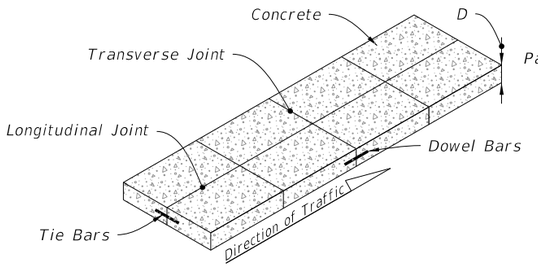
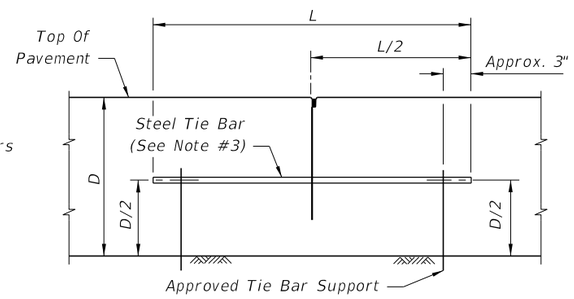
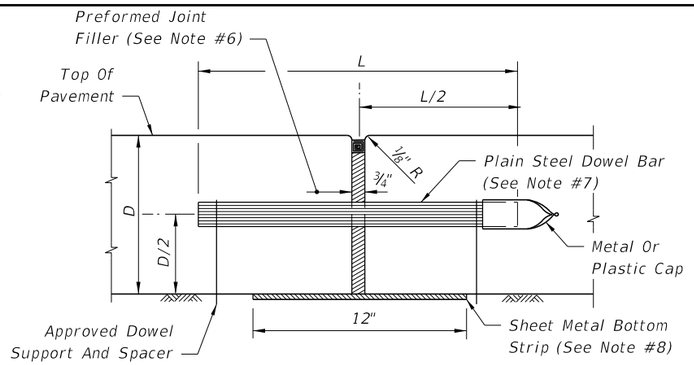
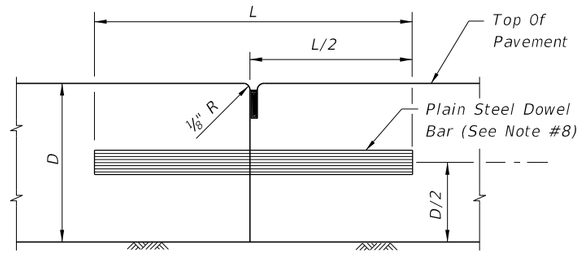




BUTT CONSTRUCTION JOINT



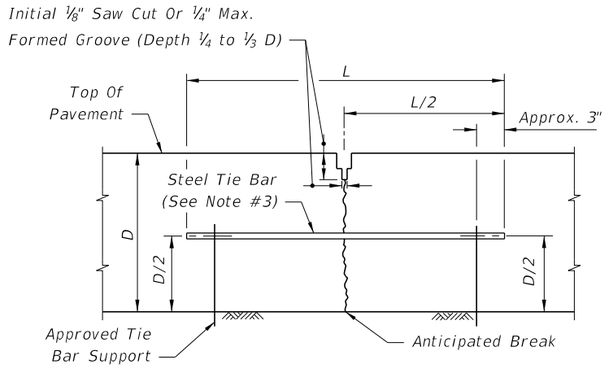
EXPANSION JOINT
(See Note #6)



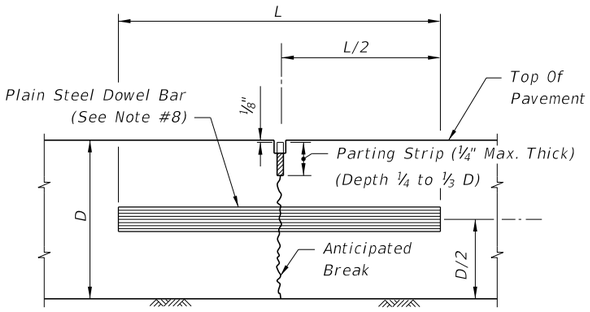
BUTT CONSTRUCTION JOINT
(Used At Discountiuance Of Work)

NOTES:

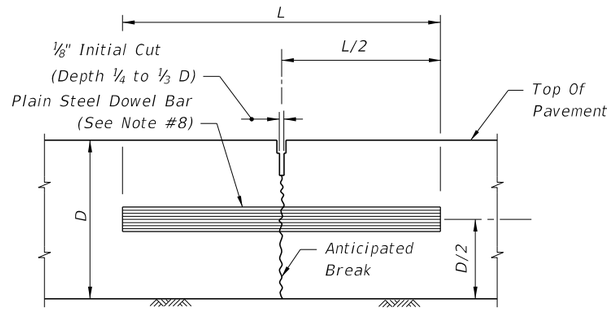
1. For joint seal dimensions see Sheet 2.
2. For slabs poured simultaneously, tie bars may be inserted in the plastic concrete by means approved by the Engineer.
3. For Longitudinal Joints:
   - A. Tie bars are deformed #4 or #5 reinforcing steel bars meeting the requirements of Specifications, Section 931.
   - B. Provide a standard load transfer tied joint with #4 bars 25" in length at 24" spacing or #5 bars 30" in length at 38" spacing.
4. Transverse joints are to be spaced at a maximum of 15'. Dowels are required at all transverse joints unless otherwise noted in the plans.
5. Expansion joints to be placed on approaches to bridges, at street intersections and other locations indicated in the plans.
6. Punch clean holes in preformed joint filler greater than bar diameter.
7. Coat and lubricate plain steel dowel bars in accordance with Specifications, Section 350.
8. Sheet metal bottom strips in accordance with Specifications, Section 931.



LANE-TIE JOINT
(See Note #2)



CONTRACTION JOINT
(Vibro Case Method)

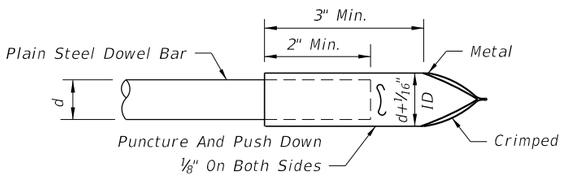


CONTRACTION JOINT
(Sawed Method)

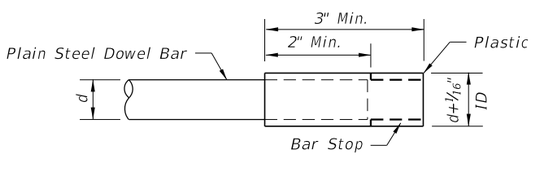
LONGITUDINAL JOINTS

TRANSVERSE JOINTS

DOWELS (LENGTH 18")	
Pavement Thickness "D"	Diameter
6"–6½"	¾"
7"–8"	1"
8½"–10½"	1¼"
≥11"	1½"

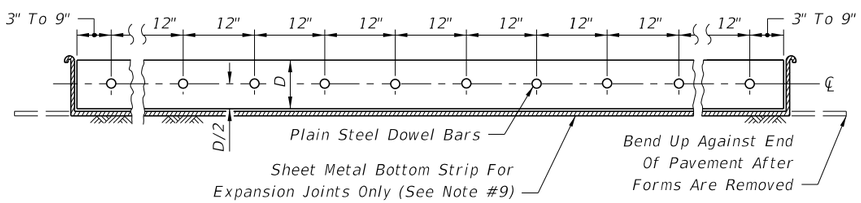


METAL



PLASTIC

DOWEL BARS CAPS



DOWEL BAR LAYOUT

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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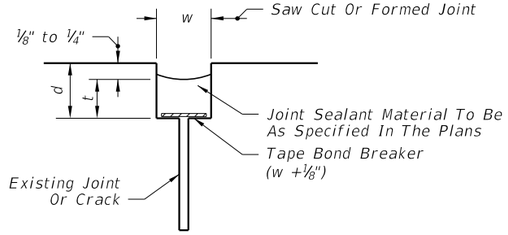
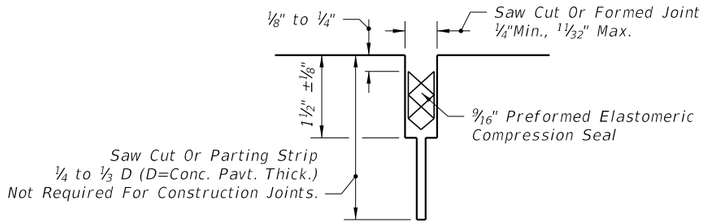


Note: Dimension w will be shown in the plans or established by the Engineer based on field conditions. Dimension d will be constructed so that the shape factor w/t has a maximum value of 2.0 and a minimum value of 1.0.

