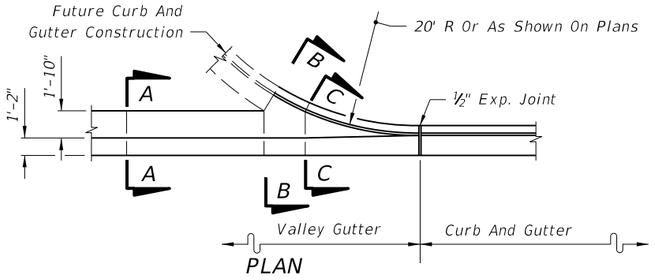
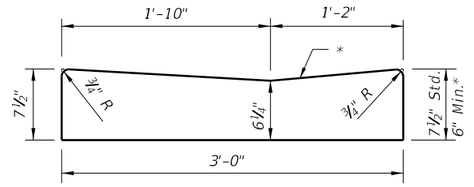
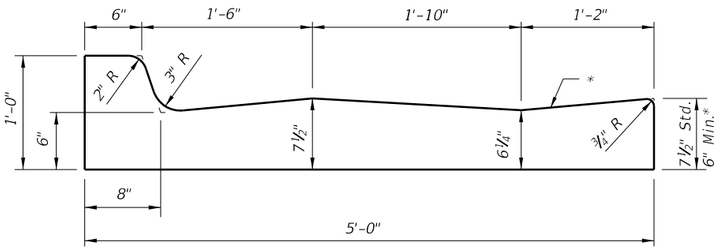


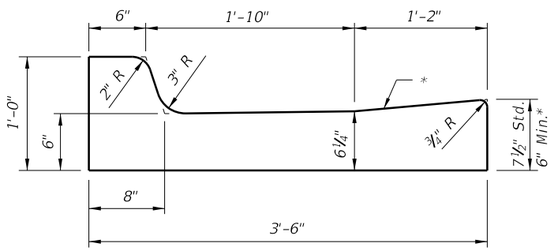
PLAN



SECTION AA



SECTION BB



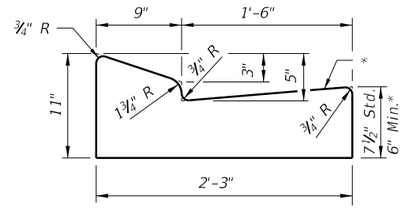
SECTION CC

VALLEY GUTTER

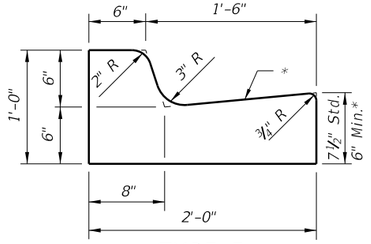
* When used on high side of roadways, the cross slope of the gutter shall match the cross slope of the adjacent pavement. The thickness of the lip shall be 6", unless otherwise shown on plans.

◪ Rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.

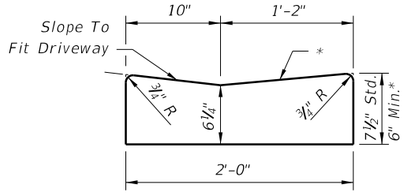
For use adjacent to concrete or flexible pavement. For details depicting usage adjacent to flexible pavement, see Sheet 2. Expansion joint, preformed joint filler and joint seal are required between curb & gutter and concrete pavement only, see Sheet 2.



TYPE E

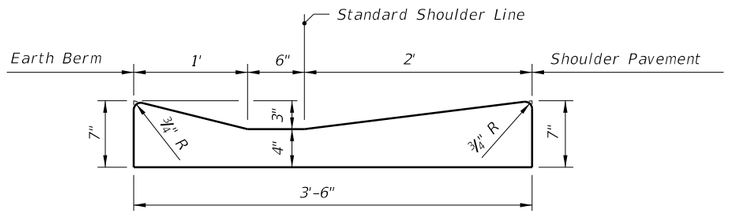


TYPE F

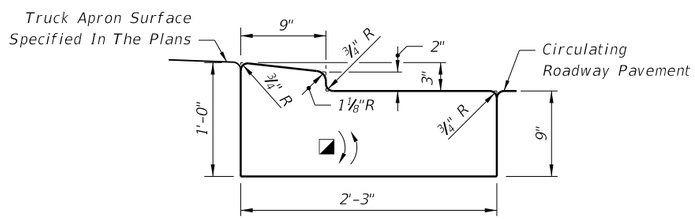


Note: To be paid for as parent curb.

DROP CURB

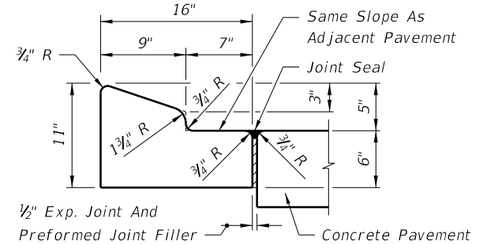


SHOULDER GUTTER



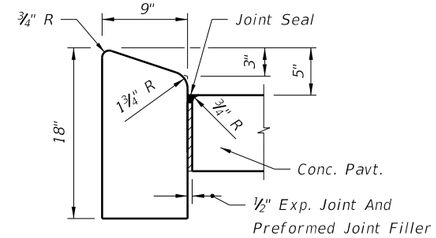
TRAFFIC BEARING SECTION FOR USE IN ROUNDABOUT CENTRAL ISLAND CONSTRUCTION

TYPE RA

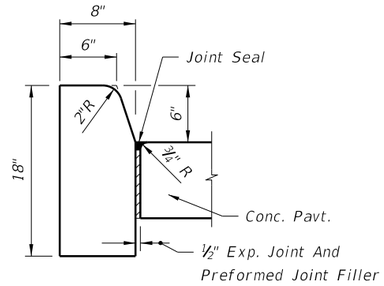


For details depicting usage adjacent to flexible pavement, see diagram right.

TYPE A



TYPE B



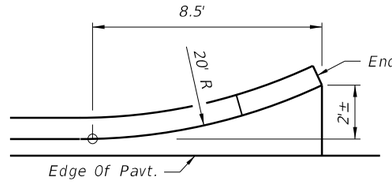
TYPE D

Note: For use adjacent to concrete or flexible pavement, concrete shown. Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see Sheet 2.

CONCRETE CURB

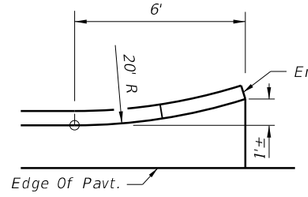
CONCRETE CURB AND GUTTER

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
00			FDOT DESIGN STANDARDS 2013	CURB & CURB AND GUTTER	300	1

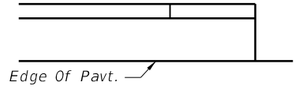


PLAN

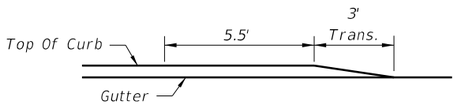
PLAN



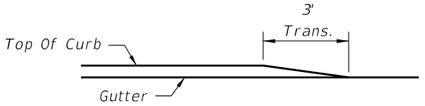
PLAN



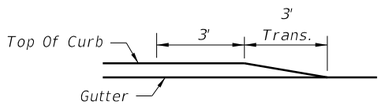
PLAN



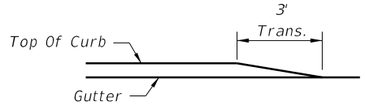
PROFILE
FLARED END



PROFILE
STRAIGHT END



PROFILE
FLARED END

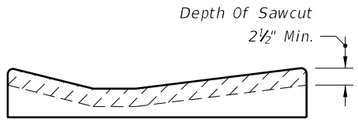


PROFILE
STRAIGHT END

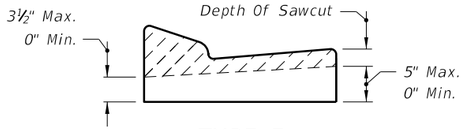
CURB TYPE A

CURB AND GUTTER TYPES E & F

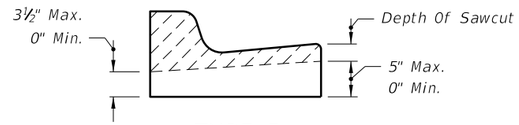
CURB AND GUTTER ENDINGS



SHOULDER GUTTER



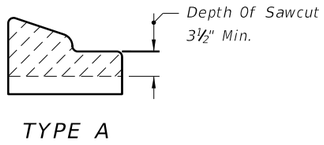
TYPE E



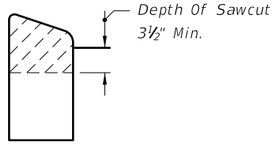
TYPE F

Sawcuts should be avoided within valley gutter and within curb and gutter endings.

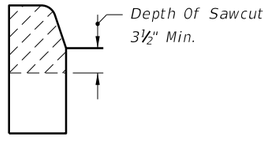
CONTRACTION JOINT IN CURB AND GUTTER



TYPE A

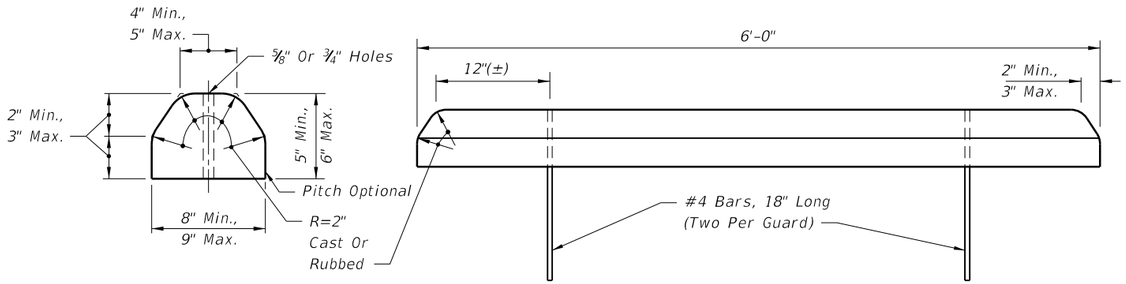


TYPE B

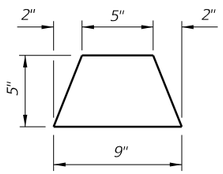


TYPE D

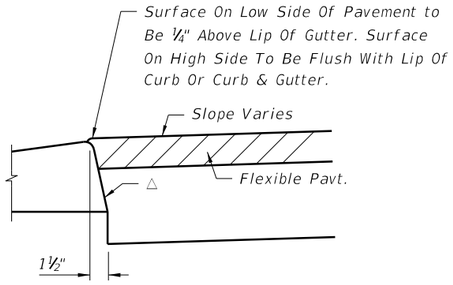
CONTRACTION JOINT IN CURB



CONCRETE BUMPER GUARD

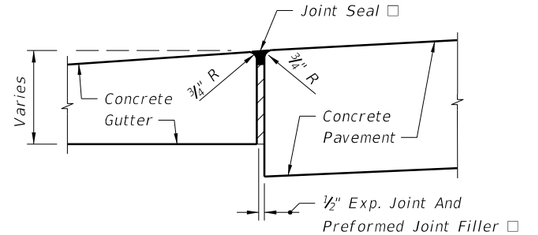


ASPHALTIC CONCRETE CURB



△ Applies to both high and low sides of pavement, low side shown.
Applies to shoulder gutter only where adjoining traffic lanes.

CURB AND GUTTER AND TYPE A CURB ADJACENT TO FLEXIBLE PAVEMENT



□ Applies to both high and low sides of pavement, low side shown.

EXPANSION JOINT BETWEEN GUTTER AND CONCRETE PAVEMENT

GENERAL NOTES

1. For curb, gutter and curb & gutter provide ⅛" – ¼" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers. Curb, gutter and curb & gutter expansion joints shall be located in accordance with Section 520 of the Standard Specifications.

2. Ends of Curbs Types B and D shall transition from full to zero heights in 3'.

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LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
00			FDOT DESIGN STANDARDS 2013	CURB & CURB AND GUTTER	300	2

TURN LANES • CURBED AND UNCURBED MEDIANS

Design Speed (mph)	Entry Speed (mph)	Clearance Distance L_1	URBAN CONDITIONS			RURAL CONDITIONS		
			Brake To Stop Distance L_2	Total Decel. Distance L	Clearance Distance L_3	Brake To Stop Distance L_2	Total Decel. Distance L	Clearance Distance L_3
35	25	70'	75'	145'	110'	———	———	———
40	30	80'	75'	155'	120'	———	———	———
45	35	85'	100'	185'	135'	———	———	———
50	40/44	105'	135'	240'	160'	185'	290'	160'
55	48	125'	———	———	———	225'	350'	195'
60	52	145'	———	———	———	260'	405'	230'
65	55	170'	———	———	———	290'	460'	270'

DESIGN NOTES

1. Basis for turn lane configurations:
   - Informed Driver.
   - Stop condition (With Or Without Stop Control).
   - Wet Pavement.
   - Reaction preceding entry point.
   - Minimum braking distance for urban conditions.
   - 75' min. for L_2.
   - Comfortable deceleration rates for rural conditions (AASHTO 2001 threshold rate of 11.2 ft./s²).

GENERAL NOTES

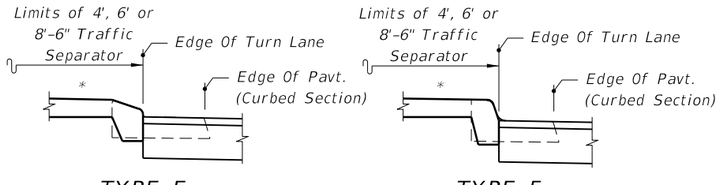
1. The plan views shown are for turn lane taper shapes and dimensional purposes only, they do not prescribe the use of curb, curb and gutter, shoulders nor separators specifically to either rural or urban conditions.

2. Total deceleration distances must not be reduced except where lesser values are imposed by unrelocatable control points.

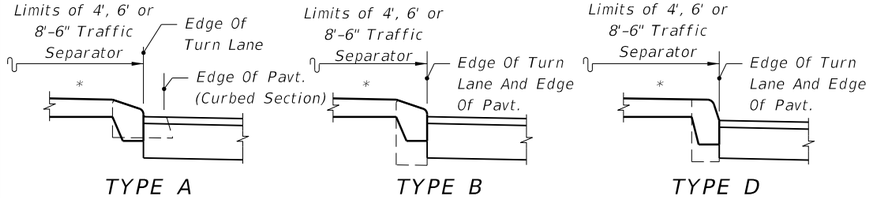
3. Right turn lane tapers and distances identical to left turn lanes under stop control conditions. Right turn lane tapers and/or distances are site specific under free flow or yield conditions.

4. These left turn configurations apply to continuous left turn lanes only where specifically called for in the plans.

5. For pavement markings see Index No. 17346.



TYPE E CURB AND GUTTER TYPE F

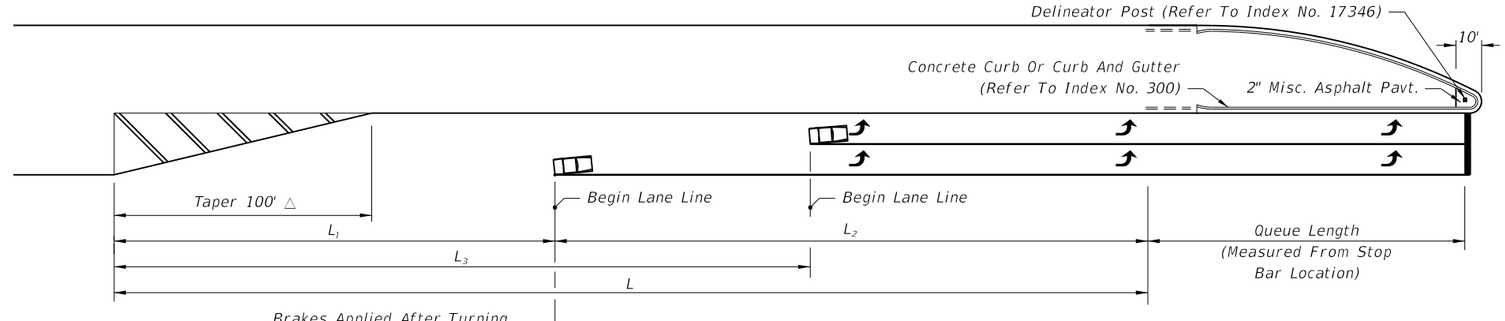


TYPE A TYPE B CURB TYPE D

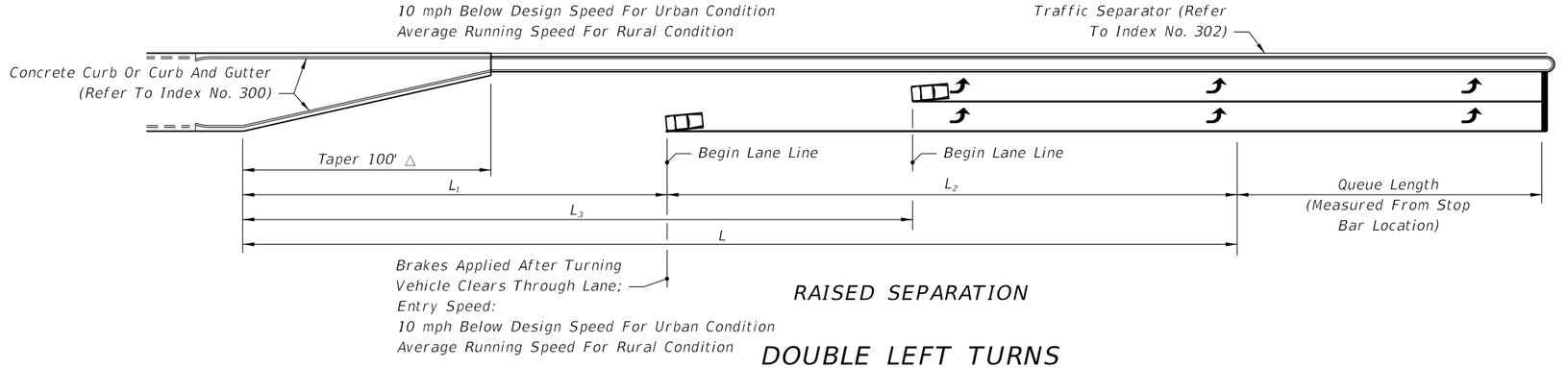
For Curb And Curb & Gutter Types, See Index No. 300

* Option I Separators Shown (Refer To Index No. 302)

MEDIAN CURB AND TRAFFIC SEPARATOR JUNCTURE DETAILS

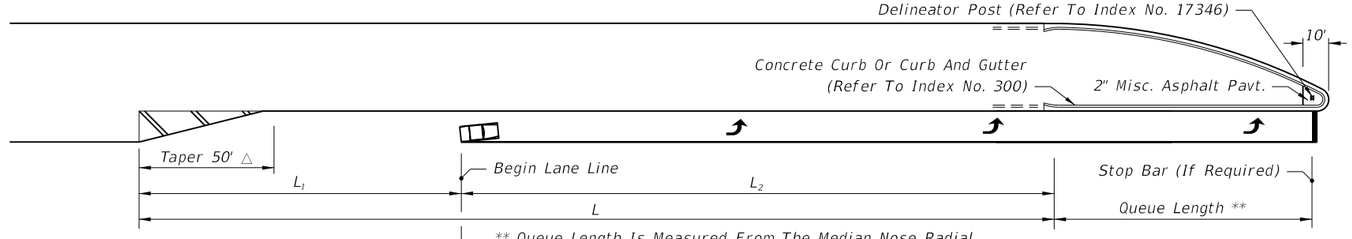


FLUSH AND/OR CURBED SEPARATION



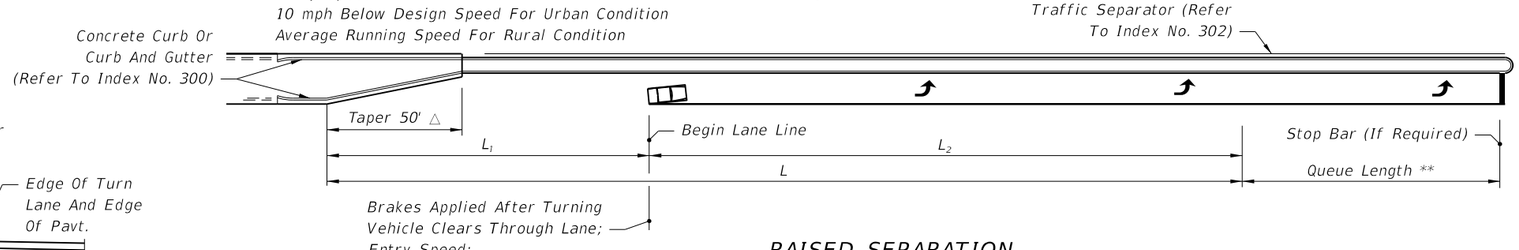
RAISED SEPARATION

DOUBLE LEFT TURNS



** Queue Length Is Measured From The Median Nose Radial Point Or, When A Stop Bar Is Required, From The Stop Bar.

FLUSH AND/OR CURBED SEPARATION



RAISED SEPARATION

SINGLE LEFT TURNS

△ The length of taper may be increased to L_1 for single left turns and L_3 for double left turns when:
   a. Left turn queue vehicles are adequately provided for within the design queue length.
   b. Through vehicle queues will not block access to left turn lane.
   c. Approved by District Design Engineer.

LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	TURN LANES	INDEX NO.	SHEET NO.
07/01/05						301	1

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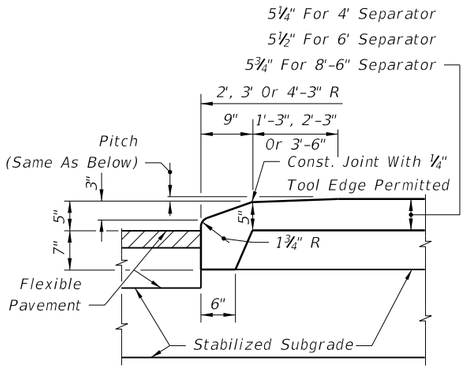
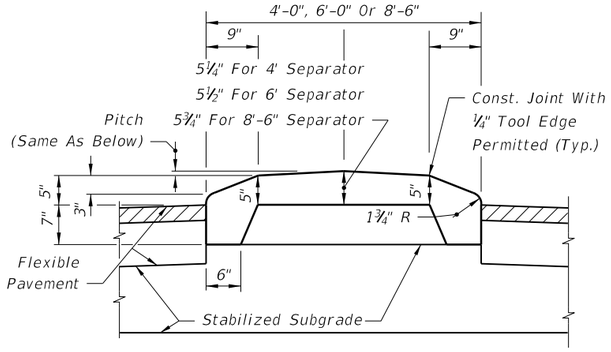
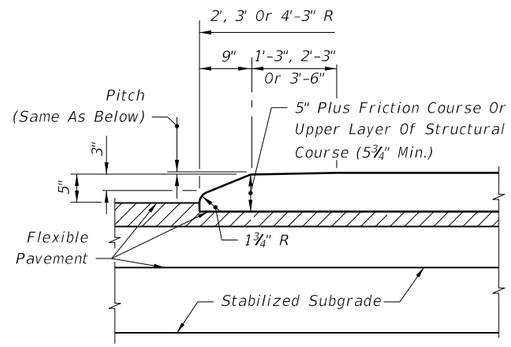


LONGITUDINAL SECTION (NOSE)

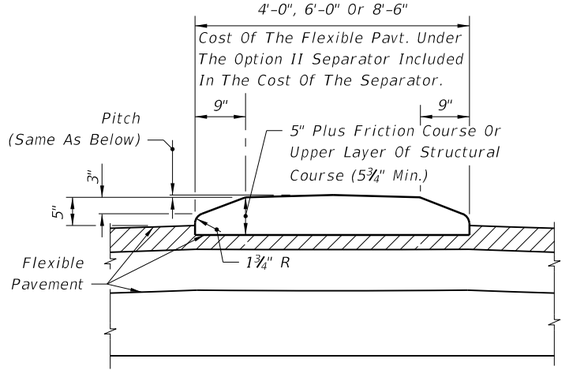


TRANSVERSE SECTION

OPTION I



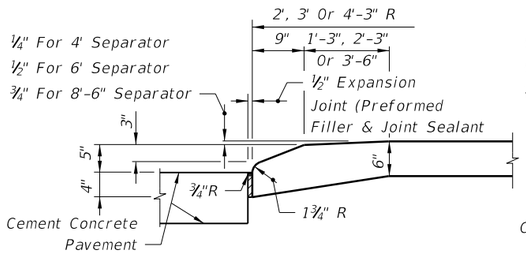
LONGITUDINAL SECTION (NOSE)



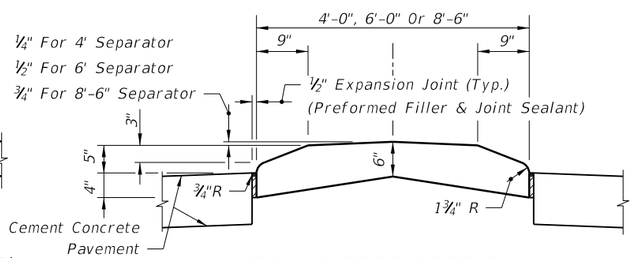
TRANSVERSE SECTION

OPTION II

TYPE I CONCRETE TRAFFIC SEPARATOR

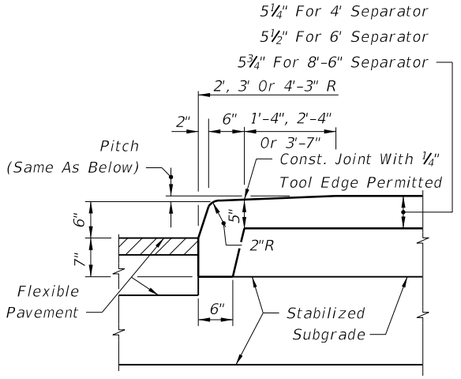


LONGITUDINAL SECTION (NOSE)

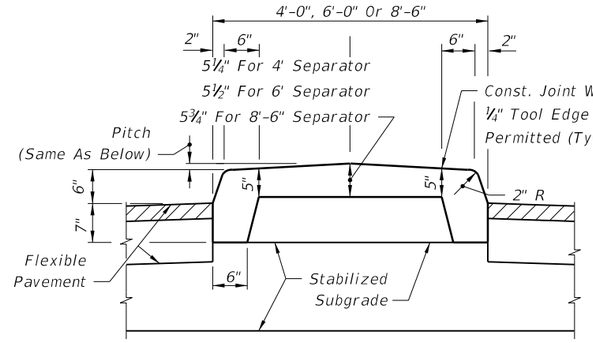


TRANSVERSE SECTION

TYPE II CONCRETE TRAFFIC SEPARATOR

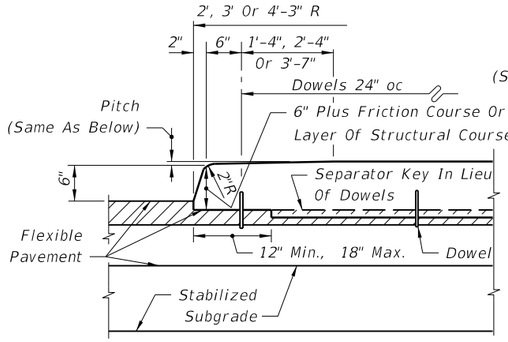


LONGITUDINAL SECTION (NOSE)

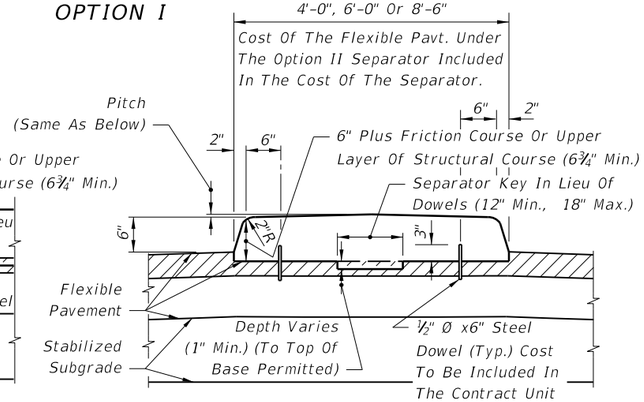


TRANSVERSE SECTION

OPTION I



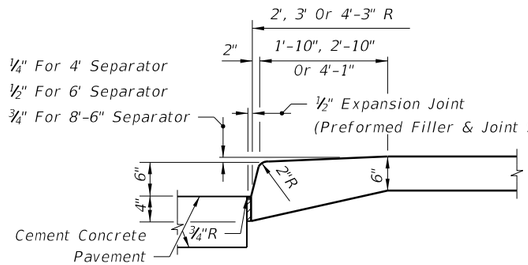
LONGITUDINAL SECTION (NOSE)



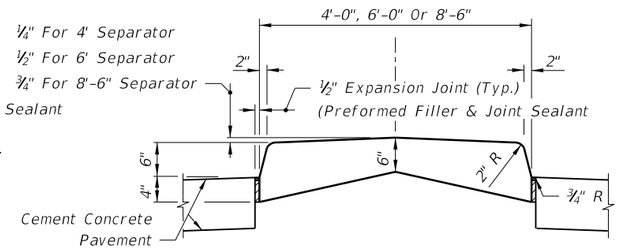
TRANSVERSE SECTION

OPTION II

TYPE IV CONCRETE TRAFFIC SEPARATOR



LONGITUDINAL SECTION (NOSE)



TRANSVERSE SECTION

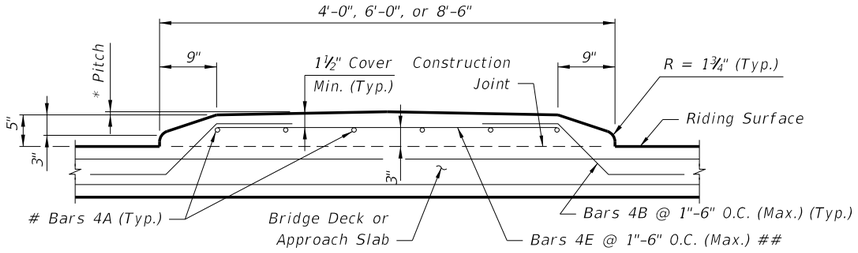
TYPE V CONCRETE TRAFFIC SEPARATOR

NOTES

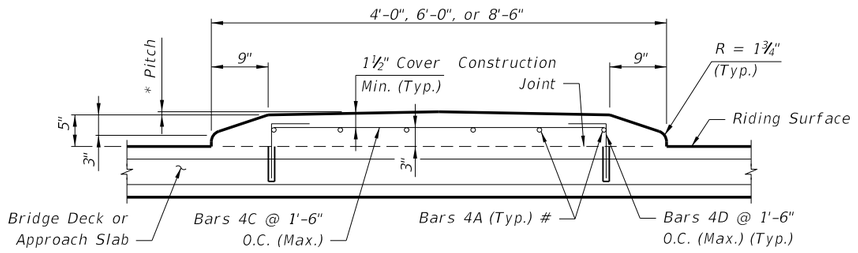
1. Separators Type I and IV are to be used with flexible pavement. Separators Types II and V are to be used with rigid pavement.
2. Either Option I or Option II may be used for Types I and IV separators except when a specific option is called for in the plans.
3. For all separators provide ⅛"- ¼" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers.
4. Separators having widths of 4', 6' or 8'-6" shall be paid for under the contract unit price for Concrete Traffic Separator (Type_) (_' Wide) LF. Separators having widths other than 4', 6' or 8'-6" shall be detailed in the plans as special separators and paid for under the contract unit price for Concrete Traffic Separator (Special) SY.

ROADWAY INSTALLATIONS

LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	TRAFFIC SEPARATORS	INDEX NO.	SHEET NO.
07/01/07						302	1



TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)



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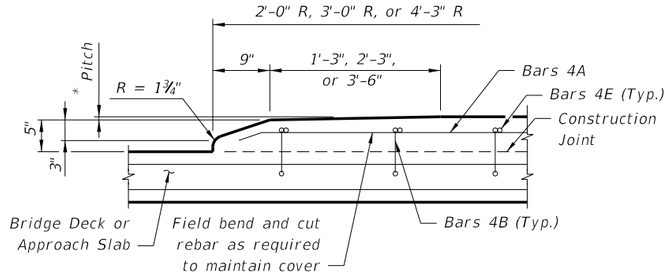
(Bridge Deck Shown, Approach Slab Similar)

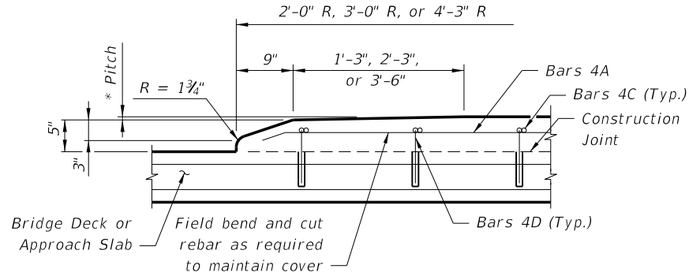


LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

\# For 4'-0" width: Bars 4A @ 3 equal spaces (continuous).
For 6'-0" width: Bars 4A @ 5 equal spaces (continuous).
For 8'-6" width: Bars 4A @ 7 equal spaces (continuous).

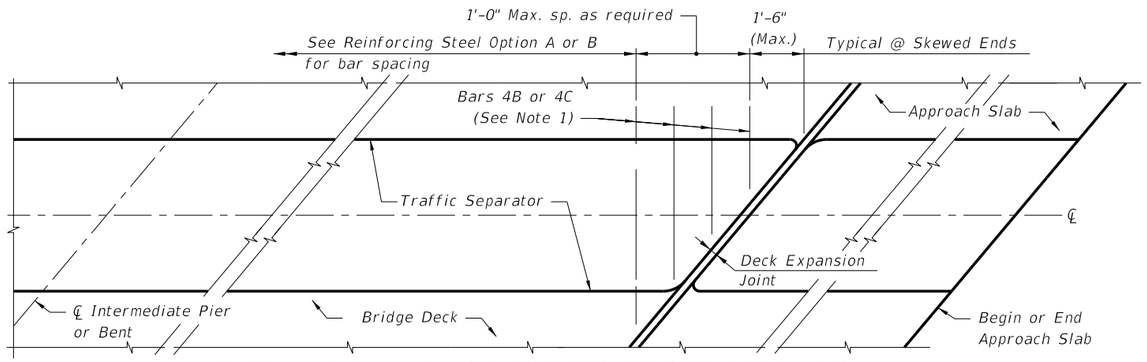
At the Contractor's option a one piece bar may be substituted for Bars 4B and 4E.

* Pitch: ¼" For 4'-0" Separator
½" For 6'-0" Separator
¾" For 8'-6" Separator



LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

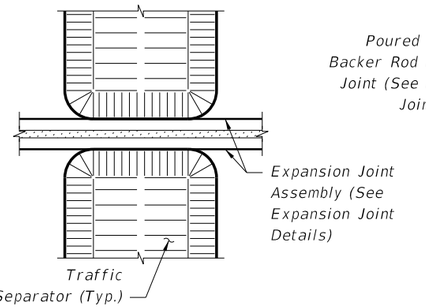
REINFORCING STEEL OPTION A



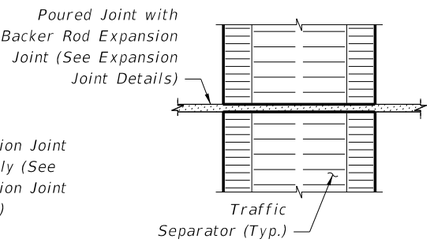
PARTIAL PLAN VIEW OF SKEWED BRIDGE DECK AND APPROACH SLAB WITH TRAFFIC SEPARATOR
(Deck Expansion Joint at Begin or End Bridge Shown, Expansion Joint at ℄ Pier or Intermediate Bents Similar)

Notes:
1. Traffic Separator transverse reinforcement adjacent to deck expansion joints shall be field adjusted to maintain clearance and spacing. Bars shall be field cut as shown, bars may be rotated to maintain clearance.
2. Traffic Separator ends at deck expansion joints shall follow the deck joint limits. Drainage joints and ½" V-Grooves shall be placed perpendicular or radial to the ℄ of the Traffic Separator. See Structures Plans, Superstructure and Approach Slab Sheets for details.
3. See Structures Plans, Superstructure Sheets for actual dimensions and joint orientation.

REINFORCING STEEL OPTION B (NOT PERMITTED ON BRIDGE DECKS WITH PRESTRESSING STEEL)

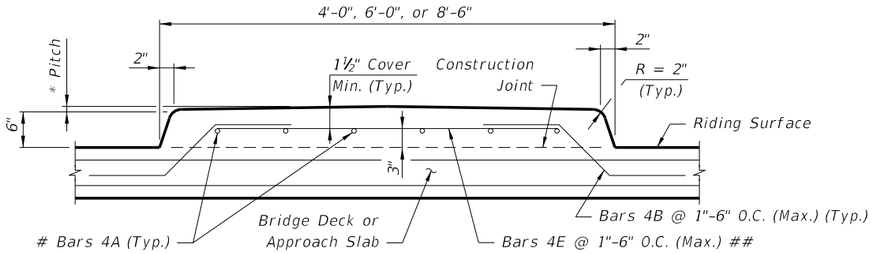


DETAIL AT EXPANSION JOINTS
(Strip Seal Shown, Other Armored Joint Types Similar)

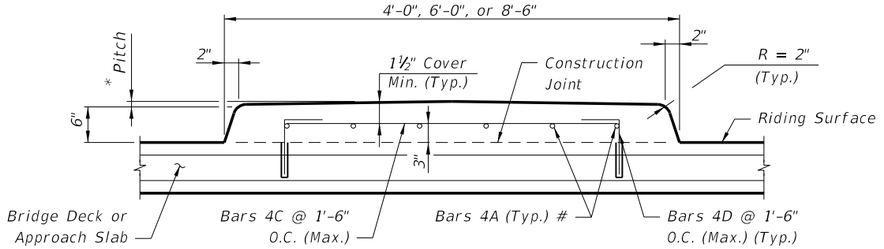


DETAIL AT POURED JOINT WITH BACKER ROD EXPANSION JOINTS

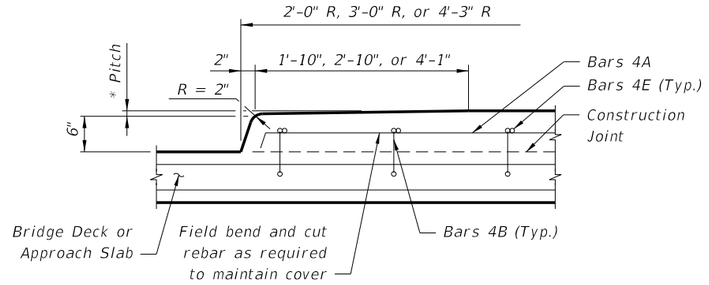
BRIDGE INSTALLATIONS - TYPE "E" CURB



TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)



TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)



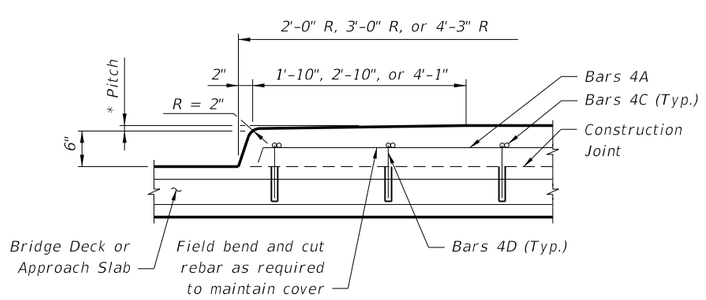
LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

REINFORCING STEEL OPTION A

 # For 4'-0" width: Bars 4A @ 3 equal spaces (continuous).
For 6'-0" width: Bars 4A @ 5 equal spaces (continuous).
For 8'-6" width: Bars 4A @ 7 equal spaces (continuous).

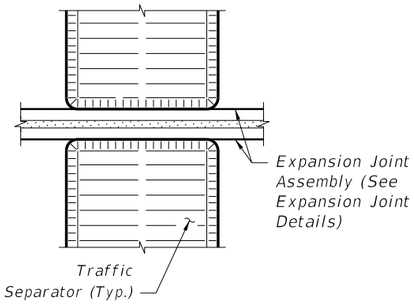
At the Contractor's option a one piece bar may be substituted for Bars 4B and 4E.

