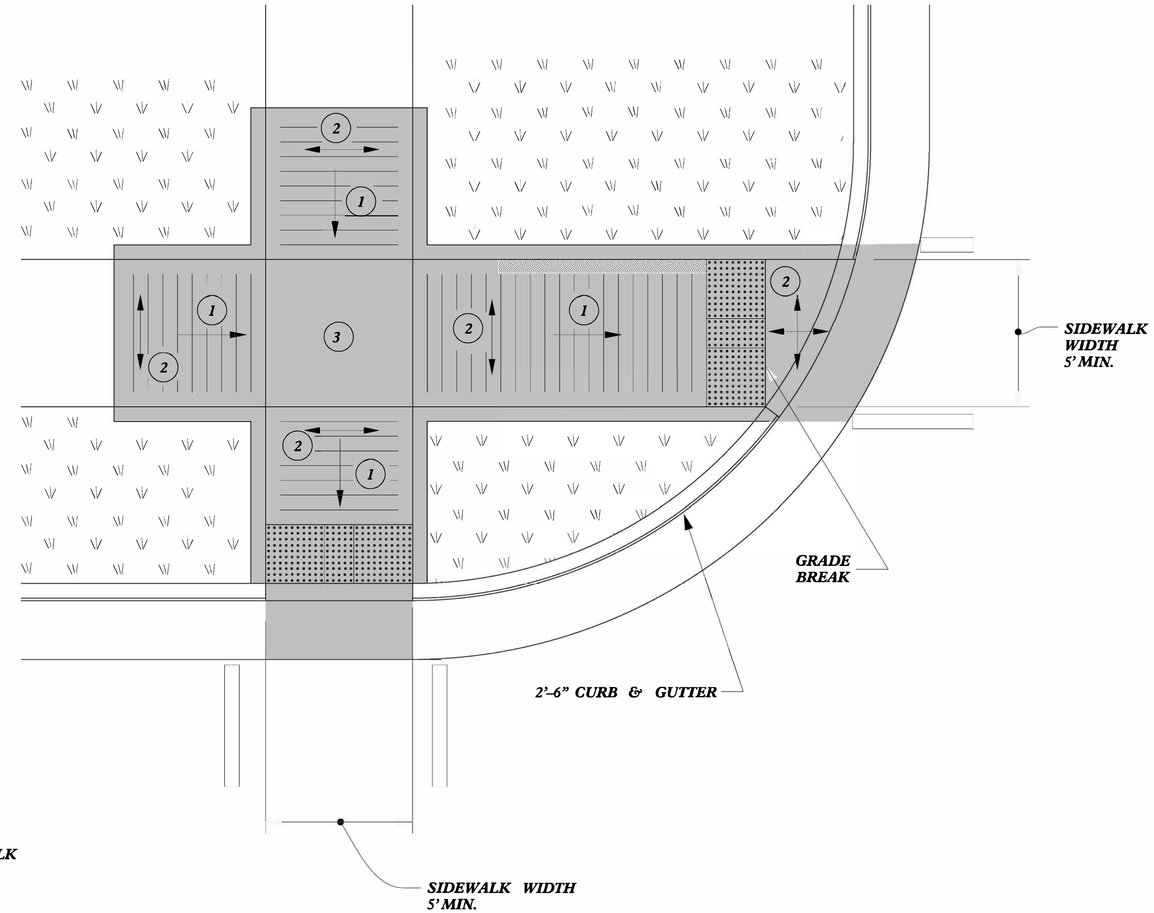
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC. :stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99

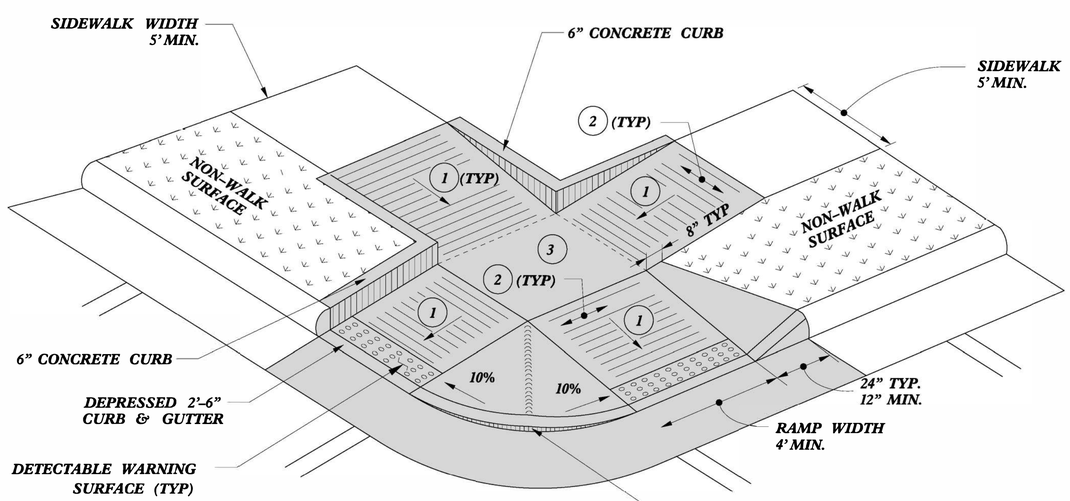
$$$$SYMFILE$$$$
$$$$UNITS$$$$
$$$$ENMLE$$$$

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	8

PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)



TYPE 5A



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.

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

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HACKER

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

CURB RAMPS

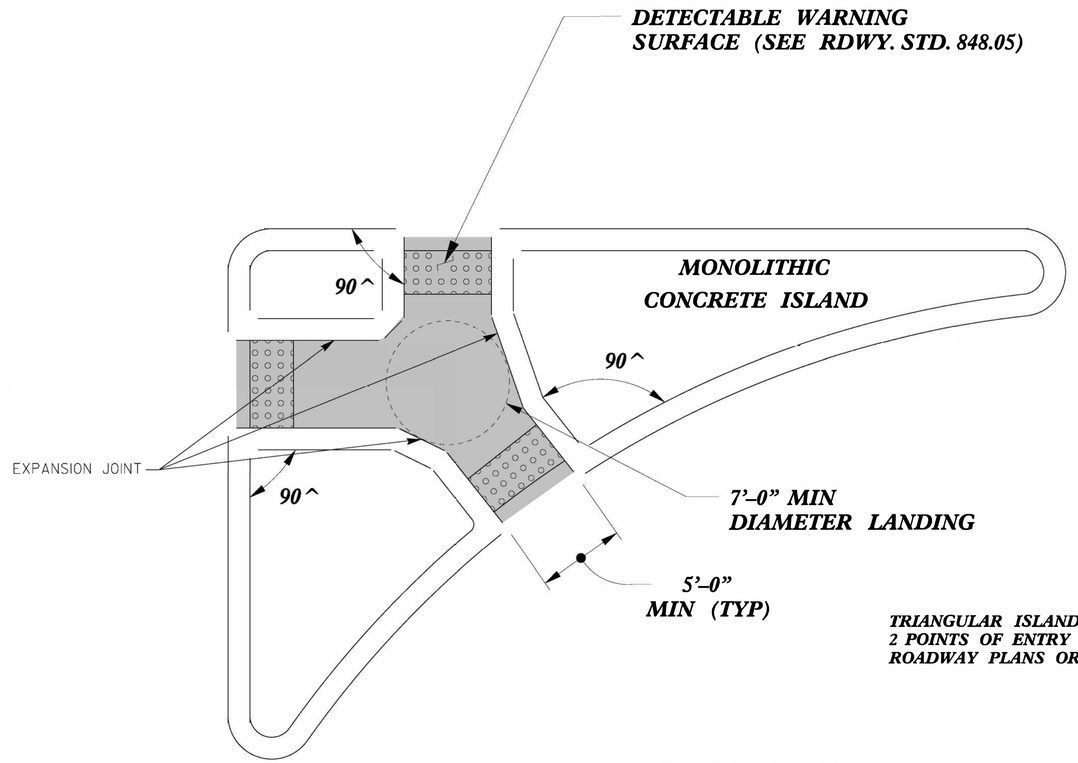
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99

$$$$SYTIME$$$$
$$$$SCNAME$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	9

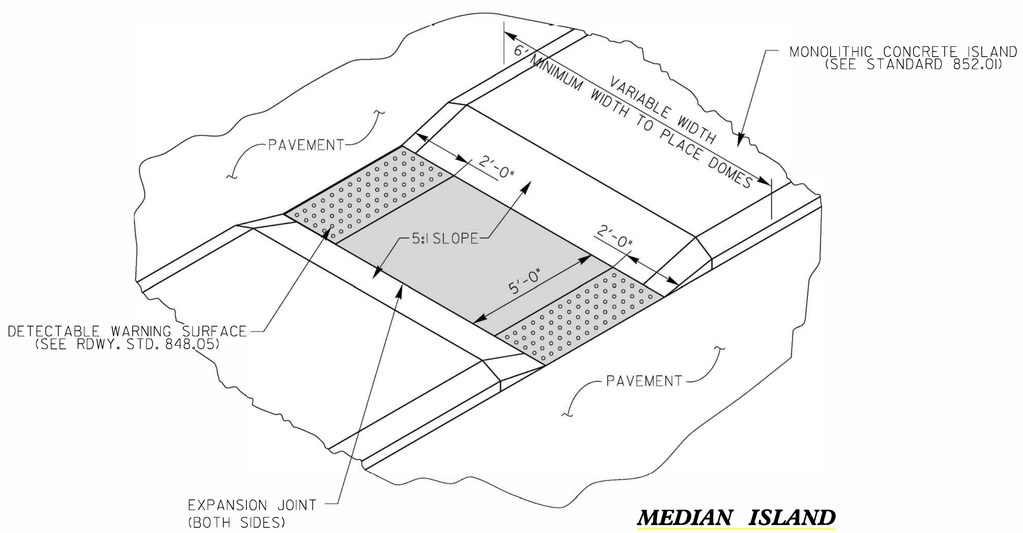
PAY LIMITS FOR 2 OR 3 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)



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.

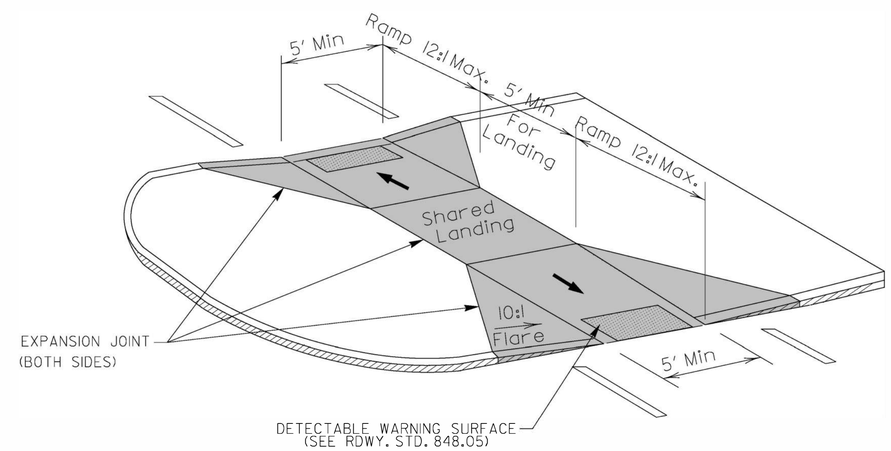
TRIANGULAR ISLAND WITH CUT THROUGH

TYPE 6



MEDIAN ISLAND WITH CUT THROUGH

TYPE 7



MEDIAN ISLAND CURB RAMPS

TYPE 8

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HACKLER

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

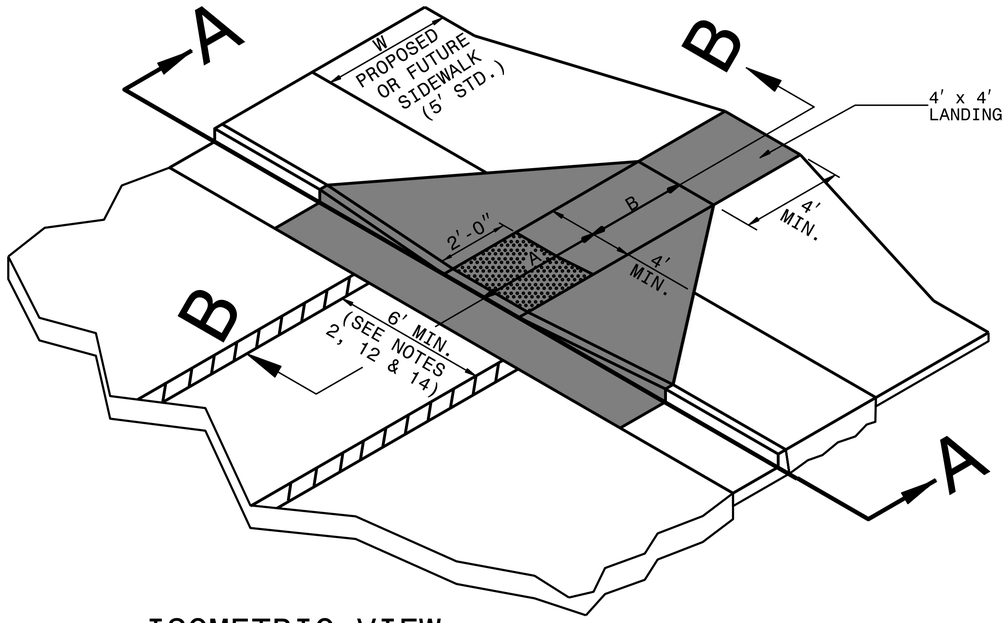
CURB RAMPS

Median or Turn Lane Islands

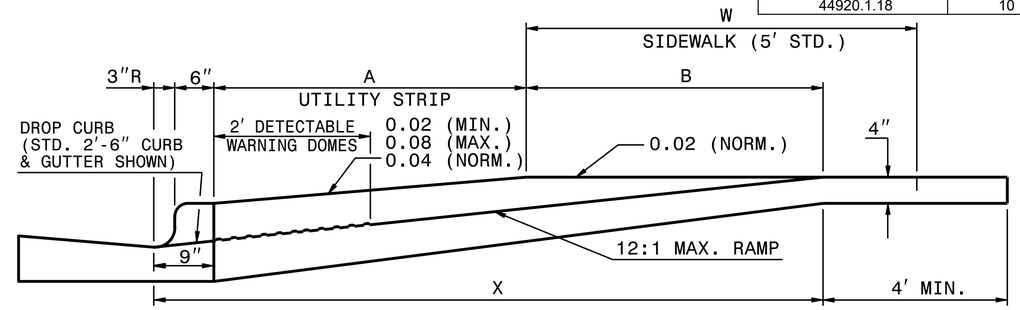
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

$$$

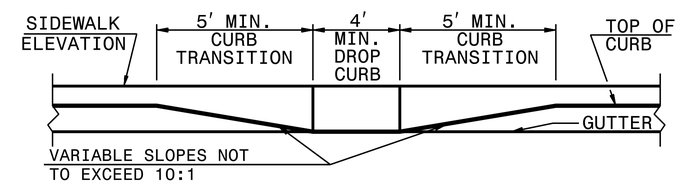
PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	10



ISOMETRIC VIEW



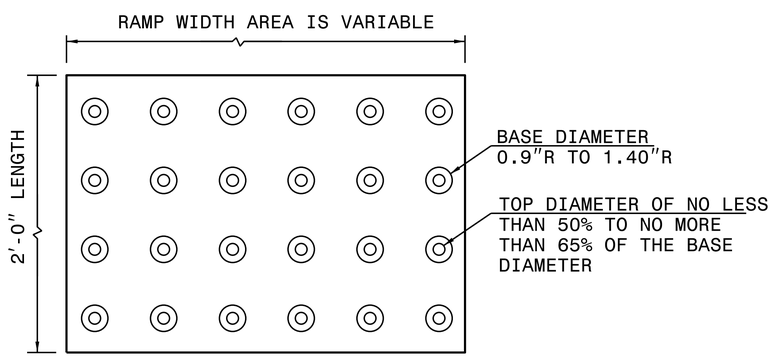
SECTION B-B

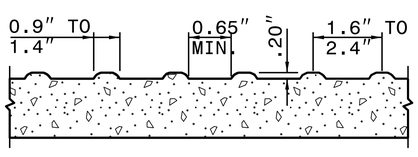


SECTION A-A

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.