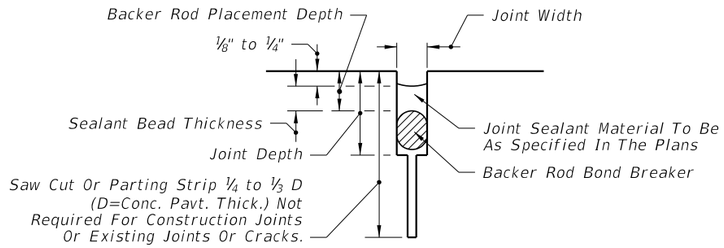
FOR REHABILITATION PROJECTS

TAPE BOND BREAKER



FOR NEW PROJECTS

PREFORMED ELASTOMERIC COMPRESSION SEAL

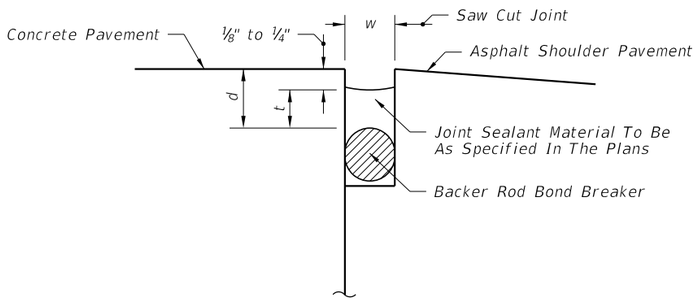


FOR NEW AND REHABILITATION PROJECTS

BACKER ROD BOND BREAKER

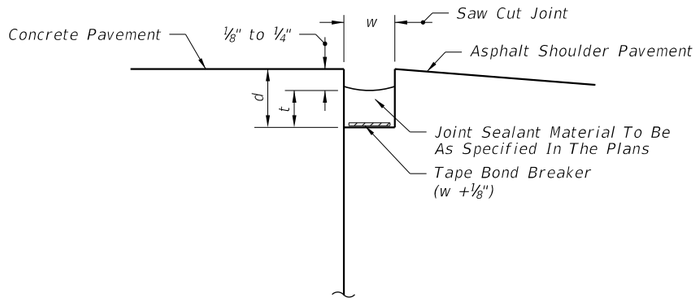
CONCRETE-CONCRETE JOINTS

d = w = 3/4" Unless Specified Otherwise In The Plans



BACKER ROD BOND BREAKER

d = w = 3/4" 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
1/4	1/4	3/8	1	1/2
3/8	1/4	1/2	1 1/4	1/2
1/2	1/4	5/8	1 1/4	1/2
5/8	5/16	3/4	1 1/2	9/16
3/4	3/8	1	1 3/4	5/8
7/8	7/16	1 1/8	1 3/4	11/16
1	1/2	1 1/4	2	3/4
>1	1/2	1 1/4+	2+	3/4

Unless otherwise indicated on the plans the joint width for new construction will be 1/4" for construction joints, 3/8" 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.

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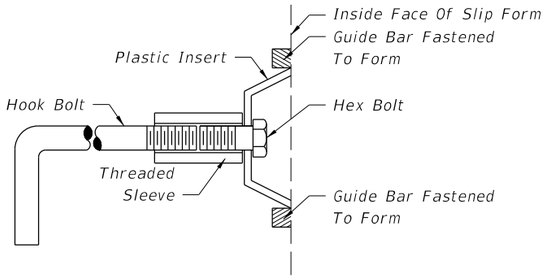
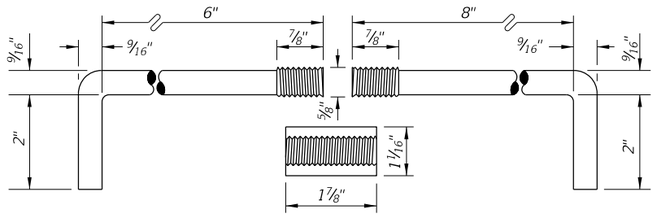