** Pitch: ¼" For 4'-0" Separator*
½" For 6'-0" Separator
¾" For 8'-6" Separator

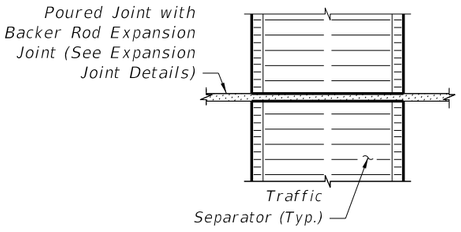


LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

REINFORCING STEEL OPTION B (NOT PERMITTED ON BRIDGE DECKS WITH PRESTRESSING STEEL)



DETAIL AT EXPANSION JOINTS
(Strip Seal Shown,
Other Armored Joint Types Similar)



DETAIL AT POURED JOINT WITH BACKER ROD EXPANSION JOINTS

Note: Treatment of separators on straight bridges shown. For additional notes and treatment of separators on skewed bridges, see Sheet 2.

BRIDGE INSTALLATIONS - TYPE "F" CURB

LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	TRAFFIC SEPARATORS	INDEX NO.	SHEET NO.
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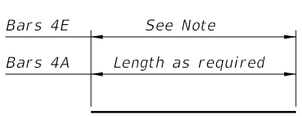
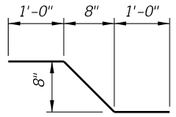
CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS



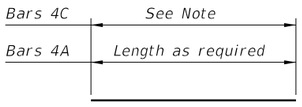
Bars 4A & 4E



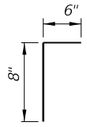
Bar 4B

Note:
Length of Bars 4E is 2'-5" for 4'-0" Separator.
Length of Bars 4E is 4'-5" for 6'-0" Separator.
Length of Bars 4E is 6'-11" for 8'-6" Separator.

REINFORCING STEEL OPTION A



Bars 4A & 4C



Bar 4D

Note:
Length of Bars 4C is 2'-4½" for 4'-0" Separator.
Length of Bars 4C is 4'-4½" for 6'-0" Separator.
Length of Bars 4C is 6'-10½" for 8'-6" Separator.

REINFORCING STEEL OPTION B

REINFORCING STEEL NOTES:

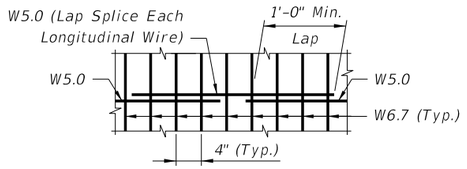
1. All dimensions are out to out.
2. The 8" vertical dimension shown for Bars 4B and 4D are based on a slab 8½" thick or greater without a wearing surface. If slab thickness is less than 8½", decrease this dimension by an amount equal to the difference in thickness. If a wearing surface is to be provided, increase this dimension by an amount equal to the wearing surface thickness.

ALTERNATE REINFORCING STEEL DETAILS (WELDED WIRE REINFORCEMENT)

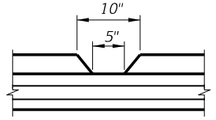
OPTION A: Use Welded Wire Reinforcement 3 x 4 – W5.0 x W6.7 as required by plans in place of Bars 4A, 4B and 4E. Bend the Welded Wire Reinforcement to the dimensions of Bar 4B shown in the Bending Diagram for Reinforcing Steel Option A.

OPTION B: Use Welded Wire Reinforcement 3 x 4 – W5.0 x W6.7 as required by plans in place of Bars 4A and 4C shown in Reinforcing Steel Option B.

Note: Welded Wire Reinforcement shall conform to ASTM A185.



SPLICE DETAIL
(Between WWR 3 x 4 - W5.0 x W6.7 Sections)



DRAINAGE JOINT DETAIL
FOR 5" OPENING OR LESS

See Structures Plans, Superstructure Sheets for location(s) of drainage joints. Locations for drainage joints shall be limited to the constant width section of separator.

NOTES:
CONCRETE: See General Notes in Structures Plans.
REINFORCING STEEL: Reinforcing Steel shall be ASTM A615 Grade 60.
PAYMENT: Separators having widths of 4'-0", 6'-0", and 8'-6" shall be paid under the contract unit price for Traffic Separator Concrete (Type II or V) (__' Wide), LF. Separators having widths other than 4'-0", 6'-0", or 8'-6" shall be detailed in the plans as special separators and paid under the contract unit price for Traffic Separator Concrete (Special), S.Y.
TRAFFIC SEPARATOR CONSTRUCTION: The Contractor may construct the separator by the use of stationary removable forms or by the use of slip forms without altering the separator dimensions shown.
½" V-GROOVES: For all separators provide ½" V-Grooves at 30'-0" centers (max.) equally spaced between expansion joints, and/or drainage joints.

ESTIMATED TRAFFIC SEPARATOR QUANTITIES

CONCRETE:
CONSTANT WIDTH OF SEPARATOR:

	TYPE "E"		TYPE "F"
4'-0"	Width = 0.056 CY per Ft.	–	0.072 CY per Ft.
6'-0"	Width = 0.089 CY per Ft.	–	0.112 CY per Ft.
8'-6"	Width = 0.132 CY per Ft.	–	0.164 CY per Ft.

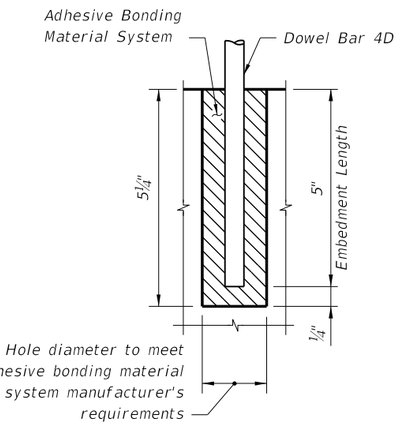
NOSE:

	TYPE "E"		TYPE "F"
4'-0"	Width = 0.080 CY	–	0.109 CY
6'-0"	Width = 0.193 CY	–	0.257 CY
8'-6"	Width = 0.403 CY	–	0.536 CY

REINFORCING STEEL:
(All quantities are based on an 8½" slab.)

OPTION A:
4'-0" Width – 6.37 Lbs. per Ft.
6'-0" Width – 8.60 Lbs. per Ft.
8'-6" Width – 11.05 Lbs. per Ft.

OPTION B:
4'-0" Width – 4.77 Lbs. per Ft.
6'-0" Width – 7.00 Lbs. per Ft.
8'-6" Width – 9.45 Lbs. per Ft.



DOWEL DETAIL

Dowel Notes:
1. Shift Dowel Holes to clear if existing reinforcement is encountered.
2. Provide and install an adhesive bonding material system in accordance with Sections 416 and 937 of the Specifications.

BRIDGE INSTALLATIONS - TYPE "E" AND "F" CURBS

LAST REVISION	REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS 2013	TRAFFIC SEPARATORS	INDEX NO.	SHEET NO.
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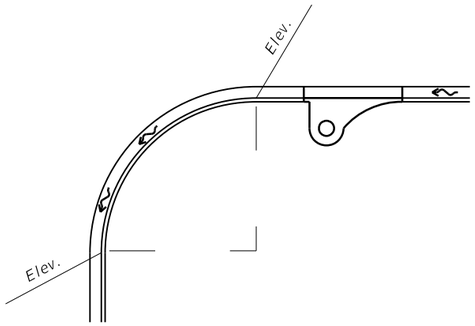
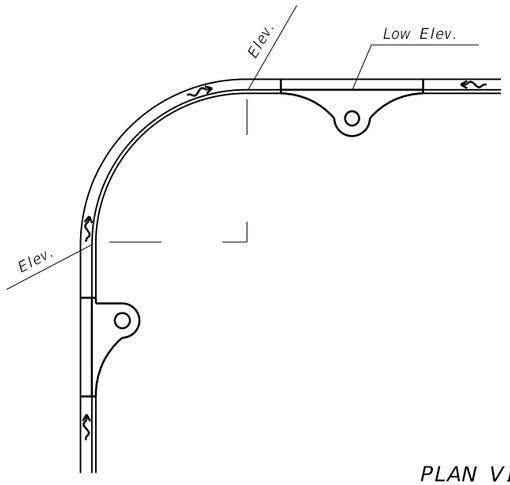
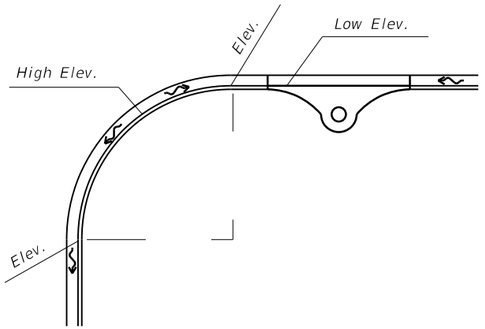
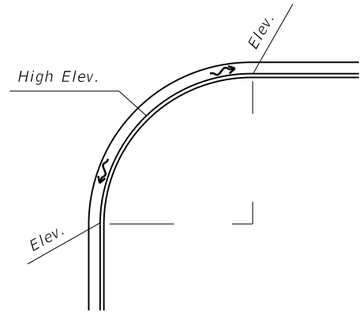
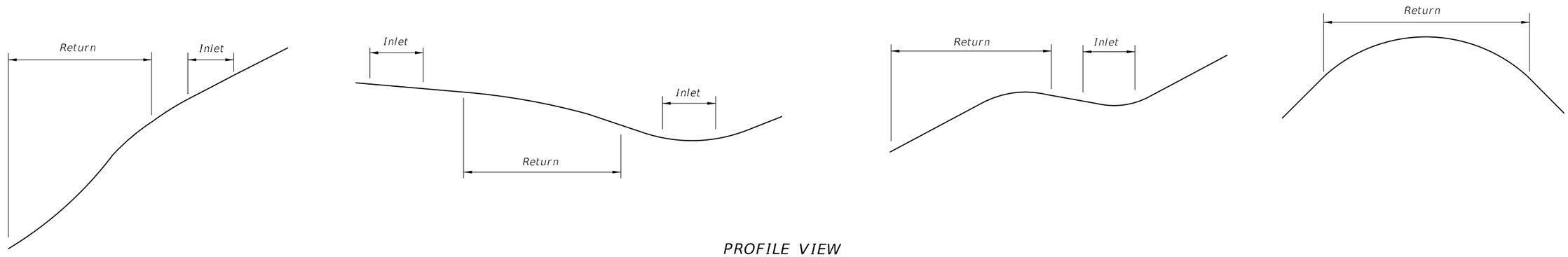








PLAN VIEW



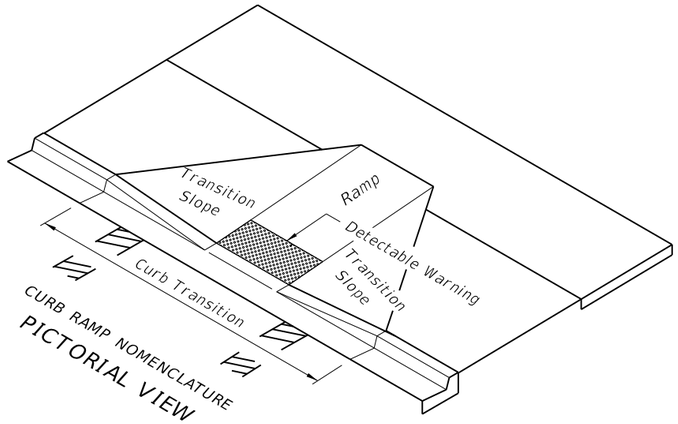
PROFILE VIEW

Note:
Profile grades should be established that will allow inlets to be located outside the return whenever practical. Inlets should be located to avoid conflict with pedestrian movement. Special care must be exercised to prevent conflict with public sidewalk curb ramps for the disabled. For information on public sidewalk curb ramps refer to Index No. 304.

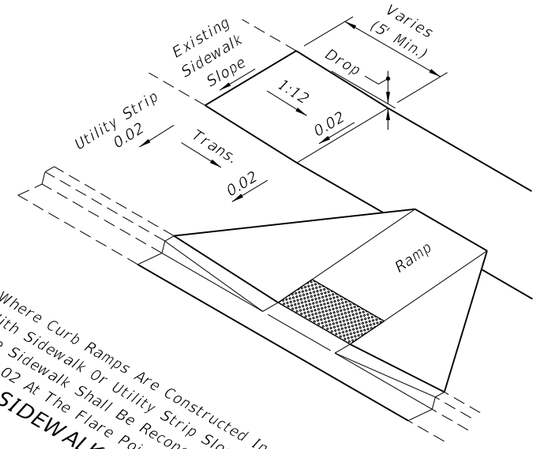
SHOWING LOCATION OF INLETS AT RETURNS

TYPICAL RETURN PROFILES

LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	CURB RETURN PROFILES	INDEX NO.	SHEET NO.
01/01/12						303	1

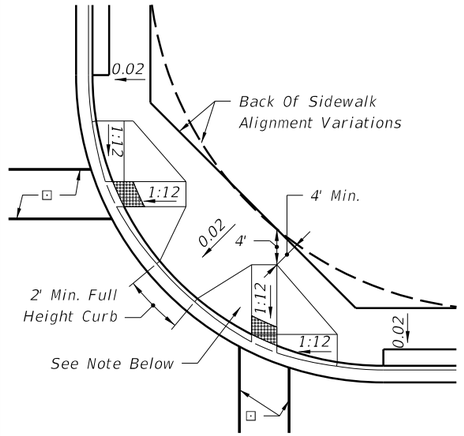


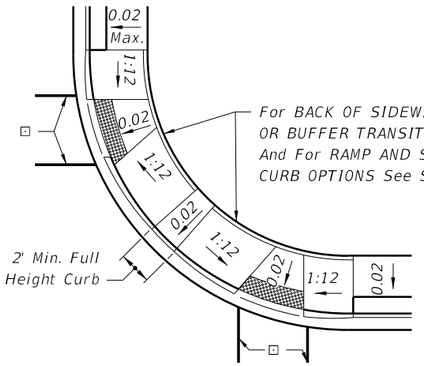
CURB RAMP NOMENCLATURE
PICTORIAL VIEW



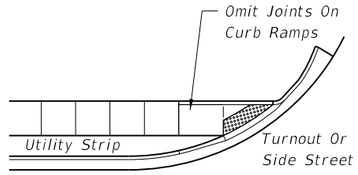
Where Curb Ramps Are Constructed In Existing Sidewalks With Sidewalk Or Utility Strip Slopes Greater Than 0.02, The Sidewalk Shall Be Reconstructed To Reduce The Slopes To 0.02 At The Flare Point.

SIDEWALK / UTILITY STRIP TRANSITION





Note: A portion of one or both ramps may extend outside the return.



LINEAR SIDEWALK RAMPS

Note:
When crosswalk markings are required, ramp runs must fall within crosswalk limits and where practical, be parallel with the projected crosswalk alignment. The bottom of the ramp beyond the curb line shall have a clear space 48" minimum within the markings of a marked crosswalk. If no crosswalk markings are present, the bottom of the ramp beyond the curb ramp shall have a clear space 48" minimum outside active traffic lanes.

⊡ Crosswalk widths and configuration vary; must conform to Index No. 17344 and 17346.

GENERAL NOTES

1. Public sidewalk curb ramps shall be constructed in the public right of way at locations that will provide continuous unobstructed pedestrian circulation paths to pedestrian areas, elements and facilities in the public right of way and to accessible pedestrian routes on adjacent sites. Curbed facilities with sidewalks and those without sidewalks are to have curb ramps constructed at all street intersections and at turnouts that have curbed returns. Partial curb returns shall extend to the limit prescribed by Index No. 515 to accommodate curb ramps. Ramps constructed at locations without sidewalks shall have a landing constructed at the top of each ramp, see Sheet 5.

2. The location and orientation of curb ramps shall be as shown in the plans.

3. Curb ramp running slopes at unrestrained sites shall not be steeper than 1:12 and cross slope shall be 0.02 or flatter. Transition slopes shall not be steeper than 1:12.

   When altering existing pedestrian facilities where existing site development precludes the accommodation of a ramp slope of 1:12, a running slope between 1:12 and 1:10 is permitted for a rise of 6" maximum and a running slope of between 1:10 and 1:8 is permitted for a rise of 3" maximum. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided.

   Ramp running slope is not required to exceed 8' in length, except at sites where the plans specify a greater length.

4. If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have transition slopes to the ramp; the maximum slope of the transitions shall be 1:12. Ramps with curb returns may be used at locations where other improvements provide guidance away from that portion of curb perpendicular to the sidewalk; improvements for guidance are not required at curb ramps for linear pedestrian traffic.

5. Curb ramp detectable warning surfaces shall extend the full width of the ramp and 24" deep. Detectable warning surfaces shall be constructed in accordance with Specification 527. See Sheet 6 for detectable warning layouts. Transition slopes are not to have detectable warnings. Detectable warnings are required on sidewalks at intersecting roads, streets and railroads. For requirements for detectable warnings on sidewalks at intersecting driveways, see Index 310.

6. Where a curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb or curb and gutter shall be removed to the nearest joint beyond the curb transitions or to the extent that no remaining section of curb or curb and gutter is less than 5' long. The existing sidewalk shall be removed to the nearest joint beyond the transition slope or walk around or to the extent that no remaining section of sidewalk is less than 5' long. For details of Concrete Sidewalk See Index 310.

7. Alpha-numeric identifications are for reference (plans, permits, etc.).

8. Public sidewalk curb ramps are to be paid for as follows:

   Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings and sidewalk curbs are to be paid for under the contract unit price for Sidewalk Concrete, (__" Thick), SY. Curb transitions and reconstructed curbs are to be paid for under the contract unit price for the parent curb, i.e., Concrete Curb (Type __), LF or Concrete Curb and Gutter (Type __), LF.

   When a separate pay item for the removal and disposal of existing curb, curb and gutter, and/or sidewalk is not provided in the plans, the cost of removal and disposal of these features shall be included in the contract unit price for new curb, curb and gutter and/or sidewalk respectively.

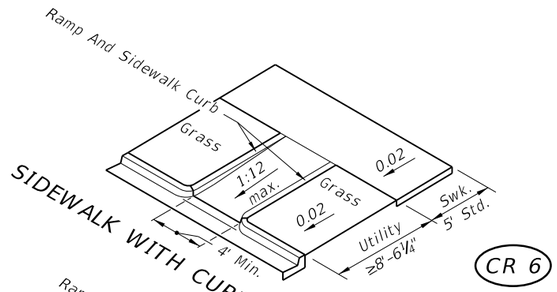
9. Acceptance Criteria for Detectable Warnings:

   a. The ramp detectable warning surface shall be complete and uniform in color and texture
   b. 90% of the individual truncated domes must comply with the design criteria
   c. There may be no more than 4 non-complying domes in any one square foot of surface
   d. No two adjacent domes may be non-compliant
   e. Surface may not deviate more than 0.10" from a true plane

10. All sidewalk surfaces, ramp surfaces, and landings with a cross slope shown in this Index to be 0.02 shall be 0.02 maximum. All ramp surfaces and ramp transition slopes with a slope shown in this Index to be 1:12 shall be 1:12 maximum.

