VOLUME V – PART 5

PRESTRESSED CONCRETE SLAB STANDARDS

VIRGINIA DEPARTMENT OF TRANSPORTATION

VOID

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

Gregory A. Whirley
COMMISSIONER

August 30, 2012

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

The revision is intended to clarify modifications to standards. Design waivers/exceptions are required when changes to the standards are made.

VOIDED:

None

NEW ISSUES:

None

REVISIONS:

File Number	Description of change(s)
TOC-1	Revised date of sheet.
INSTR-1	Revised modification policy.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

Gregory A. Whirley
COMMISSIONER

August 7, 2012

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

NOTES:

Standards are revised for corrosion resistant reinforcing (CRR) steel designations (Class I, II or III) that will be effective with the March 2013 ad date. For projects going to ad prior to that date, CRR steels that are designated on the standards must be changed to one or more of the following:

corrosion resistant reinforcing steel – low carbon chromium
corrosion resistant reinforcing steel – stainless clad
corrosion resistant reinforcing steel – solid stainless

For more information on CRR, see the current IIM-S&B-81.

VOIDED:

None

NEW ISSUES:

File Number	Description of change(s)
PSS-1B-1, PSS-1B-2 and PSS-1B-3	New Standard and Notes to Designer for voided slabs with concrete slabs.
PSSCELLS-5 and PSSCELLS-6	Added new cells: EP15C, EP18C, EP21C, EP15D, EP18D and EP21D for exterior prestressed concrete slabs with concrete slabs.

REVISIONS:

File Number	Description of change(s)
TOC-1	Revised date of applicable sheets.
PSS-1A-1	Renamed standard “PSS-1” to “PSS-1A.”
PSS-1A-2	Added “Asphalt Overlay” to title and renamed standard “PSS-1” to “PSS-1A.”
PSS-2-1	Notes: Added “Class …” to Corrosion Resistant Reinforcing Steel.
PSS-2-3	Under Notes, replaced “type” with “Class I, II or III.”
PSS-3F-1	Notes: Added “Class ….” to Corrosion Resistant Reinforcing Steel.
PSS-3F-2	Notes: Replaced “type” with “Class I, II or III.”
CELLINDEX-1	Revised date of applicable cells and added two pages of cells.
PSSCELLS-1 and PSSCELLS-2	Description: Revised “PSS-1” to “PSS-1A and PSS-1B.”

REVISIONS (continued):

File Number	Description of change(s)
PSSCELLS-3 and PSSCELLS-4	Description: Revised “PSS-1” to “PSS-1A.”
PSSCELLS-7 thru PSSCELLS-10	Moved contents to next page.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

Gregory A. Whirley
COMMISSIONER

May 29, 2012

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

VOIDED:

File Number	Description of change(s)
None	

NEW ISSUES:

File Number	Description of change(s)
None	

REVISIONS:

File Number	Description of change(s)
TOC-1	Revised date of applicable sheets.
PSS-1	Revised Detail A, the longitudinal shear key, a Drip Detail and added requirement for 5,000 lb. min. strength for grout in notes.
PSS-3F	Revised the distance to bolts in Section E-E. Added 2 ft. dimension for concrete base in Section F-F. Revised slab extension from 2 ft. -3in. to 1ft.-2 in. in Abutment Elevation View.
CELLINDEX-1	Revised date of applicable cells.
PSSCELLS-1	Clarified the location of the transverse tendon in Cells VS15A, VS18A and VS21A.
PSSCELLS-2	Clarified the location of the transverse tendon in Cells VS15B, VS18B and VS21B.
PSSCELLS-3	Revised the location of the transverse tendon in Cells EP15A, EP18A and EP21A.
PSSCELLS-4	Revised the location of the transverse tendon in Cells EP15B, EP18B and EP21B.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

Gregory A. Whirley
Acting COMMISSIONER

June 14, 2010

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

VOIDED:

File Number	Description of change(s)
None	

NEW ISSUES:

File Number	Description of change(s)
None	

REVISIONS:

Note: For all standards, the block with FHWA Region 3 and block in the upper right corner for Special Provisions/Copied Notes has been deleted. The copyright date has been changed to 2010.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

January 7, 2010

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

VOIDED STANDARDS:

None

NEW ISSUES:

None

REVISIONS:

File Number	Description of changes(s)
TOC-1	Revised date.
PSS-2	Revised the reinforcing steel note to call for corrosion resistant reinforcing steel (CRR).
PSS-2-3	Added instructions for the designer to specify the type of CRR.
PSS-3F	Revised the reinforcing steel note to call for corrosion resistant reinforcing steel (CRR).
PSS-3F-2	Added instructions for the designer to specify the type of CRR.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

May 29, 2009

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

NOTE: Effective with the December Advertisement, Standards shall be sealed and signed in accordance with Volume V – Part 2, File No. 01.16.1 thru 01.16.7.

VOIDED STANDARDS:

None

NEW ISSUES:

None

REVISIONS:

File Number	Description of changes(s)
All standard sheets	All standard sheets have been revised to reflect the border for sealing and signing of plans.
CELL-INDEX-1	Updated release date of cells.
PSSCELLS-5 thru -8	Minor drafting corrections to cells ERD2L, ERD2R, ERD3L, ERD3R, RPINL, and RPINR.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5.

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

July 11, 2008

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5: Prestressed Concrete Slab Standards

All of the standard sheets in this series have been revised .Two blocks for the P.E. stamp have been added to the lower left hand corner and the copyright date has been changed to 2008. Some details have been rearranged to provide space for the P.E. stamps.

NOTE: Standard sheets are not required to be sealed and signed at this time.

VOIDED STANDARDS:

None

NEW ISSUES:

File Number	Description
INSTR-2 and 3	Added instructions for external users for accessing MicroStation (.dgn) files and cell library (pss.cel) and for printing manual.

REVISIONS:

File Number	Description of change(s)
TOC-1	Added -DGN link to each standard file. Table of contents updated. Added –CEL link for cell library.
INSTR-1	Falcon location is changed.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5.

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

August 31, 2007

MEMORANDUM

TO: Holders of Manual

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

All of the standards in the Manual of the Structure and Bridge Division Volume V – Part 5 have been revised including the NOTES TO DESIGNER. Major revisions include updating the standards to the drafting requirements of the office practice (Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 1) and conversion to MicroStation V8. Due to the numerous changes, many editorial in nature, not all of the specific changes will be listed under REVISIONS. Only the major revisions will be noted. The cell library (pss.cel) has been also been revised. The CELLS-series sheets have been totally reformatted.

VOIDED STANDARDS:

None

NEW ISSUES:

None

REVISIONS:

As noted in the introduction, only the major changes are noted below:

PSS-1 Solid slab sections for exterior slabs in transverse section; full depth longitudinal shear key (Detail A) between slabs.

PSS-2 Two-piece bar vs. four-piece bar in Section E-E.

REVISIONS (cont'd):

CELLS -series — As noted in the introduction, the cell library (pss.cel) has been revised. Exterior slabs are solid. Main purpose of this was to allow adequate anchorage for rail/parapet reinforcement without interference with the voids. The sheets have been totally reformatted. The sheets are now in 8 ½" x 11" format and include an index listing the cells in alphabetical order with a cross reference to the file number for easier location.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

PHILIP A. SHUCET
COMMISSIONER

November 1, 2004

Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5

REVISIONS:

The following sheets are revised:

TOC This sheet was previously named "INDEX." Sheets that are intended to be 11 x 17 are marked with an asterisk (*). Note added at the bottom of the sheet to explain asterisk symbol.

INSTR "Instructions" at top of sheet deleted. Added "'GENERAL" to title at bottom of sheet. "SHEET 2 of 2" in bottom right corner changed to SHEET 1 of 1."

NOTE: The borders on all 8 ½ x 11 sheets are now ½" except for the left which is 1". The font has been changed from Universe to Arial. In some instances the NOTES TO DESIGNER may have spilled over to additional sheet(s) due to the changes in the border and font. The 8 ½ x 11 sheets have not been redistributed.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5.

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: George M. Clendenin, P.E.
State Structure and Bridge Engineer

Attachments

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

CHARLES D. NOTTINGHAM
COMMISSIONER

MALCOLM T. KERLEY
STATE STRUCTURE AND BRIDGE ENGINEER

June 15, 2001

Manual of the Structure and Bridge Division
Volume V – Part 5
Prestressed Concrete Slab Standards

MEMORANDUM

TO: Holders of Volume V – Part 5

NEW ISSUE:

The Manual of the Structure and Bridge Division, Volume V – Part 5 --- Prestressed Concrete Slab Standards, is being reissued with the date of June 15, 2001 (06-15-01).

REVISIONS:

This reissue of the Prestressed Concrete Slab Standards incorporates the new border sheet and includes an update on drafting and detailing corrections, specification updates, and numerous other corrections/revisions. Standards with a date previous to the June 15, 2001 (06-15-01) issue have been placed in a VOIDED file for archival purposes.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 5.

Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Malcolm T. Kerley, P.E.
State Structure and Bridge Engineer

Attachments

PRESTRESSED CONCRETE SLAB STANDARDS
VOLUME V – PART 5

TABLE OF CONTENTS

* Indicates 11 x 17 sheet; all others are 8 ½ x 11.

VIRGINIA DEPARTMENT OF TRANSPORTATION
MANUAL OF THE STRUCTURE AND BRIDGE DIVISION

VOLUME V – PART 5
PRESTRESSED CONCRETE SLAB STANDARDS

The prestressed concrete voided slab standards include slab widths of 3'-0" and 4'-0" and depths of 15", 18" and 21". In general, the slabs are similar to the PCI standards and are economical for spans in the 25-45 foot range. For section properties, weights, etc., see Manual of the Structure and Bridge Division, Volume V - Part 2. Charts are being developed to assist the designer in selecting economic slab sizes.

Refer to notes to designer for specific comments on each standard sheet.

The designer must consider the effects of net camber at release (including camber tolerance) and 1/4" per foot cross slope when setting the bituminous overlay thickness at face of parapet/railing curb. Parapet/railing heights and dimensions for reinforcing steel shown on the parapet/railing standards may require adjustments. For required adjustments, see Notes to Designer for parapet/railing standards.

Completion of the project block, title block and lower left corner shall be in accordance with the requirements of File Nos. 04.04-1 thru -2 of the Manual of the Structure and Bridge Division, Volume V - Part 2 and as specified herein.

If a standard sheet is modified by the designer, the letters "MOD." (without quotes) shall be added behind the standard designation in the lower left portion of the border, e.g., PSS-1 MOD. Completing items on the standard that are indicated in the NOTES TO DESIGNER are not considered to be modifications. Changes/modifications beyond these item(s) must be requested to the State Structure and Bridge Engineer as a design waiver using the Form LD-448 unless noted as a design exception in the Manual of the Structure and Bridge Division, Volume V – Part 2. Design exception must be requested to the State Structure and Bridge Engineer using Form LD-440.