DETECTABLE WARNING DOMES

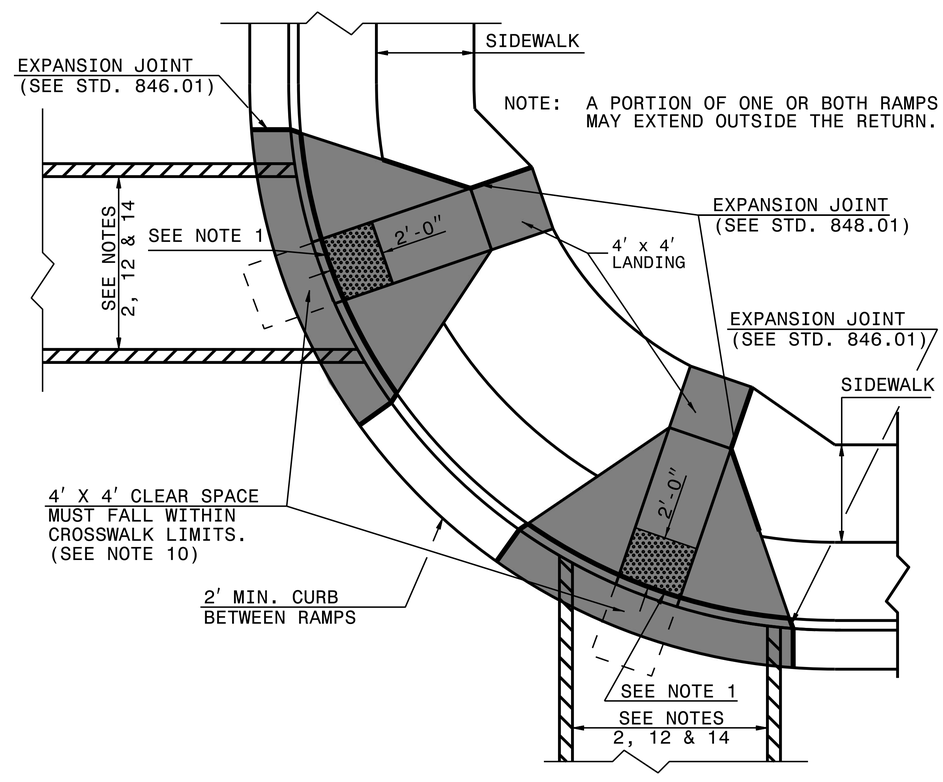
W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'**
7'	0.0'	7.8'	7.3'	6.5'**
8'	0.0'	8.8'	7.3'	6.5'**
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

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)

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

1-18

ROADWAY STANDARD DRAWING FOR

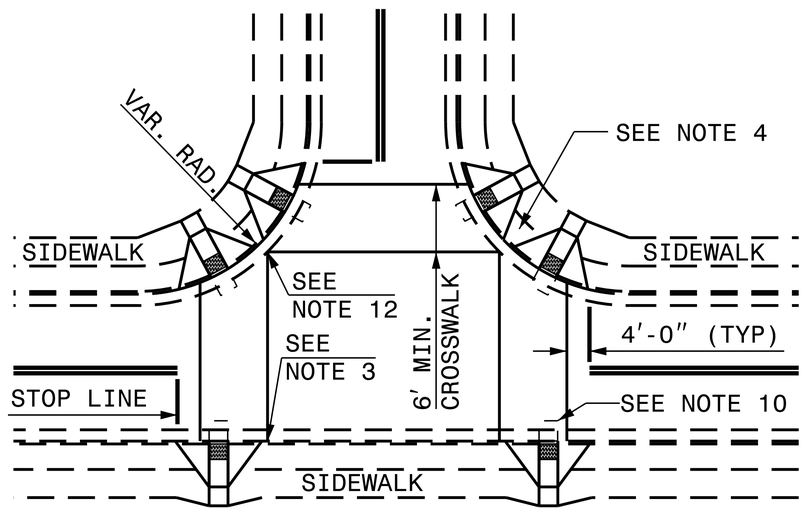
CURB RAMP

PROPOSED CURB AND GUTTER

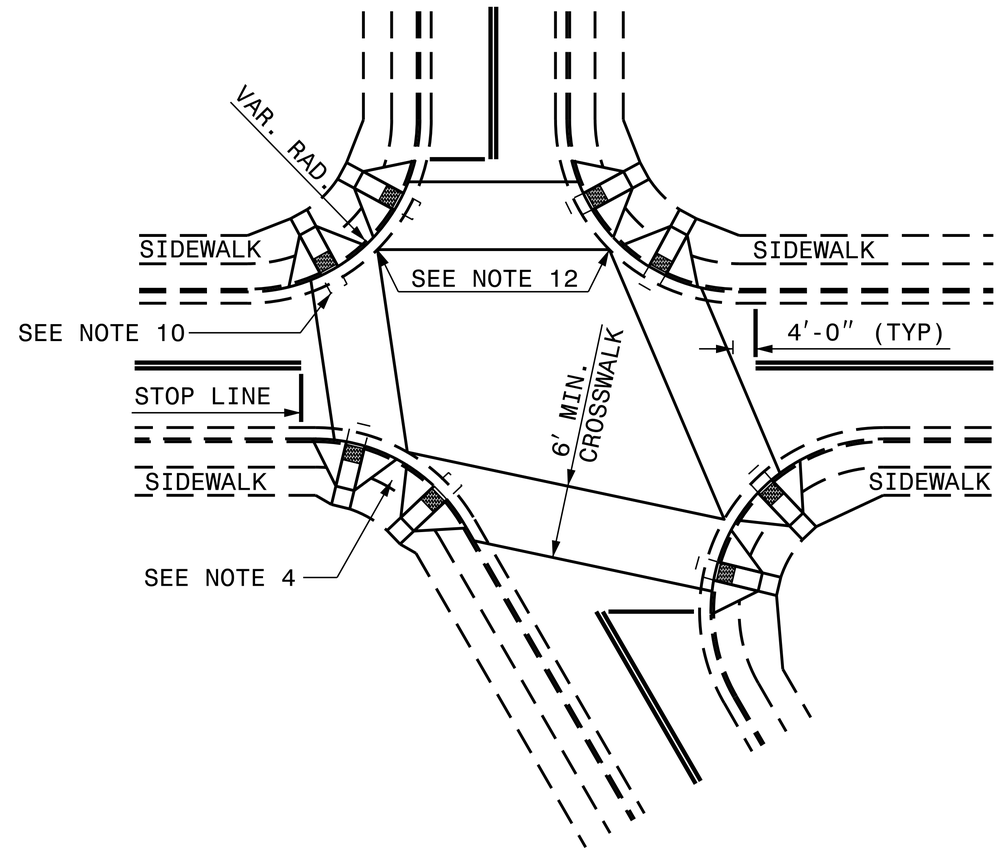
SHEET 1 OF 3

848.05

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	11



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

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

1-18

ROADWAY STANDARD DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER

SHEET 2 OF 3

848.05

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 THROUGHT 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 ½″ 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
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

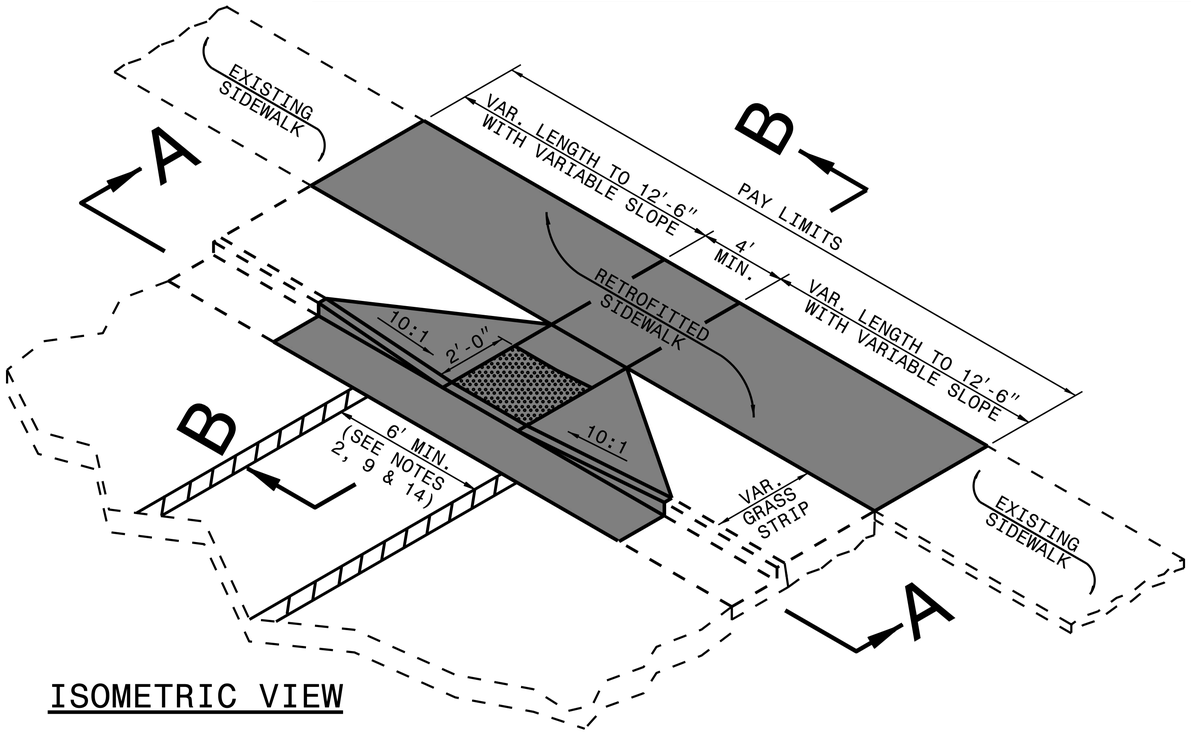
ROADWAY STANDARD DRAWING FOR

CURB RAMPS

NOTES

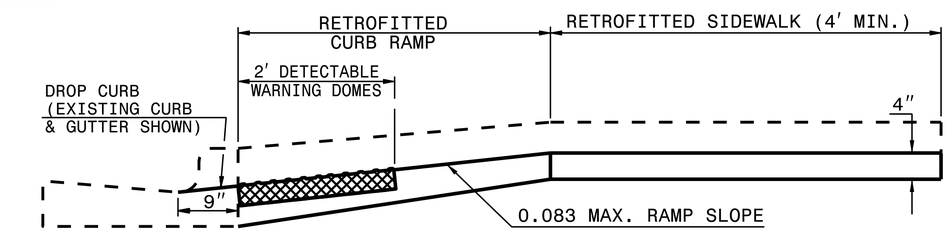
PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	13

CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP

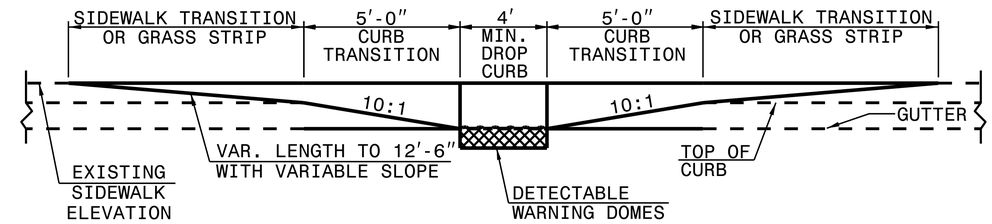


ISOMETRIC VIEW

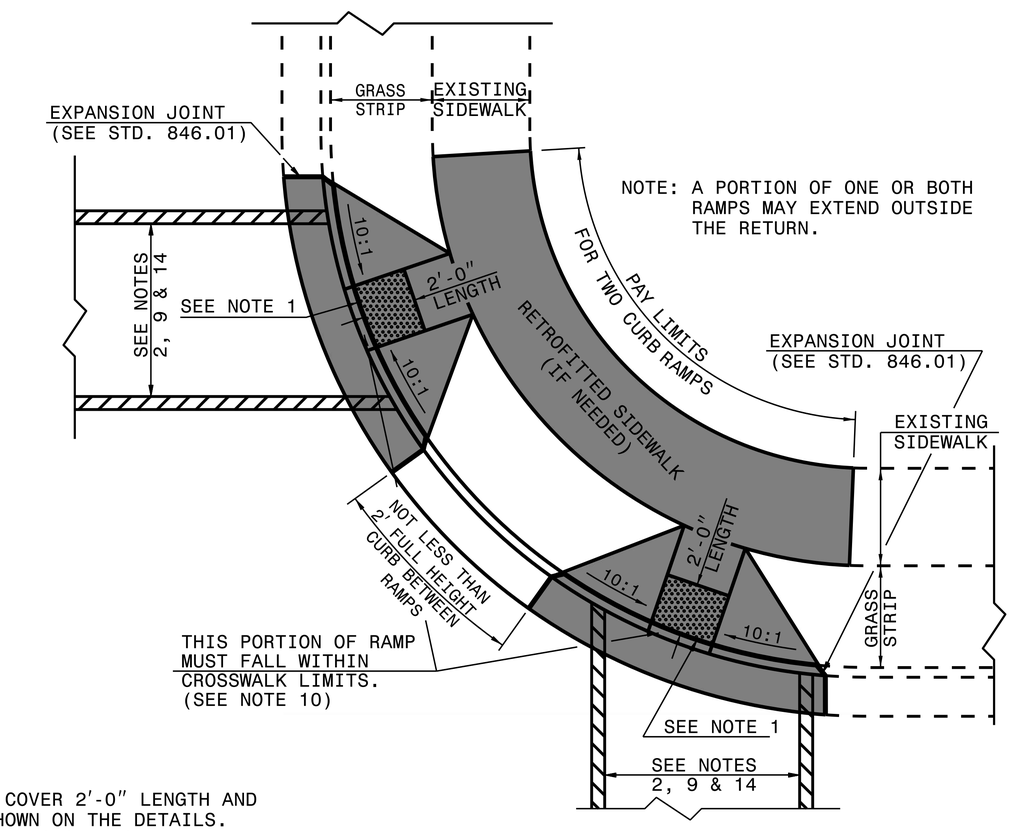
PAY LIMITS OF CURB RAMP



SECTION B-B

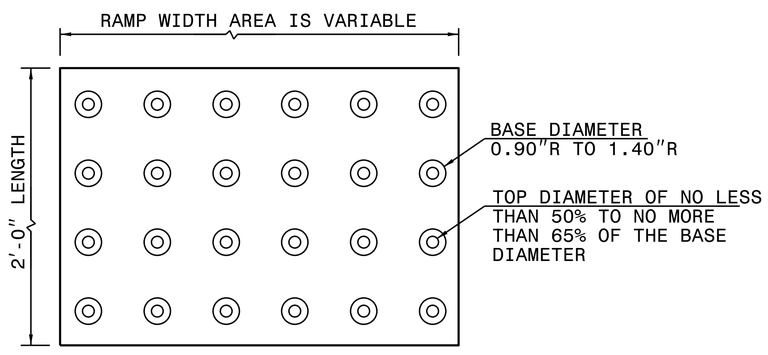


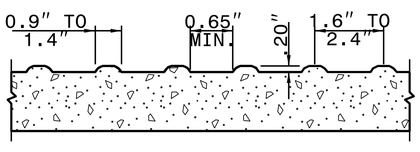
SECTION A-A



PLAN VIEW

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





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.