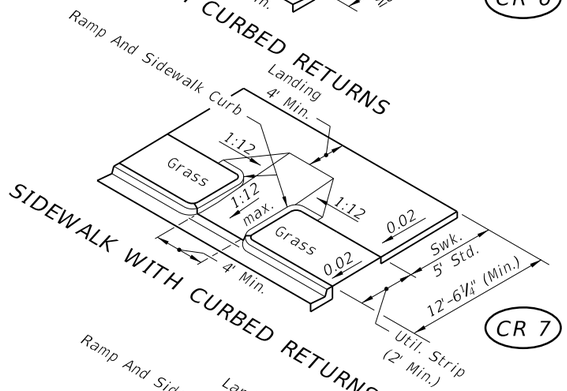
TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS AT CURBED RETURNS

LAST REVISION	REVISION	DESCRIPTION:				
01/01/11			FDOT DESIGN STANDARDS 2013	PUBLIC SIDEWALK CURB RAMPS	INDEX NO. 304	SHEET NO. 1



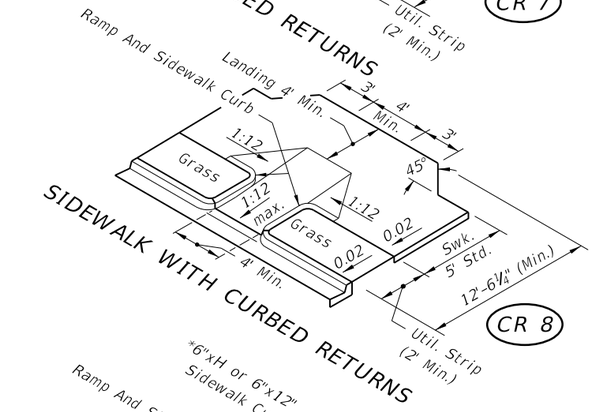
SIDEWALK WITH CURBED RETURNS

CR 6



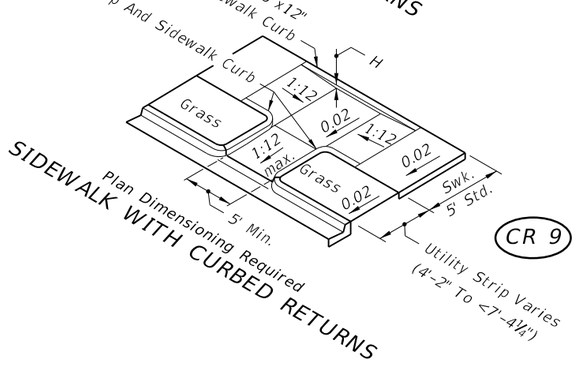
SIDEWALK WITH CURBED RETURNS

CR 7



SIDEWALK WITH CURBED RETURNS

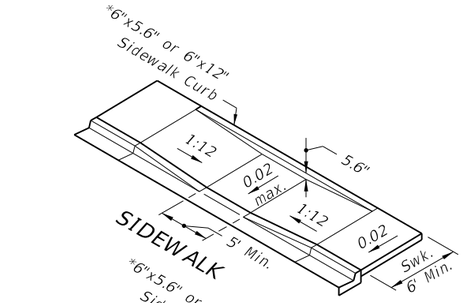
CR 8



Plan Dimensioning Required

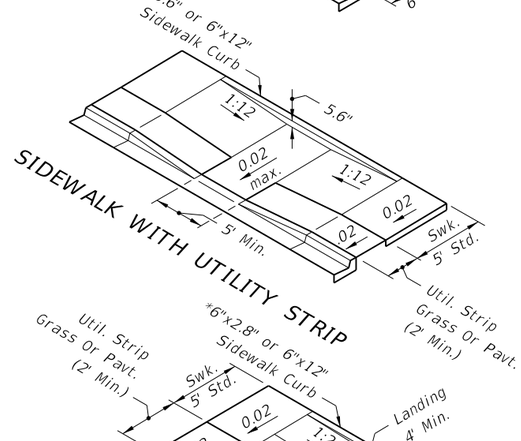
SIDEWALK WITH CURBED RETURNS

CR 9



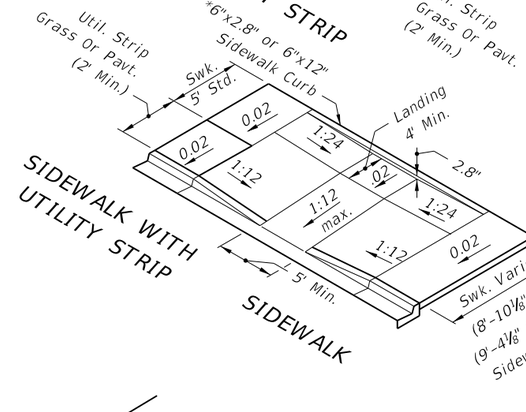
SIDEWALK

CR 3



SIDEWALK WITH UTILITY STRIP

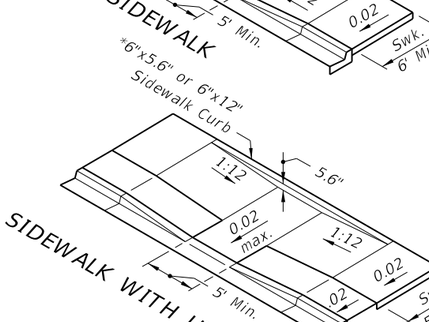
CR 4



SIDEWALK WITH UTILITY STRIP

SIDEWALK

CR 5

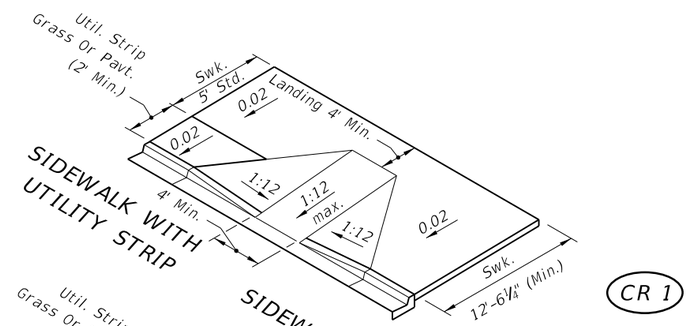


PICTORIAL

Remove Elevated Pavement By Spading And Rolling; Smooth Milling; or, Grinding

SECTION

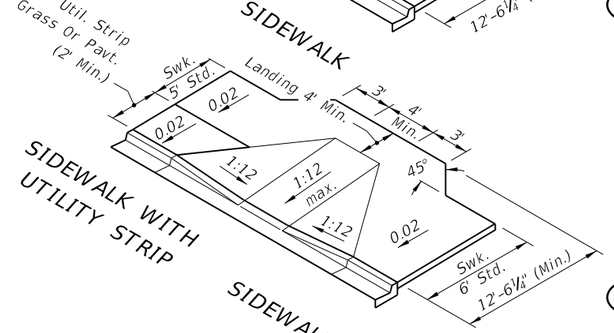
PAVEMENT RELIEF AT LIP OF CURB



SIDEWALK WITH UTILITY STRIP

SIDEWALK

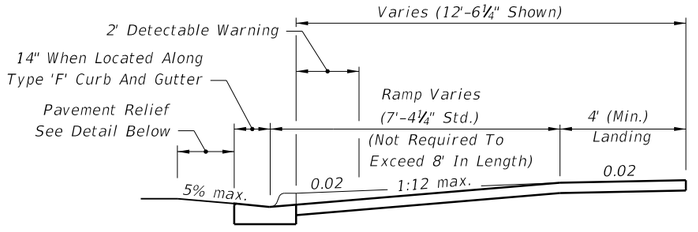
CR 1



SIDEWALK WITH UTILITY STRIP

SIDEWALK

CR 2



SECTION THROUGH RAMP RUN AND LANDINGS WITH UPPER LANDING AT NORMAL SIDEWALK ELEVATION

* For BACK OF SIDEWALK CURB OR BUFFER TRANSITION And For RAMP AND SIDEWALK CURB OPTIONS See Sheet 4.

DIMENSIONAL FEATURES FOR PUBLIC SIDEWALK CURB RAMPS WHERE RAMP AND LANDING DEPTH ARE NOT RESTRICTED BY RIGHT OF WAY

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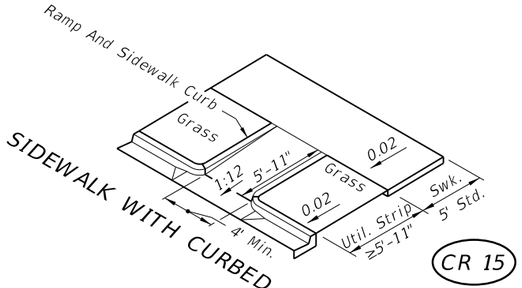
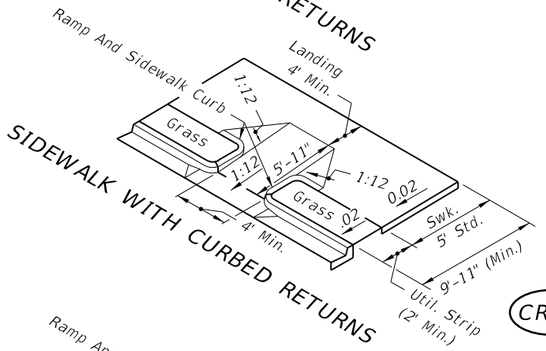
LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	PUBLIC SIDEWALK CURB RAMPS	INDEX NO.	SHEET NO.
01/01/11						304	2



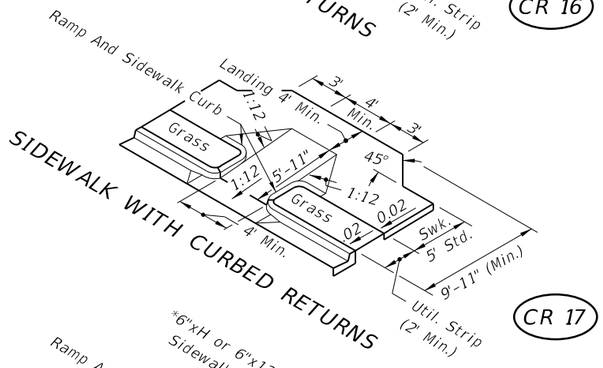
SIDEWALK WITH CURBED RETURNS

CR 15



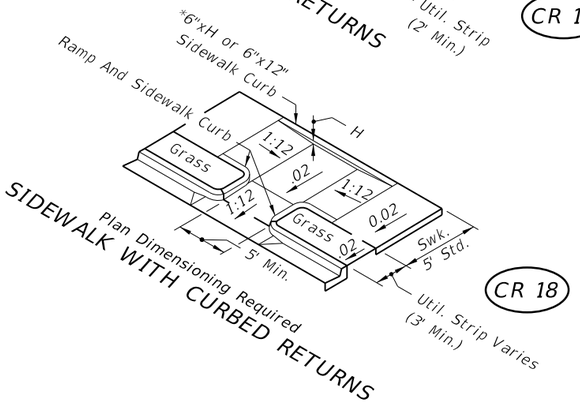
SIDEWALK WITH CURBED RETURNS

CR 16



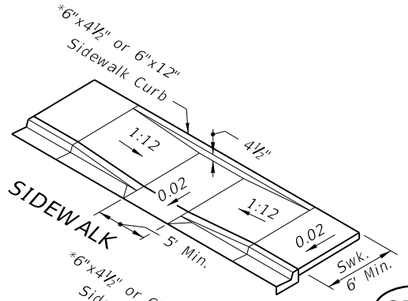
SIDEWALK WITH CURBED RETURNS

CR 17



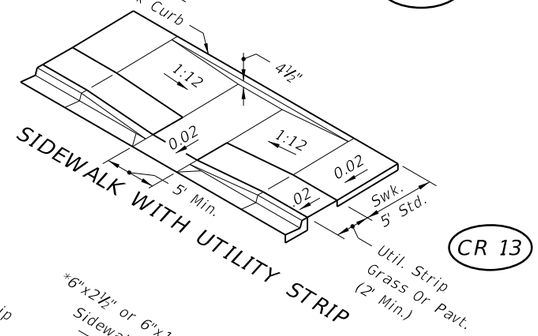
SIDEWALK WITH CURBED RETURNS

CR 18



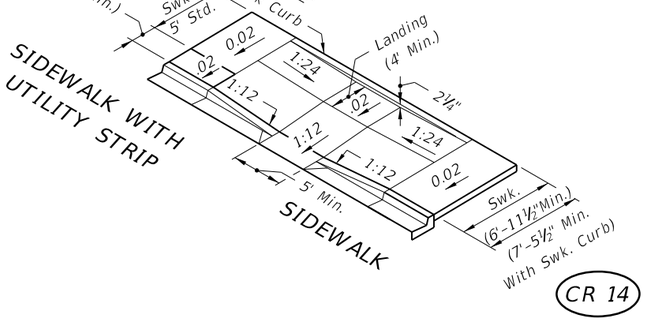
SIDEWALK

CR 12



SIDEWALK WITH UTILITY STRIP

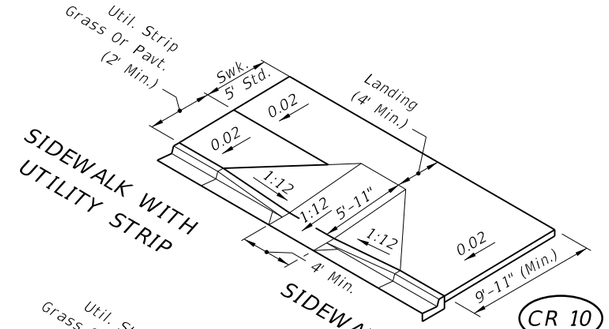
CR 13



SIDEWALK WITH UTILITY STRIP

SIDEWALK

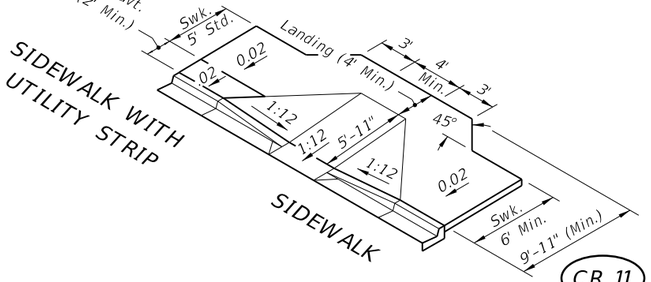
CR 14



SIDEWALK WITH UTILITY STRIP

SIDEWALK

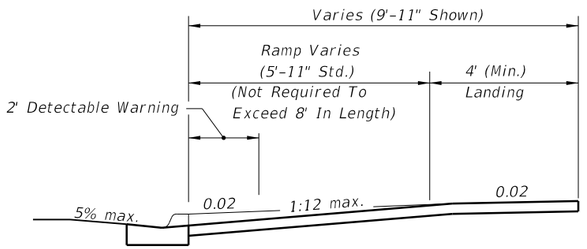
CR 10



SIDEWALK WITH UTILITY STRIP

SIDEWALK

CR 11

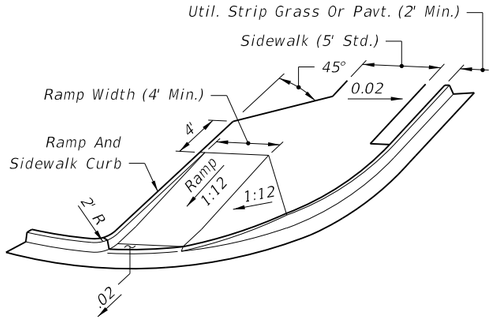


SECTION THROUGH RAMP RUN AND LANDINGS WITH UPPER LANDING AT NORMAL SIDEWALK ELEVATION

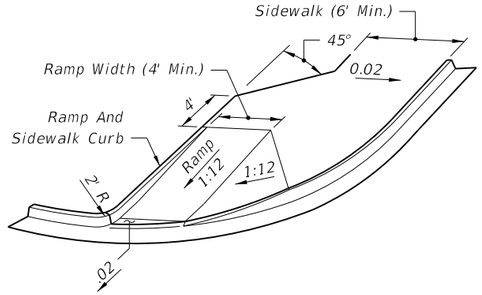
* For BACK OF SIDEWALK CURB OR BUFFER TRANSITION And For RAMP AND SIDEWALK CURB OPTIONS See Sheet 4.

DIMENSIONAL FEATURES FOR PUBLIC SIDEWALK CURB RAMPS WHERE RAMP AND LANDING DEPTH ARE RESTRICTED BY RIGHT OF WAY

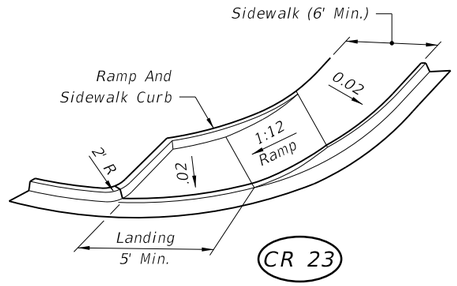
LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	PUBLIC SIDEWALK CURB RAMPS	INDEX NO.	SHEET NO.
01/01/11						304	3



CR 25



CR 24



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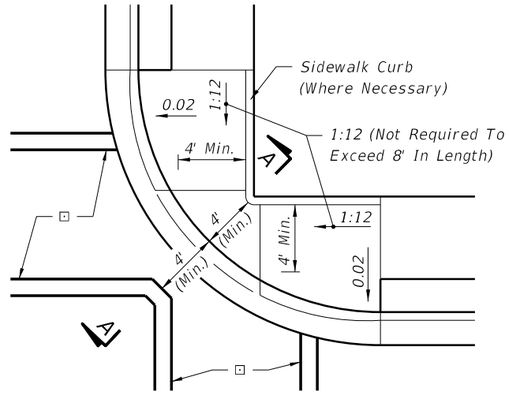
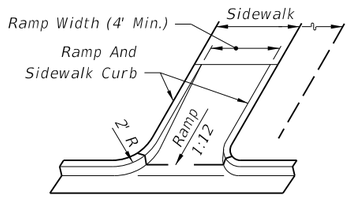


⊡ Crosswalk width and configuration vary; must conform to Index No. 17344 and 17346.

PLAN



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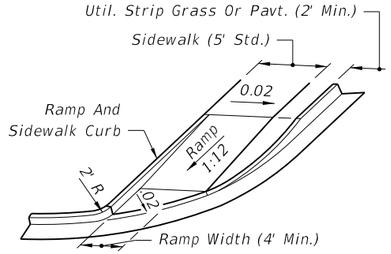

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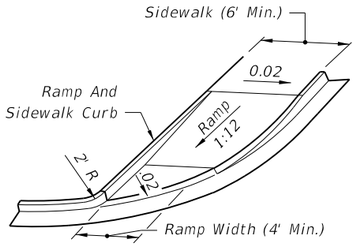
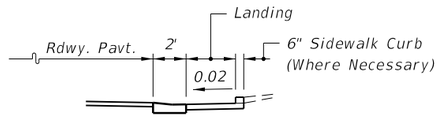


CR 20

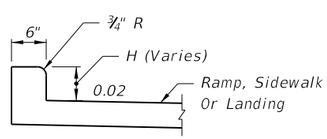
DIMENSIONAL FEATURES FOR PUBLIC SIDEWALK CURB RAMPS FOR LINEAR PEDESTRIAN TRAFFIC



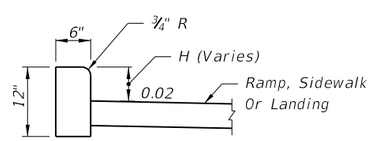
SECTION AA

CR 26

DIMENSIONAL FEATURES FOR
PUBLIC SIDEWALK COMBINED CORNER
RAMPS UNDER CONDITIONS OF INFEASIBILITY

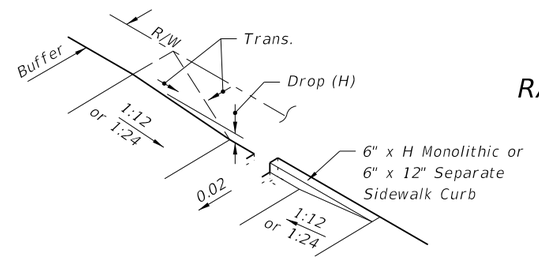


MONOLITHIC CAST CURB



SEPARATELY CAST CURB

RAMP AND SIDEWALK CURB OPTIONS



Construct Sidewalk Curb In Absence Of Adequate Buffer, Maintainable Surface Contour, Abutting Structure, Or When Called For In The Plans Or Standards

BACK OF SIDEWALK CURB
OR BUFFER TRANSITION

LAST REVISION	REVISION	DESCRIPTION:				
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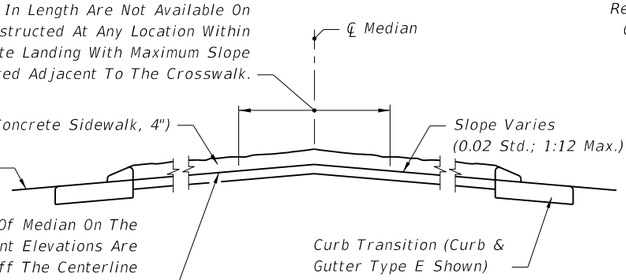
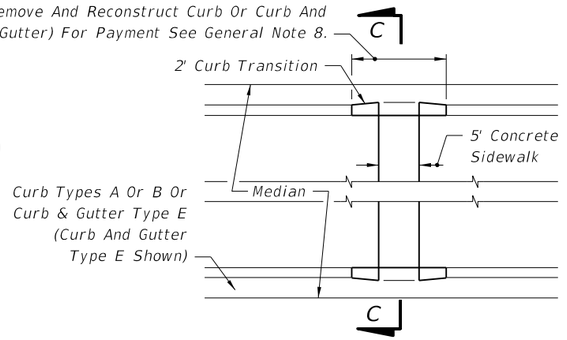
5' Refuge With Maximum Slope Of 0.02 Must Be Provided When Slopes Of 0.05 Or Flatter And 5' In Length Are Not Available On Crosswalk; The Refuge Can Be Constructed At Any Location Within The Crosswalk; Or, A 5' x 5' Concrete Landing With Maximum Slope Of 0.02 Can Be Constructed Adjacent To The Crosswalk.