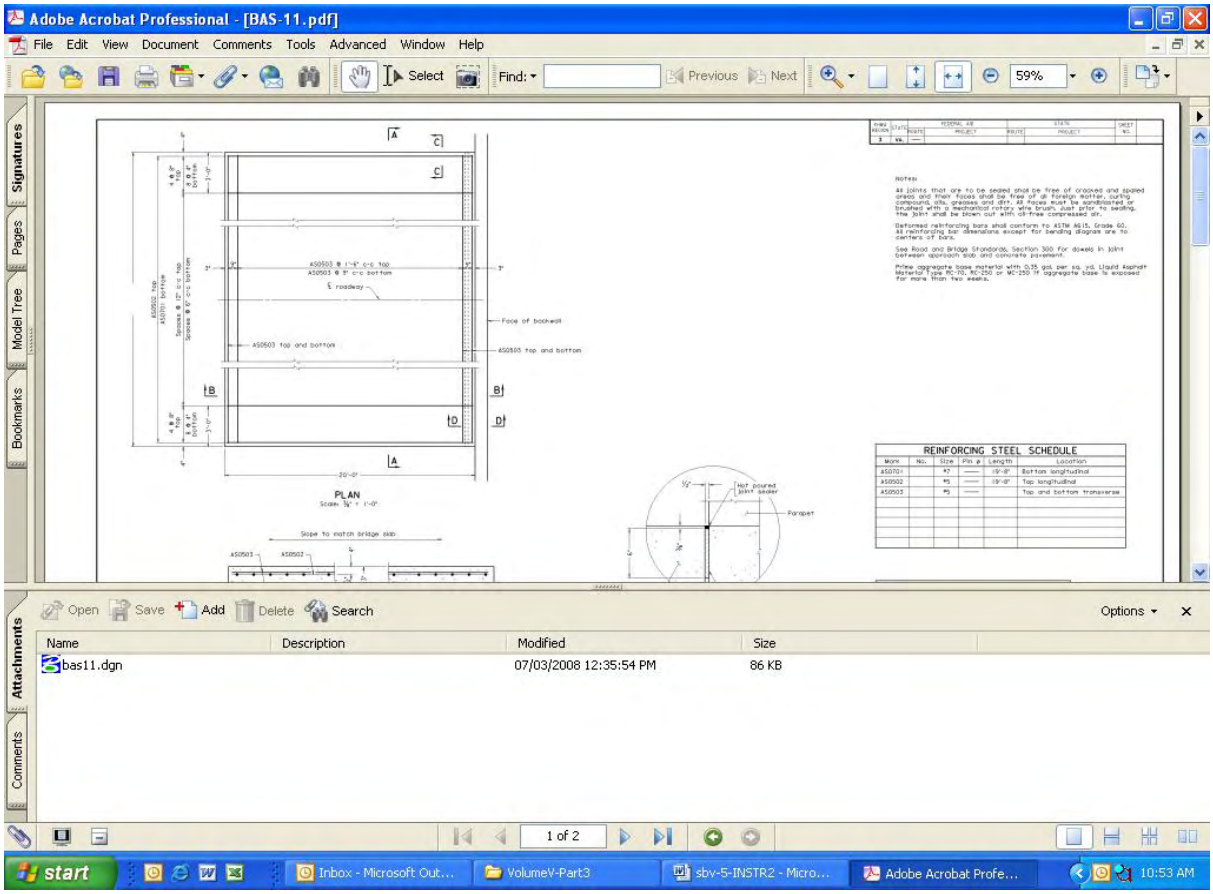
In general, in the title block (lower right hand corner of sheet) Designed, Drawn and Checked are blank and need to be filled in with the appropriate initials. For standard sheets without any design or detailing requirements, Designed, Drawn and Checked are filled in with "S&B DIV." If the design or details are modified, these fields should be filled in with initials as appropriate.

The CADD standard beam detail sheets are located in Falcon […\PROJECTS\br-stand\sbr\pss] directory (central office environment). The drawing file name for the standard sheet corresponds with the file number (name of standard sheet) as listed in the Table of Contents (minus the dash). For example, standard PSS-2 is drawing pss2.dgn.

A cell library (pss.cel) is included with the standards to allow the designer to add the required details on the standard sheets. The PSSCELLS sheets included herein depict the cells found in the cell library along with the name of the cell, an image of the cell, a description of the cell and the origin of cell. The origin of cell is indicated by a star ★. To attach the cell library, use the pull down menu in MicroStation under ELEMENT – CELLS and select FILE to get a drop-down listing of available cell libraries.

For external users, the CADD standard detail sheets are attached to the PDF files for each drawing located on VDOT's Structure and Bridge Division website. The user will need Adobe Reader version 7.0 or higher to be able to access the files. Either click on the DGN link in the table of contents or click on the attachment tab in the PDF file for each standard sheet.

Using either method, the screen will appear similar to that shown below.



By left clicking on the icon, the following menu will appear:

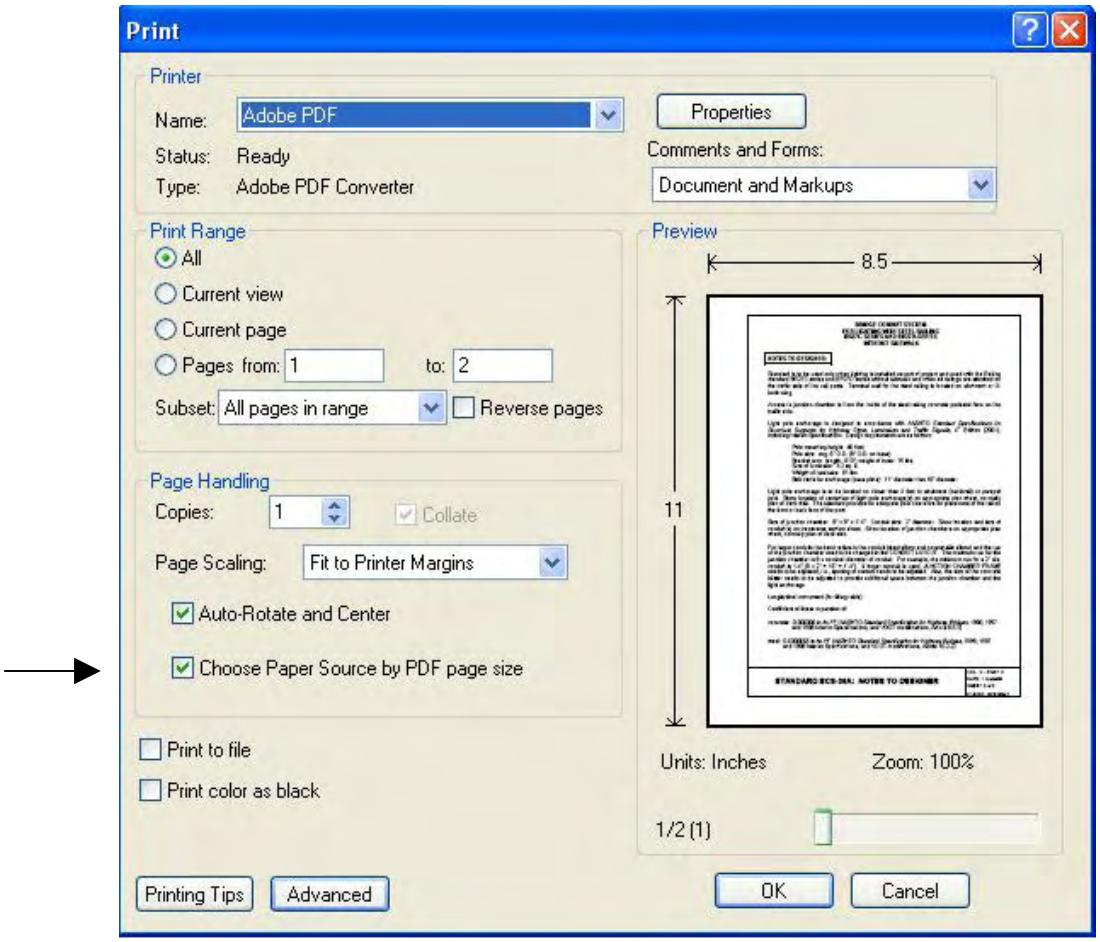
Users may then save the file to their computer.

For accessing the cell library, click on CEL link in the table of contents.

To simplify printing of this manual, a PDF of the complete manual in one PDF file with no links may be accessed by clicking on the link below.

Full manual no links

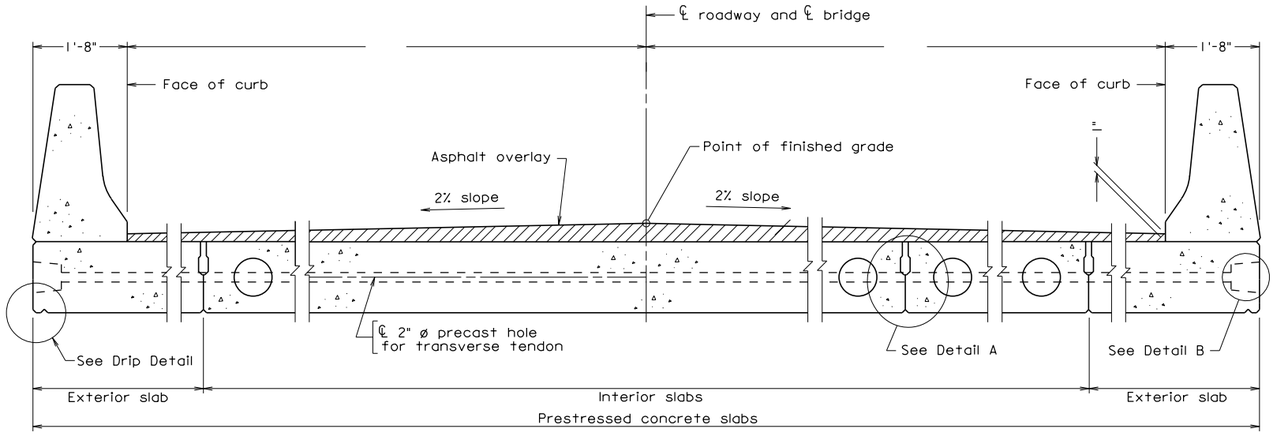
If the printer has both 8 ½ x 11 and 11 x 17 paper sizes available, the drawings and notes to designer may be printed on the correct paper size by placing a check next to the item “Choose Paper Source by PDF page size” as shown in the dialog below:



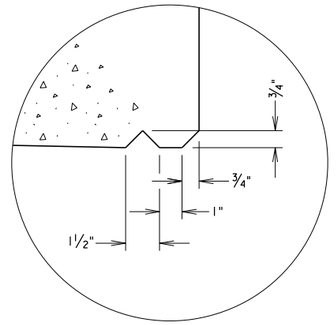
If the printer only has 8 ½ x 11 paper, the drawings will default to the reduced paper size.

Depending on the printer margins, the 11 x 17 drawing(s) may not be true half-size drawing(s).

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—				



TRANSVERSE SECTION



DRIP DETAIL

NOTES:

Asphalt concrete overlay shall be Type SM-12.5D for the top 2" thickness and Type IM-19.0D for the remaining portion. Payment for the entire overlay shall be made at the unit price for asphalt concrete Type SM-2C.

Transverse tendons shall be ½" dia. coated, low-relaxation Grade 270 strand (Polystrand CP or equal) tensioned to 31,600 lbs. When the length of the strand used for transverse tendon is less than 20 feet, substitute a ⅞" dia. smooth rod conforming to ASTM A449 with 2½" long threaded ends tensioned to 30,000 lbs. for the ½" dia. strand. The rod shall have a washer and nut at each end. Rods, nuts, washers and 1" x 5" x 5" steel plates shall be galvanized.

Entire deck shall be waterproofed in accordance with the requirements of Section 405 and Section 416 of the Specifications.

Cost of deck and joint waterproofing shall be included in the price of prestressed concrete slabs.

All keyway surfaces shall be cleaned of all dirt, laitance and loose aggregate by means of sandblasting and pre-wetted prior to the grouting of shear keys.

