

There may be situations on projects where the Standard Drawings will not work. In those instances, contact Joel Howerton, PE in the Contract Standards and Development Unit. Some examples are as follows:

- In areas with limited right of way.
- Mid Block crossings.
- Small radius intersections.
- Urban areas with narrow sidewalks.

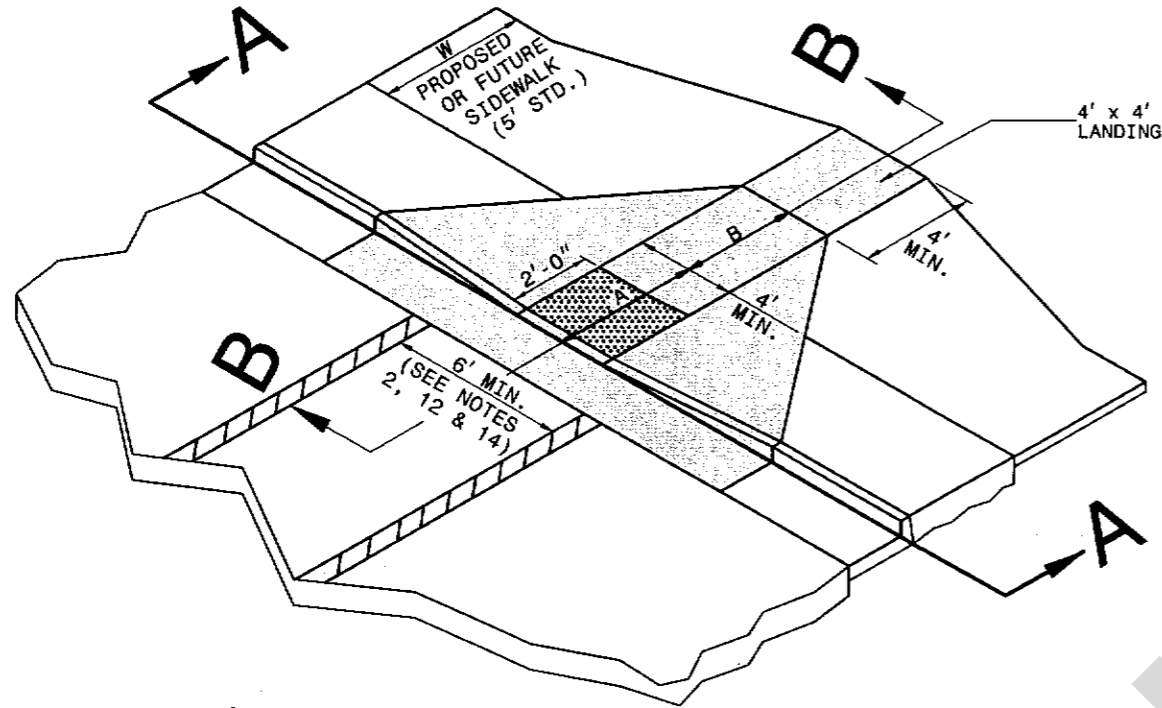
Changes to the Pay Items have also been made. The new pay item that will be used until the new Standard Drawings and Standard Specifications are published for the January 2012 letting is as follows:

- 2759000000-N SP Generic Paving Item EA
 Concrete Curb Ramps

RAG/jsh

Attachments

CC: Mr. Ron Hancock, PE (w/ attachment)
Mr. Chris Peoples, PE (w/ attachment)
Mr. R. A. Garris, PE (w/ attachment)
Ms. Cynthia Perry, PE (w/ attachment)
Mr. Brad Hibbs, PE, FHWA (w/ attachment)
Mr. Roger Rochelle, PE (w/ attachment)

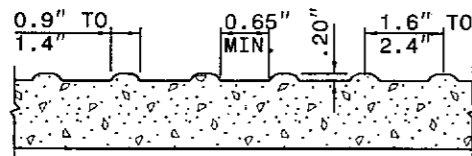
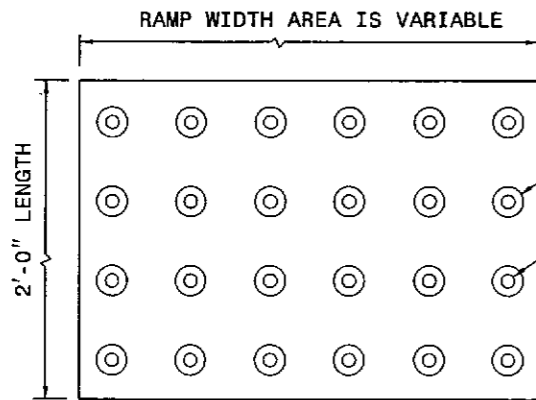


ISOMETRIC VIEW

■ 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

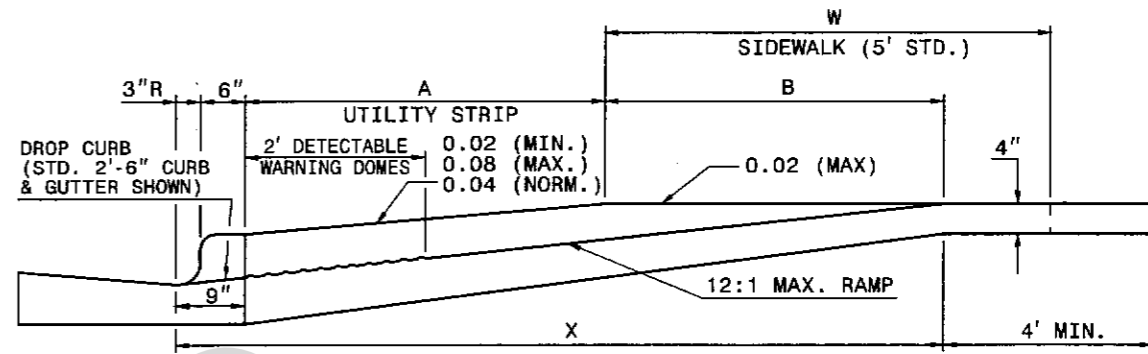
W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'***
7'	0.0'	7.8'	7.3'	6.5'***
8'	0.0'	8.8'	7.3'	6.5'***
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

$B = X - (A + 9")$

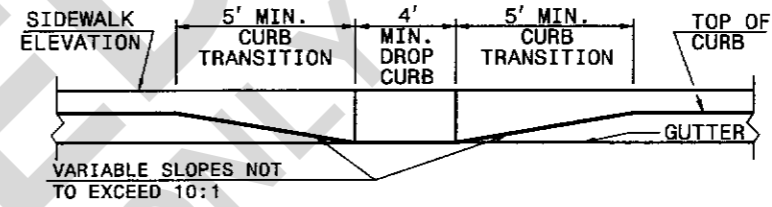
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.

* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.

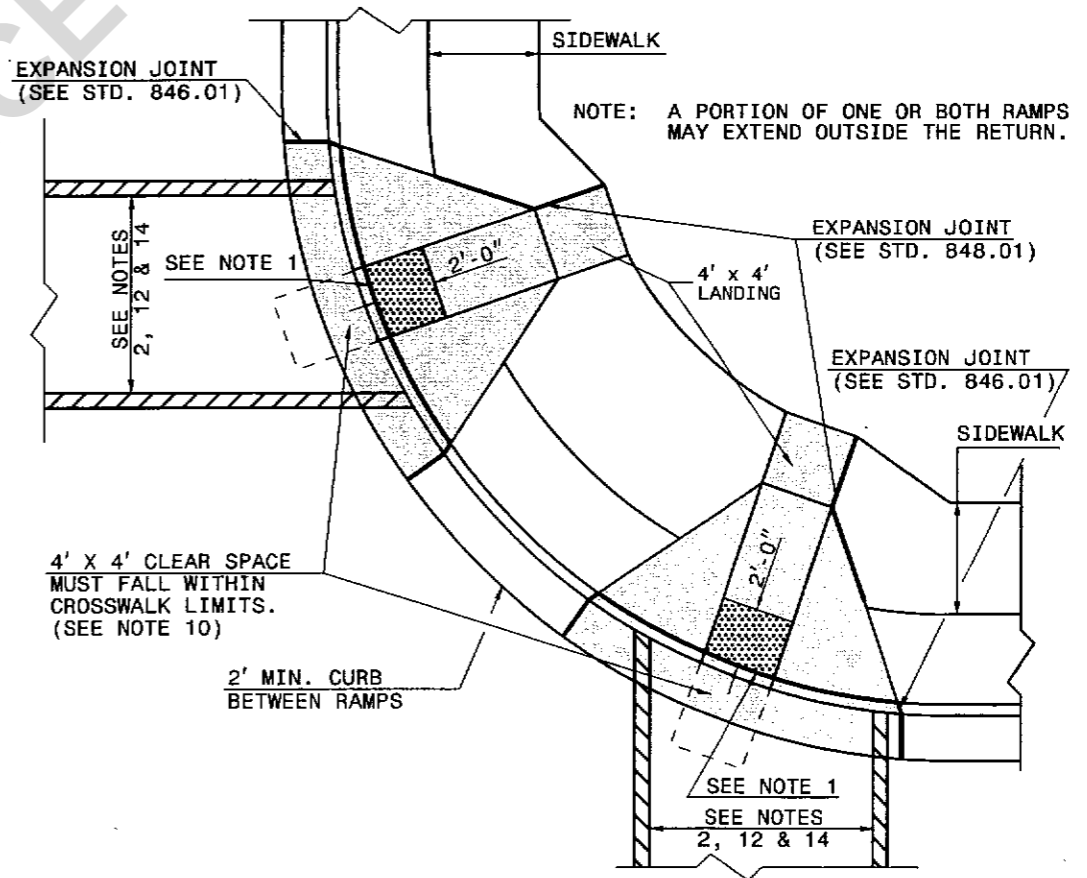
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.