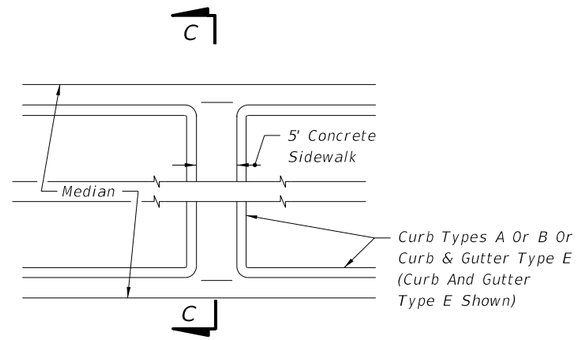
Slopes Shall Intersect At Centerline Of Median On The 0.02 Rate When The Edge Of Pavement Elevations Are Equal. The Slopes May Intersect Off The Centerline For Variable Edge Of Pavement Elevations Or To Accommodate Other Construction In The Median; However, Slopes Shall Not Be Steeper Than 1:12.

SECTION CC

Curb Transition (On Existing Facilities Remove And Reconstruct Curb Or Curb And Gutter) For Payment See General Note 8.

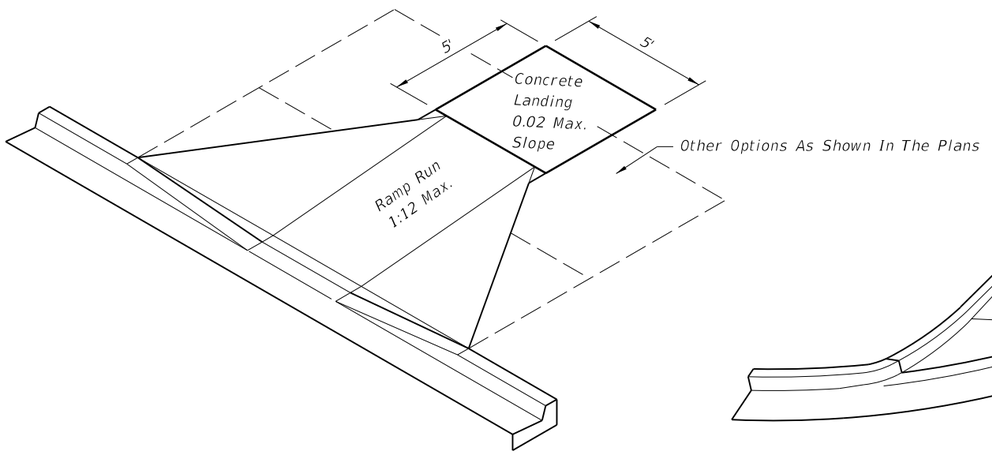


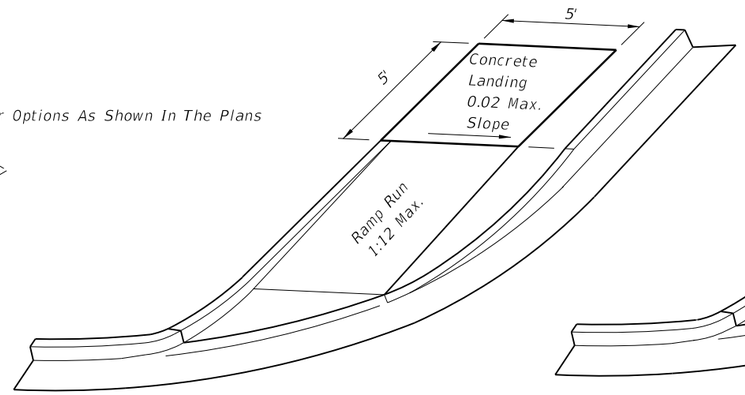
PLAN

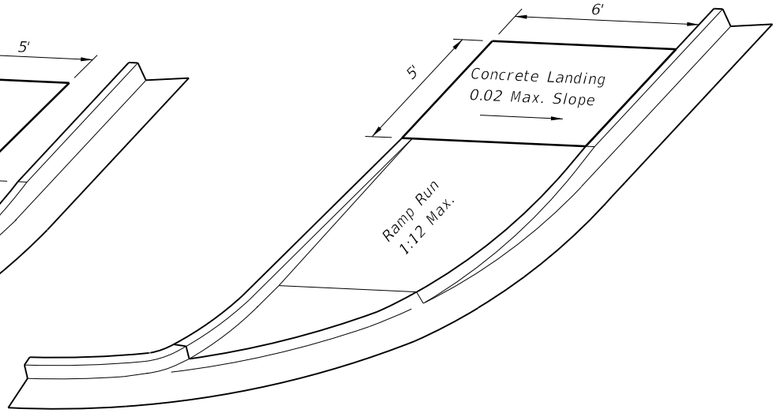


PLAN - (ALTERNATE DETAIL)

MEDIAN CROSSWALKS







LANDINGS FOR RAMPS WITHIN PUBLIC RIGHT OF WAY CONSTRUCTED AT LOCATIONS WHERE FUTURE SIDEWALKS ARE PROPOSED, WHERE STABLE SURFACES OTHER THAN SIDEWALKS ARE PART OF A CONTINUOUS PASSAGE OR WHERE A CURB FALLS ALONG THE CIRCULATION PATH TO PEDESTRIAN ROUTES ON ADJACENT SITES

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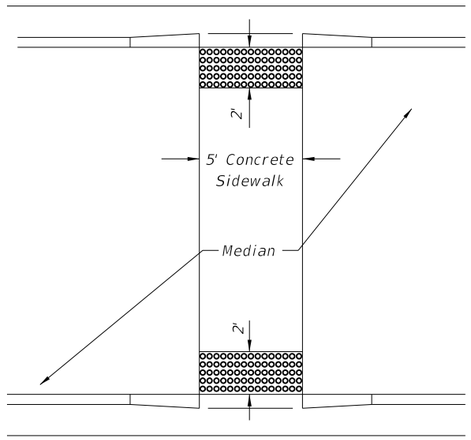
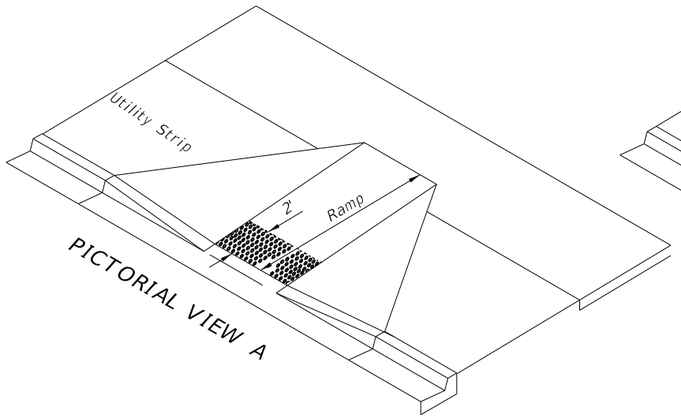
LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	PUBLIC SIDEWALK CURB RAMPS	INDEX NO.	SHEET NO.
01/01/11						304	5

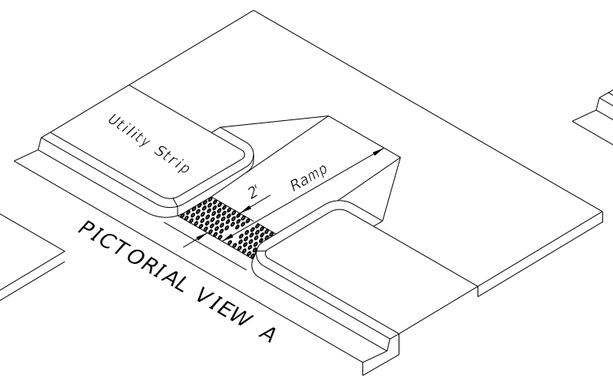


PLAN

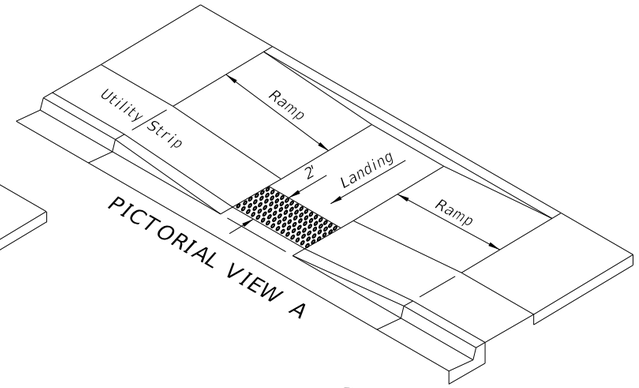
On curb ramps, landings and flush transitions perpendicular to the curb line: Rows of domes shall be aligned with the centerline of the ramp. (See Pictorial View A)



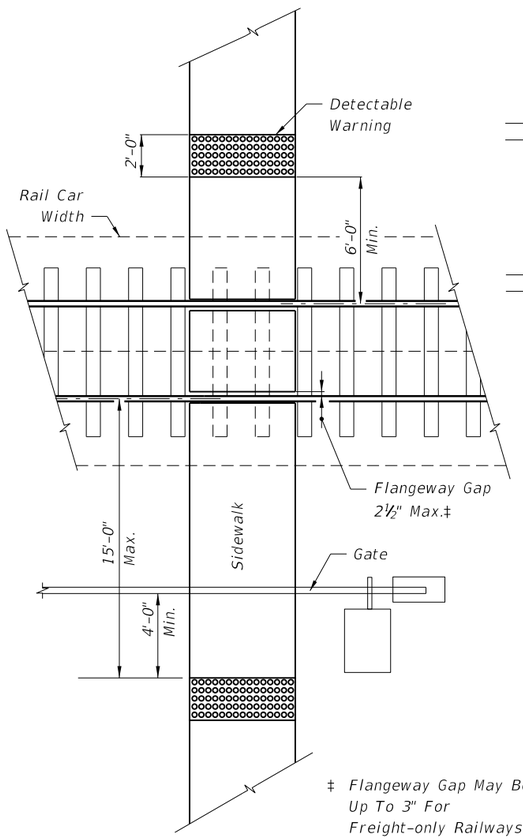
PICTORIAL VIEW A



PICTORIAL VIEW A

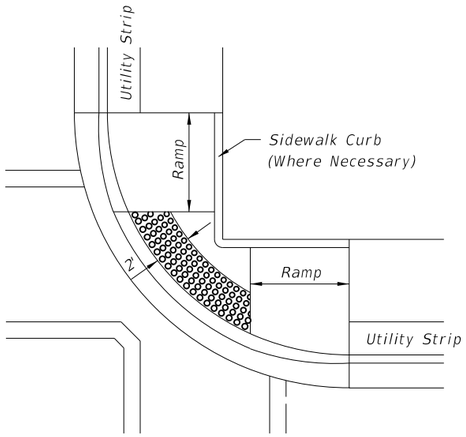


PICTORIAL VIEW A

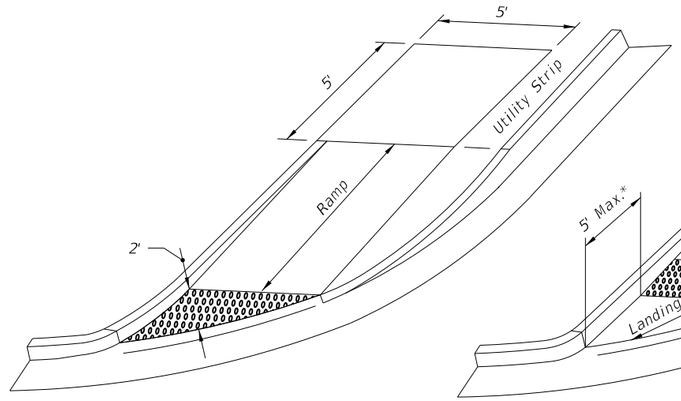


‡ *Flangeway Gap May Be Up To 3" For Freight-only Railways*

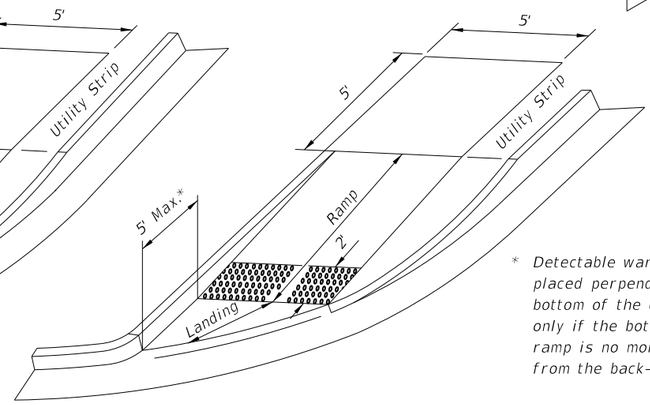
Rail Road Crossing
PLAN



PLAN

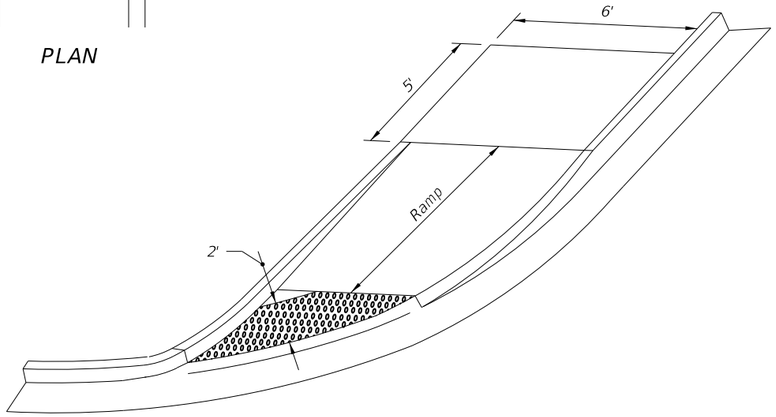


PICTORIAL VIEW B



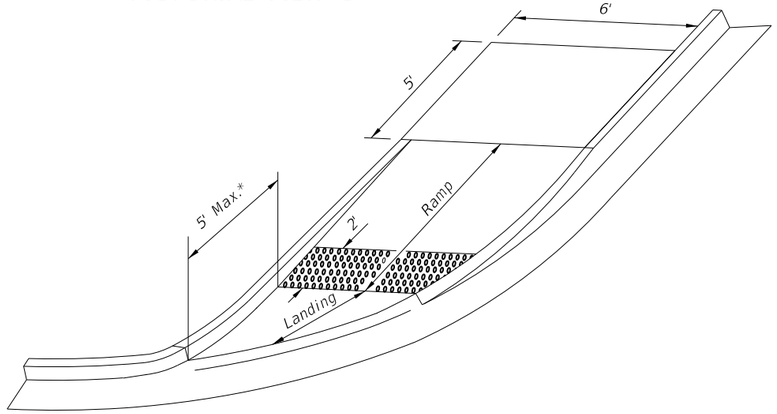
PICTORIAL VIEW C

* *Detectable warnings may be placed perpendicular across the bottom of the curb ramp, but only if the bottom of the curb ramp is no more than 5 feet from the back-of-curb.*



PICTORIAL VIEW B

On landings and flush transitions at radius returns: Rows of domes are not required to be aligned with the centerline of the ramp. (See Pictorial View B)

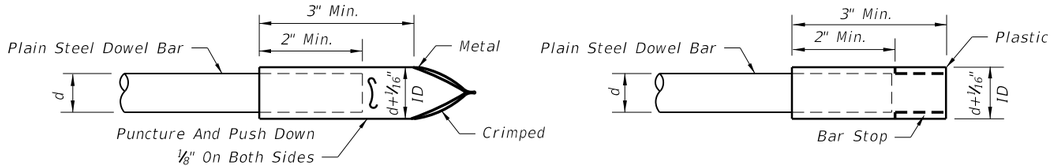


PICTORIAL VIEW C

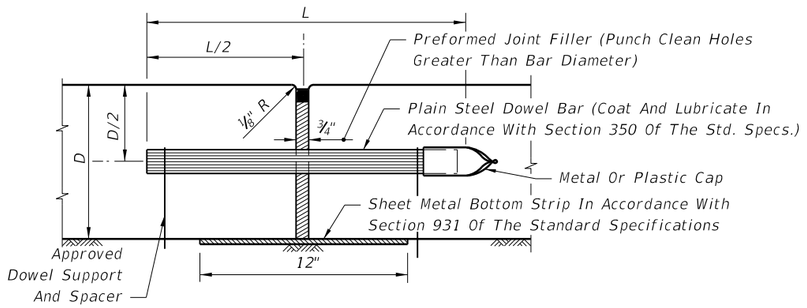
On curb ramps at radius returns: Rows of domes shall be aligned with the centerline of the ramp. (See Pictorial View C)

TYPICAL PLACEMENT OF DETECTABLE WARNING AT CURB RAMPS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/12			FDOT DESIGN STANDARDS 2013	PUBLIC SIDEWALK CURB RAMPS	304	6

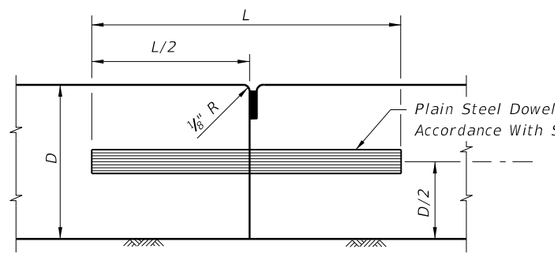


METAL OR PLASTIC CAPS FOR DOWEL BARS

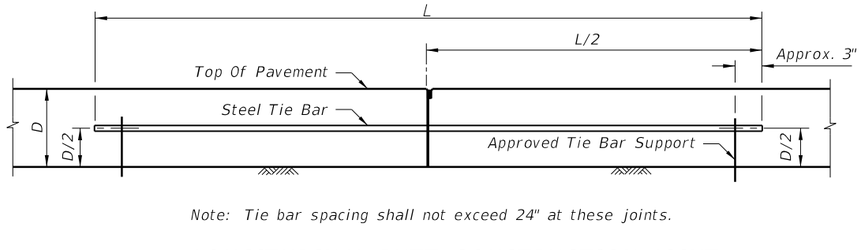


Note: Expansion joints to be placed on approaches to bridges, at street intersections and other locations indicated in detail plans.

TRANSVERSE EXPANSION JOINT

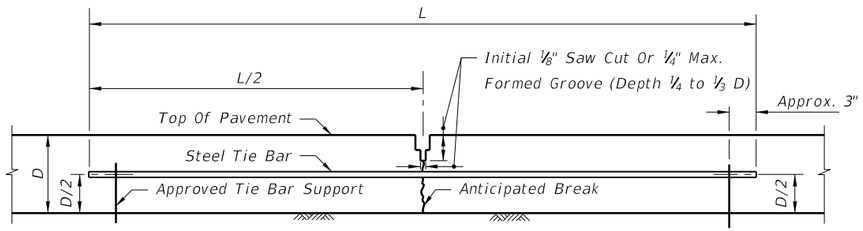


BUTT CONSTRUCTION JOINT TO BE USED AT DISCONTINUANCES OF WORK



Note: Tie bar spacing shall not exceed 24" at these joints.

LONGITUDINAL BUTT CONSTRUCTION JOINT



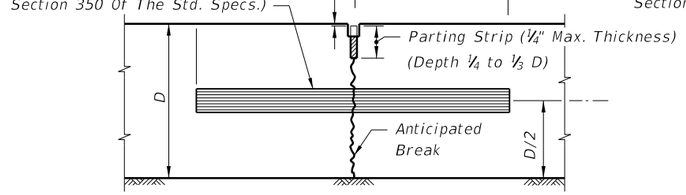
Note: Slabs poured simultaneously. Tie bars may be inserted in the plastic concrete by means approved by the Engineer.