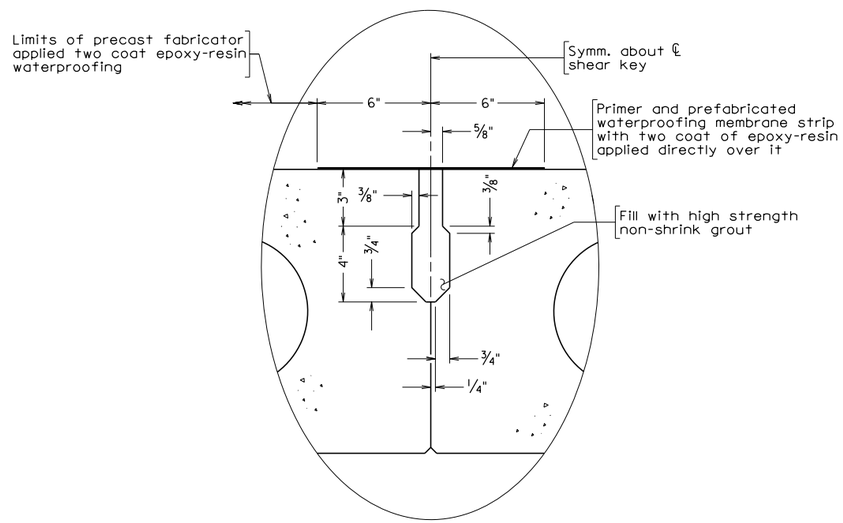
All grouting of shear keys shall be done in one continuous operation without interruption for each span. Care shall be taken to prevent leakage of grout into precast holes for transverse tendons or from bottoms of shear keys.

Post tensioning of transverse tendons and the casting of parapets shall not be done until all grouting of keys are completed and the grout has reached a minimum strength of 4000 psi.

The grout in the shear keys shall be a non-shrink grout in accordance with Section 218.03(d) of the Specifications having a minimum compressive strength of 5000 psi within 24 hours.

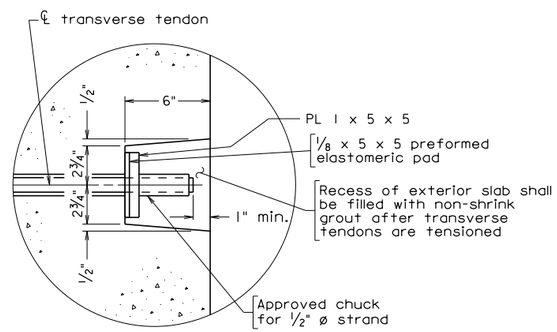
Slabs shall have drains as required by Section 405.05 of the Specifications.

Voids shall terminate 2'-6" from end of span and 5" on either side of transverse tendon centerlines.



DETAIL A

PLAN



DETAIL B

ELEVATION

Not to scale

PSS-1A.dgn

08-07-2012

PSS-1A

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

SUPERSTRUCTURE

Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV		PSS-1A	
Checked: S&B DIV			

PRESTRESSED CONCRETE SLAB STANDARD
VOIDED SLABS – ASPHALT OVERLAY
SUPERSTRUCTURE

NOTES TO DESIGNER:

Include standard PSS-2 in the plans when using this standard.

Include standard PSS-3F in the plans when using F-shape parapet.

The designer shall insure that the width of the pier cap or the seat of the abutment is sufficient for locating the anchor bolts.

The designer should avoid whenever possible the mixing of 3'-0" and 4'-0" wide slab sections.

For exterior slabs, use solid slab sections to avoid conflicts and problems with reinforcing steel for parapets/railings.

Cells for completing the standard are located in pss.cel library.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

TRANSVERSE SECTION:

Centerline of roadway is assumed to be centerline of bridge. Adjust as needed. Enter dimensions from face of curb/rail to centerline. Add size for exterior slab (e.g., 3'-0" x 21"). Add spacing of interior slabs (e.g., 6 – 4'-0" x 21" prestressed concrete voided slabs = 24"-0").

F-shaped parapet is shown. Replace with sidewalk, rail, etc. as needed.

PLAN:

Place appropriate cell from cell library, and enter dimensions for face of curb/rail to centerline and for width of parapet/railing. Add skew angle when appropriate and spacing of transverse tendons. Transverse spacing of transverse tendons shall be spaced as follows:

For spans < 50 feet: @ mid-span (3 ties)
For spans > 50 feet: @ $^{1}/_{4}$ points (5 ties)

ELEVATION:

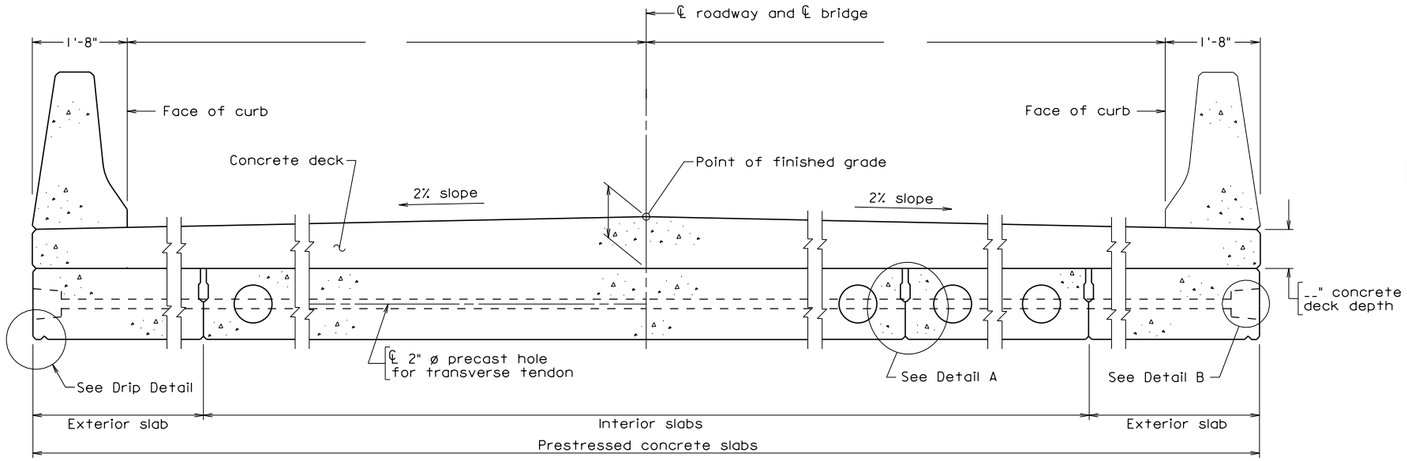
Place appropriate cell from cell library.

OTHER DETAILS REQUIRED:

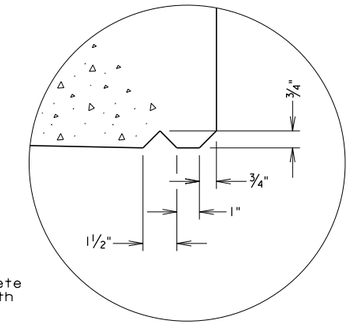
Place appropriate exterior concrete slab detail with F-shape parapet from cell library or draw appropriate parapet/rail detail.

Place appropriate concrete voided slab detail from cell library. Must agree with those indicated in TRANSVERSE SECTION.

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—				



TRANSVERSE SECTION



DRIP DETAIL

NOTES:

Concrete for the deck/overlay shall be Class A4 having a minimum 28 day compressive strength of 4000 psi. Payment for the concrete deck/overlay shall be made at the unit price for Concrete Class A4.

All reinforcing bars shall be Corrosion Resistant Reinforcing steel, Class __.

Top surfaces of all slabs shall be a clean concrete surface, free of laitance, with surface intentionally roughened to an amplitude of ¼".

Transverse tendons shall be ½" dia. coated, low-relaxation Grade 270 strand (Polystrand CP or equal) tensioned to 31,600 lbs. When the length of the strand used for transverse tendon is less than 20 feet, substitute a ⅞" dia. smooth rod conforming to ASTM A449 with 2½" long threaded ends tensioned to 30,000 lbs. for the ½" dia. strand. The rod shall have a washer and nut at each end. Rods, nuts, washers and 1" x 5" x 5" steel plates shall be galvanized.

All keyway surfaces shall be cleaned of all dirt, laitance and loose aggregate by means of sandblasting and pre-wetted prior to the grouting of shear keys.

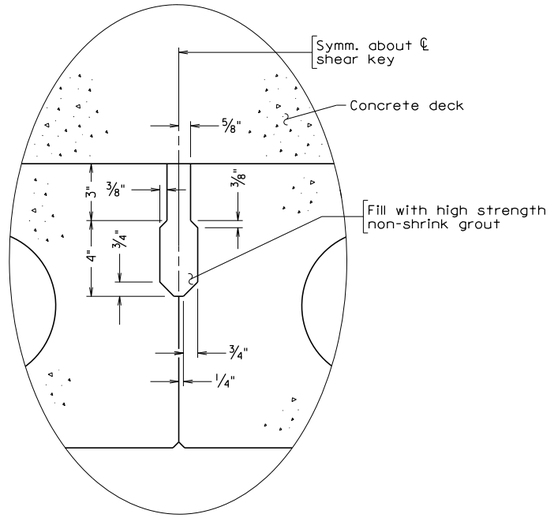
All grouting of shear keys shall be done in one continuous operation without interruption for each span. Care shall be taken to prevent leakage of grout into precast holes for transverse tendons or from bottoms of shear keys.

Post tensioning of transverse tendons and the casting of parapets shall not be done until all grouting of keys are completed and the grout has reached a minimum strength of 4000 psi.

The grout in the shear keys shall be a non-shrink grout in accordance with Section 218.03(d) of the Specifications having a minimum compressive strength of 5000 psi within 24 hours.

Concrete voided slabs shall have drains as required by Section 405.05 of the Specifications.

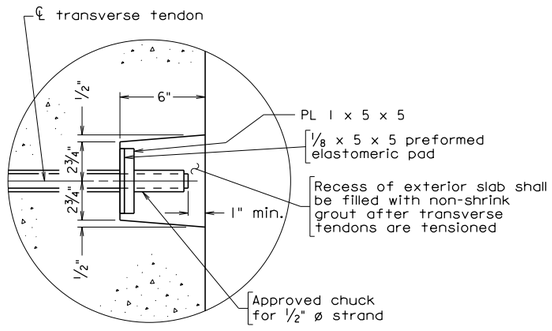
Voids shall terminate 2'-6" from end of span and 5" on either side of transverse tendon centerlines.



DETAIL A

PLAN

ELEVATION



DETAIL B

PSS-1B.dgn

08-07-2012

PSS-1B

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

Not to scale

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

SUPERSTRUCTURE

Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV		PSS-1B	
Checked: S&B DIV			

PRESTRESSED CONCRETE SLAB STANDARD
VOIDED SLABS – CONCRETE DECK
SUPERSTRUCTURE

NOTES TO DESIGNER:

Include standard PSS-2 in the plans when using this standard.

Include standard PSS-3F in the plans when using F-shape parapet.

The designer shall insure that the width of the pier cap or the seat of the abutment is sufficient for locating the anchor bolts.

The designer should avoid whenever possible the mixing of 3'-0" and 4'-0" wide slab sections.

For exterior slabs, use solid slab sections to avoid conflicts and problems with reinforcing steel for parapets/railings.

Cells for completing the standard are located in pss.cel library.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

TRANSVERSE SECTION:

Centerline of roadway is assumed to be centerline of bridge. Adjust as needed. Enter dimensions from face of curb/rail to centerline. Add size for exterior slab (e.g., 3'-0" x 21"). Add spacing of interior slabs (e.g., 6 – 4'-0" x 21" prestressed concrete voided slabs = 24"-0").

F-shaped parapet is shown. Replace with sidewalk, rail, etc. as needed.

Add the depths of concrete deck.

Add the steel reinforcing bars to concrete deck. For 5" thick concrete decks, provide single layer of reinforcement. For $7^{1}/_{2}$" thick concrete decks, provide two layers of reinforcement.