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

1-18

ROADWAY STANDARD DRAWING FOR

CURB RAMP

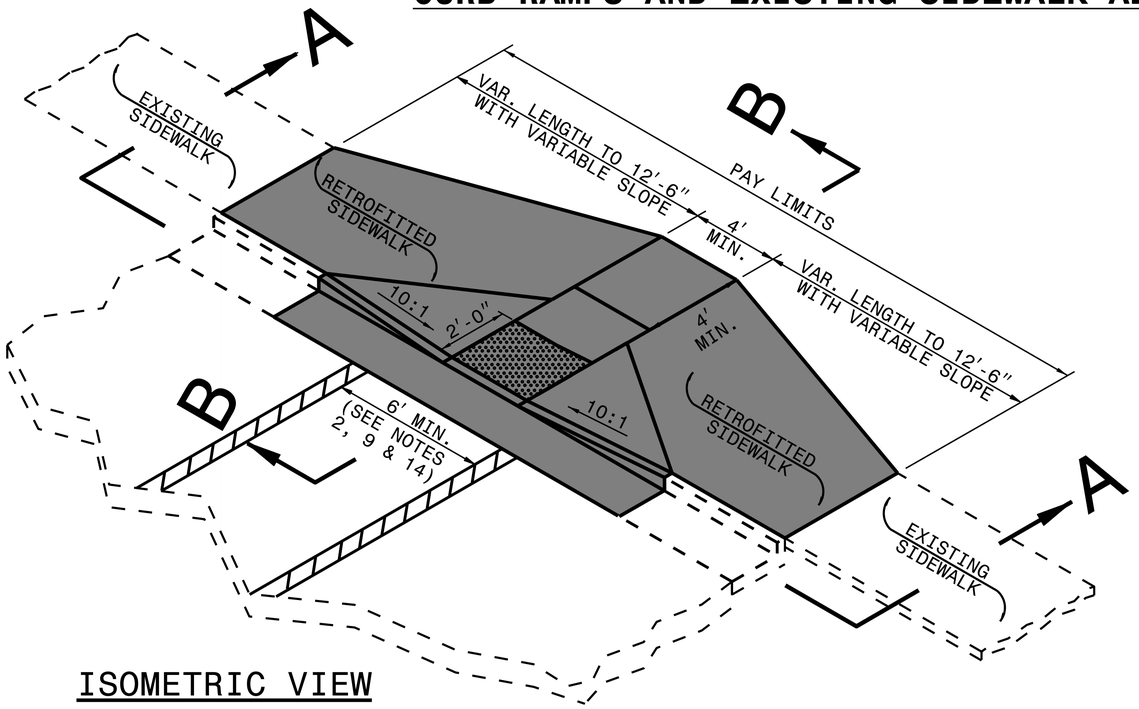
EXISTING CURB AND GUTTER

SHEET 1 OF 5

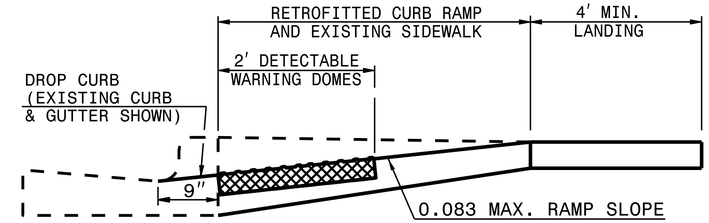
848.06

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	14

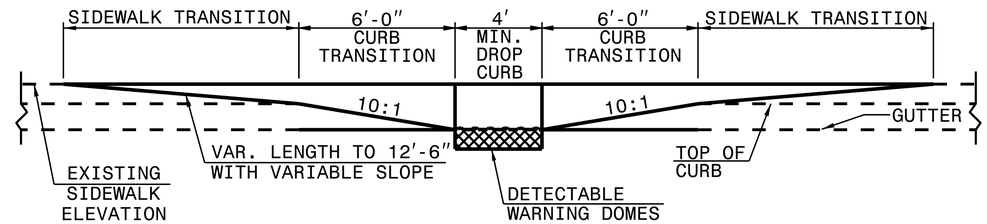
CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB



ISOMETRIC VIEW

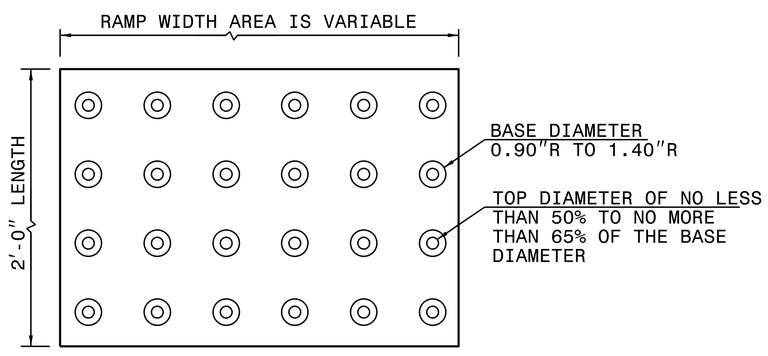


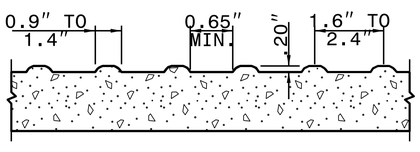
SECTION B-B



SECTION A-A

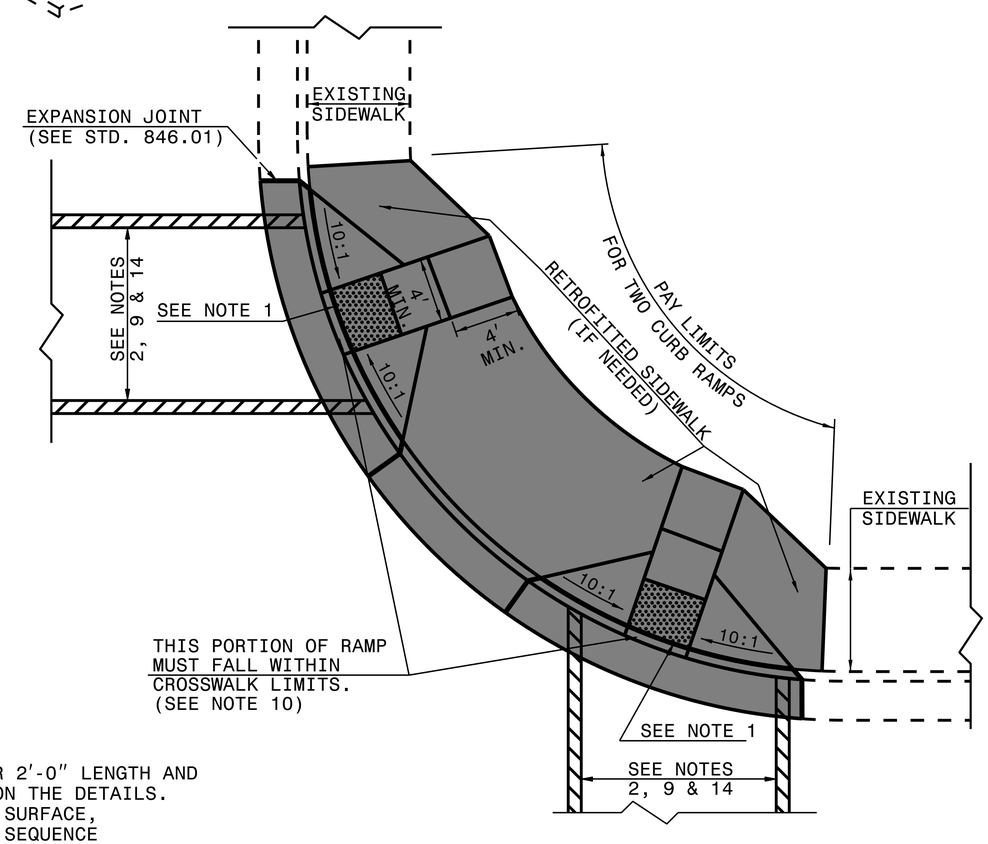
PAY LIMITS OF CURB RAMP





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



PLAN VIEW

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

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

1-18

ROADWAY STANDARD DRAWING FOR

CURB RAMP

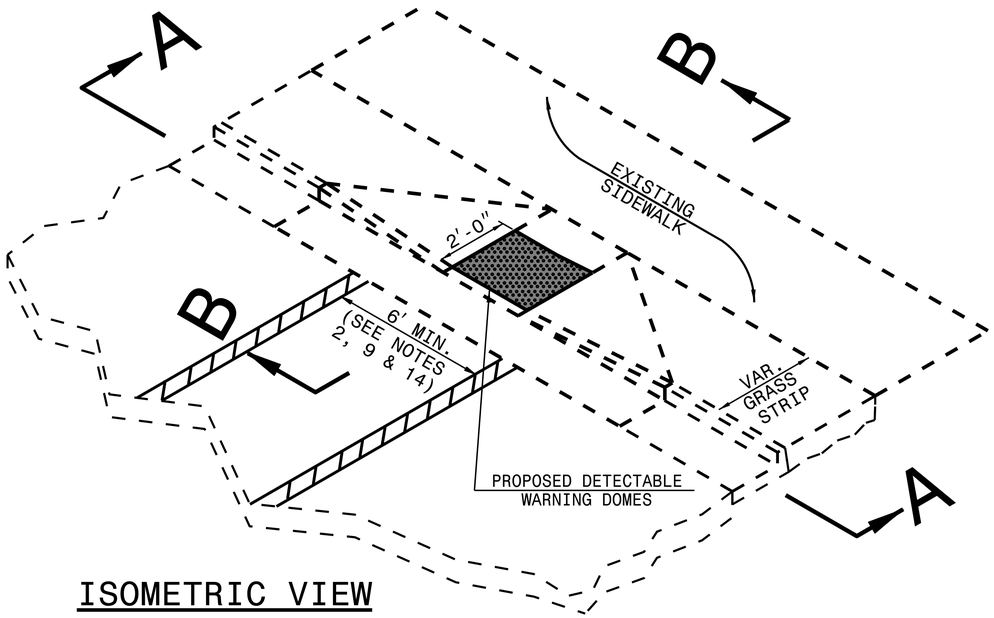
EXISTING CURB AND GUTTER

SHEET 2 OF 5

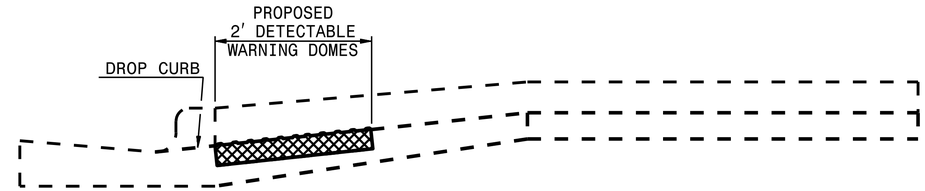
848.06

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	15

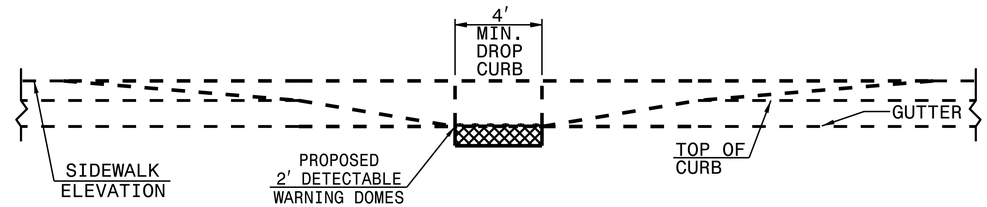
RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP



ISOMETRIC VIEW

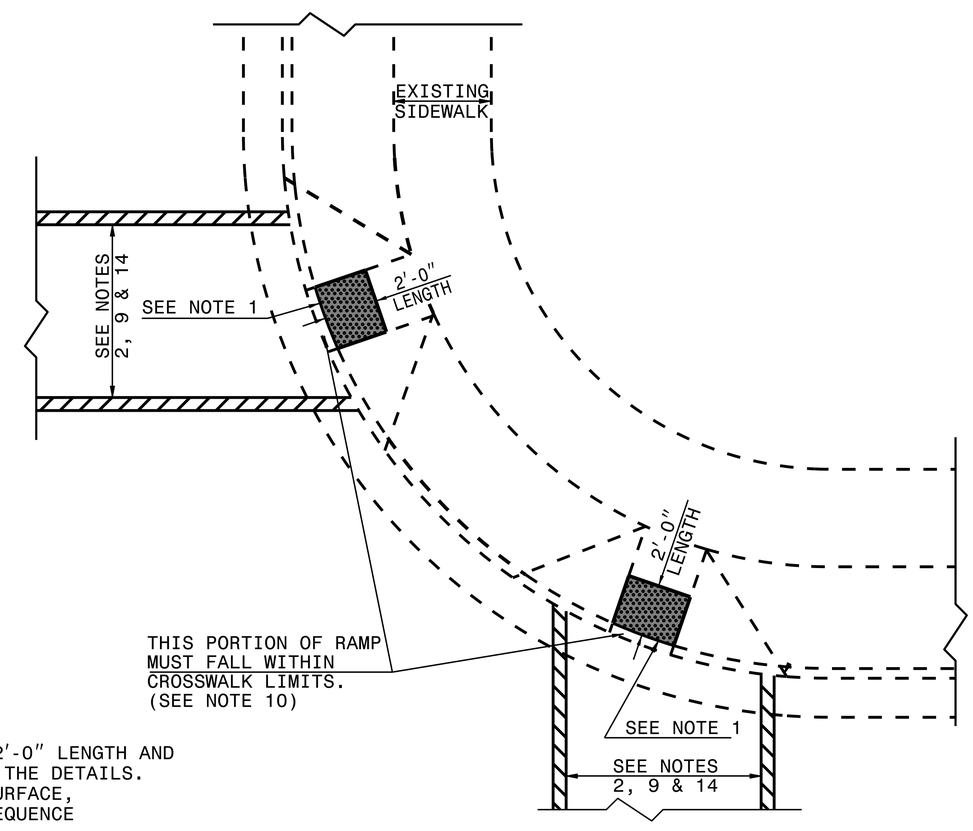


SECTION B-B



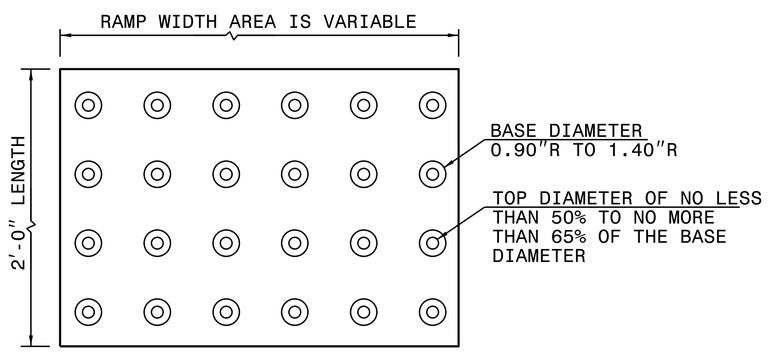
SECTION A-A

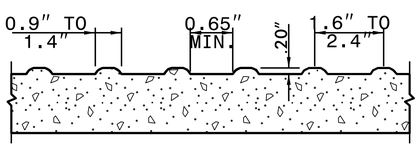
PAY LIMITS OF RETROFIT CURB RAMP



PLAN VIEW

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





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

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

1-18

ROADWAY STANDARD DRAWING FOR

CURB RAMP

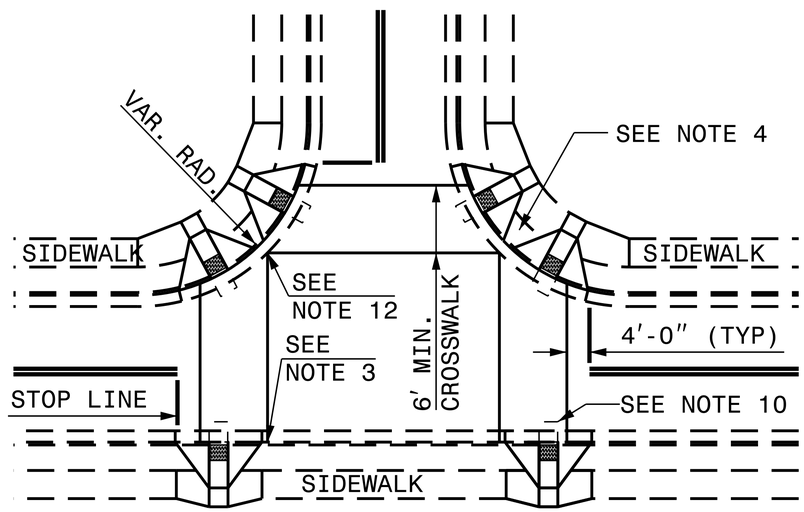
EXISTING CURB AND GUTTER

SHEET 3 OF 5

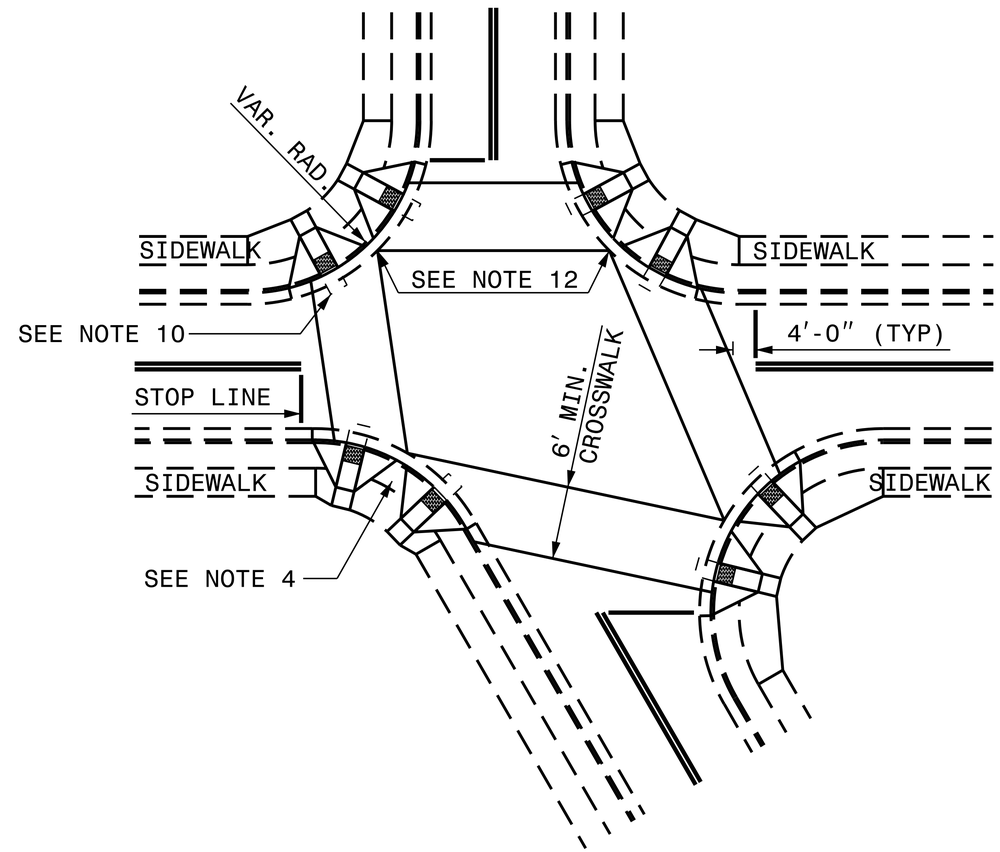
848.06

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	16

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

PROPOSED CURB RAMP W/ LANDING FOR RESURFACING PROJECTS

EXISTING SIDEWALK

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

SHEET 4 OF 5

848.06

PROJECT REFERENCE NO.	SHEET NO.
44920.1.18	17

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 THROUGHT 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 ½″ 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.

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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR

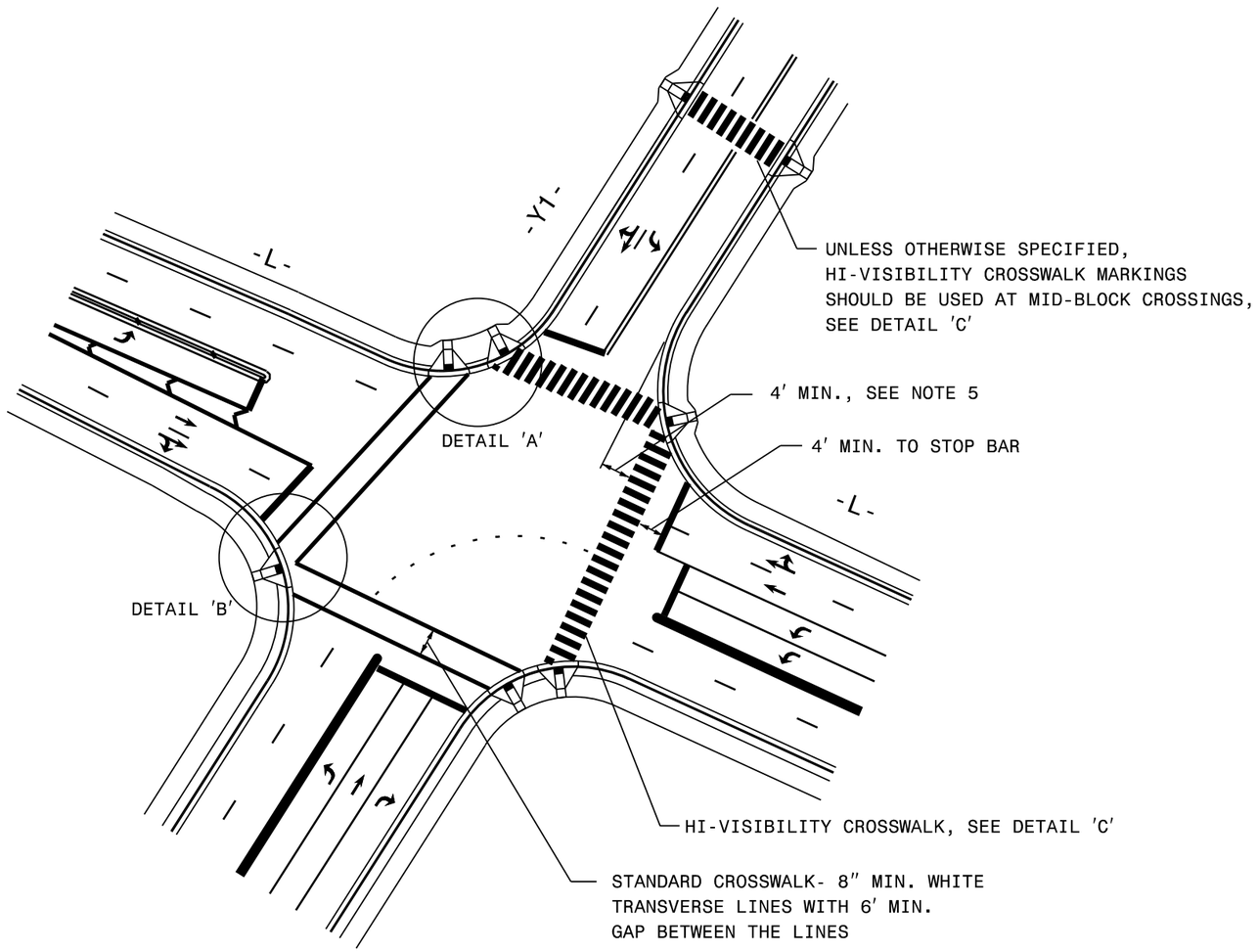
CURB RAMP

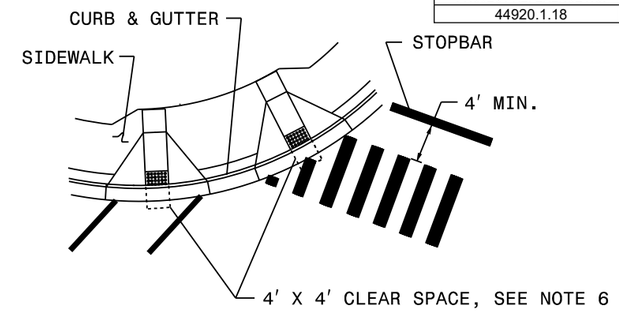
EXISTING CURB AND GUTTER

SHEET 5 OF 5

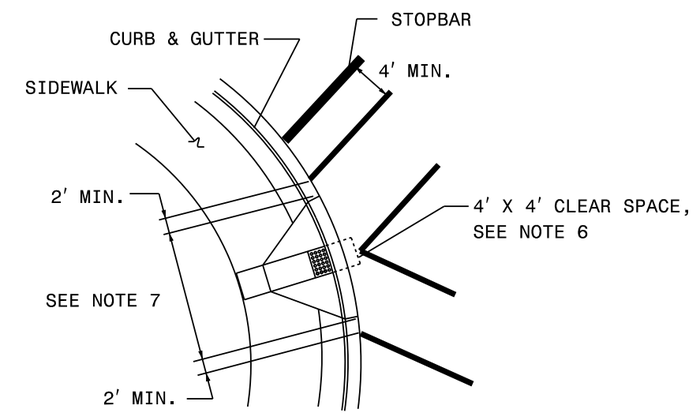
848.06

CROSSWALK PLACEMENT GUIDANCE

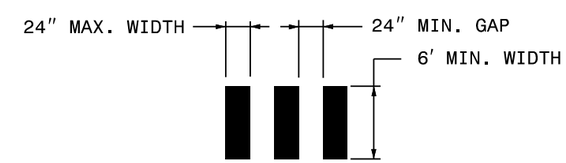




DETAIL 'A'- DUAL CURB RAMPS



DETAIL 'B'- SINGLE DIAGONAL CURB RAMP



DETAIL 'C'- HI-VISIBILITY CROSSWALK

GENERAL NOTES:

1- 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.

2- 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.

3- 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.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

7- 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'.

8- 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.