SECTION B-B

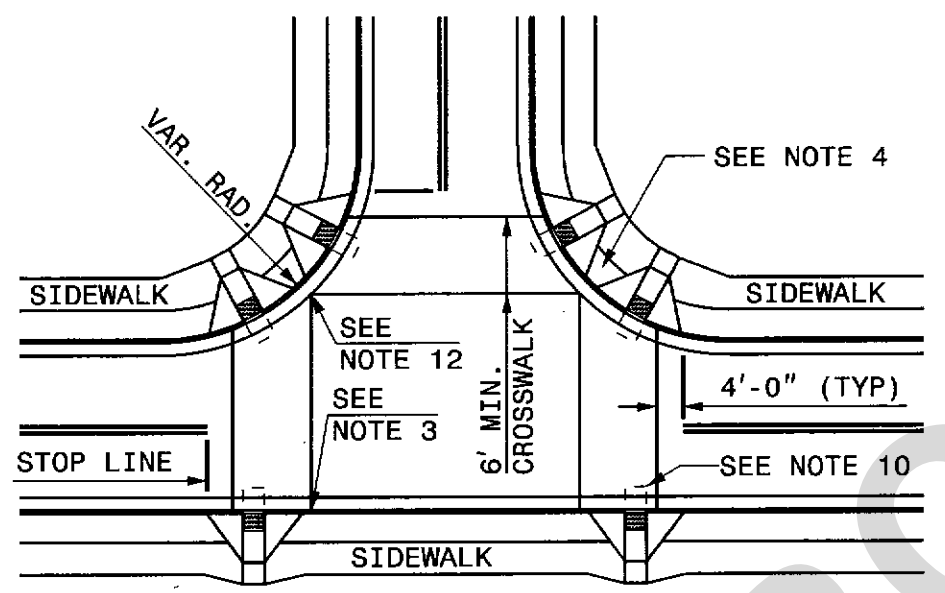


SECTION A-A

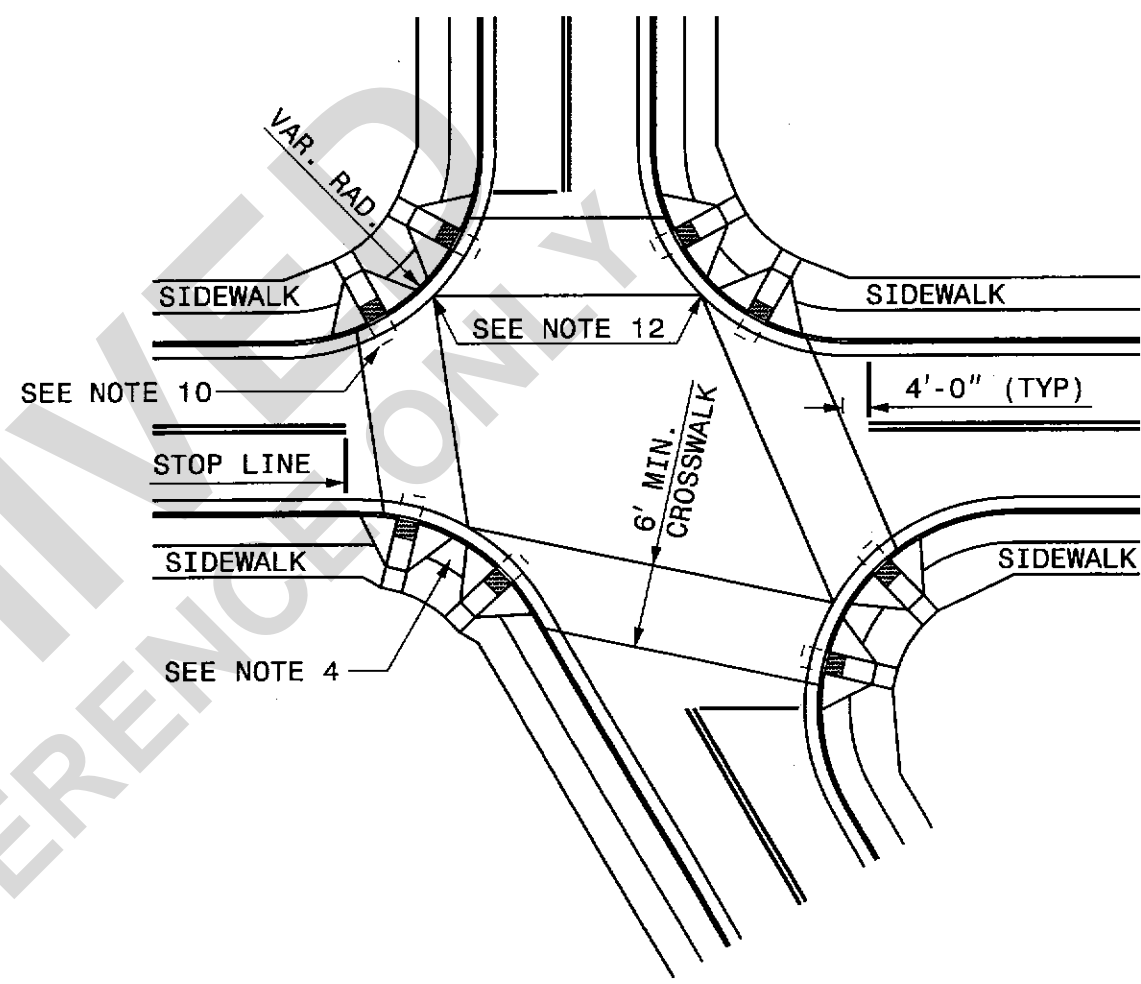


PLAN VIEW

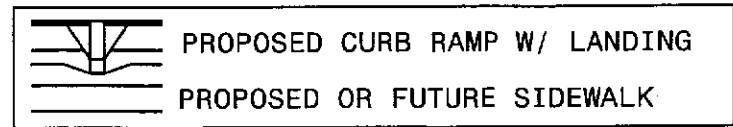
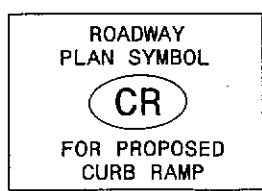
DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)



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



ALLOWABLE LOCATIONS

 DUAL RAMP RADII.....ANY

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, SLIP RESISTANT AND MUST CONTRAST VISIBLY TO THE ADJACENT SURFACE.
2. CROSSWALK WIDTHS AND CONFIGURATION VARY BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
3. NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE CURB RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.

IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1, 1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.

THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES. COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILIAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.

4. PROVIDE CURB RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE CURB RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. PLACE DUAL RAMPS PERPENDICULAR TO THE TRAVEL LANE OR AS DIRECTED BY THE ENGINEER.
5. DO NOT EXCEED 0.08 (12:1) SLOPE ON THE RAMP.
6. CONSTRUCT CURB RAMPS A MINIMUM OF 4' FOR SINGLE RAMPS.
7. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
8. PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADII, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 14)
9. COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE 4' X 4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
10. CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET IN WIDTH. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
11. USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
12. TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
13. PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.
14. CONSTRUCT ALL RAMPS SURFACES TO COMPLY WITH SECTIONS R301 AND R303.3.3 OF THE REVISED ADA GUIDELINES.
15. CONSTRUCT ALL RAMPS AND SIDEWALKS WITH A 2% MAXIMUM CROSS SLOPE.
16. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
17. CONSTRUCT ALL SIDE FLARES FOR CURB RAMPS WITH SLOPES NO GREATER THAN 10:1.
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 SECTION FOR THE DETAILS OR FOR A SPECIAL DESIGN.

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

1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMPS

NOTES

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

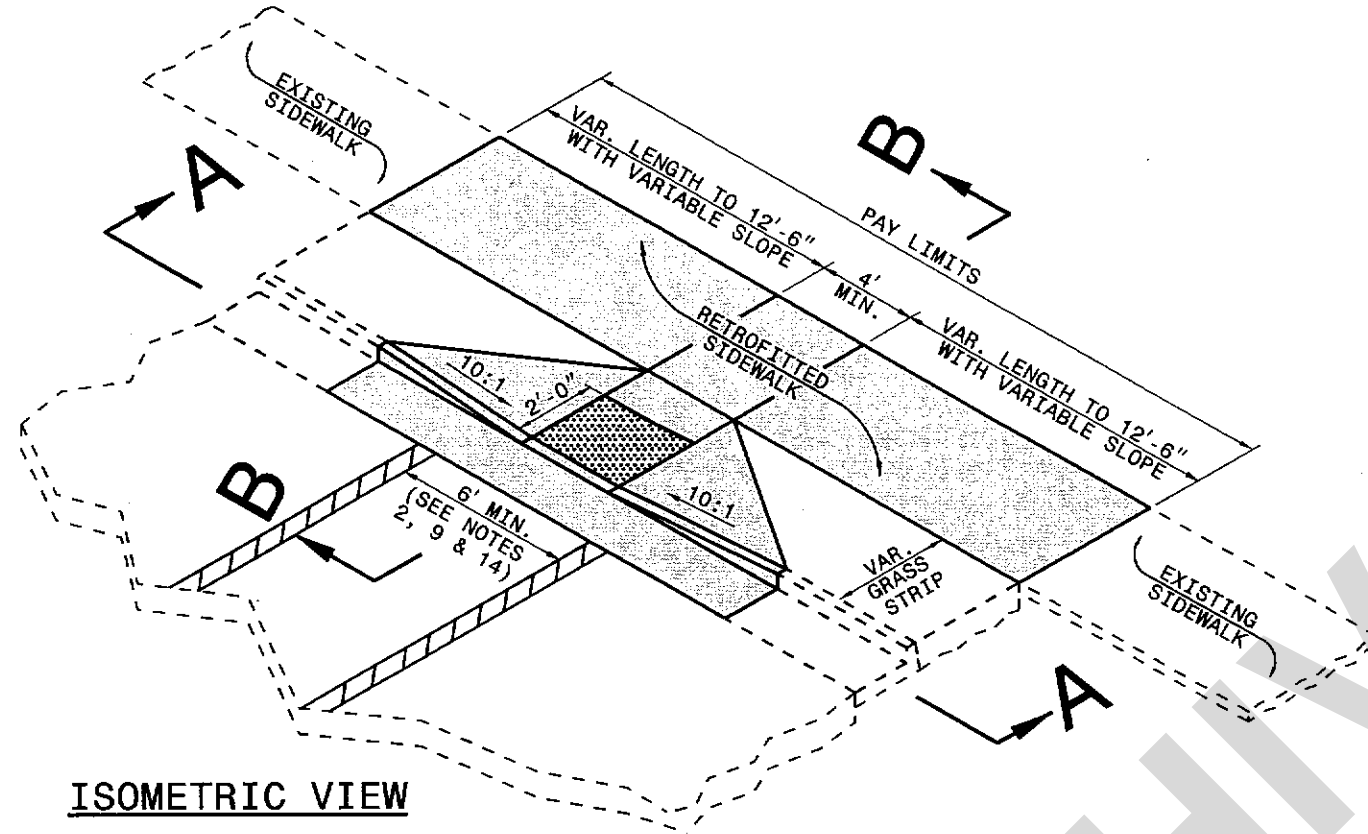
1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMPS

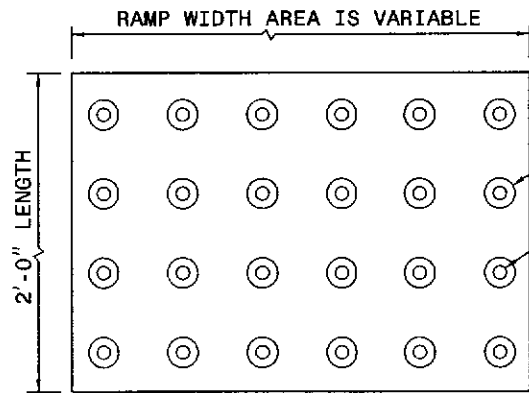
NOTES

CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



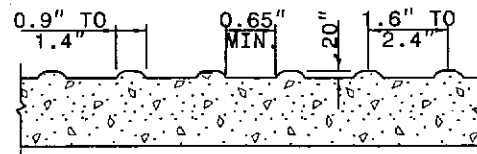
ISOMETRIC VIEW

PAY LIMITS OF RETROFIT CURB RAMP



BASE DIAMETER
0.90\"R TO 1.40\"R

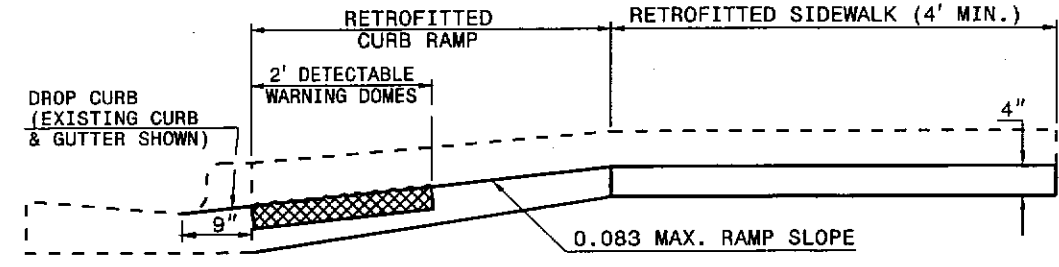
TOP DIAMETER OF NO LESS
THAN 50% TO NO MORE
THAN 65% OF THE BASE
DIAMETER



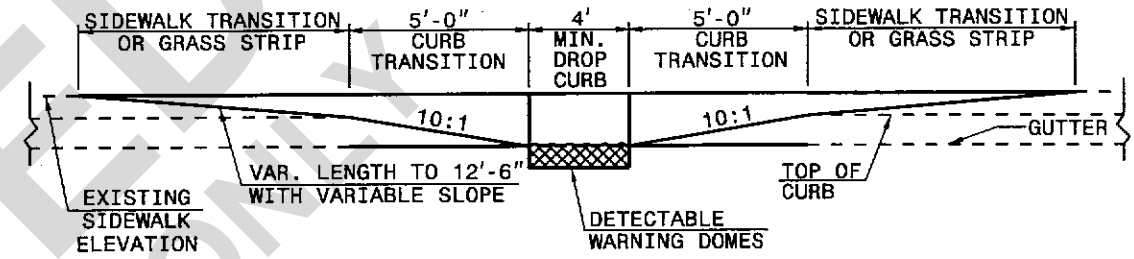
DETECTABLE WARNING DOMES

NOTES:

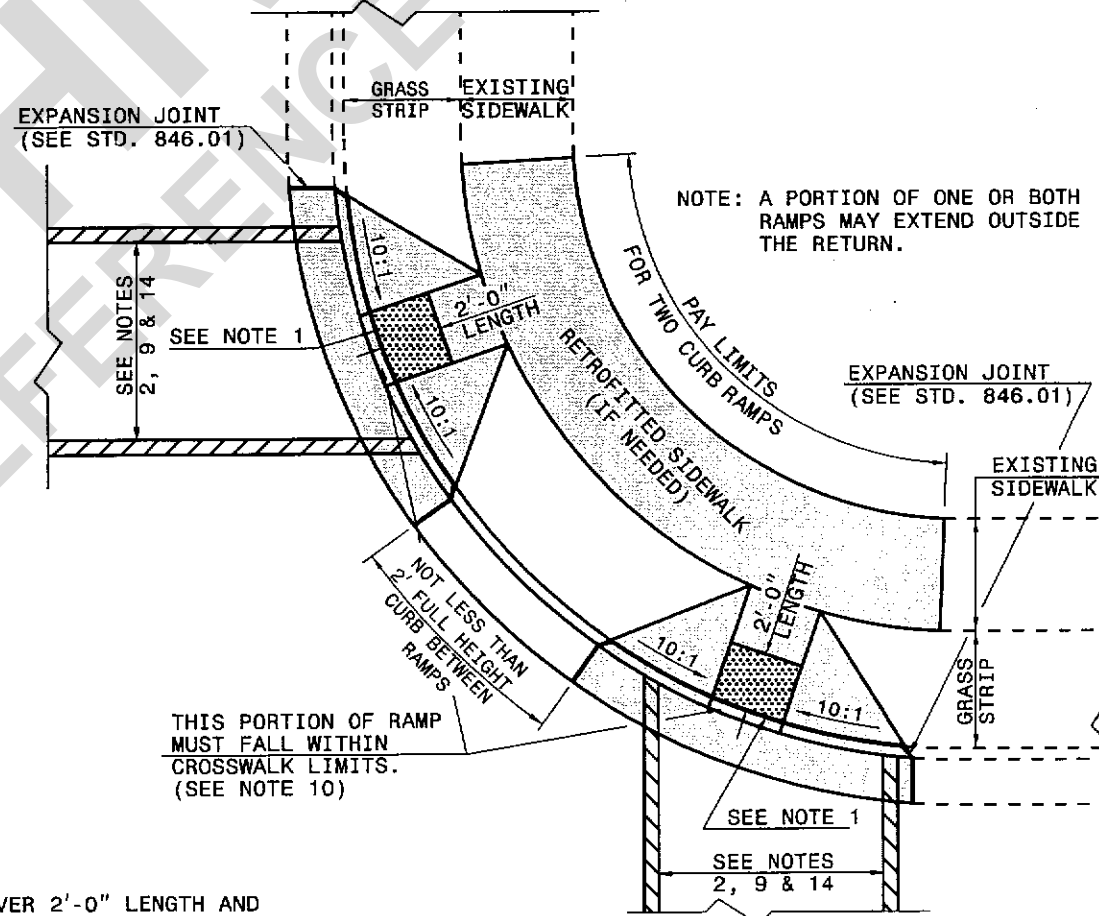
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