PLAN:

Place appropriate cell from cell library, and enter dimensions for face of curb/rail to centerline and for width of parapet/railing. Add skew angle when appropriate and spacing of transverse tendons. Transverse spacing of transverse tendons shall be spaced as follows:

For spans < 50 feet: @ mid-span (3 ties)
For spans > 50 feet: @ $^{1}/_{4}$ points (5 ties)

ELEVATION:

Place appropriate cell from cell library.

PRESTRESSED CONCRETE SLAB STANDARD
VOIDED SLABS – CONCRETE DECK
SUPERSTRUCTURE

NOTES:

Complete second note by adding the Class I, II or III of corrosion resistant reinforcing steel required. For additional information on corrosion resistant reinforcing steel (CRR), see Structure and Bridge Division Memorandum (current IIM-S&B-81).

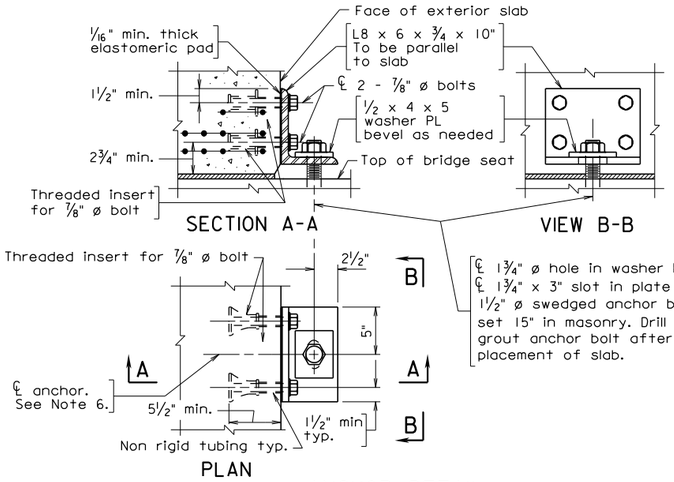
OTHER DETAILS REQUIRED:

Place appropriate exterior concrete slab detail with F-shape parapet from cell library or draw appropriate parapet/rail detail.

Place appropriate concrete voided slab detail from cell library. Must agree with those indicated in TRANSVERSE SECTION.

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—				

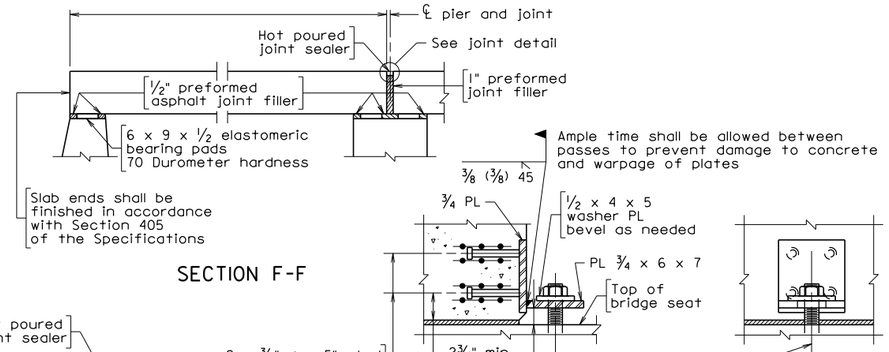
PART PLAN OF MEMBER



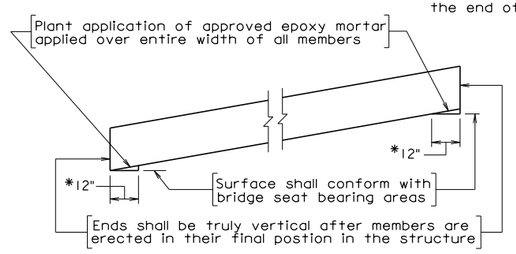
ANCHOR DETAIL

Notes:

1. In lieu of splicing several reinforcing bars to form each stirrup, the stirrup may be made from one single bar.
2. All reinforcing bars shall be Corrosion Resistant Reinforcing Steel, Class ---.
3. Slab corners damaged during construction shall be restored to their shape as shown on the plans by an approved epoxy mortar.
4. All steel in Anchor Detail except stud shear connectors shall be ASTM A709 grade 36 and shall be galvanized.
5. The Contractor shall submit prestressing strand pattern to the Engineer for approval.
6. ℄ Anchor may be shifted as approved by the Engineer to provide minimum concrete cover of 2" for threaded inserts or stud shear connectors.
7. Threaded inserts when embedded as shown shall develop full strength of 7/8" ø threaded bolt.
8. Due to construction tolerances, adjustment to the bridge seat elevations may be needed. It is the Contractor's responsibility to make such adjustment as directed by the Engineer to insure the full bearing of the slab on all the pads. Cost of adjustment shall be included in other bid items.
9. SR03 series may be slighty shifted as directed by the Engineer to clear 2" ø hole for transverse tendon.

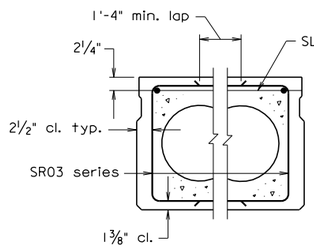


* Measured normal to the end of slab

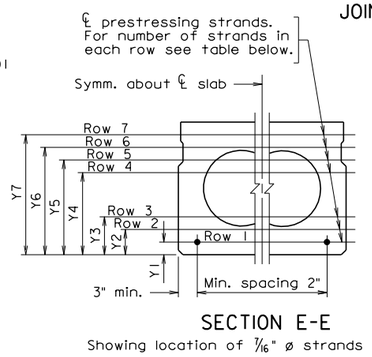


SLABS ON GRADIENT IN EXCESS OF 1%

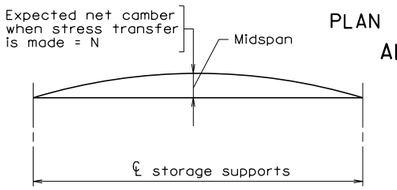
PART PLAN OF BEARINGS



SECTION E-E
Showing location of reinforcing steel



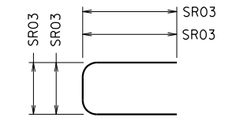
SECTION E-E
Showing location of 7/16" ø strands



CAMBER DIAGRAM

REINFORCING STEEL SCHEDULE

SL0501 and ST03



SR03 and SR03

Slab Size	Mark	No.	Size	Pin ø	Length	Location
	SL0501		#5	—		Top longitudinal
	SR03		#3	2 1/4"		
	SR03		#3	2 1/4"		
	ST03		#3	—		Top and Bottom Transverse

PRESTRESSING STEEL DATA TABLE

Strand Type	Slab Size	No. of Strands Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Y1 in.	Y2 in.	Y3 in.	Y4 in.	Y5 in.	Y6 in.	Y7 in.	Total number of strands per slab	Prestressing force per strand-lbs.	Net camber N in.
7/16" ø Low - Relaxation Strands																		

Not to scale

pss2.dgn

08-07-2012

PSS-2

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

SUPERSTRUCTURE

Designed: S&B...DIV	Date	Plan No.	Sheet No.
Drawn: ...S&B...DIV		PSS-2	
Checked: S&B...DIV			

PRESTRESSED CONCRETE SLAB STANDARD
VOIDED SLABS
SUPERSTRUCTURE

NOTES TO DESIGNER:

Cells for completing the standard are located in pss.cel library.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

PART PLAN OF MEMBER:

Place appropriate part plan of member from cell library. Replace letters shown with rebars or spacings as may be appropriate with data from tables below:

For 0° skew:

Slab size	A	B	C
3'-0" x 15"	SR0301	$4^1/_2$"	3 spa. @ 9" = 2'-3"
3'-0" x 18"	SR0302	$4\ ^1/_2$"	3 spa. @ 9" = 2'-3"
3'-0" x 21"	SR0303	$4^1/_2$"	3 spa.@ 9" = 2'-3"
4'-0" x 15"	SR0301	4"	4 spa. @ 10" = 3'-4"
4'-0" x 18"	SR0302	4"	4 spa. @ 10" = 3'-4"
4'-0" x 21"	SR0303	4"	4 spa. @ 10" = 3'-4"

For skews > 0°:

Slab size	A	B	C	D
3'-0" x 15"	SR0304	ST0301	SR0301	3 spa.@ 10" = 2'-6"
3'-0" x 18"	SR0305	ST0301	SR0302	3 spa. @ 10" = 2'-6"
3'-0" x 21"	SR0306	ST0301	SR0303	3 spa.@ 10" = 2'-6"
4'-0" x 15"	SR0304	ST0302	SR0301	4 spa. @ $10^1/_2$" = 3'-6"
4'-0" x 18"	SR0305	ST0302	SR0302	4 spa.@ $10^1/_2$" = 3'-6"
4'-0" x 21"	SR0306	ST0302	SR0303	4 spa. @ $10^1/_2$" = 3'-6"

For all skews:

Slab size	E		
	Over 0° to 15°	Over 15° to 30°	Over 30° to 45°
3'-0" x 15"	2 spa. @ 6" = 12"	3 spa. @ 6" = 1'-6"	5 spa. @ 6" = 2'-6"
4'-0" x 15"			
3'-0" x 18"			
4'-0" x 18"	2 spa. @ 6" = 12"	4 spa. @ 6" = 2'-0"	7 spa. @ 6" = 3'-6"
3'-0" x 21"			
4'-0" x 21"			

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD (cont'd):

PART PLAN OF BEARINGS:

Place appropriate part plan of bearings from cell library.

PRESTRESSING STEEL DATA TABLE:

Complete table. Note strand type is shown as $^{7}/_{16}$" diameter. Change if required.

REINFORCING STEEL SCHEDULE:

Complete table and replace letters shown with dimensions with data from table below.