PROJECT REFERENCE NO.	SHEET NO.
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STATE OF
NORTH CAROLINA
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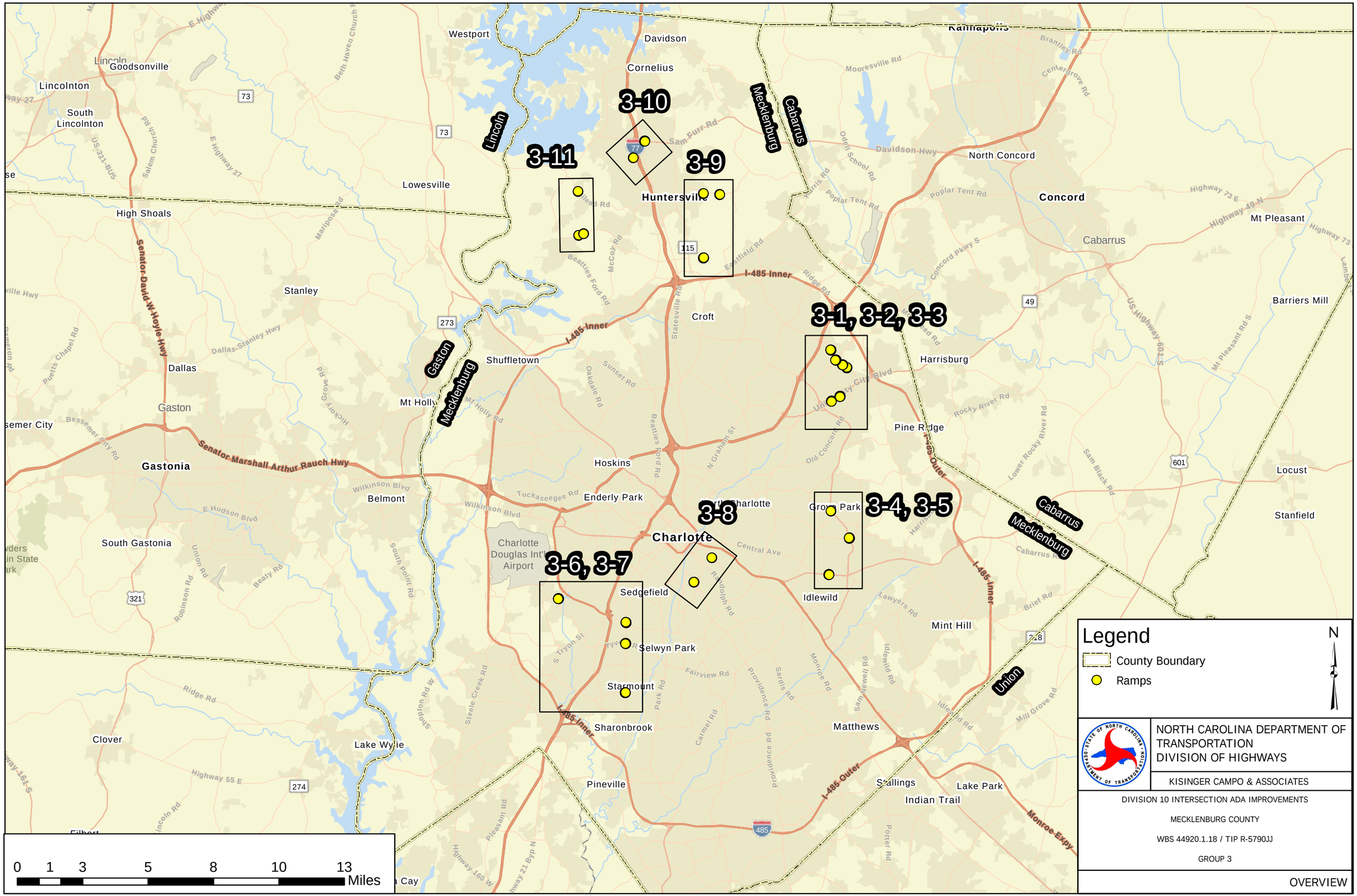
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS

SHEET 1 OF 1

1205.07



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

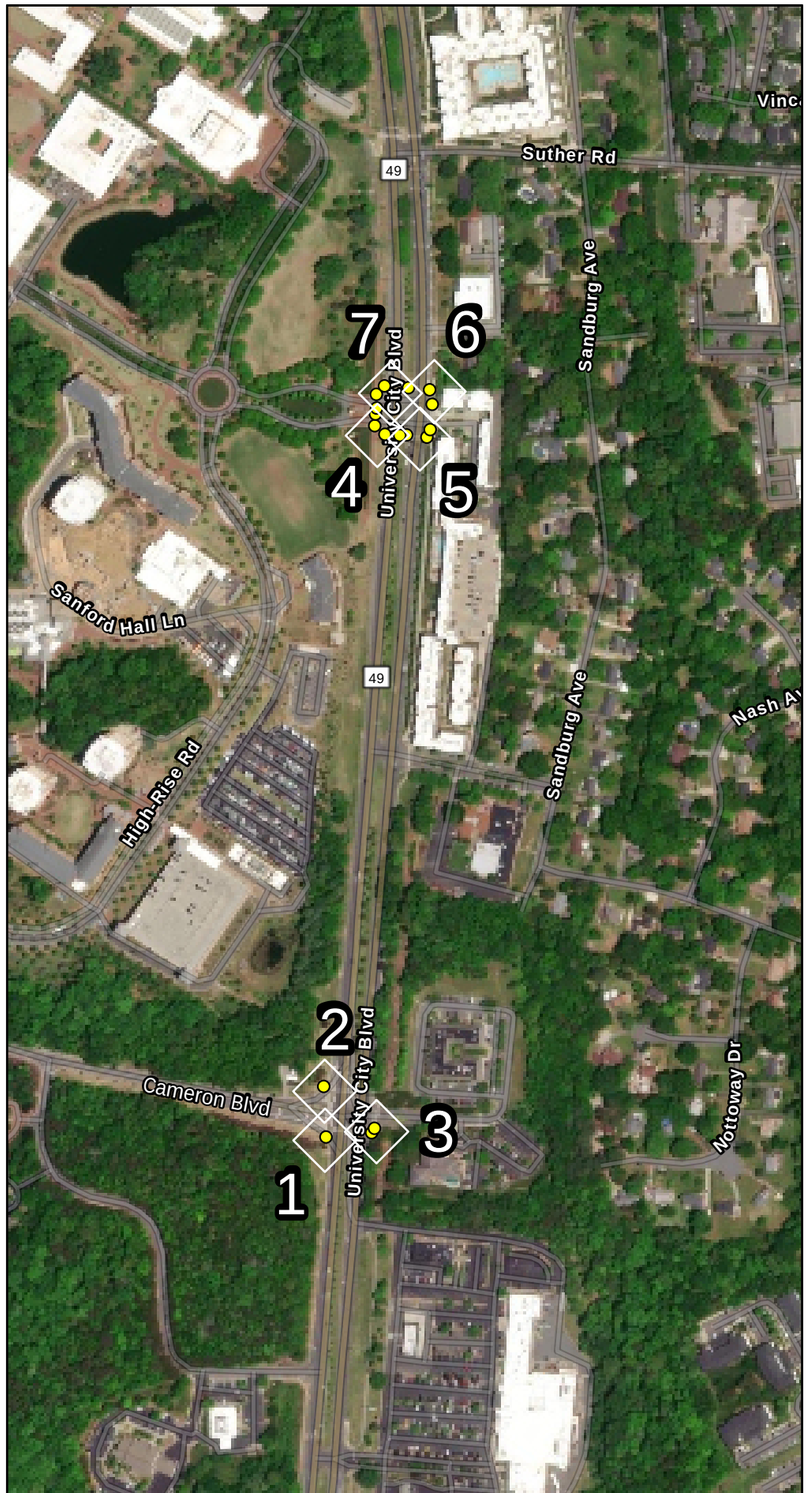
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

MECKLENBURG COUNTY

WBS 44920.1.18 / TIP R-5790JJ

GROUP 3

OVERVIEW



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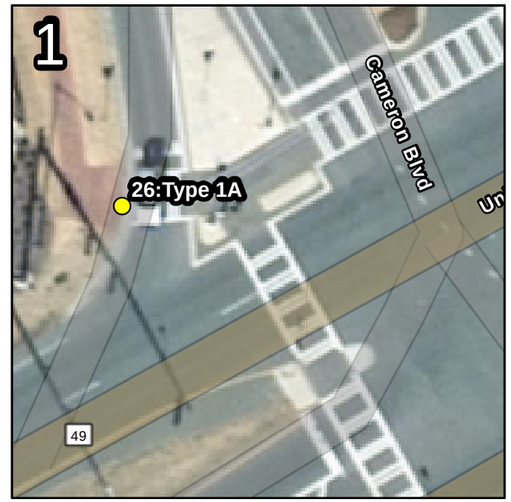
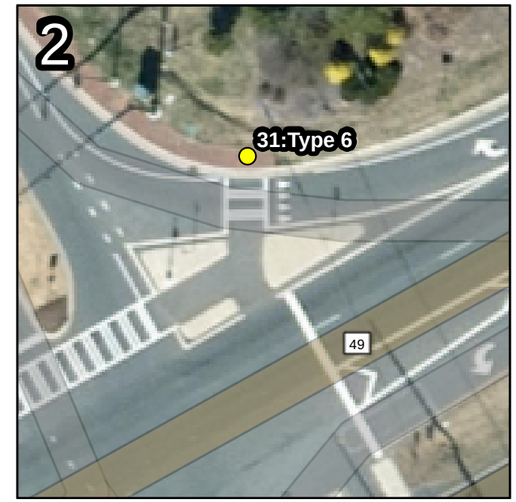
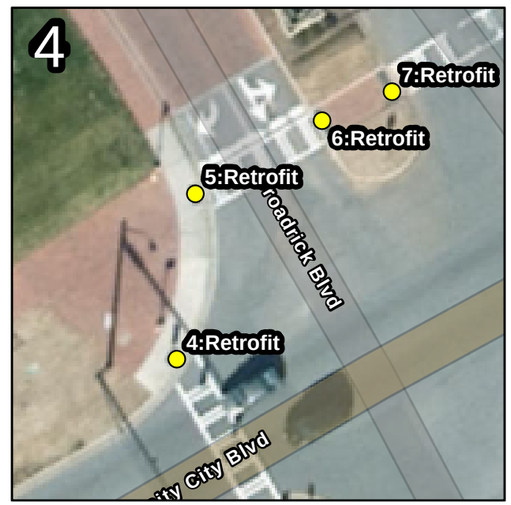
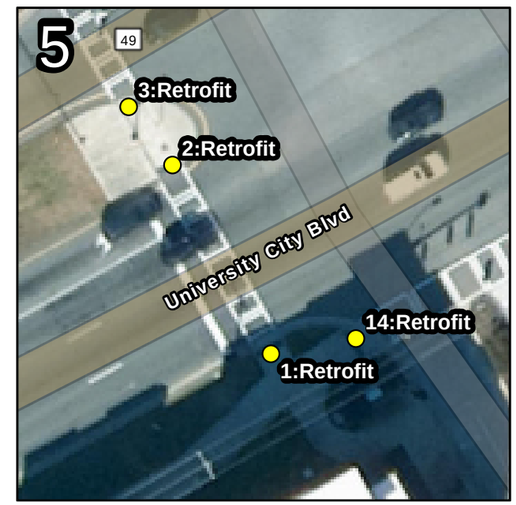
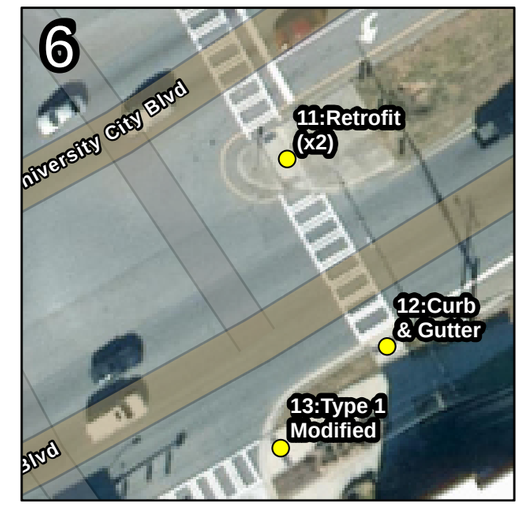
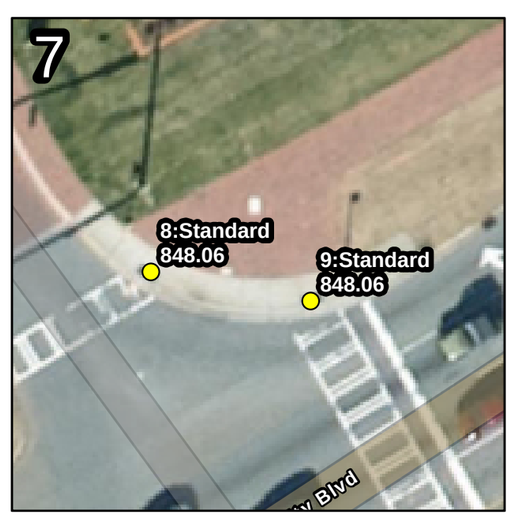












Legend

N

County Boundary

Ramps

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

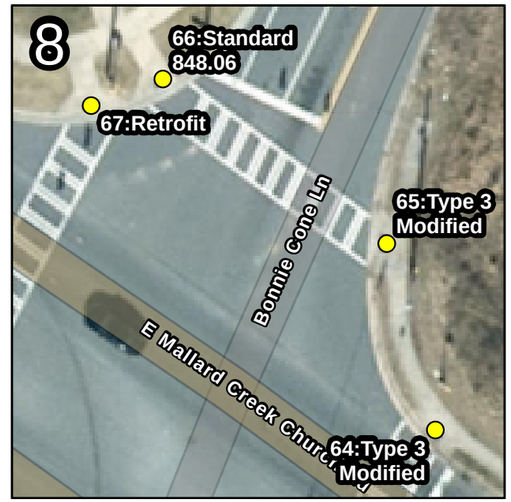
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