LONGITUDINAL LANE-TIE JOINT

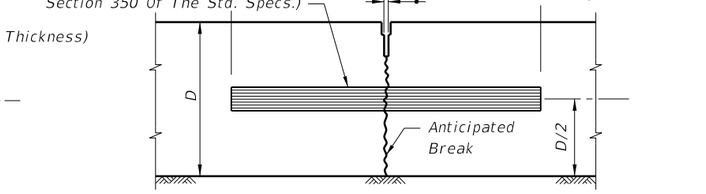
Tie bars are deformed #4 or #5 reinforcing steel bars meeting the requirements of Section 931 of the Standard Specifications.

Provide a standard load transfer tied joint with #4 bars 25" in length at 24" or #5 bars 30" in length at 38" spacing.

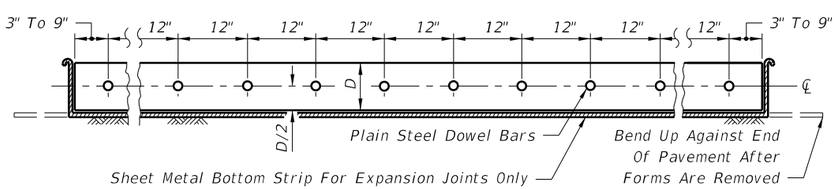
LONGITUDINAL JOINTS



TRANSVERSE CONTRACTION JOINT, VIBRO CAST METHOD



TRANSVERSE CONTRACTION JOINT, SAWED METHOD



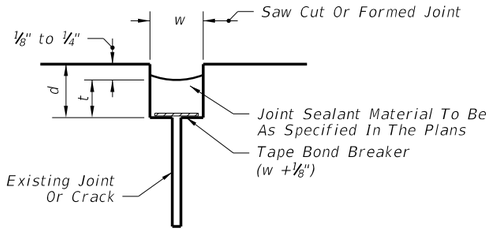
DOWEL BAR LAYOUT

DOWELS (LENGTH 18")	
Pavement Thickness "D"	Diameter
6"-6½"	¾"
7"-8½"	1"
9"-10½"	1¼"
≥11"	1½"

TRANSVERSE JOINTS ARE TO BE SPACED AT A MAXIMUM OF 15'. DOWELS ARE REQUIRED AT ALL TRANSVERSE JOINTS UNLESS OTHERWISE NOTED IN PLANS.

TRANSVERSE JOINTS

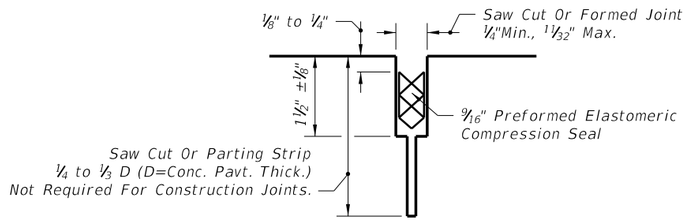
Note: For joint seal dimensions see Sheet 2.



Note: Dimension w will be shown in the plans or established by the Engineer based on field conditions. Dimension d will be constructed so that the shape factor w/t has a maximum value of 2.0 and a minimum value of 1.0.

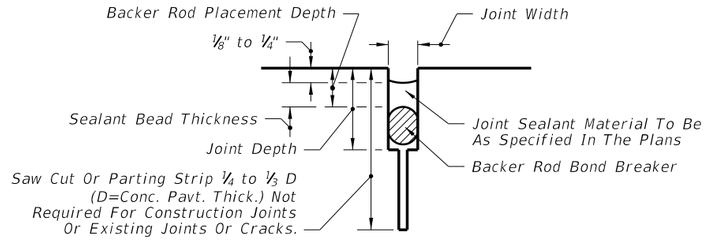
FOR REHABILITATION PROJECTS

TAPE BOND BREAKER



FOR NEW PROJECTS

PREFORMED ELASTOMERIC COMPRESSION SEAL

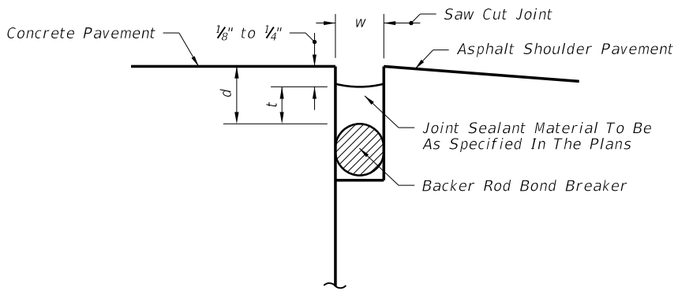


FOR NEW AND REHABILITATION PROJECTS

BACKER ROD BOND BREAKER

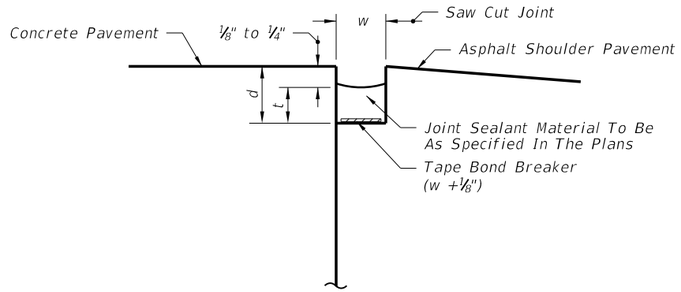
CONCRETE-CONCRETE JOINTS

d = w = ¾" Unless Specified Otherwise In The Plans



BACKER ROD BOND BREAKER

d = w = ¾" Unless Specified Otherwise In The Plans



TAPE BOND BREAKER

FOR NEW AND REHABILITATION PROJECTS;
EITHER TAPE OR BACKER ROD BOND BREAKER REQUIRED;
SHOULDER MUST BE REPAIRED IF PROPER JOINT SHAPE
CAN NOT BE ATTAINED

CONCRETE-ASPHALT SHOULDER JOINTS

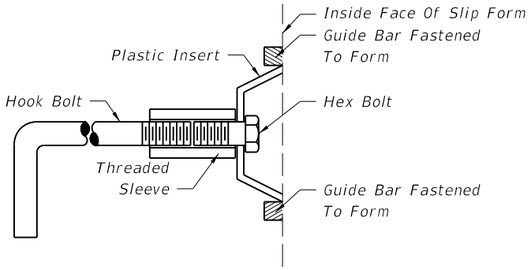
JOINT SEAL DIMENSIONS

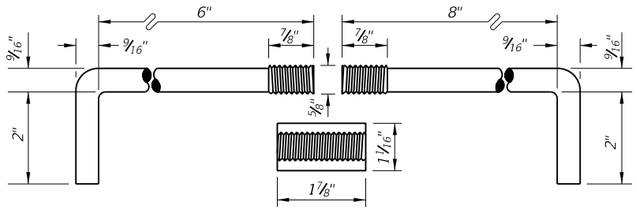
BACKER ROD BOND BREAKER (CONCRETE-CONCRETE JOINTS)

JOINT DIMENSIONS (INCHES)				
JOINT WIDTH	SEALANT BEAD THICKNESS	BACKER ROD DIA.	MINIMUM JOINT DEPTH	BACKER ROD PLACEMENT DEPTH
¼	¼	⅜	1	½
⅜	¼	½	1¼	½
½	¼	⅝	1¼	½
⅝	5/16	¾	1½	9/16
¾	⅜	1	1¾	⅝
⅞	7/16	1⅛	1¾	11/16
1	½	1¼	2	¾
>1	½	1¼+	2+	¾

Unless otherwise indicated on the plans the joint width for new construction will be ¼" for construction joints, ⅜" for all other joints.

For rehabilitation projects the joint width will be shown on the plans or established by the Engineer based on field conditions.





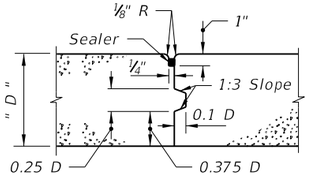
Note: After the concrete has set to the extent that the Keyway will retain its shape, the hex bolt and plastic insert shall be removed. The remaining portion of the hook bolt assembly shall be installed immediately prior to placing of concrete in the adjacent lane.

Anchor bolts shall be Grade C in accordance with ASTM A 307.

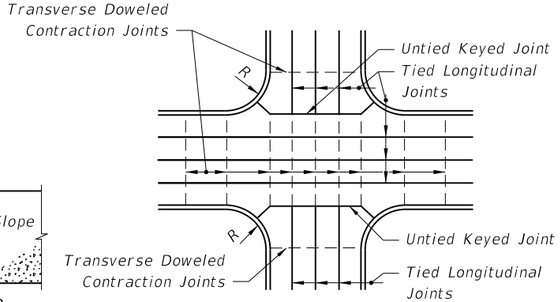
Threaded sleeves shall develop the full strength of the bolt and meet the material and thread requirements of ASTM A 563.

ALTERNATE KEYWAY AND HOOK BOLT

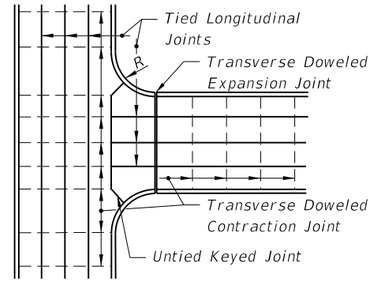
STEEL HOOK BOLT ASSEMBLY



KEYED JOINT



JOINT LAYOUT AT THRU INTERSECTION

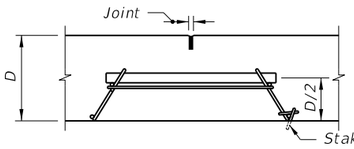


JOINT LAYOUT AT 'T' INTERSECTIONS

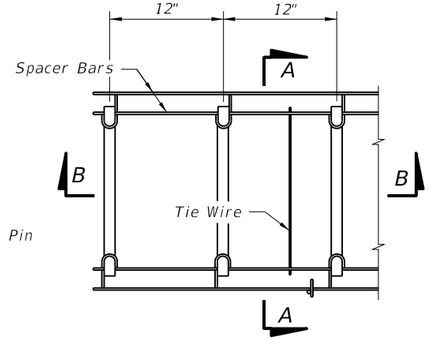
JOINT ARRANGEMENT

NOTES

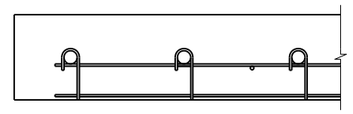
1. Longitudinal joints will not be required for single lane pavement 14' or less in width. For entrance and exit ramp joint details, see Sheet 4.
2. Arrangement of longitudinal joints are to be as directed by the Engineer.
3. All manholes, meter boxes and other projections into the pavement shall be boxed-in with ½" preformed expansion joint material.



SECTION AA

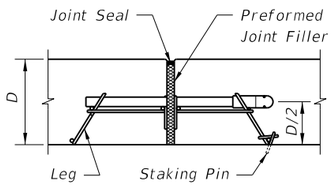


TOP VIEW

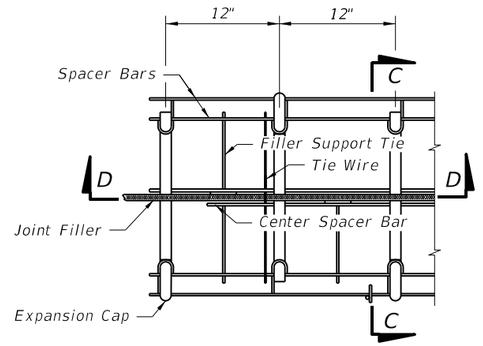


SECTION BB

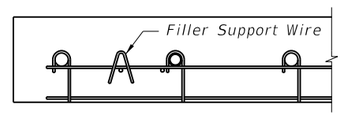
CONTRACTION ASSEMBLY



SECTION CC



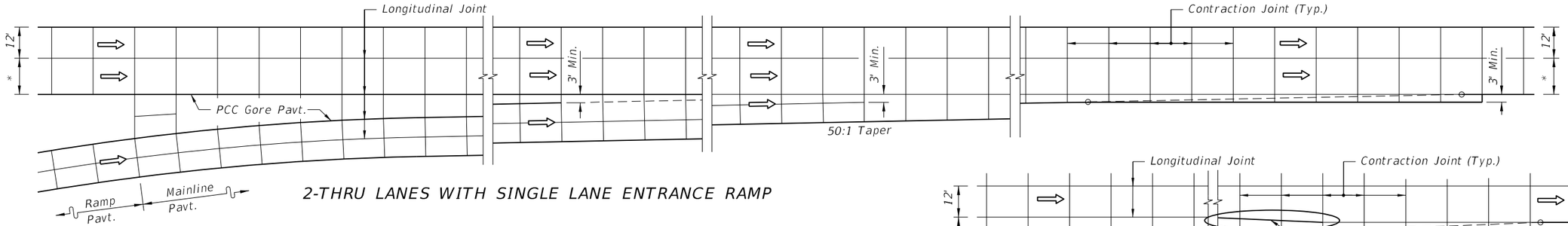
TOP VIEW



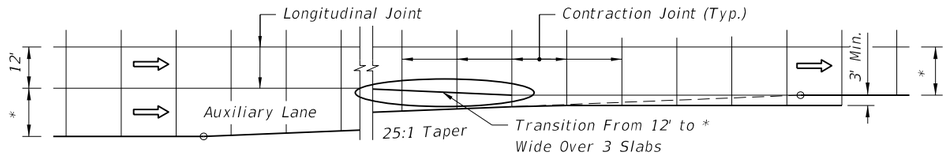
SECTION DD

EXPANSION ASSEMBLY

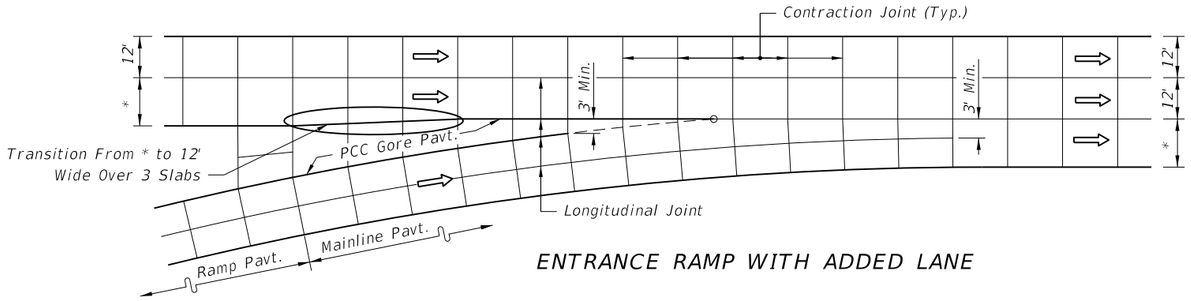
Note: Proprietary contraction and expansion assemblies may be used. Products shall be introduced to the State Construction Office in accordance with section (C) of the Product Evaluation Procedure.



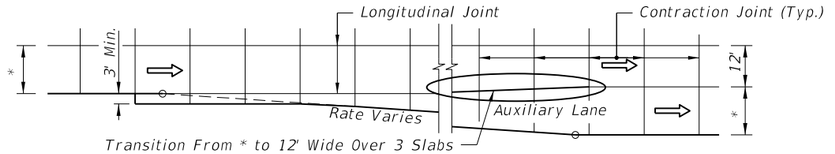
2-THRU LANES WITH SINGLE LANE ENTRANCE RAMP



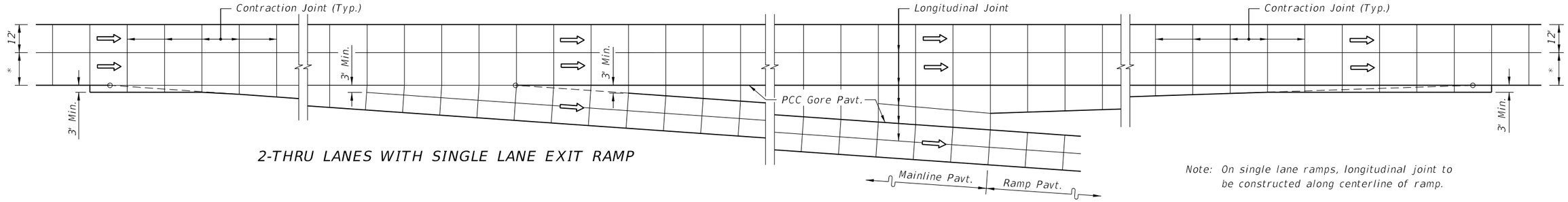
ENTRANCE TAPER WITH AUXILIARY LANE



ENTRANCE RAMP WITH ADDED LANE

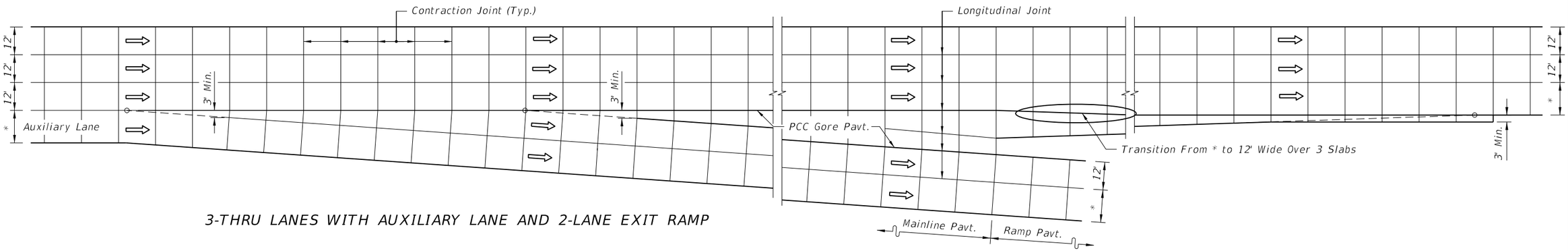


EXIT TAPER WITH AUXILIARY LANE



2-THRU LANES WITH SINGLE LANE EXIT RAMP

Note: On single lane ramps, longitudinal joint to be constructed along centerline of ramp.

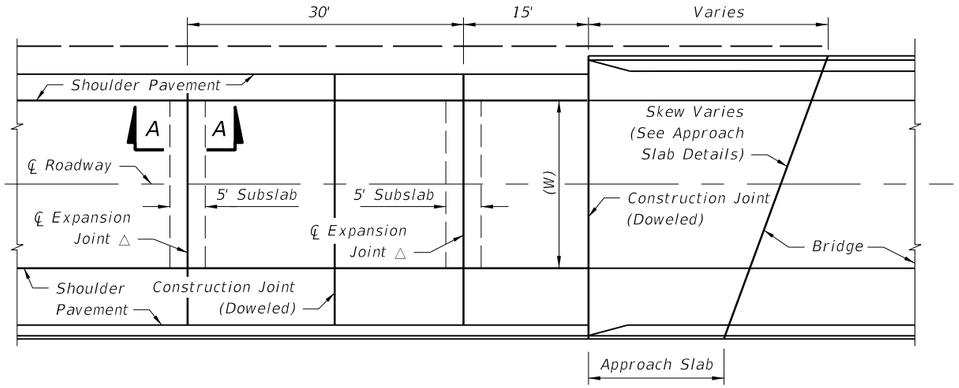


3-THRU LANES WITH AUXILIARY LANE AND 2-LANE EXIT RAMP

* 13' with tied Concrete Shoulders or 14' with Asphalt Shoulders.

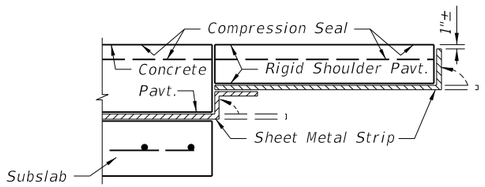
JOINT LAYOUT AT ENTRANCE AND EXIT RAMP TERMINALS

LAST REVISION	REVISION	DESCRIPTION:				
07/01/09			FDOT DESIGN STANDARDS 2013	CONCRETE PAVEMENT JOINTS	INDEX NO. 305	SHEET NO. 4

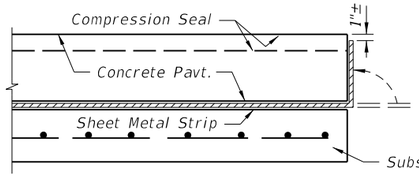


△ Expansion Joints Shall Be Constructed Parallel To The Existing Transverse Pavement Joints On Rehabilitation Projects, And Parallel To The Standard Transverse Pavement Joints Shown In The Plans For New Construction.