SECTION B-B



SECTION A-A

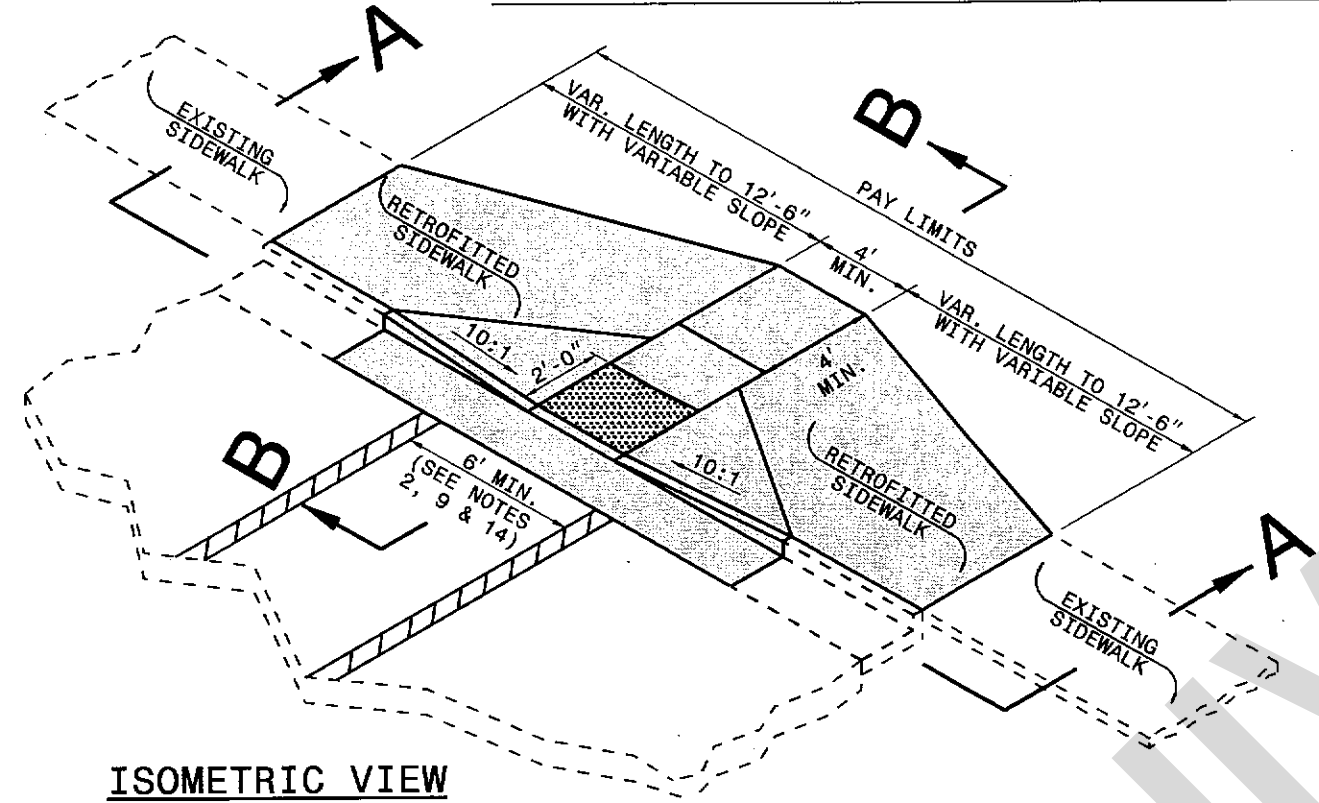


PLAN VIEW

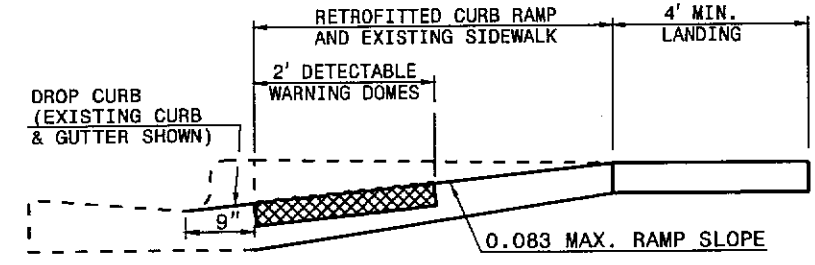
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

1-12

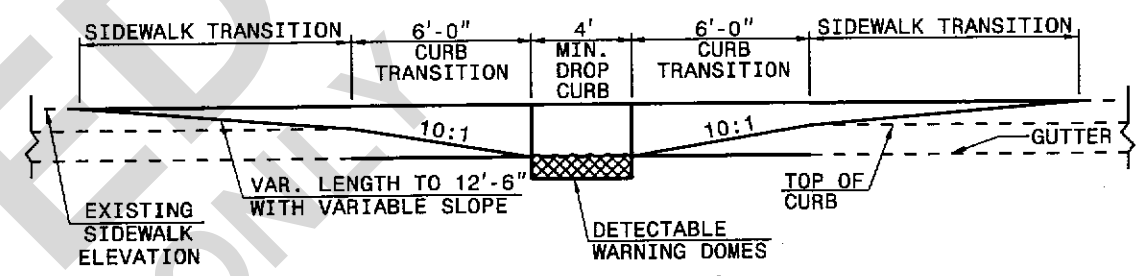
CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB



ISOMETRIC VIEW

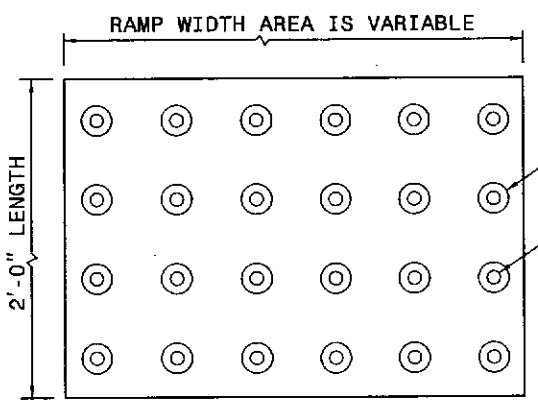


SECTION B-B

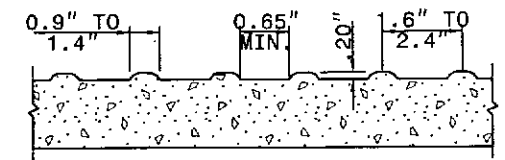


SECTION A-A

PAY LIMITS OF CURB RAMP

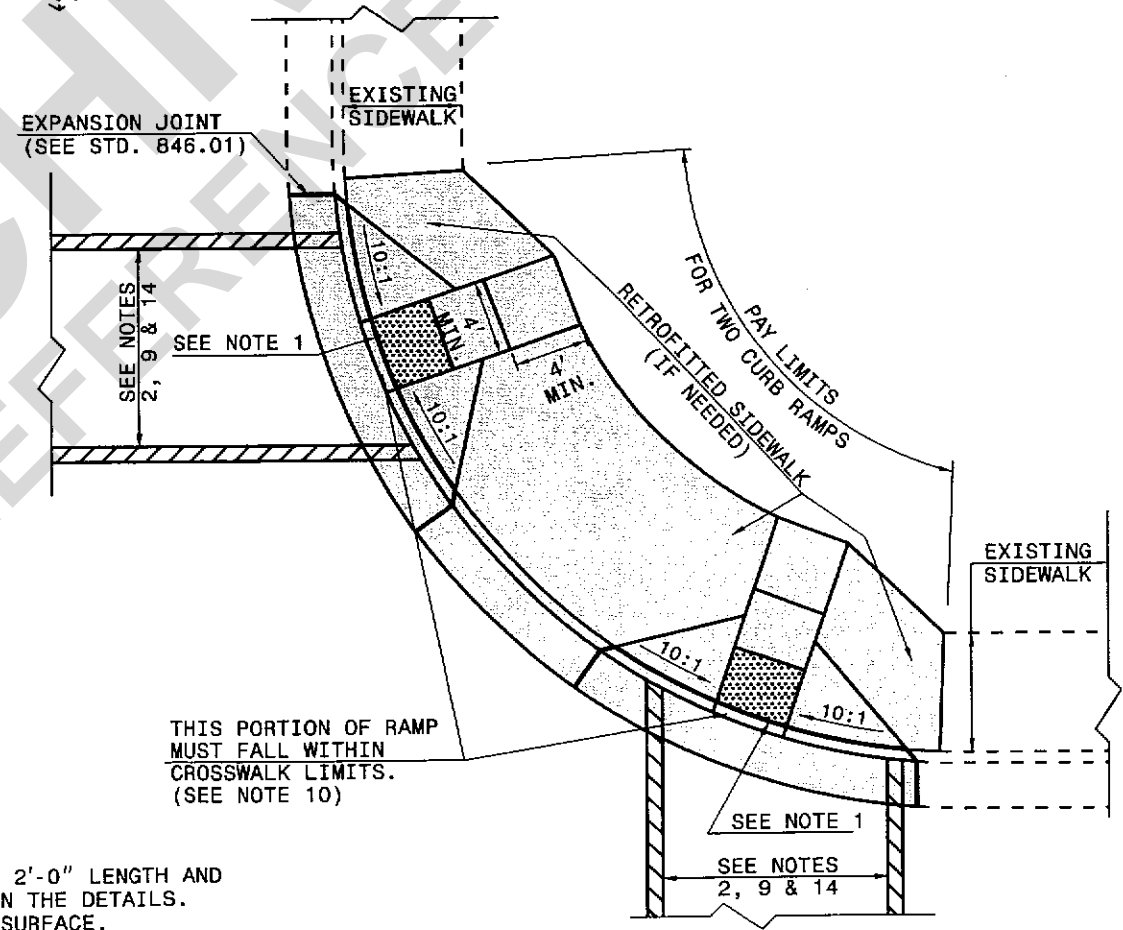


BASE DIAMETER
0.90"R TO 1.40"R
TOP DIAMETER OF NO LESS THAN 50% TO NO MORE THAN 65% OF THE BASE DIAMETER



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)

1-12

RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP

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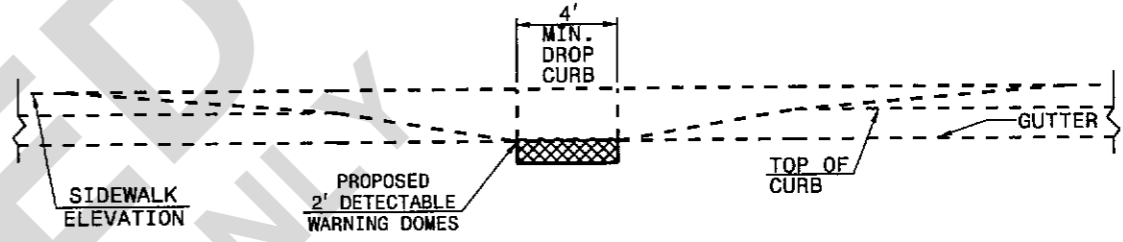
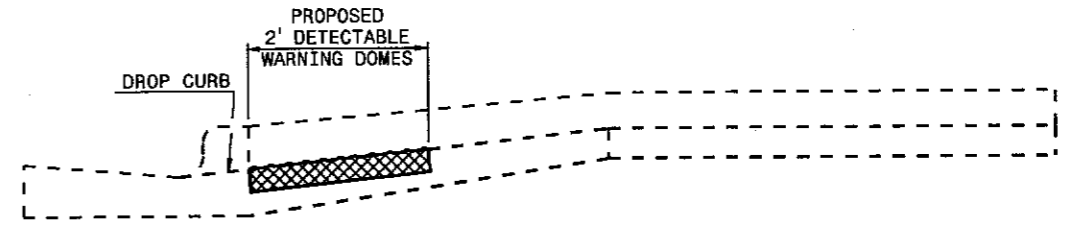
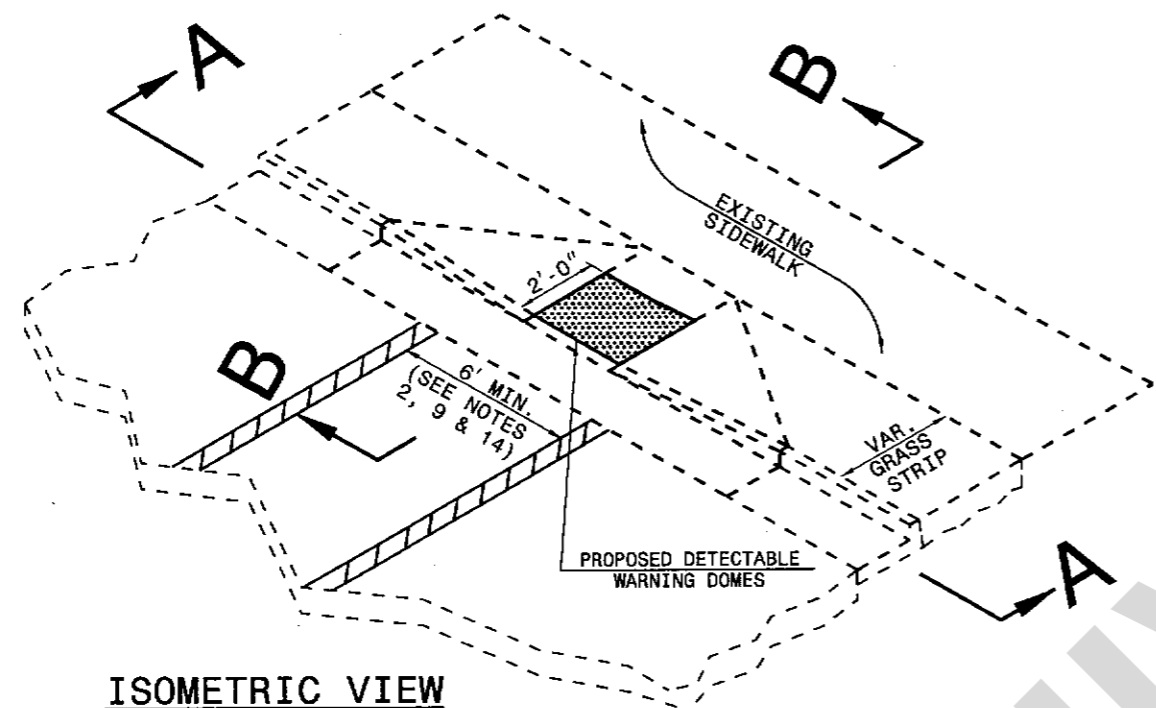
ENGLISH STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER

SHEET 3 OF 5
848.06

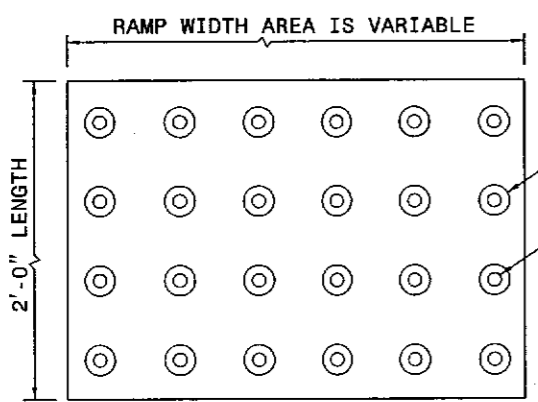
STATE OF NORTH CAROLINA
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ENGLISH STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER

SHEET 3 OF 5
848.06

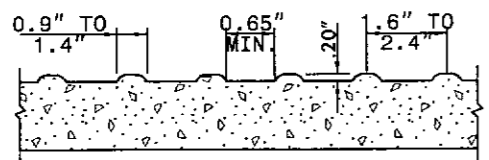


PAY LIMITS OF RETROFIT CURB RAMP



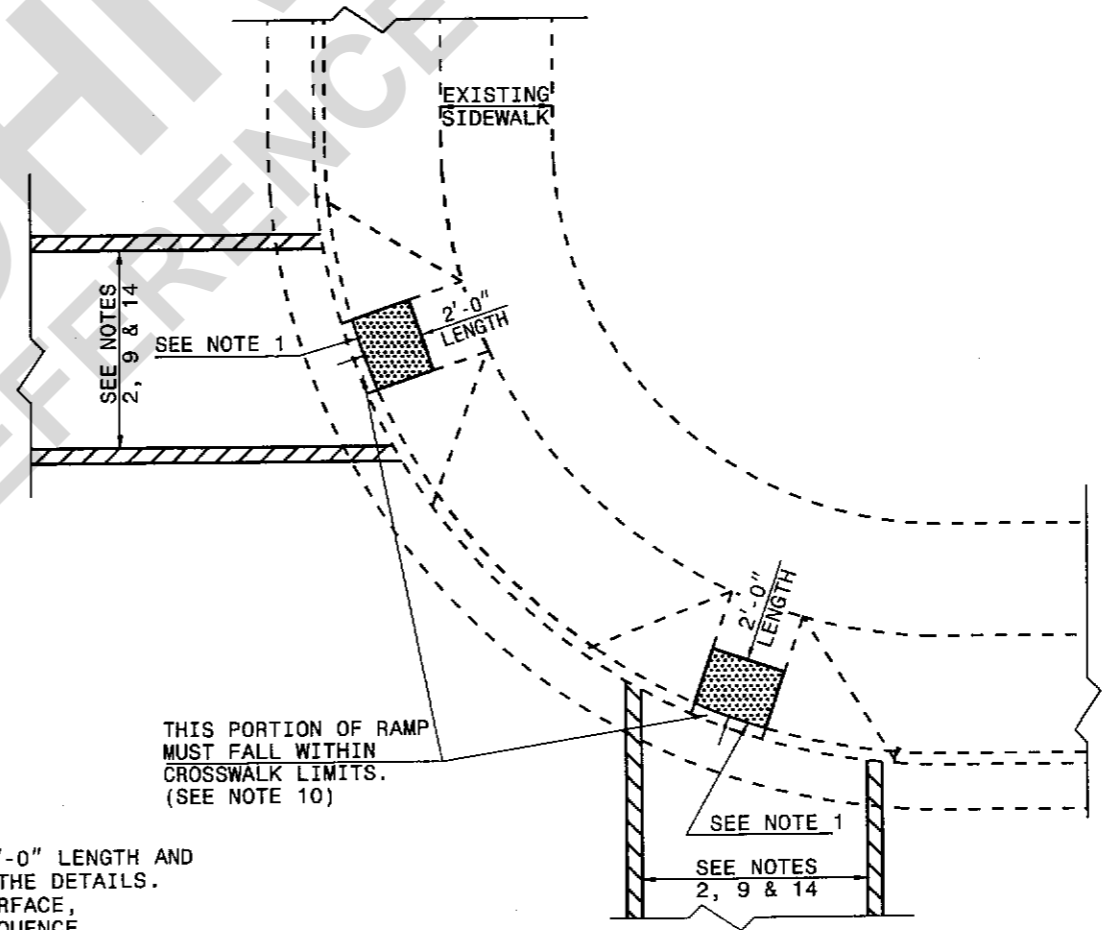
BASE DIAMETER 0.90"R TO 1.40"R

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DETECTABLE WARNING DOMES

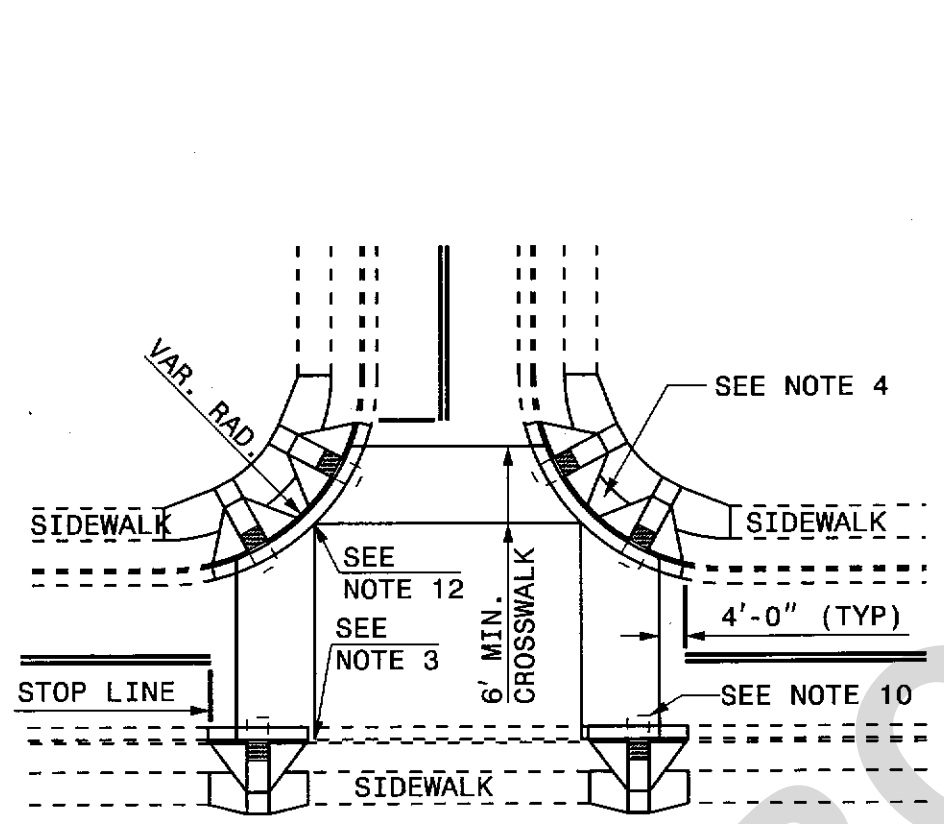
- NOTES:
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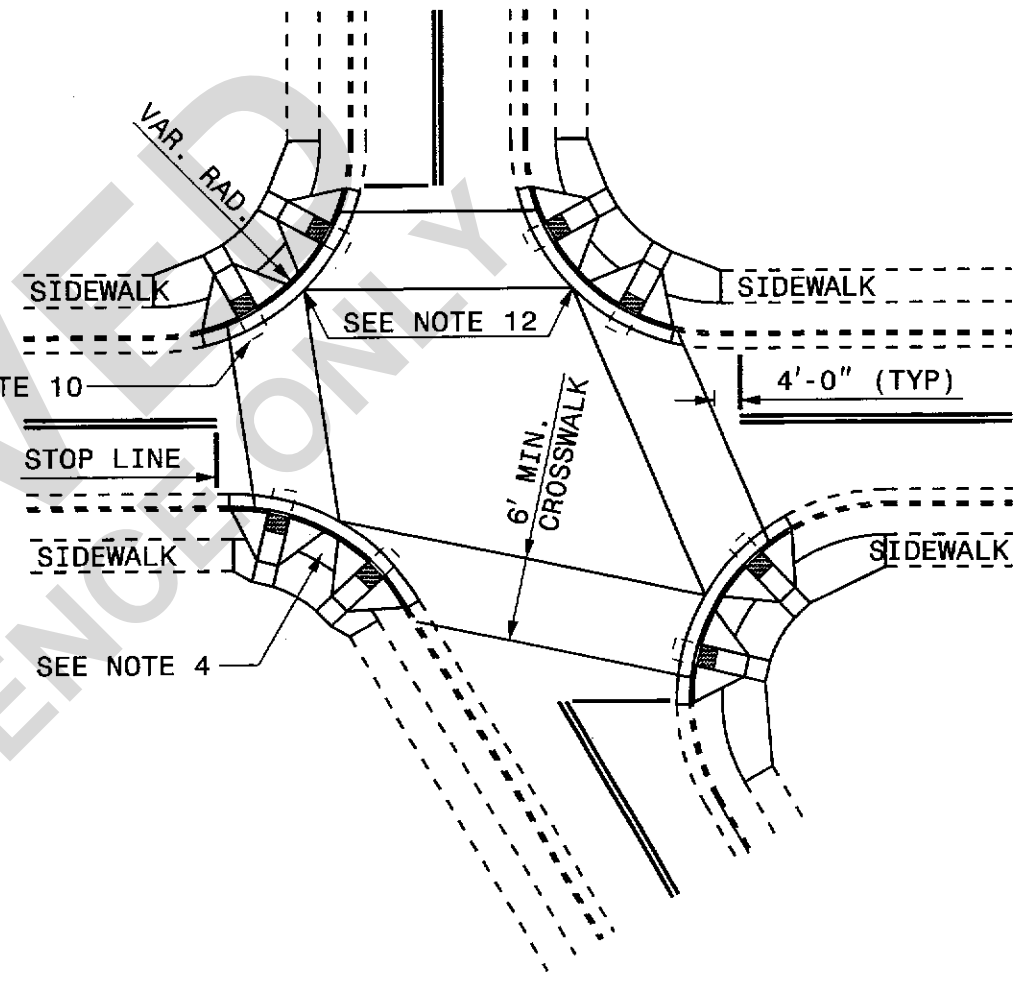
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

1-12

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

CURB RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANCE AND A VISIBLE CONTRAST TO THE ADJACENT SURFACES.
2. CROSSWALK WIDTHS AND CONFIGURATION VARY, BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
3. NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE CURB RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.

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4. PROVIDE CURB RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE CURB RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED PLACE NOT LESS THAN 2 FEET OF FULL HEIGHT CURB BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
5. DO NOT EXCEED 0.083 (12:1) SLOPE ON THE CURB RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
6. CONSTRUCT CURB RAMPS 48" (4') OR GREATER.
7. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
8. PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADII, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 14)
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