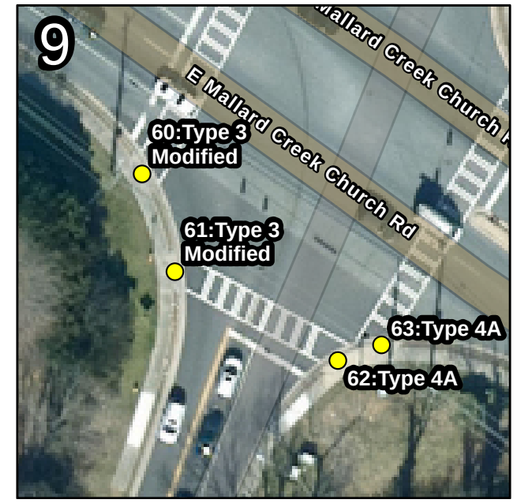
MECKLENBURG COUNTY

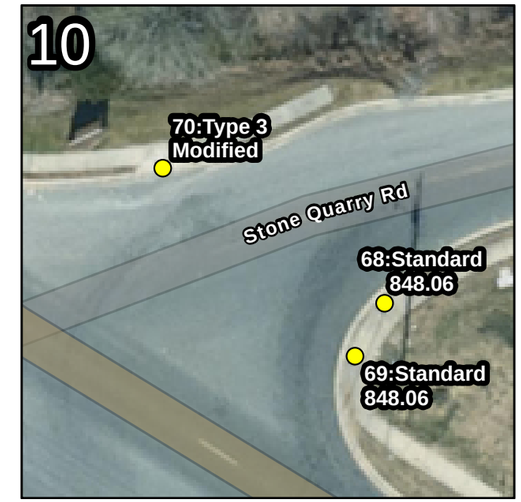
WBS 44920.1.18 / TIP R-5790JJ

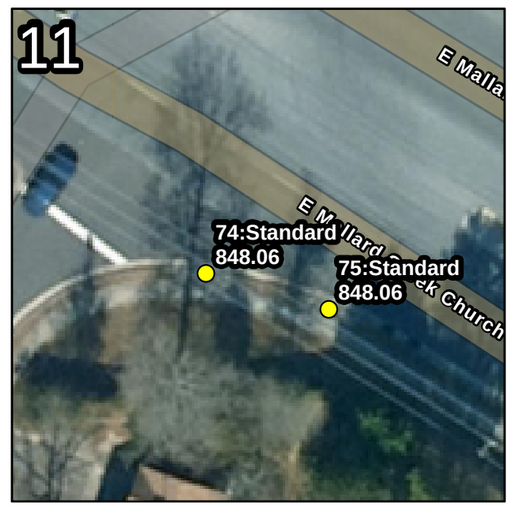
GROUP 3

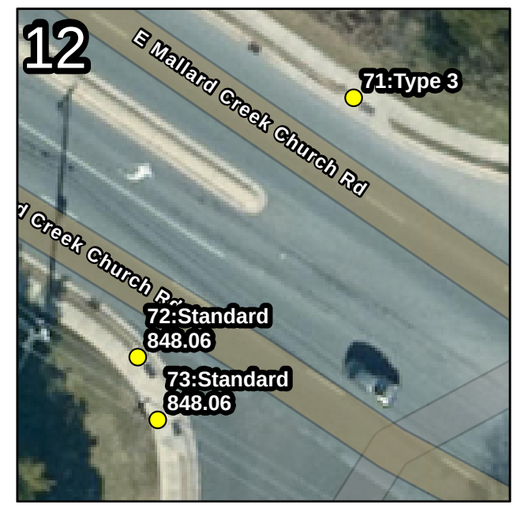
MAP 3-1











Legend

- County Boundary
- Ramps

N

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

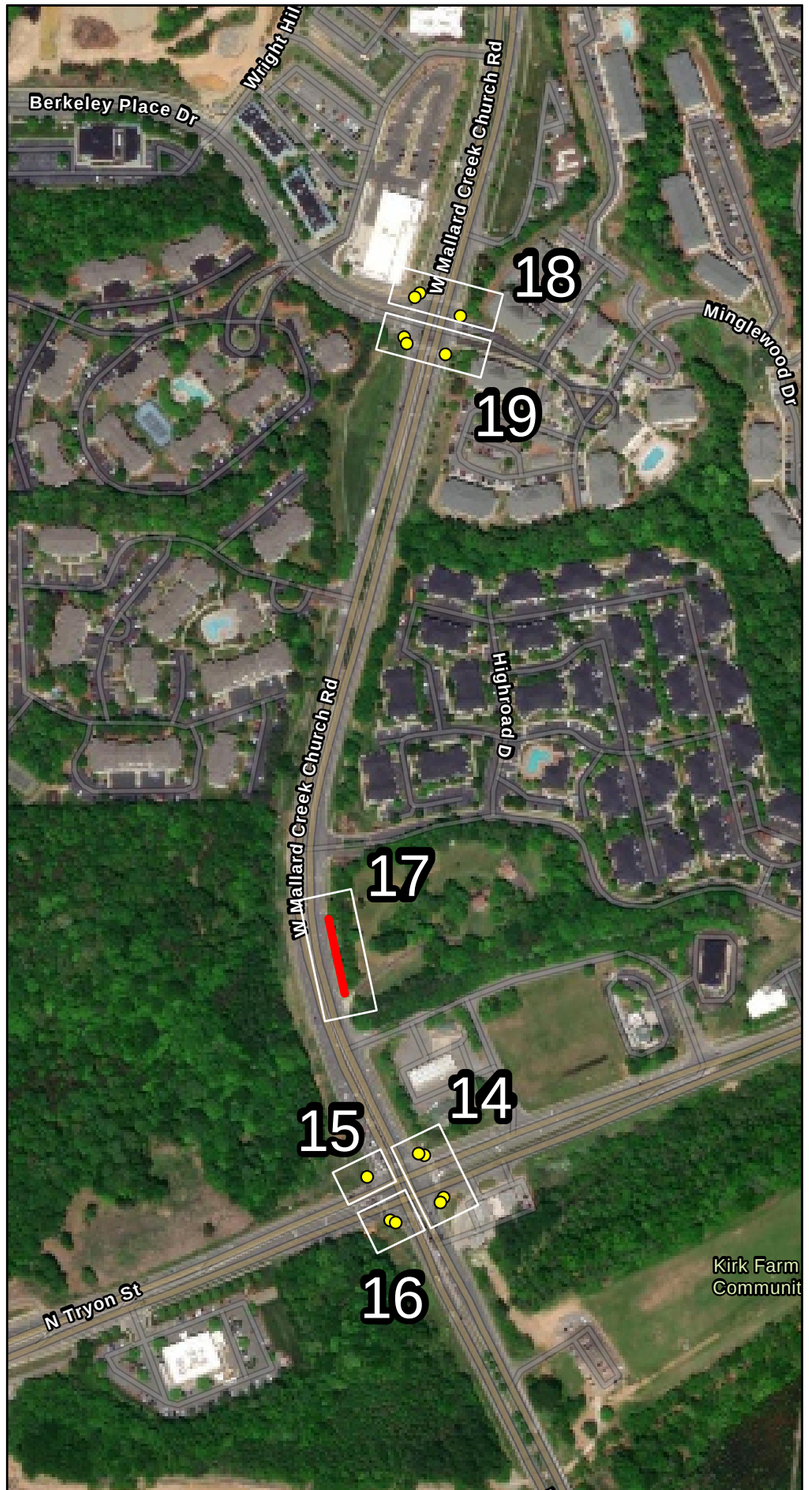
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

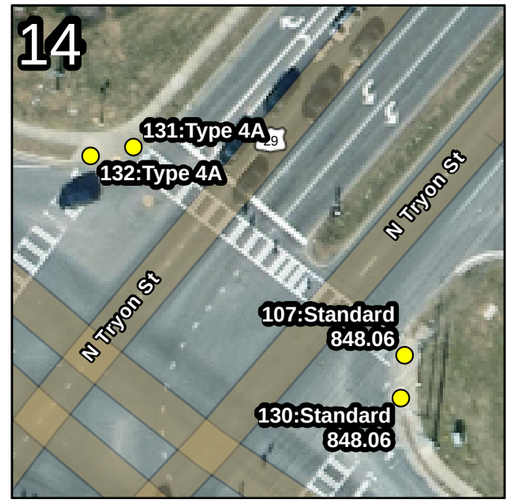
MECKLENBURG COUNTY

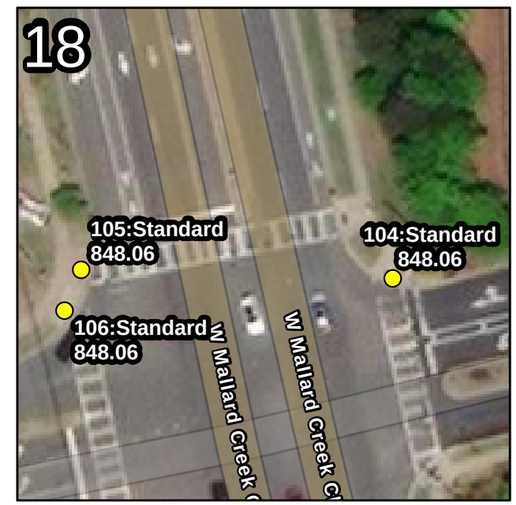
WBS 44920.1.18 / TIP R-5790JJ

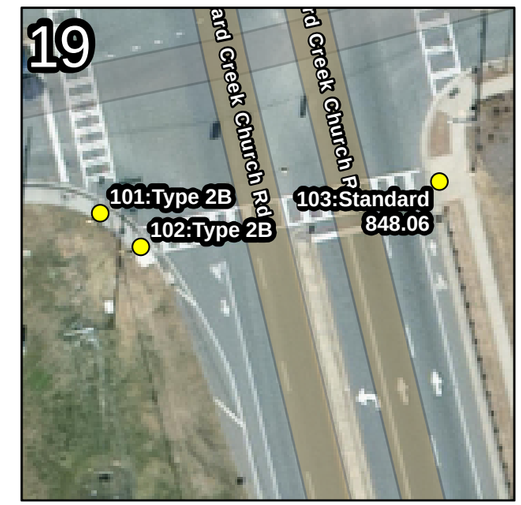
GROUP 3

MAP 3-2









Legend

N

- County Boundary
- Ramps
- Proposed Sidewalk

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

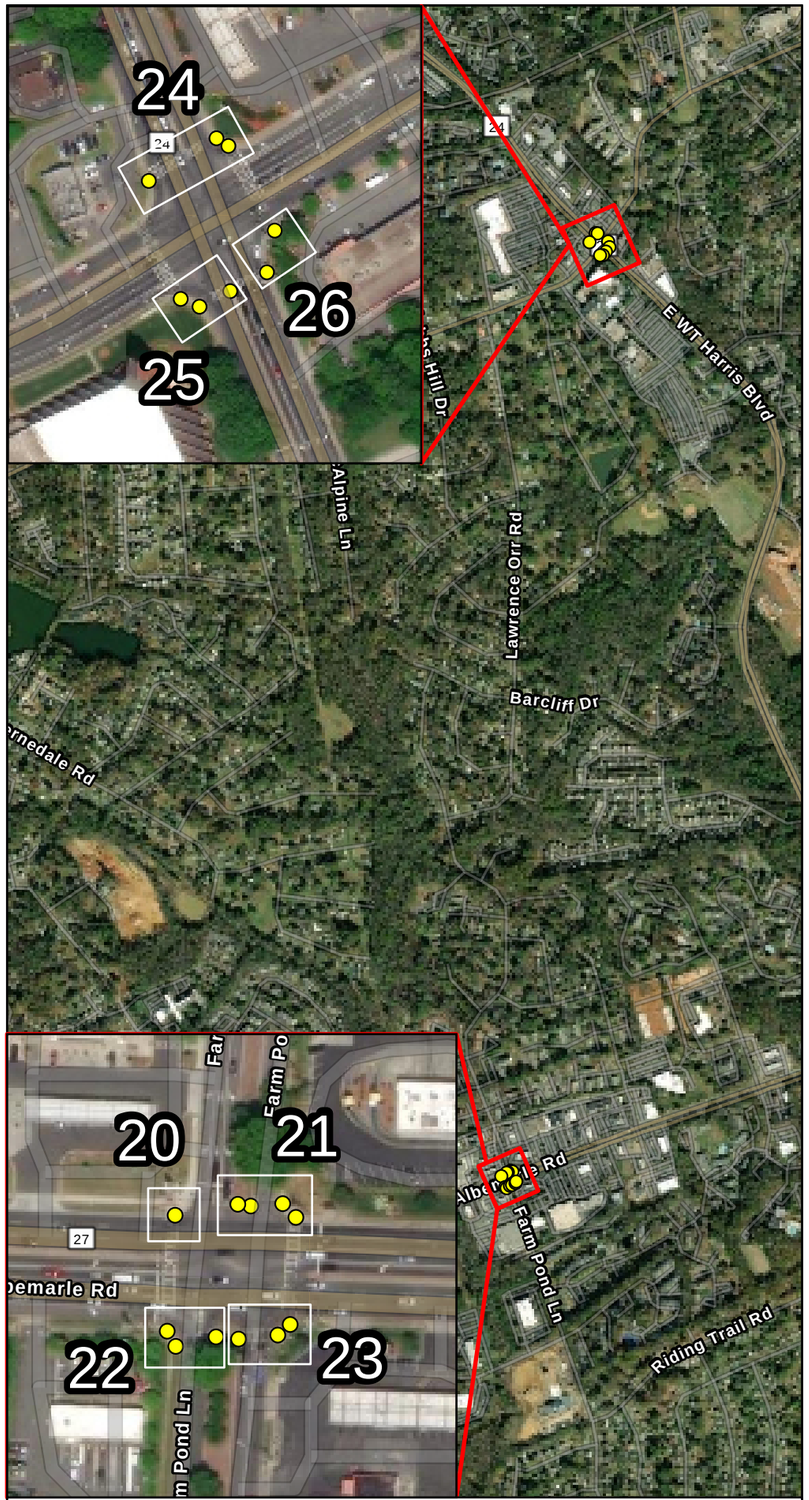
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

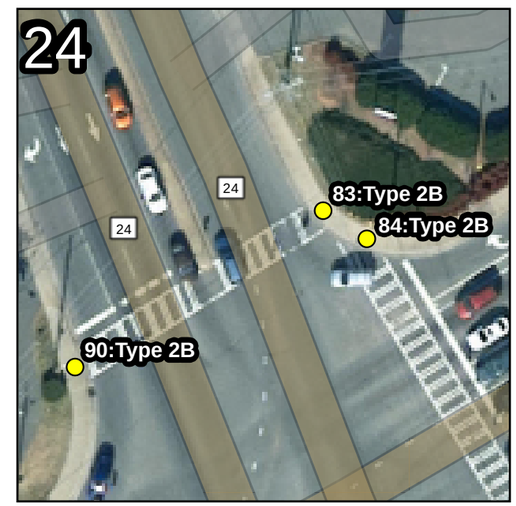
MECKLENBURG COUNTY

WBS 44920.1.18 / TIP R-5790JJ

GROUP 3

MAP 3-3





Legend

- County Boundary
- Ramps

N

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

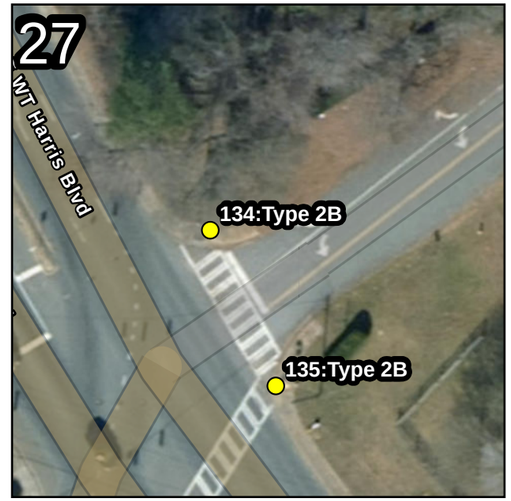
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