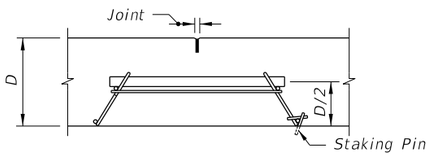
Note: After the concrete has set to the extent that the Keyway will retain its shape, the hex bolt and plastic insert shall be removed. The remaining portion of the hook bolt assembly shall be installed immediately prior to placing of concrete in the adjacent lane.

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

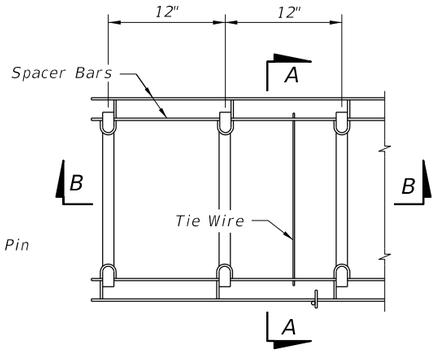
Threaded sleeves shall develop the full strength of the bolt and meet the material and thread requirements of ASTM A 563.

ALTERNATE KEYWAY AND HOOK BOLT

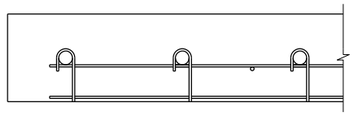
STEEL HOOK BOLT ASSEMBLY



SECTION AA

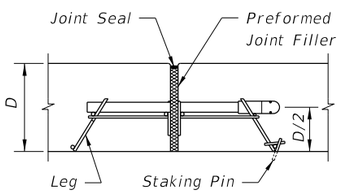


TOP VIEW

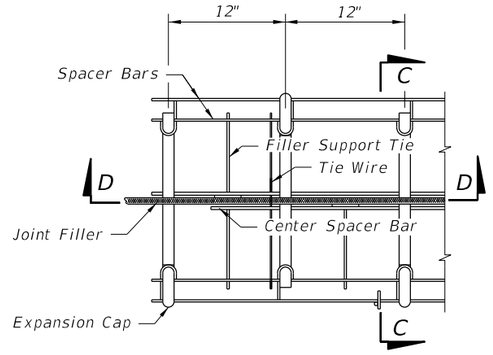


SECTION BB

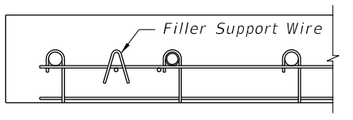
CONTRACTION ASSEMBLY



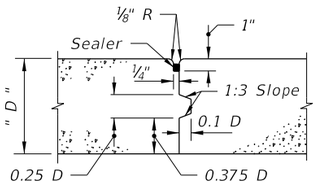
SECTION CC



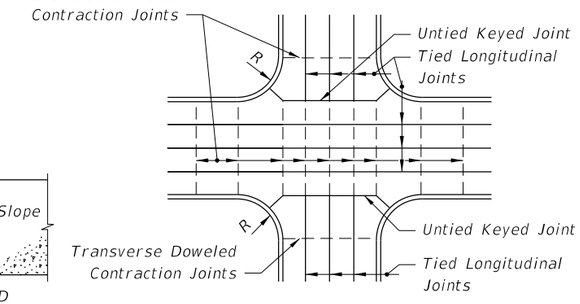
TOP VIEW



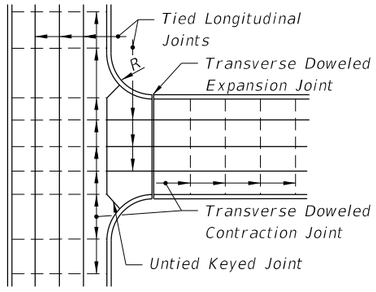
SECTION DD



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.

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.