PLAN



WITH RIGID SHOULDER PAVEMENT

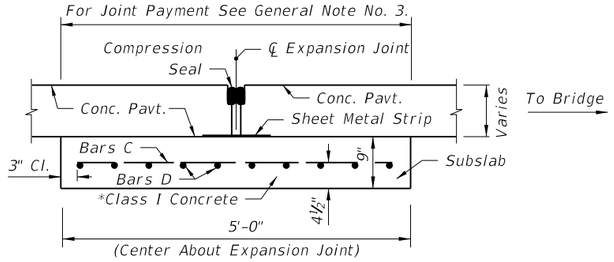


WITH GRASSED SHOULDER OR FLEXIBLE SHOULDER PAVEMENT

Note:
Immediately prior to placing the seal, the joint shall be thoroughly cleaned of all foreign material. Immediately after the seal is placed, sheet metal strip shall be bent up against the pavement edge.

The sheet metal strip shall be a minimum 16 gage steel, 12" wide and shall be galvanized in accordance with ASTM A-526, Coating Designation G90.

DETAIL SHOWING SHEET METAL STRIP

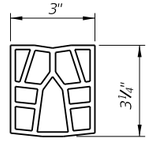


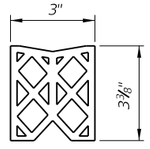
REINFORCING STEEL				
Mark	Size	Spac.	No. Req.	Length
C	5	6"	Varies	4'-6"
D	5	6"	10	W Minus 6"

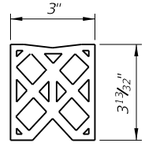
* Finish surface smooth. Cure with heavy coating of wax base white pigmented curing compound. Apply second application immediately prior to placing pavement.

SECTION AA

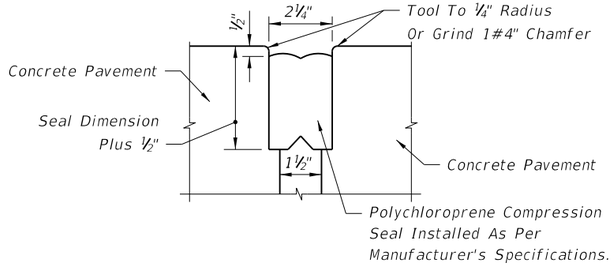
EXPANSION JOINT







OPTIONAL SEALS



Note: All contacting surfaces between the compression seal and concrete shall be thoroughly coated with a lubricant-adhesive.

JOINT DIMENSIONS

COMPRESSION SEAL DETAIL

DESIGN NOTES

1. For rehabilitation projects, the designer must indicate in the plans the number of slabs to be removed, the number of subslabs to be constructed/reconstructed, and the location of expansion joints.

2. Pay quantity of expansion joint to be calculated across pavement at right angles to the centerline of the roadway pavement. Shoulder pavement joint included.

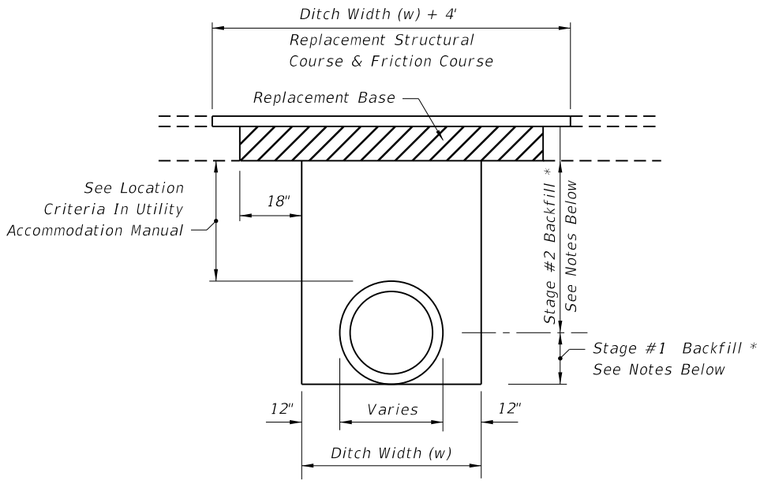
GENERAL NOTES

1. The centerline of roadway and the centerline of bridge do not necessarily coincide. Prior to the placement of the expansion joint, the centerline of the roadway pavement shall be determined.

2. For information on other types of concrete pavement joints see Index No. 305.

3. Pay quantity for expansion joint is the length of joint to be constructed across the roadway and shoulder pavements, measured at right angles to the centerline of the roadway. Payment for expansion joint shall be full compensation for joint construction, including reinforced concrete subslab, sheet metal strip and compression seal, but, not including roadway pavement reconstruction associated with joint replacement or reconstruction. Expansion joint to be paid for under the contract unit price for Bridge Approach Expansion Joint, LF.

LAST REVISION	REVISION	DESCRIPTION:				
04			FDOT DESIGN STANDARDS 2013	BRIDGE APPROACH EXPANSION JOINT CONCRETE PAVEMENT	INDEX NO. 306	SHEET NO. 1



FLEXIBLE PAVEMENT NOTES

PAVEMENT REMOVAL AND REPLACEMENT

Pavement shall be mechanically sawed.

The replacement asphalt shall match the existing structural and friction courses for type and thickness in accordance with current FDOT asphalt mix specifications.

The new base materials shall be either of the same type and composition as the materials removed or of equal or greater structural adequacy (See Index No. 514).

BACKFILL

COMPACTED AND STABILIZED FILL OPTION

Backfill material shall be placed in accordance with Section 125 of the Standard Specifications.

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

In Stage #2, construct compacted fill along the sides of the pipe and up to the bottom of the base,with the upper 12" receiving Type B Stabilization. In lieu of Type B Stabilization, the Contractor may construct using Optional Base Group 3.

* FLOWABLE FILL OPTION

If compaction can not be achieved through normal mechanical methods then flowable fill may be used.

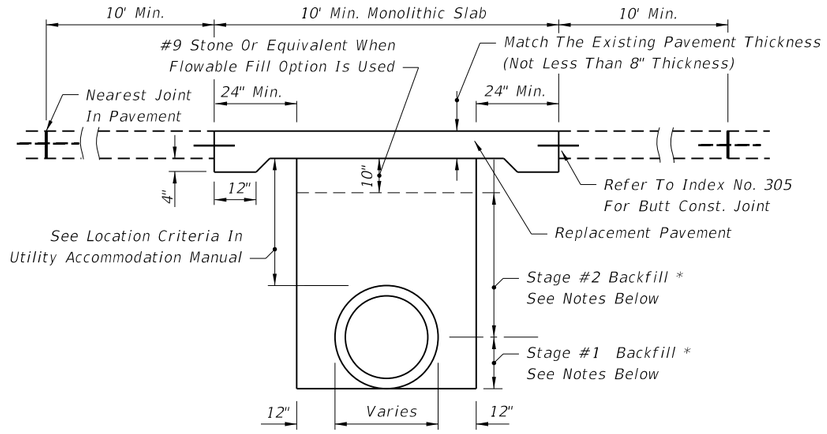
Flowable fill is to be placed in accordance with Section 121 of the Specifications, as approved by the Engineer.

Do not allow the utility being installed to float. If a method is provided to prevent flotation from occurring, Stages #1 and #2 can be combined, if approved by the Engineer.

In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2.

In Stage #2, place flowable fill to the bottom of the existing base course.

FLEXIBLE PAVEMENT CUT



RIGID PAVEMENT NOTES

PAVEMENT REMOVAL AND REPLACEMENT

High early strength cement concrete (3000 psi) meeting the requirements of Standard Specification 346 shall be used for rigid pavement replacement.

Pavement shall be mechanically sawed and restored to conform with existing pavement joints within 12 hours. (See Index No. 305)

GRANULAR BACKFILL

Any edgedrain system that is removed shall be replaced with the same type materials. Any edgedrain system that is damaged shall be repaired with methods approved by the Engineer.

Fill material shall be placed in accordance with the Standard Specifications. Fill material shall be special select soil in accordance with Index No. 505.

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

In Stage #2, construct fill along the sides of the pipe and up to the bottom of replacement pavement.

* FLOWABLE FILL OPTION

If mechanical compaction can not be achieved through normal mechanical methods then flowable fill may be used.

Flowable fill is to be placed in accordance with Section 121 of the Specifications, as approved by the Engineer.

Do not allow the utility being installed to float. If a method is provided to prevent flotation from occurring, Stages #1 and #2 can be combined, if approved by the Engineer.

In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2.

In Stage #2, place flowable fill to the bottom of the stone layer.

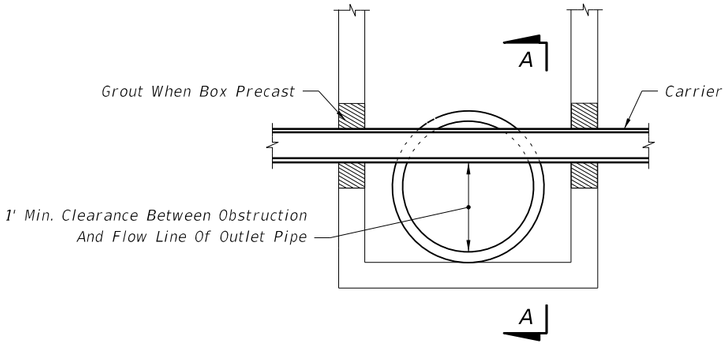
RIGID PAVEMENT CUT

GENERAL NOTES

1. The details provided in this standard index apply to cases in which jack and bore or directional boring methods are not required by the Engineer.
2. Flowable fill shall not be placed directly over loose, or high plastic, or muck material (see Index 505) which will cause settlement due to fill weight. Where highly compressible material exists, the amount, shape and depth of flowable fill must be engineered to prevent pavement settlement.
3. These details do not apply to utility cuts longitudinal to the centerline of the roadway which may require the additional use of geotextiles, special bedding and backfill, or other special requirements.
4. Method of construction must be approved by the Engineer.
5. Some pipe may require special granular backfill up to 6" above top of pipe. Geotextiles may be required to encapsulate the special granular material.
6. Where asphalt concrete overlays exist over full slab concrete pavement, the replacement pavement shall have an overlay constructed over the replacement slab. The overlay shall match the existing asphalt pavement thickness. The replacement friction course shall match the existing friction course, except structural course may be used in lieu of dense graded friction course.
7. All shoulder pavement, curb, curb and gutter, and their substructure disturbed by utility trench cut construction shall be restored in kind.
8. The use of flowable fill to reduce the time traffic is taken off a facility is acceptable but must have prior approval by the Engineer. Flowable fill use is allowed only when properly engineered for pavement crossings, whether straight or diagonal, and shall not be installed for significant depths or lengths. The maximum length shall be fifty (50) feet and a maximum depth of six (6) feet unless supported by an engineering document prepared by a registered professional engineer that specializes in soils engineering. The engineering document shall address the evaluation of local groundwater flow interruption and settlement potential.
9. Excavatable flowable fill is to be used when the flowable fill option is selected.

TRENCH CUTS AND RESTORATIONS ACROSS ROADWAYS

LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	MISCELLANEOUS UTILITY DETAILS	INDEX NO.	SHEET NO.
07/01/12						307	1



SECTION LONGITUDINAL TO CARRIER PIPE
(Nonpressure Or Nonfluid Carrier Installations)
No Joints Allowed Within Structure

UTILITY CONFLICT CONDITION I

NOTES FOR UTILITY CONFLICT PIPE

1. These details are for construction field expediency to resolve utility conflicts that cannot be remedied by relocation. For conflicts determined during design, use the construction shop drawings for structure details.

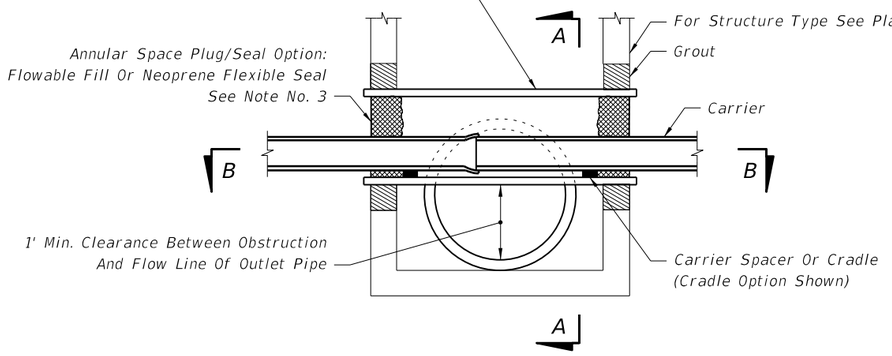
2. Concrete used in conflict structures shall be as specified in ASTM C478. 4000 psi may be used in lieu of Class I concrete.

3. Maximum opening for pipe shall be the pipe OD plus 6". Mortar used to seal the pipe into the opening will be of such mix that shrinkage will not cause leakage into or out of the structure.

4. If the conflict structure is round or there are multiple inlet or outlet pipes, then the wall section should be reviewed for strength.

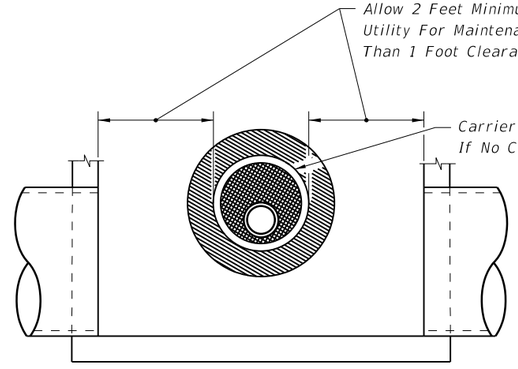
5. If during construction or the plans design process it is determined that a potable water supply line must pass though a storm drain structure, it must be in compliance with Chapter 62–555.314 (3) F.A.C. and shown on the design or construction plans and submitted to the Florida Department of Environmental Protection (FDEP) Administrator For Drinking Water in the respective FDEP District for review and comment. This index and rule citation provide accepted methods for addressing conflicts when and where they cannot be reasonably avoided. To be submitted along with the plans shall be a justification describing inordinate cost and the impracticality of avoidance. If identified, properly justified, and accomplished in accordance with this index, approval is granted. Upon request, the Utility Agency Owner (UAO) must provide support data on the cost of relocation or adjustment to the FDOT for submittal to the FDEP. See the following web site for District FDEP Drinking Water Contacts: www.dep.state.fl.us/water/drinkingwater/index.htm and click on "Organization" on the menu to the right.

Carrier Casing: The Casing Shall Be Rated To The Greatest Pressure Of Either The Carrier That's Called For By Design Or That's Required By Construction. The Casing May Be Steel, Cast Iron, Ductile Iron Or Plastic. The Casing Can Be Seamless Or Sealed Half Sleeves.



SECTION LONGITUDINAL TO CARRIER PIPE
(Pressure Or Fluid Carrier Installations)
UTILITY CONFLICT CONDITION II

SECTION BB



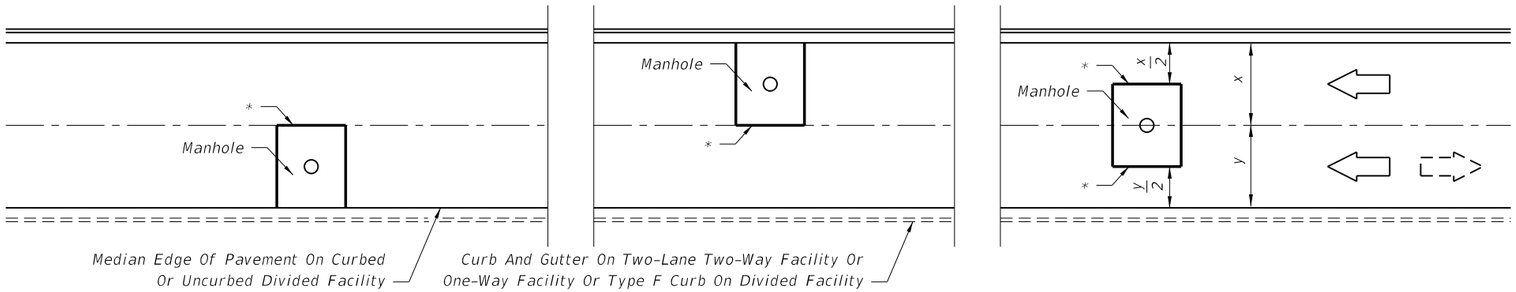
DESIGNER'S NOTE

"Sumped" Conflict Manholes Shall Not Be Used Unless The System Is Hydraulically Designed To Account For The Headloss Generated If The Sump Is Completely Blocked

SECTION AA

UTILITY CONFLICT PIPES THRU STORM DRAIN STRUCTURES

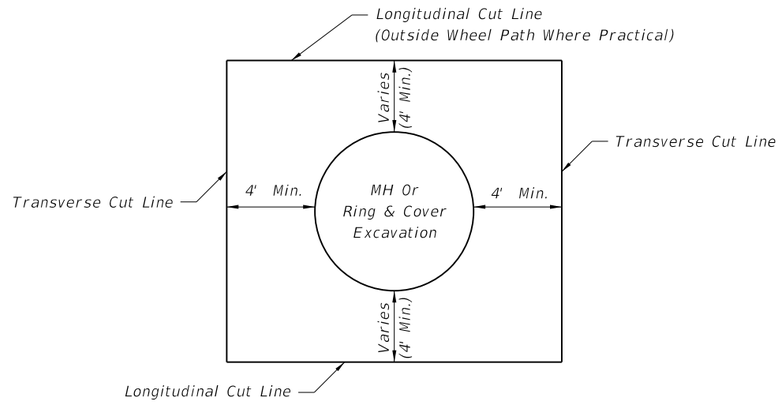
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/09			FDOT DESIGN STANDARDS 2013	MISCELLANEOUS UTILITY DETAILS	307	2



* Longitudinal Cut Lines For Both Curbed And Uncurbed Facilities Must Coincide With A Regular Seam Or Midlane Point In Order To Be Outside The Wheel Path

PLAN VIEW

FOR TWO OR MORE LANES (TWO LANES SHOWN)



PARTIAL CUTS FOR RING AND COVER ADJUSTMENTS

NOTES

1. No irregular seams are permitted. All seams must be clean sawed.
2. Pavement cut seams for underground utility structures in rigid pavement are the same longitudinally, but the transverse seams shall extend to the nearest existing joint.
3. See Sheet 1 for replacement pavement.