MECKLENBURG COUNTY

WBS 44920.1.18 / TIP R-5790JJ

GROUP 3

MAP 3-4



Legend

N

County Boundary

Ramps

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

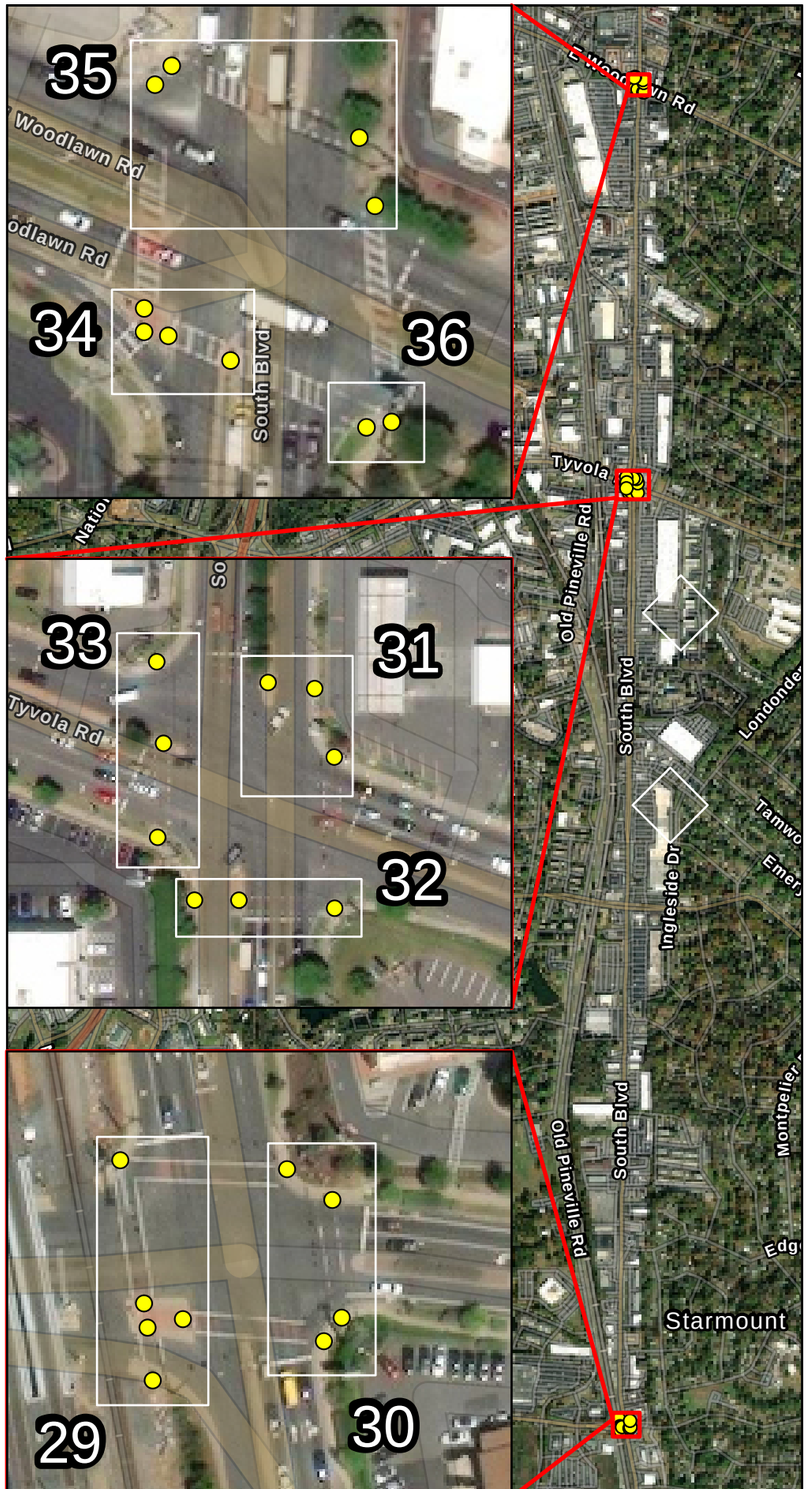
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