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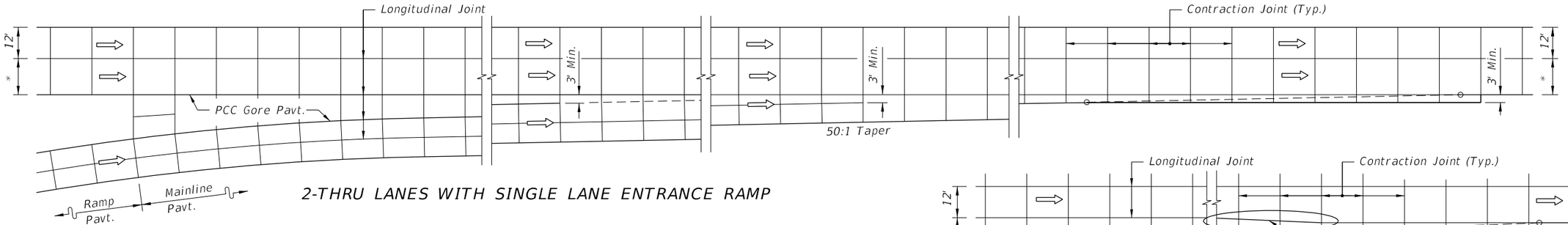
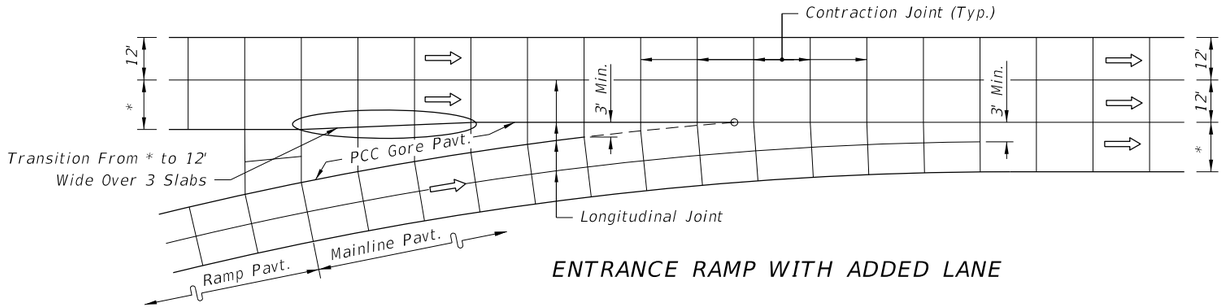
LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FDOT FY 2018-19 STANDARD PLANS	CONCRETE PAVEMENT JOINTS	INDEX 350-001	SHEET 3 of 4