NONTRENCH PAVEMENT CUTS FOR UNDERGROUND UTILITY STRUCTURES IN PAVEMENT

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
04			FDOT DESIGN STANDARDS 2013	MISCELLANEOUS UTILITY DETAILS	307	3

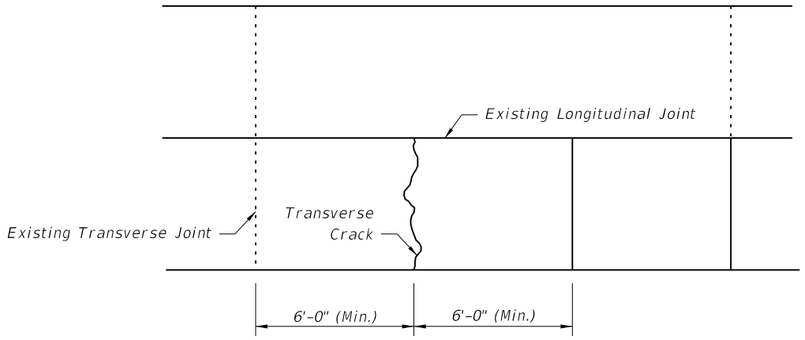


FIGURE 10.2 - REPAIR METHOD: NONE OR CLEAN AND SEAL

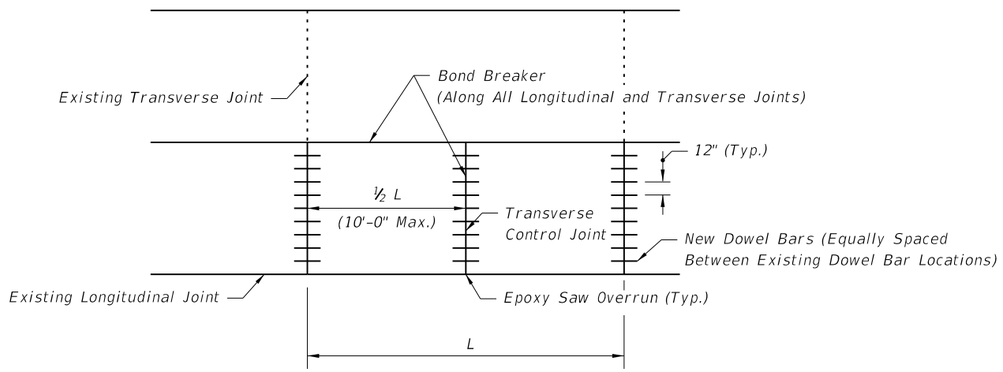


FIGURE 10.3 - FULL SLAB FULL DEPTH REPLACEMENT

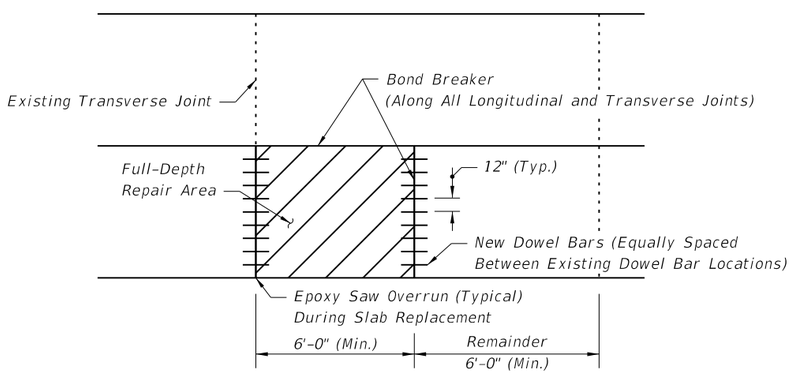


FIGURE 10.4 - PARTIAL SLAB FULL DEPTH REPLACEMENT

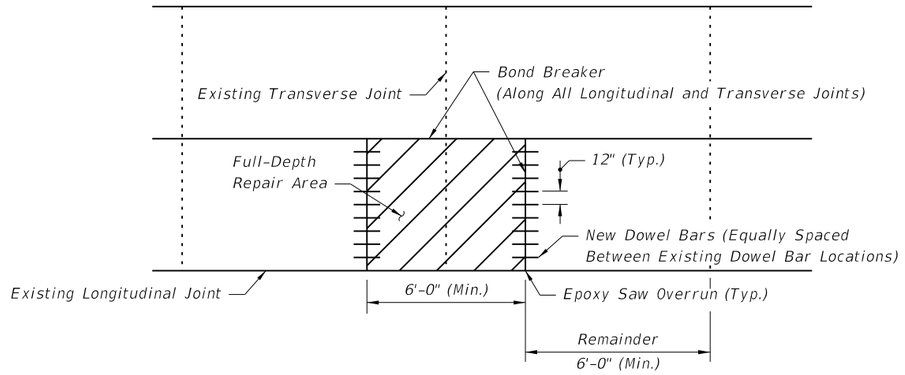


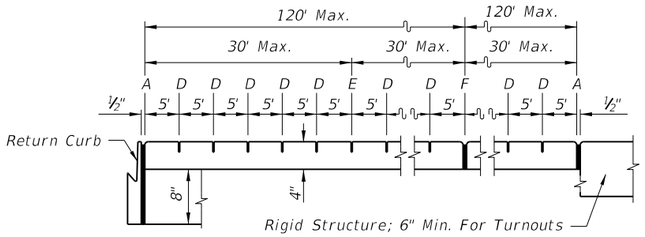
FIGURE 10.5 - FULL-DEPTH REPAIR ON BOTH SIDES OF THE JOINT

GENERAL NOTES

1. For Repair and Replacement Criteria see Sheet 2.
2. Full depth repairs consist of removing and replacing at least a portion of the existing slab to the bottom of the concrete.
3. Repair boundaries shall be sawed full-depth with diamond saw blades. On hot days, it may not be possible to make this cut without first making a wide, pressure relief cut within the repair boundaries. A carbide-tipped wheel saw may be used for this purpose, but the wheel saw must not intrude on the adjacent lane, unless the lane is slated for repair. The wheel saw cuts produce a ragged edge that promotes excessive spalling along joints. Hence, if wheel saw cuts are made, diamond saw cuts must be made 18 in. outside the wheel saw cuts. To prevent damage to the base, the wheel saw must not be allowed to penetrate more than 0.5 in. into the base.
4. No additional base or subgrade material shall be added and all loose base or subgrade material shall be removed prior to placement of the new concrete slab. The concrete slab shall be placed to the full depth of the material removed. No additional compensation will be allowed for additional concrete required to bring proposed concrete slab up to finished grade.
5. Removal of the damaged concrete pavement shall be by lifting. Any good concrete pavement which is damaged during removal of damaged areas shall be removed and replaced by the contractor at his expense.
6. If the roadway contract includes grinding, then the slab replacement shall be performed first.
7. During slab replacement operations, fill any saw cut over runs into adjacent slabs with epoxy.

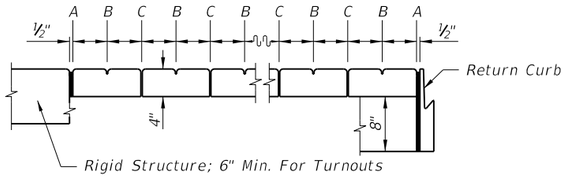
SLAB REPAIR AND REPLACEMENT CRITERIA

DISTRESS PATTERN	SEVERITY/DESCRIPTION		REPAIR METHOD	REFERENCE
CRACKING				
Longitudinal	Light	<⅛", no faulting, spalling <½" wide	None	Figure 10.2
	Moderate	⅛" <width <½", spalling <3" wide	Clean and Seal	Figure 10.2
	Severe	width >½", spalling >3" faulting >½"	Replace	Figure 10.3
Transverse	Light	<⅛", no faulting, spalling <½" wide	None	Figure 10.2
	Moderate	⅛" <width <½", spalling <3" wide	Clean and Seal	
	Severe	width >½", spalling >3" faulting >½"	Replace	Figure 10.3, 10.4 and 10.5
Corner Breaks	A corner of the slab is separated by a crack that intersects the adjacent longitudinal and transverse joint, describing an approximate 45° angle with the direction of traffic.		Full Depth	Figure 10.4 and 10.5
Intersecting Random Cracks (Shattered Slab)	Cracking patterns that divide the slab into three or more segments.		Full Depth	Figure 10.3 and 10.4
JOINT DEFICIENCIES				
Spall Nonwheel Path	Light	spall width <1½", < ⅓ slab depth, <12" in length	None	Figure 10.4 and 10.5
	Moderate	1½" <spall width <3", < ⅓ slab depth, <12" in length	None	Figure 10.4 and 10.5
	Severe	spall width >3" or length >12"	Full Depth	Figure 10.4 and 10.5
Spall Wheel Path	Light	spall width <1½", <than ⅓ slab depth, <12" in length	None	Figure 10.4 and 10.5
	Moderate	1½" <spall width <3", < ⅓ slab depth, <12" in length	Full Depth	Figure 10.4 and 10.5
	Severe	spall width >3" or length >12"	Full Depth	Figure 10.4 and 10.5
SURFACE DETERIORATION				
Pop Outs Nonwheel Path	Small pieces of surface pavement broken loose, normally ranging from 1 to 4 in. diameter and ½ to 2 in. in depth.			
	Light	Not deemed to be a traffic hazard	Keep under observation	
	Severe	Flying debris deemed a traffic hazard	Full Depth	Figure 10.4
Pop Outs Wheel Path	Small pieces of surface pavement broken loose, normally >3" diameter and 2" in depth.			
	Light	Deemed to be a traffic hazard	Full Depth	Figure 10.4
	Severe	Flying debris deemed a traffic hazard	Full Depth	Figure 10.4
MISCELLANEOUS DISTRESS				
Faulting	Elevation differences across joints or cracks.			
	Light	Faulting <4/32"	None	
	Moderate	4 <Faulting <16/32"	Grind	
	Severe	Faulting >16/32"	Grind	
Lane To Shoulder Drop-Off	Light	0 <drop-off <1"	None	N/A
	Moderate	1" <drop-off <3"	Build Up	
	Severe	drop-off >3 "	Build Up	
Water Bleeding Or Pumping	Seeping or ejection of water through joints or cracks.		Install appropriate drainage, edge drain, permeable subbase, reseal joints, etc.	N/A
Blowups	Upward movement at transverse joints or cracks often accompanied by shattering of the concrete.		Full Depth	Figure 10.3 and 10.4



NOTE: "E" Joint(s) Required When Length Exceeds 30'

SAWED JOINTS

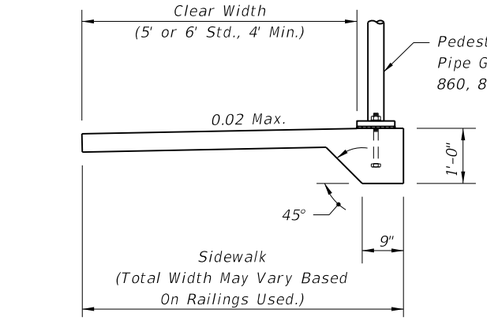


OPEN JOINTS

EXAGGERATED SCALE

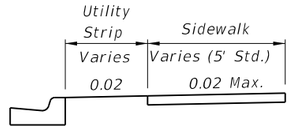
LONGITUDINAL SECTION

SIDEWALK JOINTS

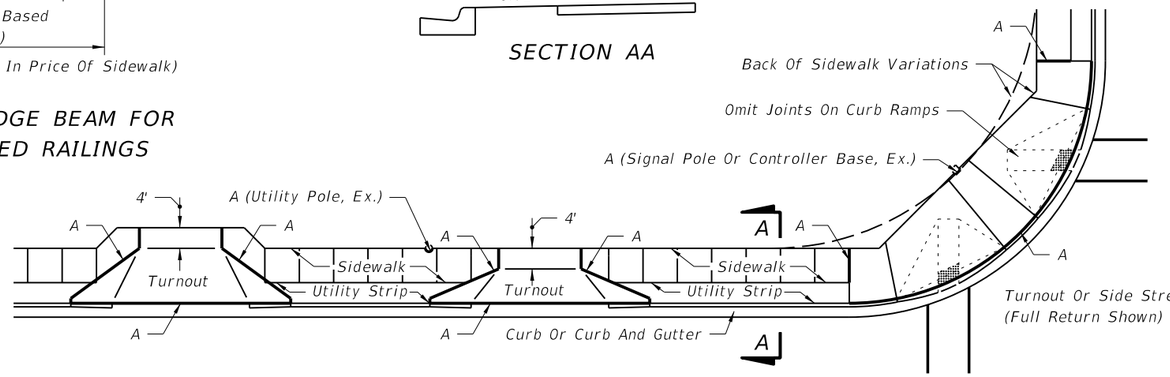


(Cost Of Edge Beam To Be Included In Price Of Sidewalk)

SIDEWALK WITH EDGE BEAM FOR SURFACE MOUNTED RAILINGS

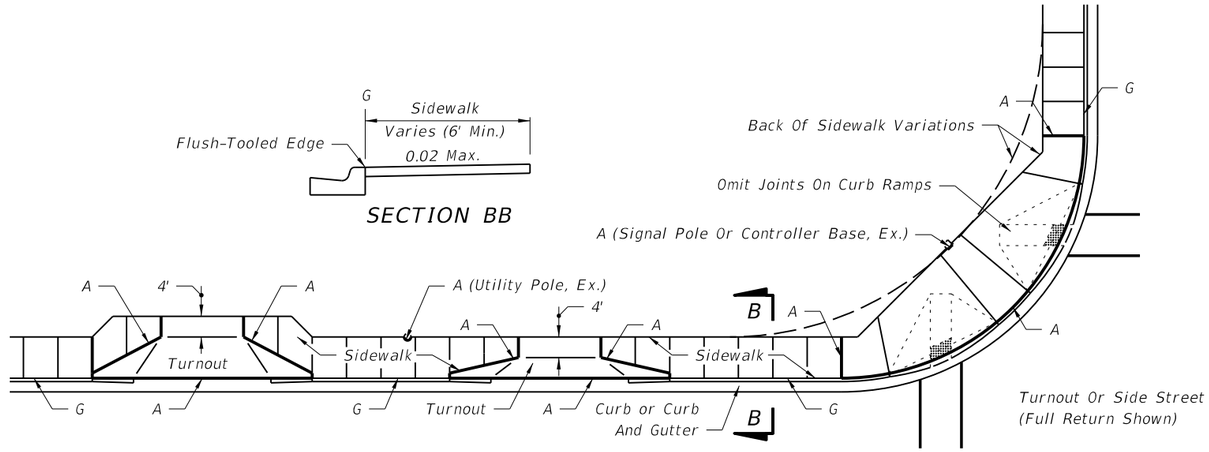


SECTION AA



SIDEWALK WITH UTILITY STRIP

SECTION BB



SIDEWALK WITHOUT UTILITY STRIP

JOINT LEGEND

A– ½" Expansion Joints (Preformed Joint Filler)

B– ⅛" Dummy Joints, Tooled

C– ⅛" Formed Open Joints

D– 3/16" Saw Cut Joints, 1½" Deep (within 96 hours) Max. 5' Centers

E– 3/16" Saw Cut Joints, 1½" Deep (within 12 hours) Max. 30' Centers

F– ½" Expansion Joint When Run Of Sidewalk Exceeds 120'.
Intermediate locations when called for in the plans or at locations as directed by the Engineer.

G– Cold Joint With Bond Breaker, Tooled

NOTES FOR CONCRETE SIDEWALK ON CURBED ROADWAYS

1. Sidewalks shall be constructed in accordance with Section 522 of the FDOT Standard Specifications. Public sidewalk curb ramps shall include detectable warnings and be constructed in accordance with Index No. 304. Detectable warnings are not required where sidewalks intersect urban flared turnouts.

2. Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils nor more than ½".

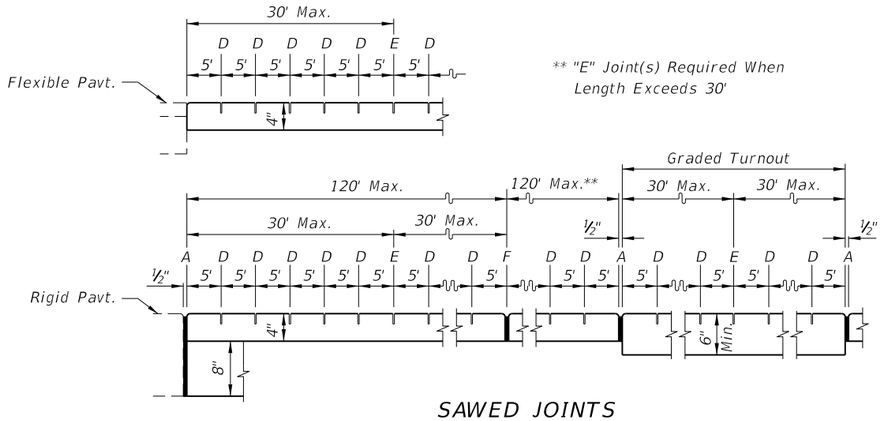
3. For turnouts see Index No. 515.

4. Construct sidewalks with 1' thick Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Picket Railing or Pipe Guiderail shown in the plans.

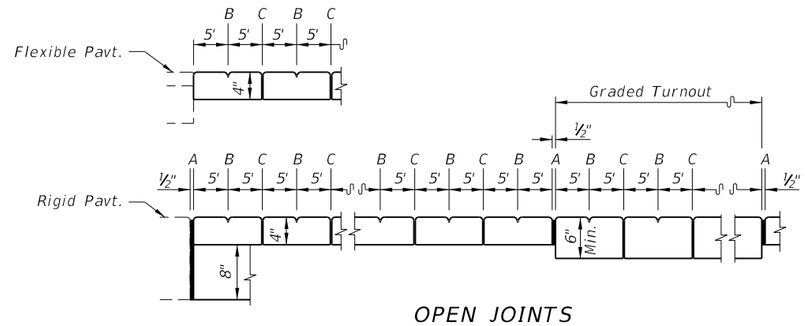
5. Sidewalk shall be paid for under the contract unit price for Sidewalk Concrete (___Thick), S.Y.

CONCRETE SIDEWALK FOR CURBED ROADWAYS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/10			FDOT DESIGN STANDARDS 2013	CONCRETE SIDEWALK	310	1



SAWED JOINTS



OPEN JOINTS
EXAGGERATED SCALE

LONGITUDINAL SECTIONS
SIDEWALK JOINTS

JOINT LEGEND

A- ½" Expansion Joints (Preformed Joint Filler)

B- ⅛" Dummy Joints, Tooled

C- 3/16" Formed Open Joints

D- 3/16" Saw Cut Joints, 1½" Deep (96 Hour) Max. 5' Centers

E- ½" Saw Cut Joints, 1½" Deep (12 Hour) Max. 30' Centers

F- ½" Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.

NOTES FOR CONCRETE SIDEWALKS ON UNCURBED ROADWAYS

1. Sidewalks shall be constructed in accordance with Section 522 of the FDOT Standard Specifications.

2. Provide detectable warnings that extend the full width of the sidewalk and 24" deep from the edge of pavement where sidewalks adjoin the following vehicular ways:

   -side roads and streets
   -driveways with signalized entrances
   -driveways with entrance volumes greater than 600vpd
   -driveways with entrance speeds of 25 mph or greater
   -right in-right out composite driveways

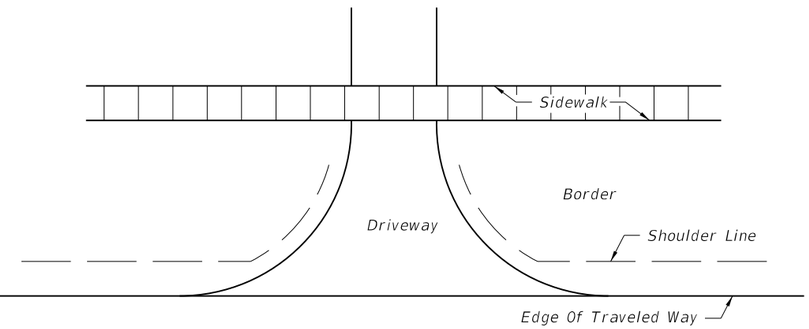
   Detectable warning surfaces shall conform to the requirements described in the General Notes of Index 304. To the extent practical, the rows of truncated domes in a detectable warning surface should be aligned to be perpendicular or radial to the street, roadway, or driveway, as applicable.

   For sidewalks continuous through driveways, detectable warning surfaces are not required.

3. For turnouts see Index No. 515.

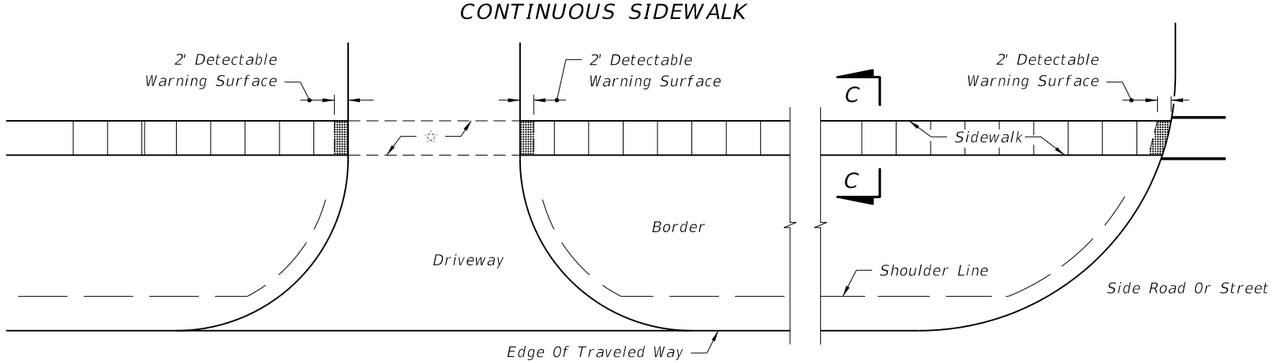
4. Construct sidewalks with 1' thick Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Picket Railing or Pipe Guiderail shown in the plans. See Sheet 1 for details.

5. Sidewalk shall be paid for under the contract unit price for Sidewalk Concrete (___Thick), SY.



CONTINUOUS SIDEWALK

SECTION CC



☆ When driveway is new construction, reconstruction, or altered, cross slope within this area shall not exceed 0.02. Existing driveways that are not being altered may be left as they are.

DISCONTINUOUS SIDEWALK

PLAN

CONCRETE SIDEWALK FOR UNCURBED ROADWAYS

LAST REVISION	REVISION	DESCRIPTION:				
07/01/09			FDOT DESIGN STANDARDS 2013	CONCRETE SIDEWALK	INDEX NO. 310	SHEET NO. 2