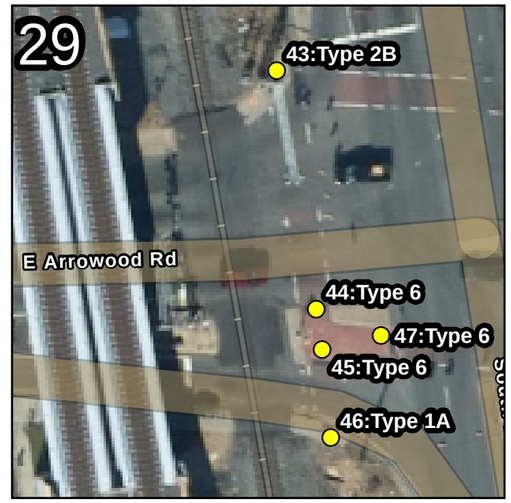
MECKLENBURG COUNTY

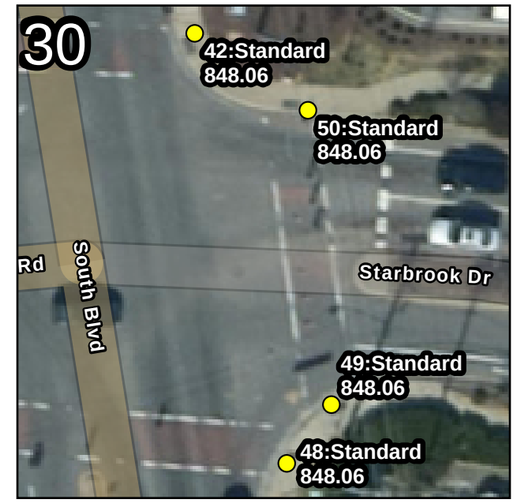
WBS 44920.1.18 / TIP R-5790JJ

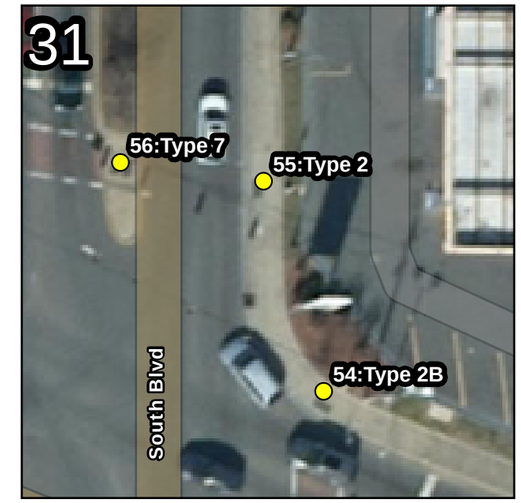
GROUP 3

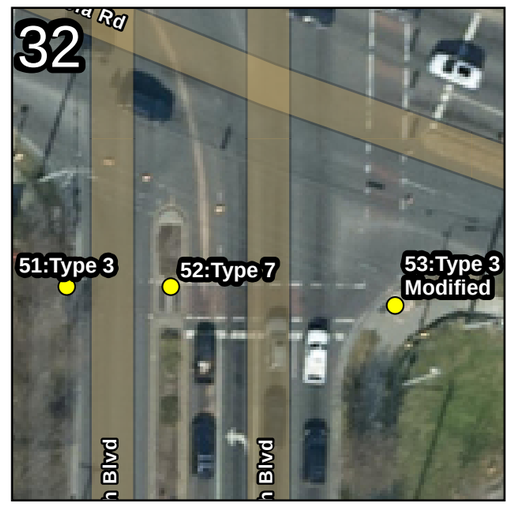
MAP 3-5

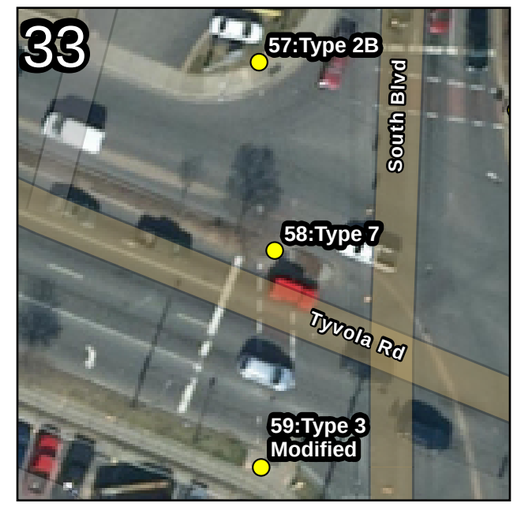


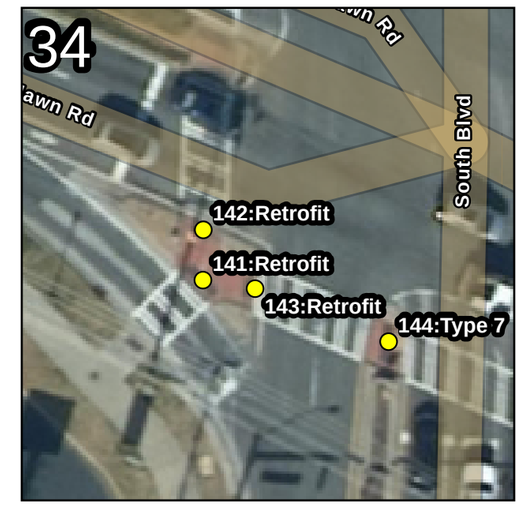


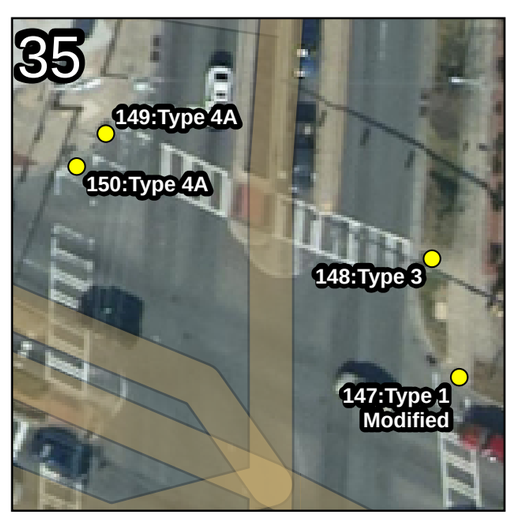












Legend

N

- County Boundary
- Ramps

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

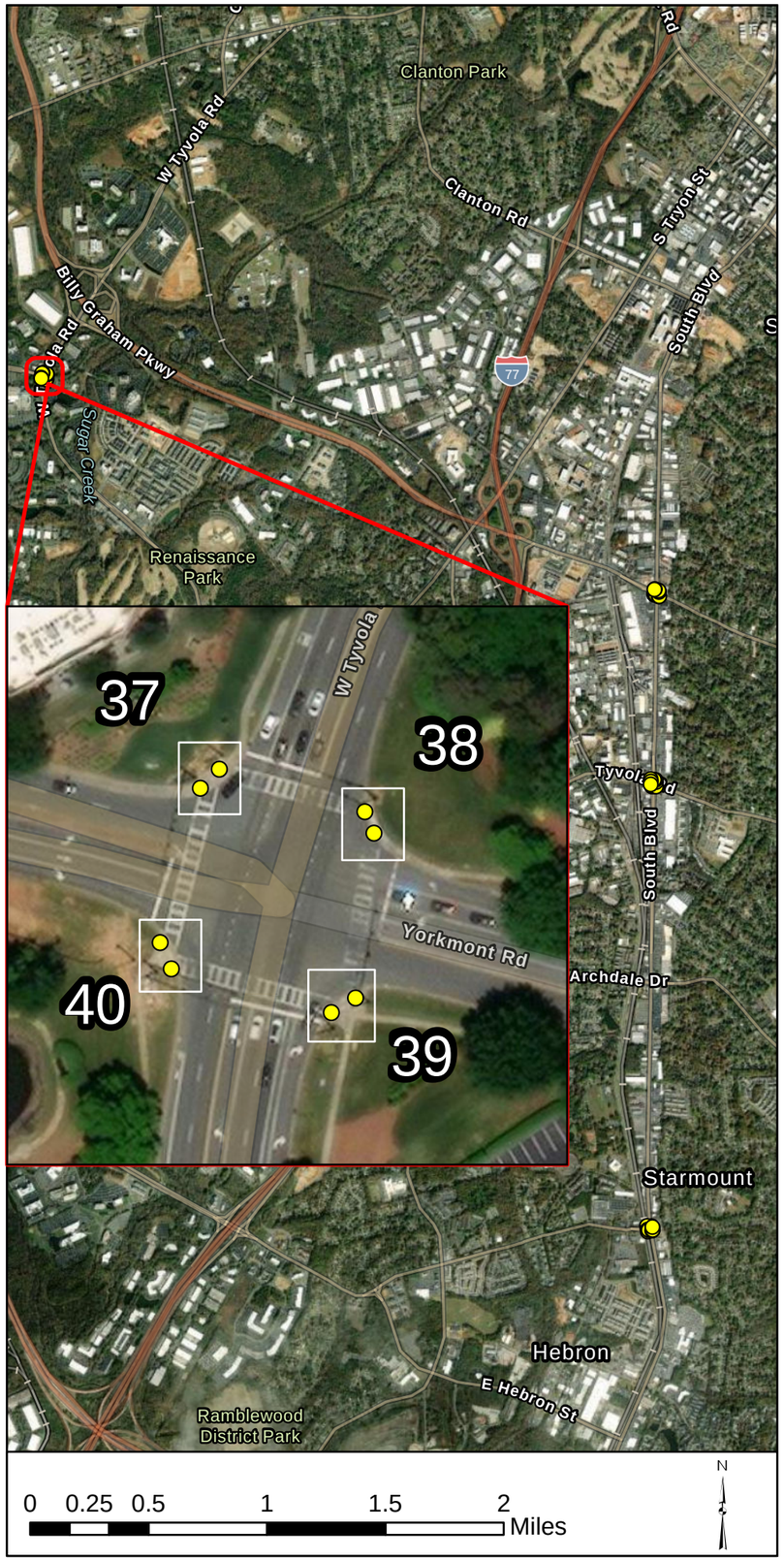
DIVISION 10 INTERSECTION ADA IMPROVEMENTS

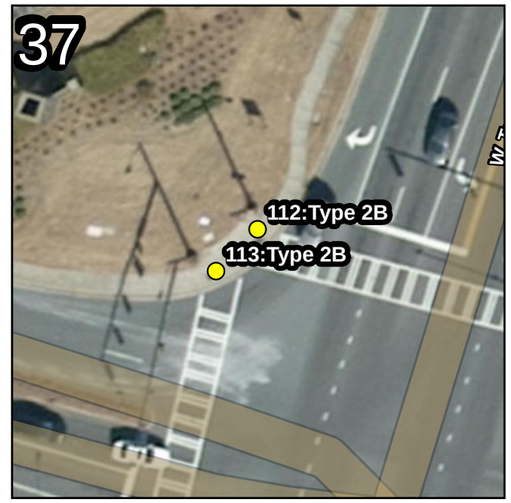
MECKLENBURG COUNTY

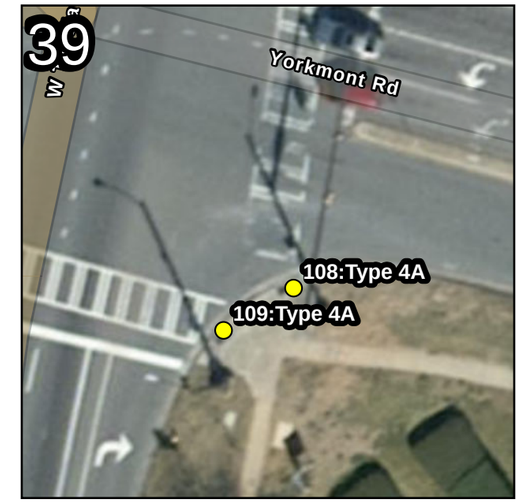
WBS 44920.1.18 / TIP R-5790JJ

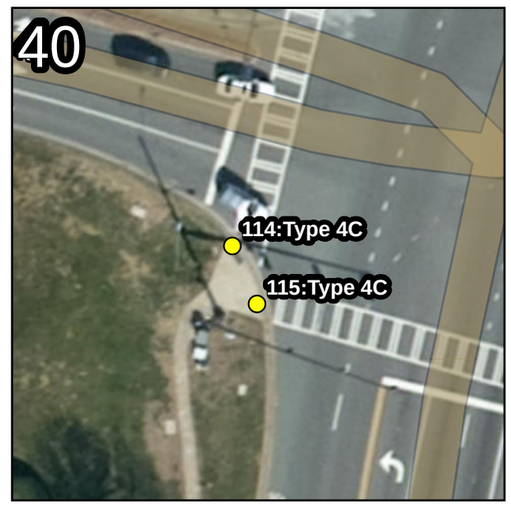
GROUP 3

MAP 3-6









Legend

N

County Boundary

Ramps

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

DIVISION 10 INTERSECTION ADA IMPROVEMENTS

MECKLENBURG COUNTY

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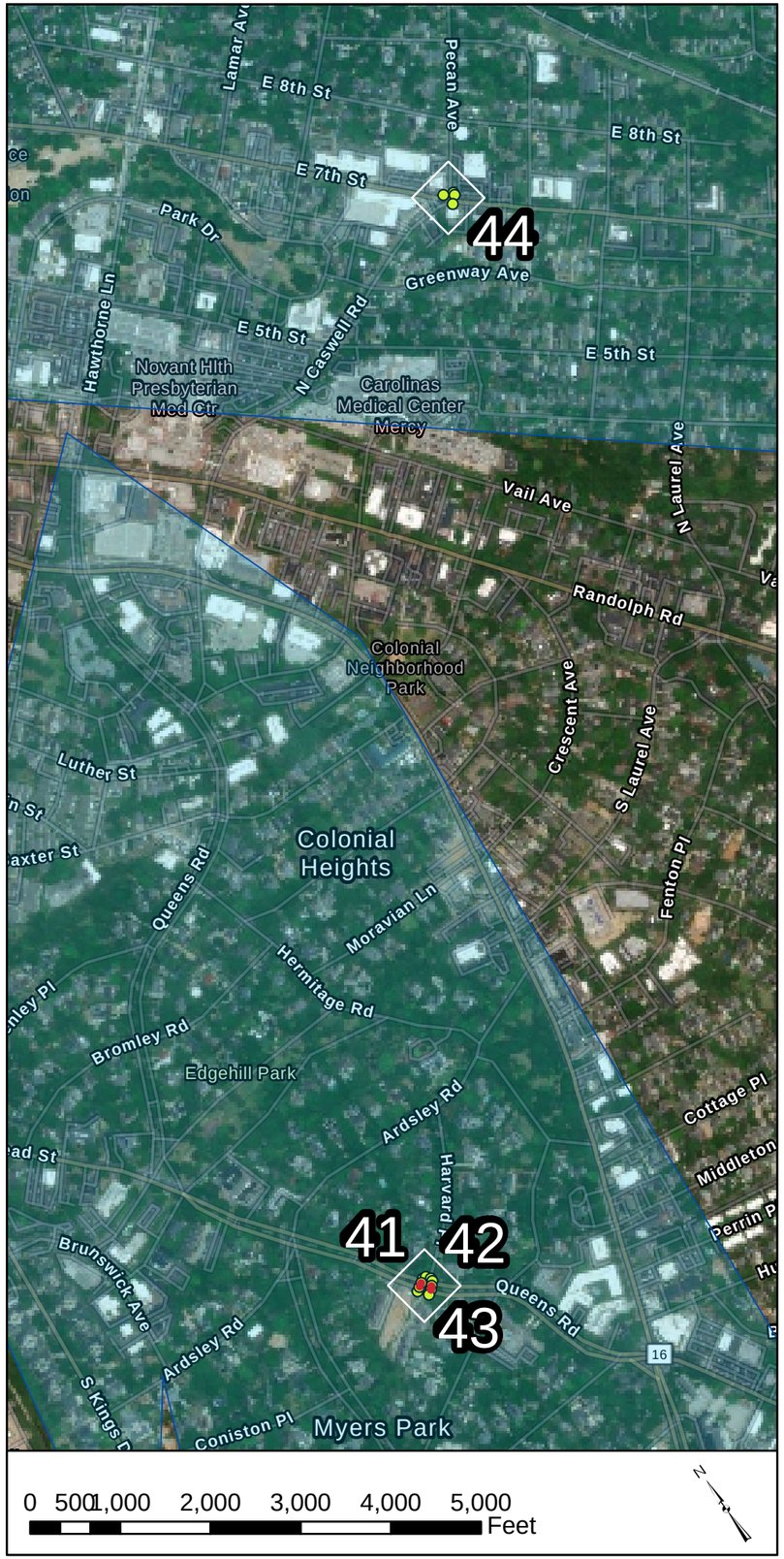
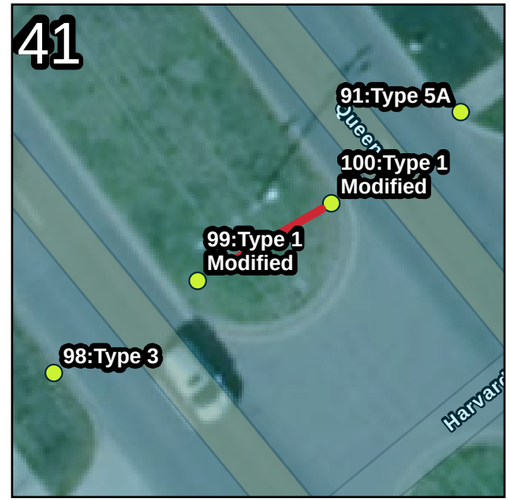
GROUP 3

MAP 3-7





Legend

- County Boundary
- Ramps
- Prop Sidewalk
- National Register of Historic Places District

N

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

DIVISION 10 INTERSECTION ADA IMPROVEMENTS

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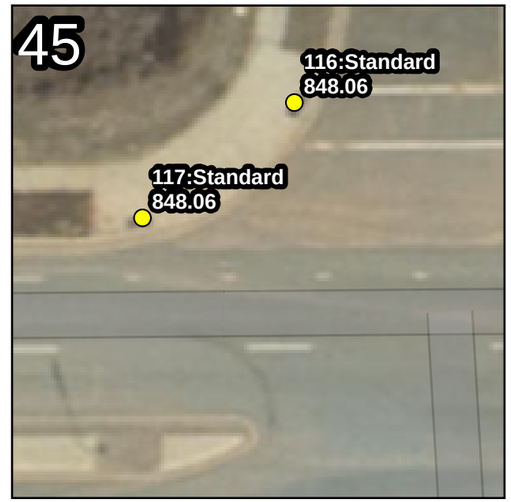
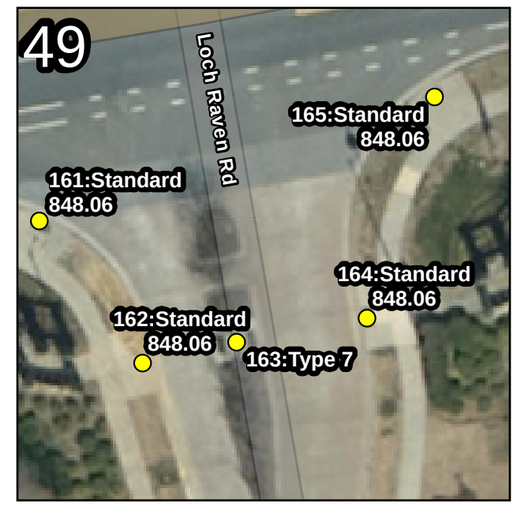
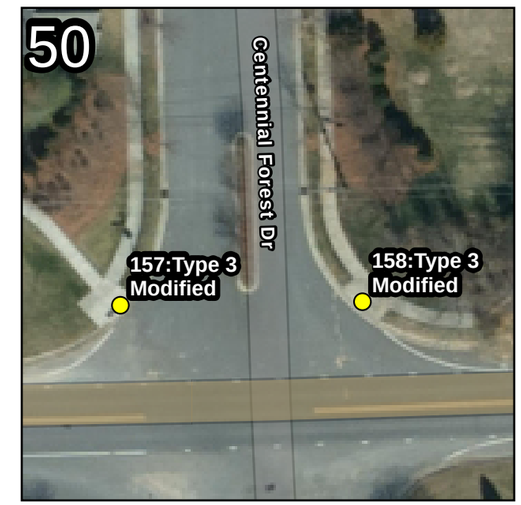
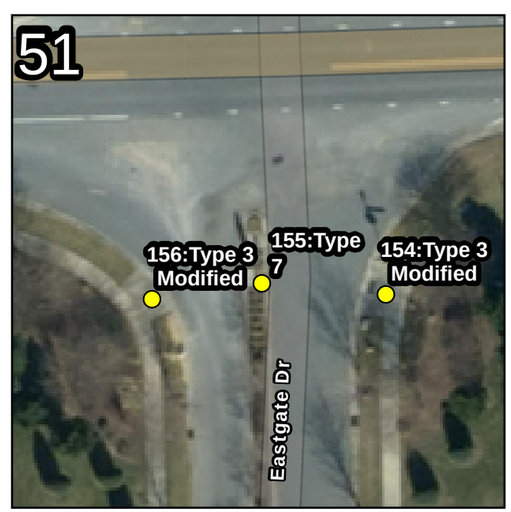
GROUP 3

MAP 3-8









Legend

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County Boundary

Ramps

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

KISINGER CAMPO & ASSOCIATES

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MECKLENBURG COUNTY

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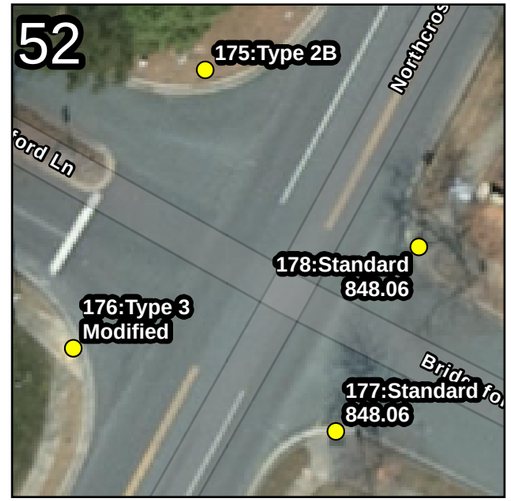
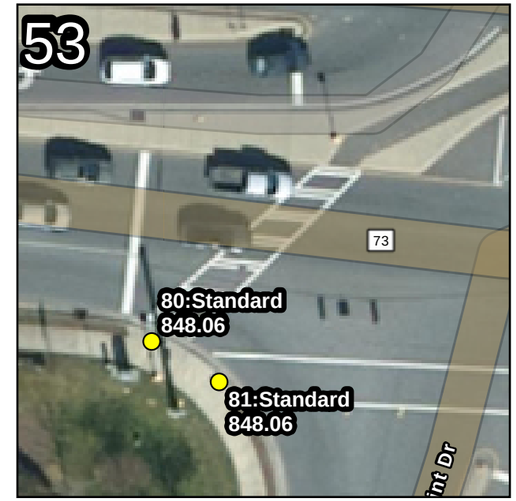
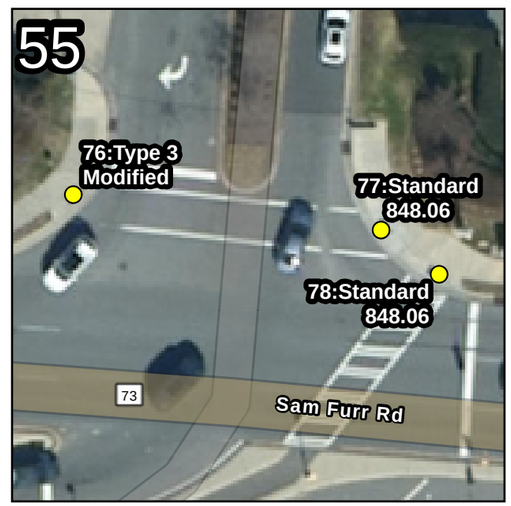
GROUP 3

MAP 3-9







Legend

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County Boundary

Ramps

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KISINGER CAMPO & ASSOCIATES

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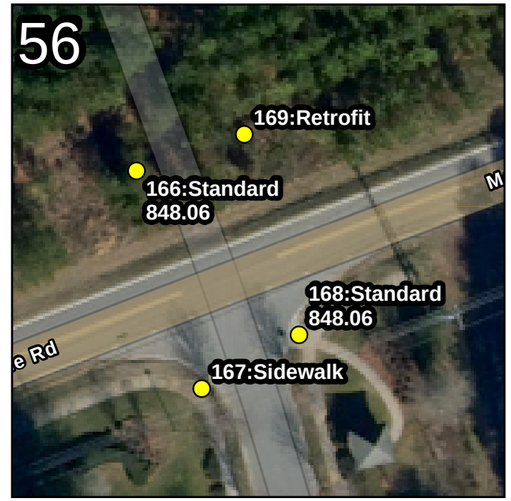
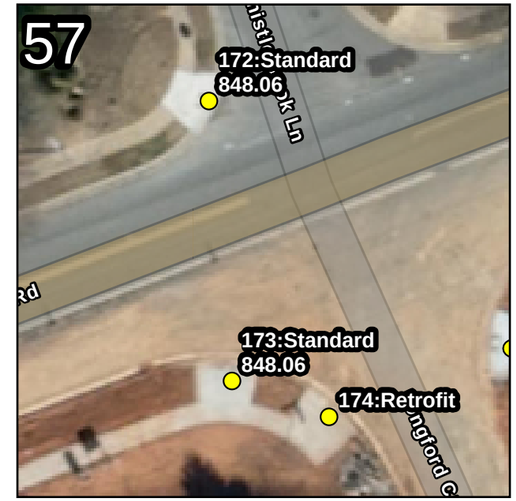
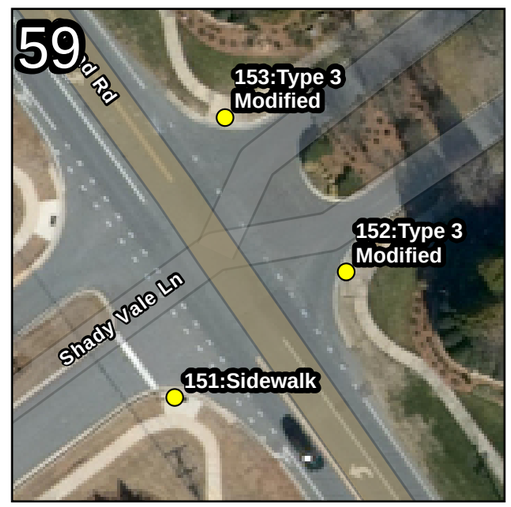
GROUP 3

MAP 3-10







Legend

County Boundary

Ramps

N

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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GROUP 3

MAP 3-11