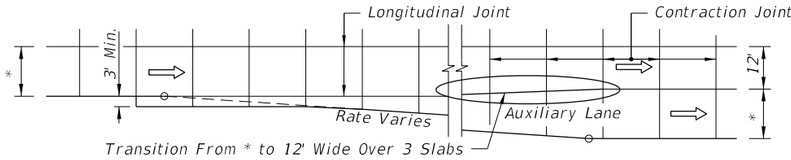


2-THRU LANES WITH SINGLE LANE ENTRANCE RAMP

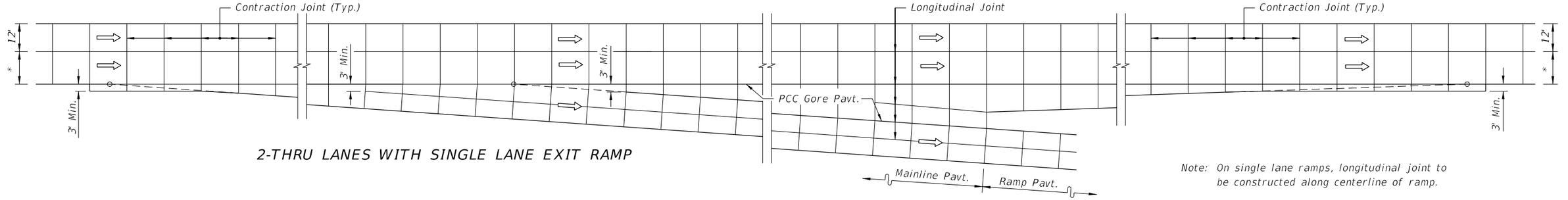
ENTRANCE TAPER WITH AUXILIARY LANE



ENTRANCE RAMP WITH ADDED LANE

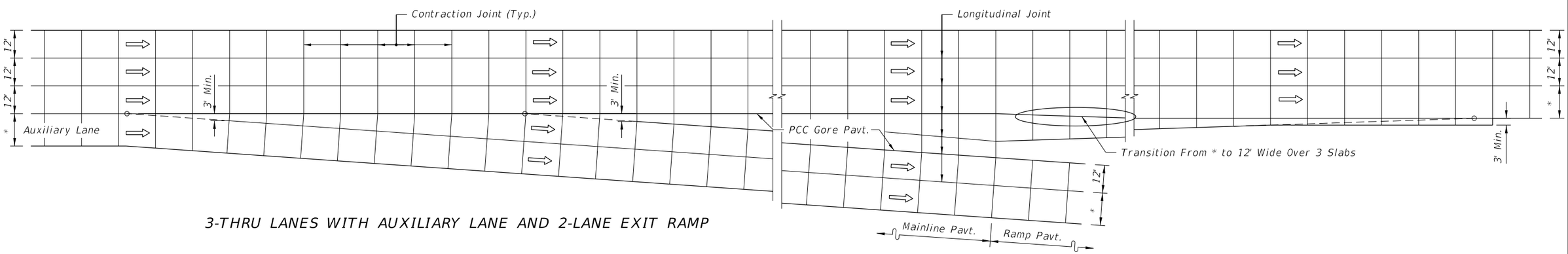


EXIT TAPER WITH AUXILIARY LANE



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

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LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FDOT FY 2018-19 STANDARD PLANS	CONCRETE PAVEMENT JOINTS	INDEX 350-001	SHEET 4 of 4