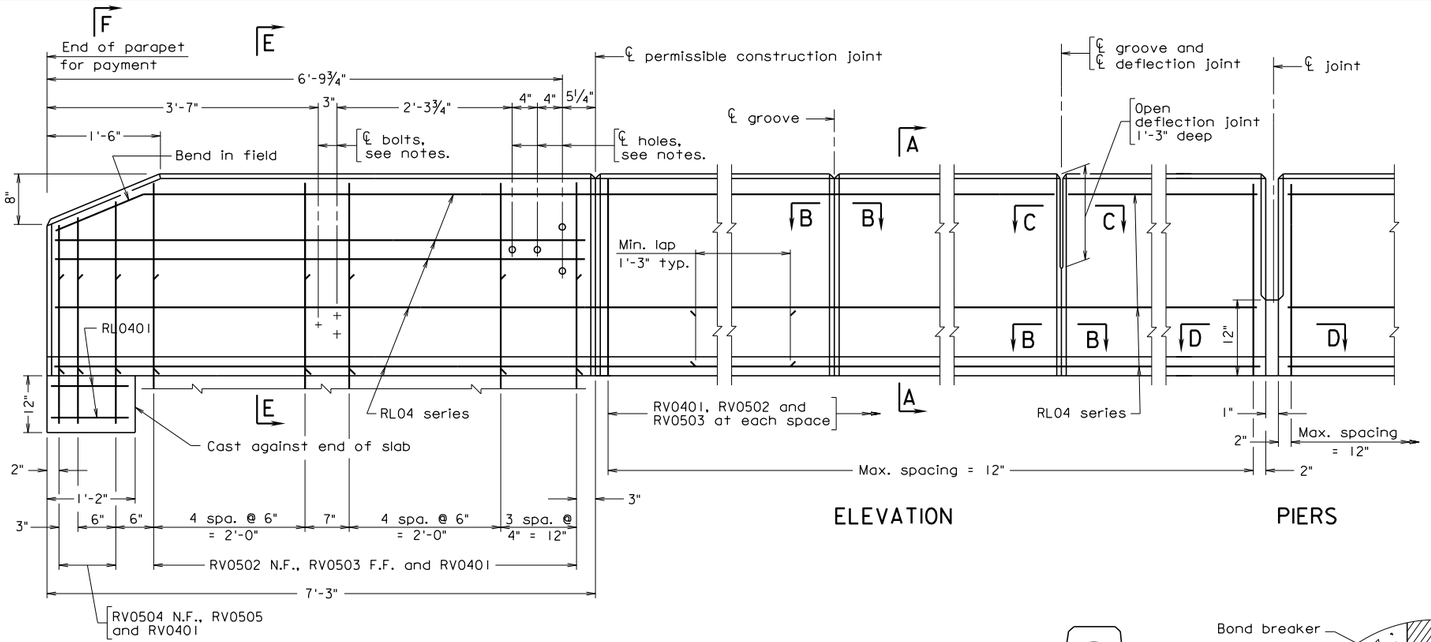
REINFORCING STEEL SCHEDULE

Slab size	Mark	Size	Dimension A – Skew angle 0°	Dimension A – Skew angle over 0° to 15°	Dimension A – Skew angle over 15° to 30°	Dimension A – Skew angle over 30° to 45°	Dimension B
All slab sizes	SL0501	#5	L (span length)				------
3'-0" x 15"	SR0301	#3	1'-11 1/2"	------	------	------	1'-0 1/8"
3'-0" x 18"	SR0302	#3	1'-11 1/2"	------	------	------	1'-3 1/8"
3'-0" x 21"	SR0303	#3	1'-11 1/2"	------	------	------	1'-6 1/8"
3'-0" x 15"	SR0304	#3	------	2'-0"	2'-1 7/8"	2'-5 7/8"	1'-0 1/8"
3'-0" x 18"	SR0305	#3	------	2'-0"	2'-1 7/8"	2'-5 7/8"	1'-3 1/8"
3'-0" x 21"	SR0306	#3	------	2'-0"	2'-1 7/8"	2'-5 7/8"	1'-6 1/8"
4'-0" x 15"	SR0301	#3	2'-5 1/2"	------	------	------	1'-0 1/8"
4'-0" x 18"	SR0302	#3	2''-5 1/2"	------	------	------	1'-3 1/8"
4'-0" x 21"	SR0303	#3	2'-5 1/2"	------	------	------	1'-6 1/8"
4'-0" x 15"	SR0304	#3	------	2'-6 1/4"	2'-8 7/8"	3'-2 3/8"	1'-0 1/8"
4'-0" x 18"	SR0305	#3	------	2'-6 1/4"	2'-8 7/8"	3'-2 3/8"	1'-3 1/8"
4'-0" x 21"	SR0306	#3	------	2'-6 1/4"	2'-8 7/8"	3'-2 3/8"	1'-6 1/8"
3'-0" x 15", x 18", x 21"	ST0301	#3	------	2'-8 1/8"	2'-11 3/4"	3'-7 7/8"	------
4'-0" x 15", x 18", x 21"	ST0302	#3	------	3'-8 1/2"	4'-1 5/8"	5'-0 3/4"	------

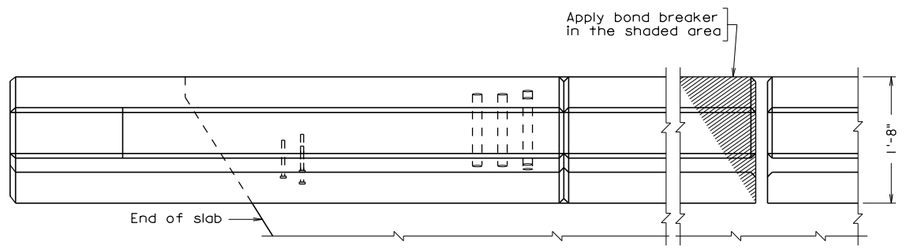
NOTES:

Complete note 2 by adding the Class I, II or III of corrosion resistant reinforcing steel required. For additional information on corrosion resistant reinforcing steels (CRR), see Structure and Bridge Division Memorandum (current IIM-S&B-81).

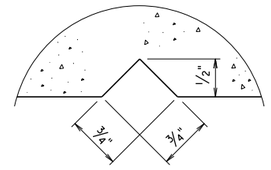
STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—				



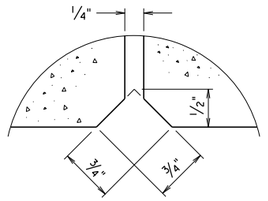
ABUTMENTS



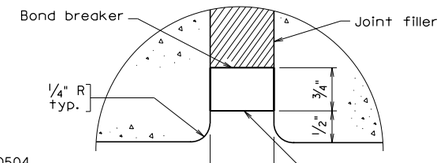
PART PLAN
TYPICAL FOR SKEWED CROSSING



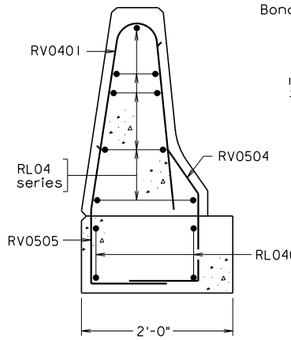
SECTION B-B
Full Scale
Groove detail for both sides of parapet.



SECTION C-C
Full Scale
Deflection joint detail for both sides of parapet



SECTION D-D
Full Scale
Joint detail for both sides of parapet



SECTION F-F
For details not shown, see Section A-A.

Notes:

Rounded edges with 1" radius may be used in lieu of bevels along top of parapet.

All reinforcing bars shall be Corrosion Resistant Reinforcing Steel, Class __.

Spacing of grooves to be approximately 8'-0". Spacing of deflection joints shall not exceed three groove spaces.

Barrier delineator size, color, and spacing to be in accordance with the Specifications. Cost of delineator to be included in the price bid for parapet. Reflective surface of barrier delineator, in all instances, to be facing oncoming traffic.

The Contractor shall determine all dimensions and details necessary for installation.

All concrete shall be Class A4.

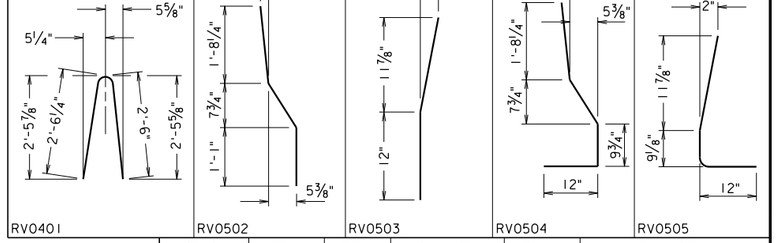
Terminal walls are detailed to take guardrail attachment GR-F0A-2.

Holes, where shown, shall be formed with sleeves of 1½" dia. nominal pipe.

Bolts, where shown, shall be ⅝" dia. expansion anchor bolts, 6" long to be drilled and installed when rub rail is attached.

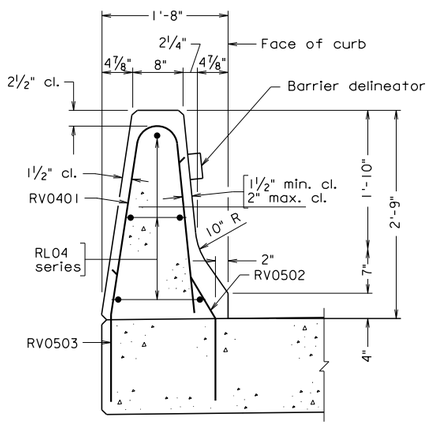
Plan dimensions shown are measured in the respective horizontal and vertical planes. The reinforcing steel shown has been detailed based on a standard ¼" per foot cross slope and a 8½" slab depth. The Contractor shall adjust the reinforcing steel as required for other cross slopes and slab depths.

REINFORCING STEEL SCHEDULE



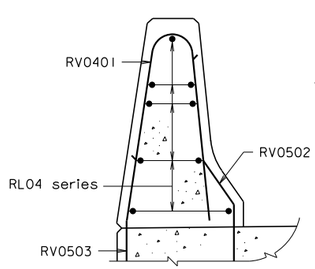
Mark	No.	Size	Length	Pin ø	Location
RV0401	·	#4	5'-2"	4½"	Parapet
RV0502	·	#5	3'-7"	3¾"	Parapet
RV0503	·	#5	2'-0"	3¾"	Parapet
RV0504	·	#5	4'-2"	3¾"	Parapet
RV0505	·	#5	2'-7"	3¾"	Parapet
RL0401	·	#4	1'-9"	—	Parapet
RL04	·	#4	·	—	Parapet
·	·	·	·	·	·
·	·	·	·	·	·
·	·	·	·	·	·

Dimensions in bending diagram are out to out of bars, except as shown.

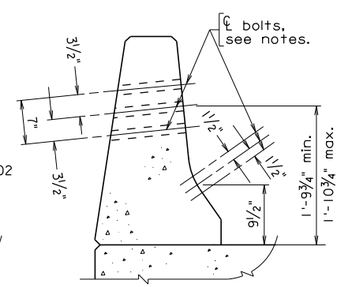


SECTION A-A

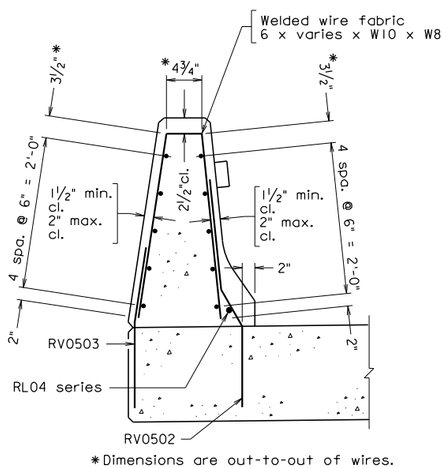
Gross concrete quantities (C.Y.) = Lin. ft. x 0.110 for all concrete above roadway slab.



SECTION E-E
Holes and bolts not shown. For details not shown, see Section A-A.



SECTION E-E
Reinforcing steel not shown



*Dimensions are out-to-out of wires.

SECTION A-A
ALTERNATE REINFORCING STEEL

Scale: 1" = 1'-0" unless otherwise noted

08-07-2012

pss3f.dgn

PSS-3F

Sealed and Signed by:
Julius F.J. Volgyi Jr.
Lic. No. 010487
On the date of
Aug. 7, 2012

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

CAST-IN-PLACE CONCRETE PARAPET (F-SHAPE)

Designed:	Date	Plan No.	Sheet No.
Drawn:		PSS-3F	
Checked:			

PRESTRESSED CONCRETE SLAB STANDARD
VOIDED SLABS
CAST-IN-PLACE PARAPET (F-SHAPE)

NOTES TO DESIGNER:

Standard is to be used as an insertable sheet when F-shape parapets are used.

Terminal wall is detailed on abutment.

If an initial bituminous overlay is used on the bridge at the time of construction, vertical dimensions and dimensions for reinforcing steel may need to be adjusted The vertical dimensions and dimensions for reinforcing steel shown on this standard are established from the top of the roadway surface for a 1" thick bituminous overlay at the face of parapet curb, $^1/_4$" per foot cross slope and a 15" slab depth.

If the thickness of the bituminous overlay at the face of parapet curb is greater than 1", vertical dimensions and dimensions for reinforcing steel will need to be adjusted. For example if a 2" overlay at the curb is set , the 4" curb dimension and the overall 2'-9" height of the parapet would need to be adjusted to 5" and 2'-10" respectively (Section A-A). In addition, the $9^1/_2$" and 1'-10" height of the bolts would need to be adjusted to $10^1/_2$" and 1'-11" respectively (Section E-E).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

SECTION A-A:

Modify vertical dimensions (4" curb and 2'-9" parapet height) as noted above if an initial overlay is used on bridge.

SECTION E-E:

Modify vertical dimensions ($9^1/_2$" curb and 1'-10" bolt locations) as noted above if an initial overlay is used on bridge.

REINFORCING STEEL SCHEDULE:

Modify bars if needed due to slab depth, cross slope or initial overlay if used on bridge.

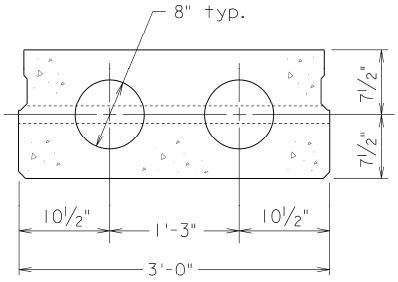
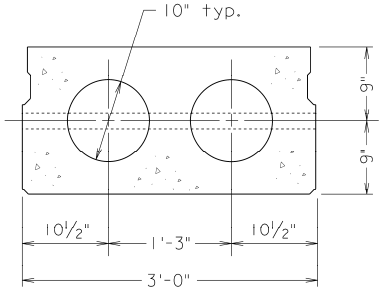
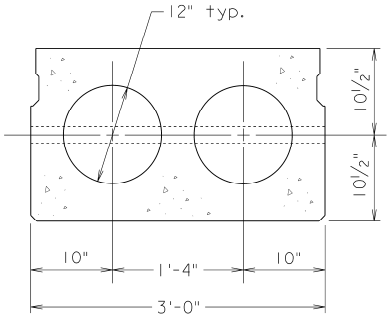
NOTES:

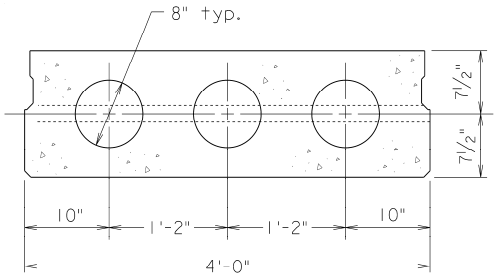
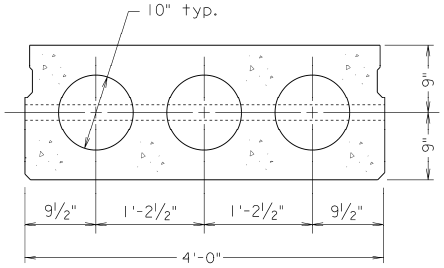
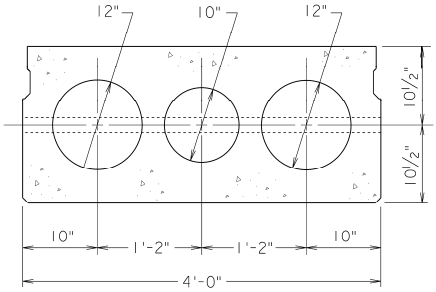
Complete second note by adding the Class I, II or III of corrosion resistant reinforcing steel required. For additional information on corrosion resistant reinforcing steels (CRR), see Structure and Bridge Division Memorandum (current IIM-S&B-81).

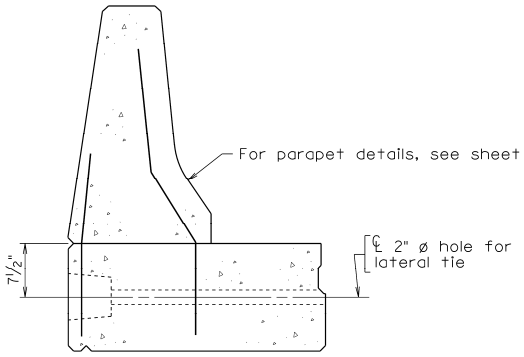
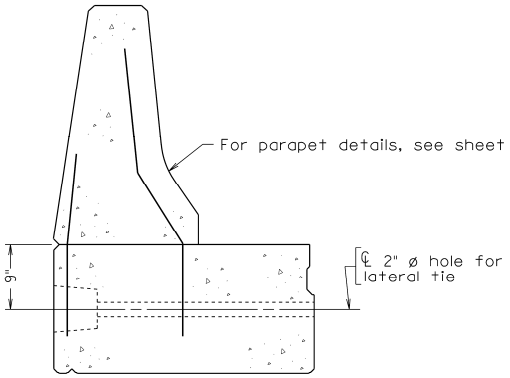
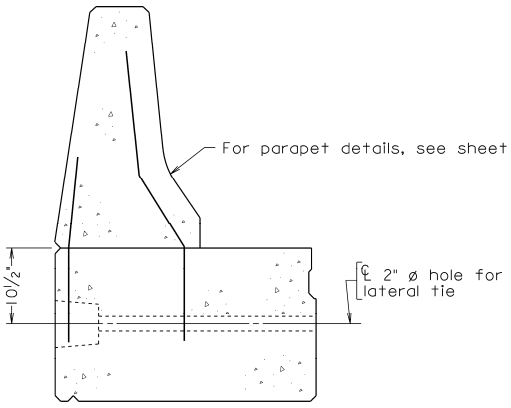
PRESTRESSED CONCRETE SLAB STANDARDS
CELL LIBRARY: PSS.CEL

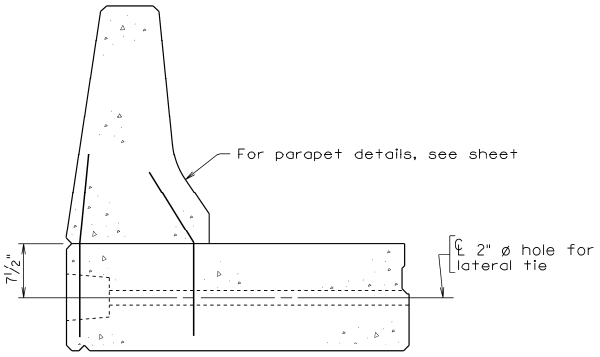
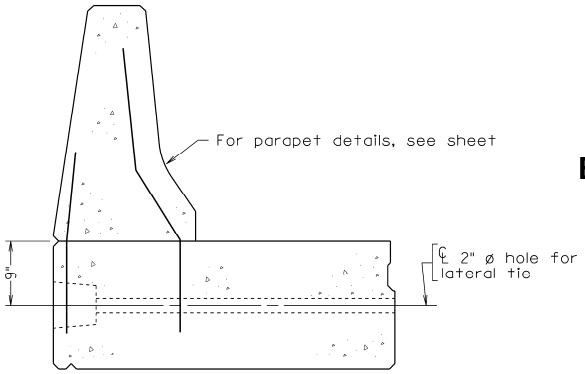
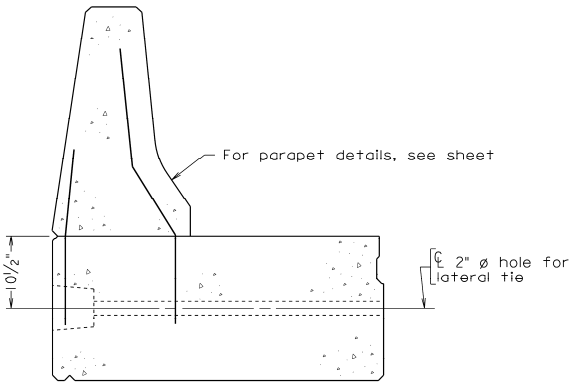
INDEX OF CELLS

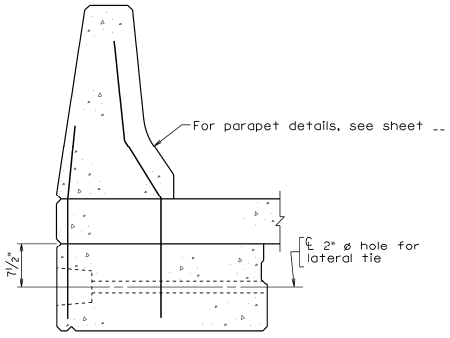
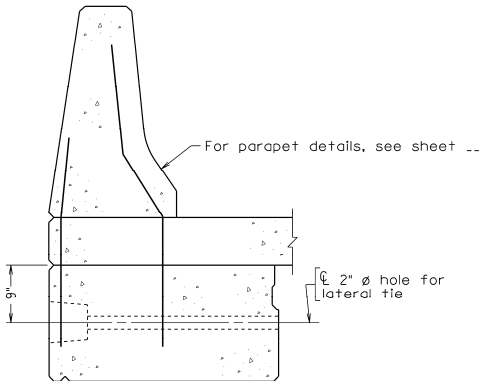
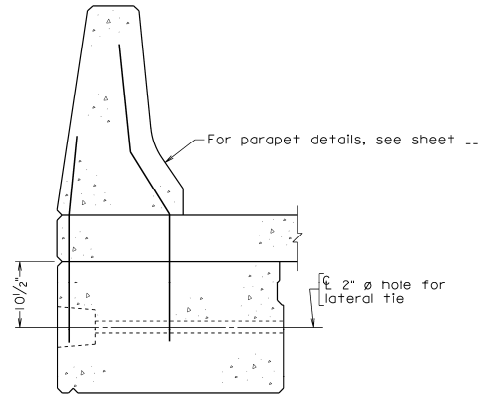
CELL NAME	FILE NO.	DATE
BRG1	PSSCELL-11	07Aug2012
BRG2L	PSSCELL-12	07Aug2012
BRG2R	PSSCELL-12	07Aug2012
ELEV	PSSCELL-9	07Aug2012
ELEVL	PSSCELL-10	07Aug2012
ELEVR	PSSCELL-9	07Aug2012
EP15A	PSSCELL-3	07Aug2012
EP15B	PSSCELL-4	07Aug2012
EP15C	PSSCELL-5	07Aug2012
EP15D	PSSCELL-6	07Aug2012
EP18A	PSSCELL-3	07Aug2012
EP18B	PSSCELL-4	07Aug2012
EP18C	PSSCELL-5	07Aug2012
EP18D	PSSCELL-6	07Aug2012
EP21A	PSSCELL-3	07Aug2012
EP21B	PSSCELL-4	07Aug2012
EP21C	PSSCELL-5	07Aug2012
EP21D	PSSCELL-6	07Aug2012
ERDL	PSSCELL-7	07Aug2012
ERD2L	PSSCELL-7	07Aug2012
ERD2R	PSSCELL-8	07Aug2012
ERD3L	PSSCELL-8	07Aug2012
ERD3R	PSSCELL-9	07Aug2012
RPINL	PSSCELL-10	07Aug2012
RPINR	PSSCELL-11	07Aug2012
RPLN	PSSCELL-10	07Aug2012
VS15A	PSSCELL-1	07Aug2012
VS15B	PSSCELL-2	07Aug2012
VS18A	PSSCELL-1	07Aug2012
VS18B	PSSCELL-2	07Aug2012
VS21A	PSSCELL-1	07Aug2012
VS21B	PSSCELL-2	07Aug2012