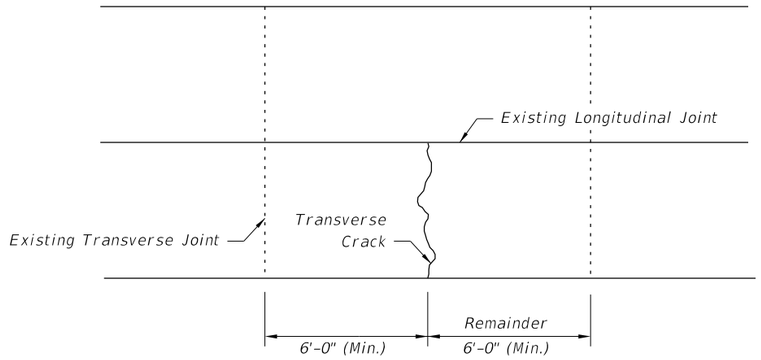

FIGURE 10.2 - REPAIR METHOD: NONE OR CLEAN AND SEAL

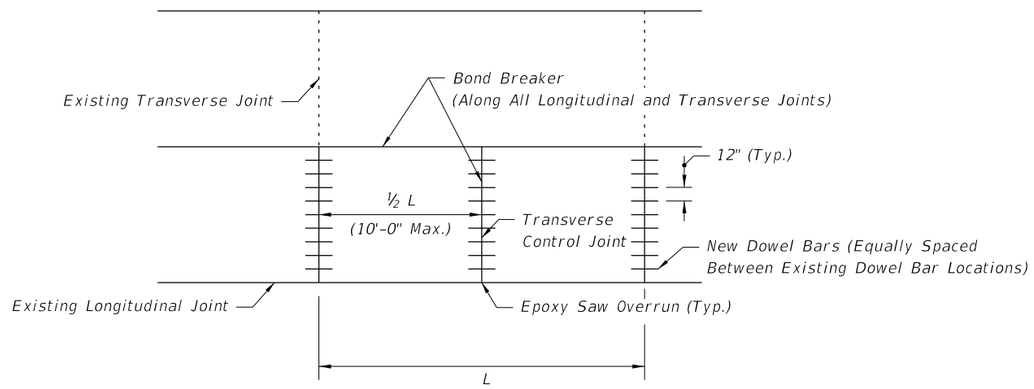

FIGURE 10.3 - FULL SLAB FULL DEPTH REPLACEMENT

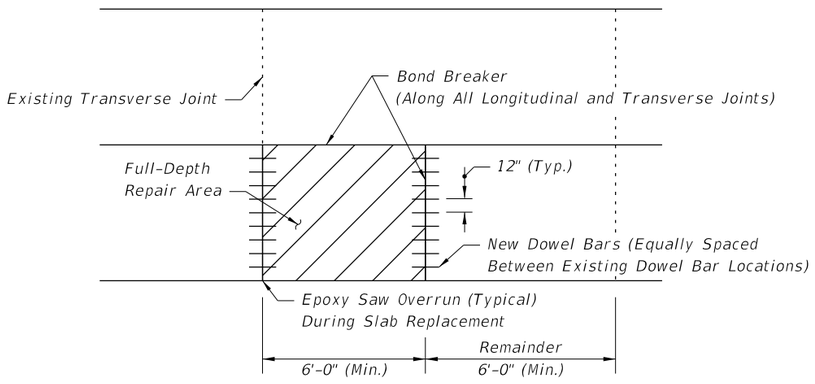

FIGURE 10.4 - PARTIAL SLAB FULL DEPTH REPLACEMENT

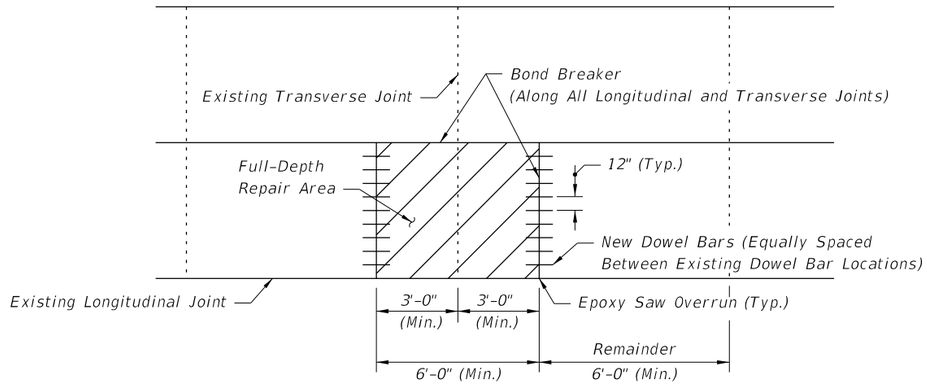

FIGURE 10.5 - FULL-DEPTH REPAIR ON BOTH SIDES OF THE JOINT

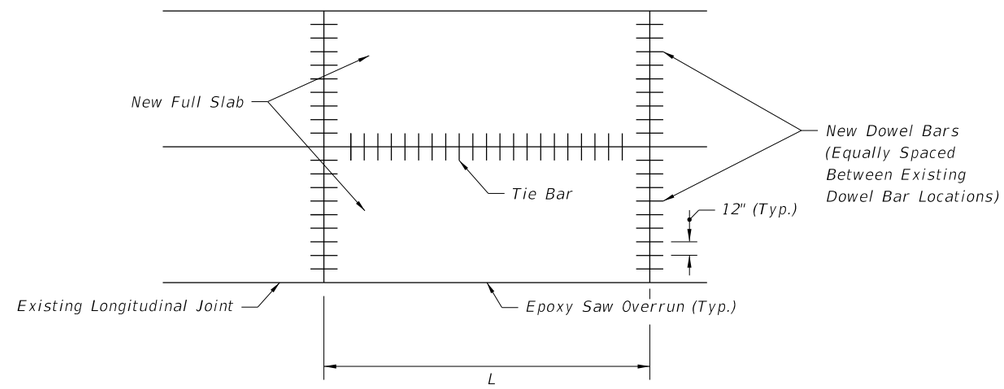

FIGURE 10.6 - MULTIPLE SLAB FULL DEPTH REPLACEMENT

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.
8. Install tie bars at longitudinal joints when two full adjacent or multiple replaced slabs.