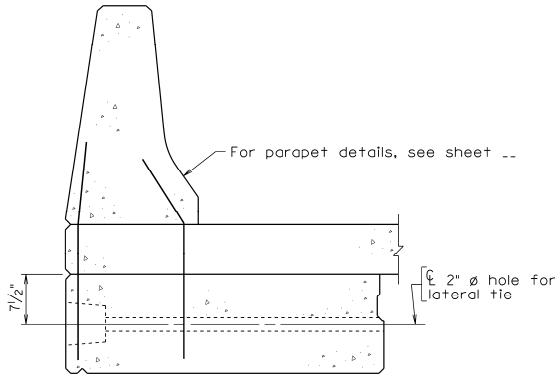
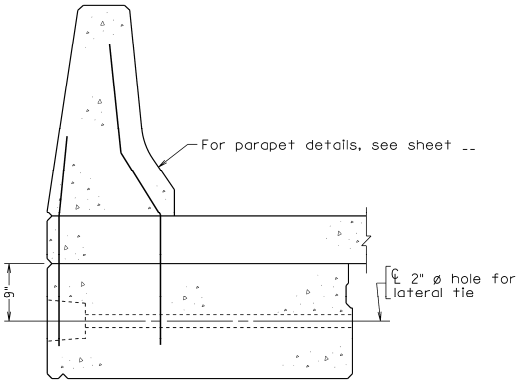
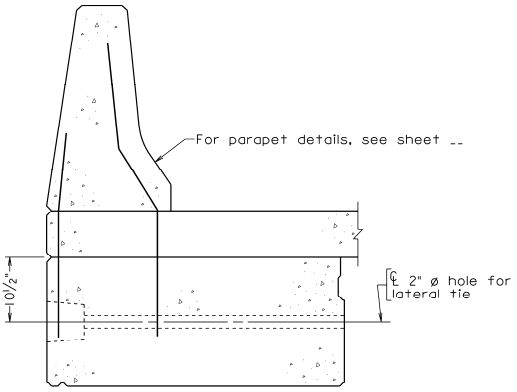
CELL	CELL NAME	CELL DESCRIPTION
 PRESTRESSED CONCRETE SLAB DETAILS 3'-0" x 15" ★	**VS15A**	3'-0" x 15" concrete voided slab detail. Use with standard PSS-1A and PSS-1B. (approx. 0.25 of actual cell size)
 PRESTRESSED CONCRETE SLAB DETAILS 3'-0" x 18" ★	**VS18A**	3'-0" x 18" concrete voided slab detail. Use with standard PSS-1A and PSS-1B. (approx. 0.25 of actual cell size)
 PRESTRESSED CONCRETE SLAB DETAILS 3'-0" x 21" ★	**VS21A**	3'-0" x 21" concrete voided slab detail. Use with standard PSS-1A and PSS-1B. (approx. 0.25 of actual cell size)

CELL	CELL NAME	CELL DESCRIPTION
 PRESTRESSED CONCRETE SLAB DETAILS 4'-0" x 15" ★	**VS15B**	4'-0" x 15" concrete voided slab detail. Use with standard PSS-1A and PSS-1B. (approx. 0.25 of actual cell size)
 PRESTRESSED CONCRETE SLAB DETAILS 4'-0" x 18" ★	**VS18B**	4'-0" x 18" concrete voided slab detail. Use with standard PSS-1A and PSS-1B. (approx. 0.25 of actual cell size)
 PRESTRESSED CONCRETE SLAB DETAILS 4'-0" x 21" ★	**VS21B**	4'-0" x 21" concrete voided slab detail. Use with standard PSS-1A and PSS-1B. (approx. 0.25 of actual cell size)

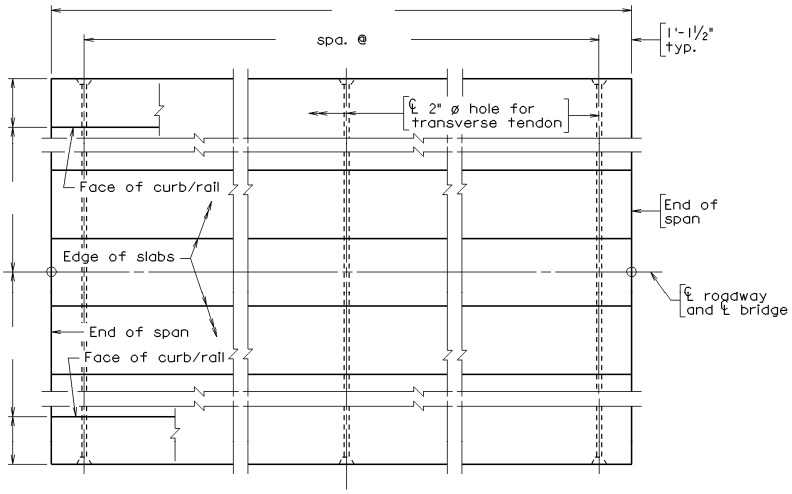
CELL	CELL NAME	CELL DESCRIPTION
 EXTERIOR PRESTRESSED CONCRETE SLAB 3'-0" x 15" For dimensions, ★ see slab details.	**EP15A**	Exterior 3'-0" x 15" concrete slab detail. Use with standard PSS-1A. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB 3'-0" x 18" For dimensions, ★ see slab details.	**EP18A**	Exterior 3'-0" x 18" concrete slab detail. Use with standard PSS-1A. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB 3'-0" x 21" For dimensions, ★ see slab details.	**EP21A**	Exterior 3'-0" x 21" concrete slab detail. Use with standard PSS-1A. (approx. 0.32 of actual cell size)

CELL	CELL NAME	CELL DESCRIPTION
 EXTERIOR PRESTRESSED CONCRETE SLAB 4'-0" x 15" For dimensions, ★ see slab details.	**EP15B**	Exterior 4'-0" x 15" concrete slab detail. Use with standard PSS-1A. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB 4'-0" x 18" For dimensions, ★ see slab details.	**EP18B**	Exterior 4'-0" x 18" concrete slab detail. Use with standard PSS-1A. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB 4'-0" x 21" For dimensions, ★ see slab details.	**EP21B**	Exterior 4'-0" x 21" concrete slab detail. Use with standard PSS-1A. (approx. 0.32 of actual cell size)

CELL	CELL NAME	CELL DESCRIPTION
 EXTERIOR PRESTRESSED CONCRETE SLAB WITH CONCRETE DECK 3'-0" x 15" For dimensions, ★ see slab details.	**EP15C**	Exterior 3'-0" x 15" concrete slab detail with concrete deck. Use with standard PSS-1B. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB WITH CONCRETE DECK 3'-0" x 18" For dimensions, ★ see slab details.	**EP18C**	Exterior 3'-0" x 18" concrete slab detail with concrete deck. Use with standard PSS-1B. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB WITH CONCRETE DECK 3'-0" x 21" For dimensions, ★ see slab details.	**EP21C**	Exterior 3'-0" x 21" concrete slab detail with concrete deck. Use with standard PSS-1B. (approx. 0.32 of actual cell size)

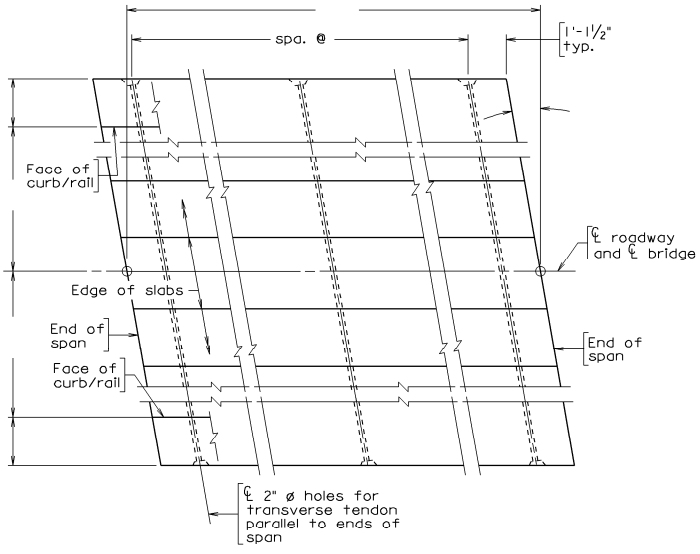
CELL	CELL NAME	CELL DESCRIPTION
 EXTERIOR PRESTRESSED CONCRETE SLAB WITH CONCRETE DECK 4'-0" x 15" For dimensions, see slab details.	**EP15D**	Exterior 4'-0" x 15" concrete slab detail with concrete deck. Use with standard PSS-1B. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB WITH CONCRETE DECK 4'-0" x 18" For dimensions, see slab details.	**EP18D**	Exterior 4'-0" x 18" concrete slab detail with concrete deck. Use with standard PSS-1B. (approx. 0.32 of actual cell size)
 EXTERIOR PRESTRESSED CONCRETE SLAB WITH CONCRETE DECK 4'-0" x 21" For dimensions, see slab details.	**EP21D**	Exterior 4'-0" x 21" concrete slab detail with concrete deck. Use with standard PSS-1B. (approx. 0.32 of actual cell size)

CELL	CELL NAME	CELL DESCRIPTION
	ERDL	Plan of slab with 0° skew. Use with standard PSS-1. (approx. 0.40 of actual cell size)



PLAN

	ERD2L	Plan of slab with left skew equal to or less than 10°. Use with standard PSS-1. (approx. 0.40 of actual cell size)

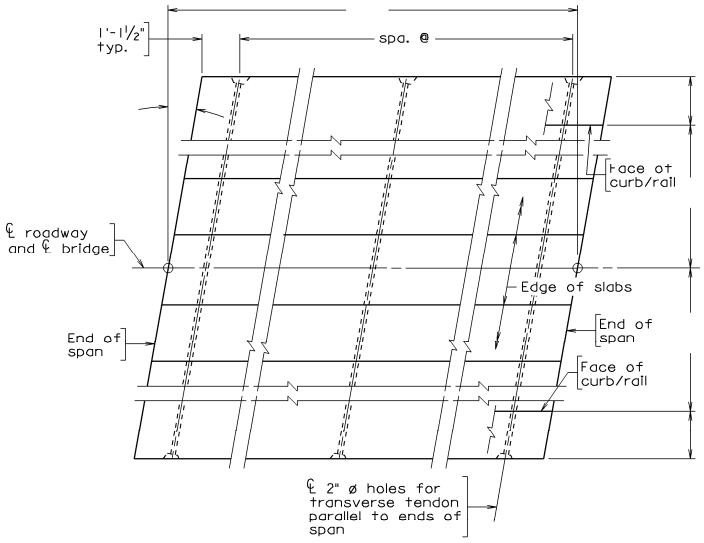


PLAN

CELL	CELL NAME	CELL DESCRIPTION

ERD2R

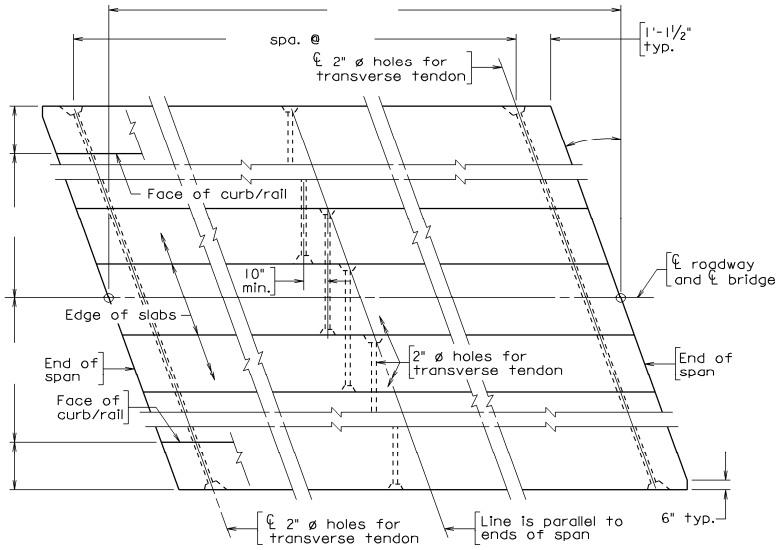
Plan of slab with right skew equal to or less than 10°. Use with standard PSS-1. (approx. 0.40 of actual cell size)