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

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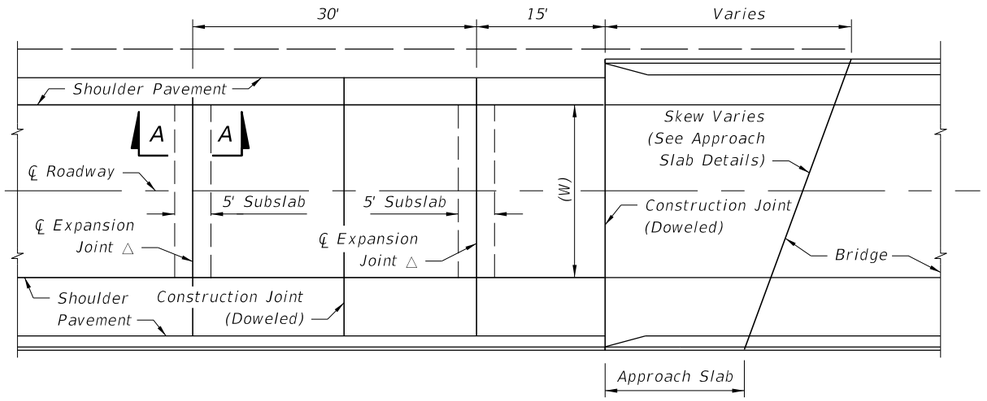
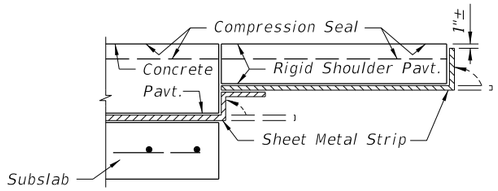
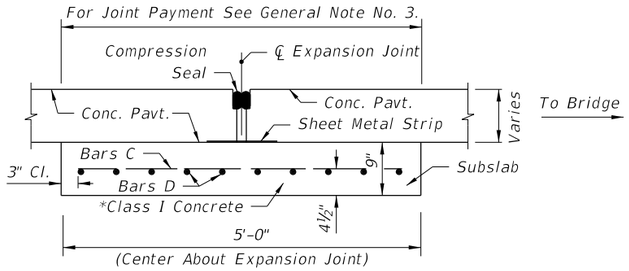


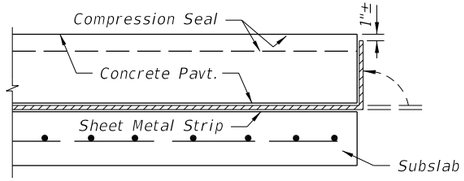
△ Expansion Joints Shall Be Constructed Parallel To The Existing Transverse Pavement Joints On Rehabilitation Projects, And Parallel To The Standard Transverse Pavement Joints Shown In The Plans For New Construction.

PLAN



WITH RIGID SHOULDER PAVEMENT





WITH GRASSED SHOULDER OR FLEXIBLE SHOULDER PAVEMENT

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.

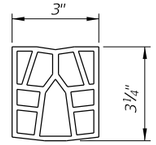
SECTION AA

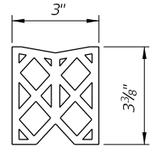
EXPANSION JOINT

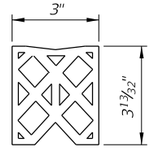
Note:
Immediately prior to placing the seal, the joint shall be thoroughly cleaned of all foreign material. Immediately after the seal is placed, sheet metal strip shall be bent up against the pavement edge.

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.

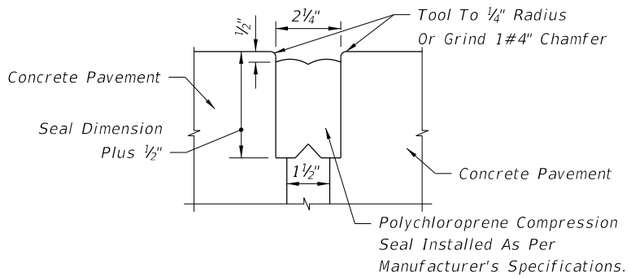
DETAIL SHOWING SHEET METAL STRIP







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 350-001.

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.

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2018-19 STANDARD PLANS	BRIDGE APPROACH EXPANSION JOINT CONCRETE PAVEMENT	INDEX	SHEET
11/01/17						370-001	1 of 1