PLAN

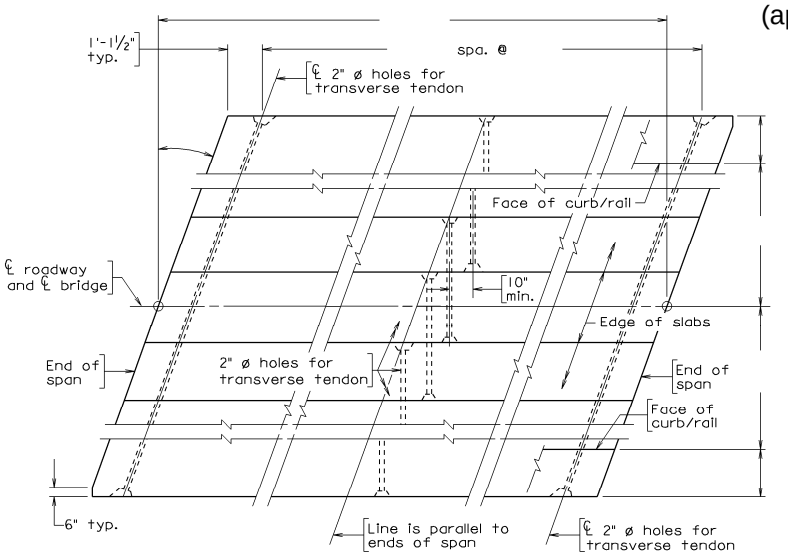
ERD3L

Plan of slab with left skew greater than 10°. Use with standard PSS-1. (approx. 0.40 of actual cell size)



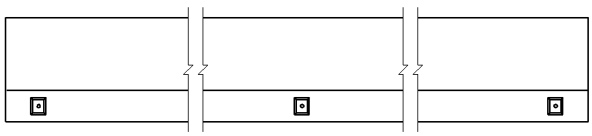
PLAN

CELL	CELL NAME	CELL DESCRIPTION
	ERD3R	Plan of slab with right skew greater than 10°. Use with standard PSS-1. (approx. 0.40 of actual cell size)



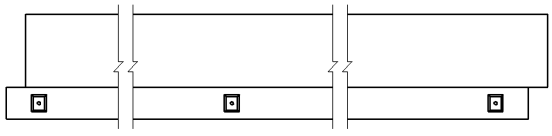
PLAN

	ELEV	Elevation of slab for 0° skew. Use with standard PSS-1. (approx. 0.40 of actual cell size)



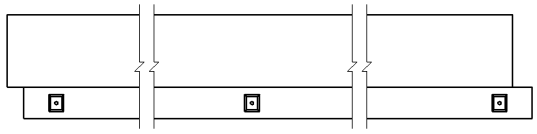
ELEVATION

	ELEVR	Elevation of slab with right skew. Use with standard PSS-1. (approx. 0.40 of actual cell size)



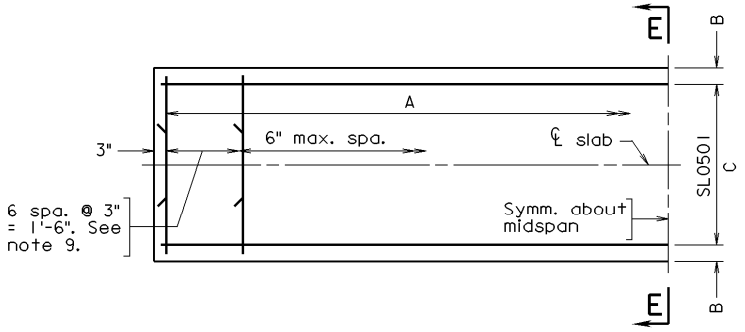
ELEVATION

CELL	CELL NAME	CELL DESCRIPTION
	ELEVL	Elevation of slab with left skew. Use with standard PSS-1. (approx. 0.40 of actual cell size)



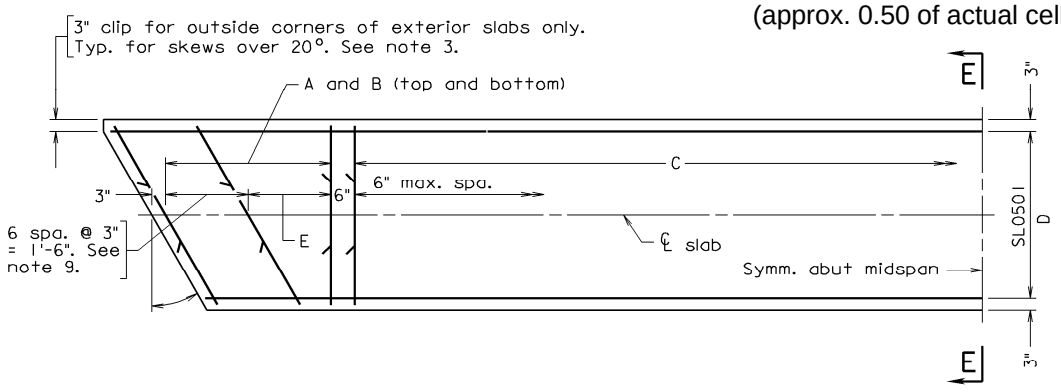
ELEVATION

	RPLN	Part plan of reinforcing details for concrete slab member with 0° skew. Use with standard PSS-2. (approx. 0.50 of actual cell size)



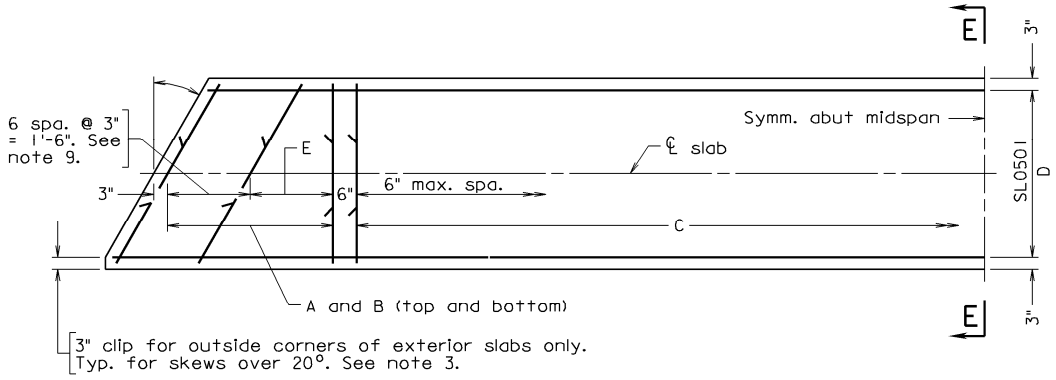
PART PLAN OF MEMBER

	RPINL	Part plan of reinforcing details for concrete slab member with left skew greater than 0°. Use with standard PSS-2. (approx. 0.50 of actual cell size)



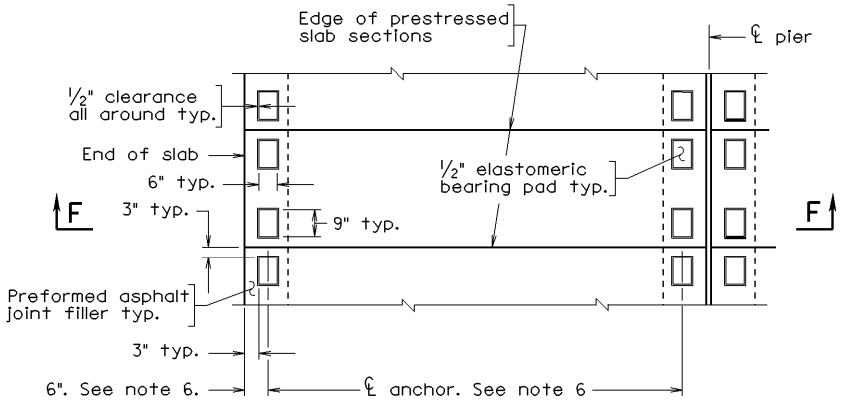
PART PLAN OF MEMBER

CELL	CELL NAME	CELL DESCRIPTION
	RPINR	Part plan of reinforcing details for concrete slab member with right skew greater than 0°. Use with standard PSS-2. (approx. 0.50 of actual cell size)



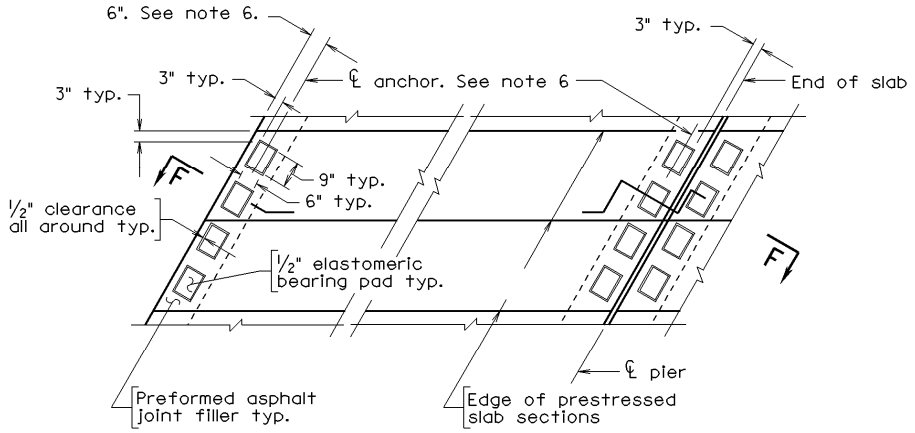
PART PLAN OF MEMBER

	BRG1	Part plan of bearings for concrete slab member with 0° skew. Use with standard PSS-2 (approx. 0.50 of actual cell size)



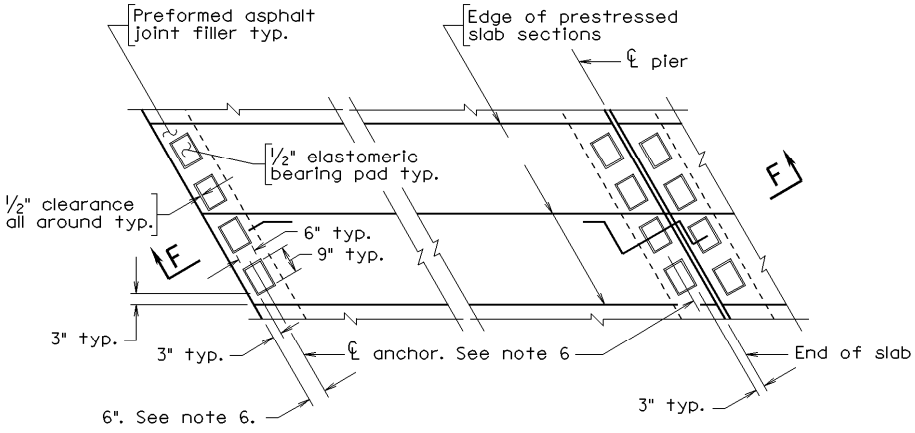
PART PLAN OF BEARINGS

CELL	CELL NAME	CELL DESCRIPTION
	BRG2R	Part plan of bearings for concrete slab members with right skew greater than 0°. Use with standard PSS-2. (approx. 0.50 of actual cell size)



PART PLAN OF BEARINGS ★

	BRG2L	Part plan of bearings for concrete slab members with left skew greater than 0°. Use with standard PSS-2. (approx. 0.50 of actual cell size)



PART PLAN OF BEARINGS ★