

**DESIGN SPECIFICATIONS:** THIS STANDARD DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998 & 1999 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN DATA:**  
 DESIGN LOADING: DEAD LOAD - 60 LB/FT<sup>2</sup> (F.W.S.)  
 LIVE LOAD - HS25 AND THE ALTERNATE MILITARY LOADING.

CONCRETE - COMPRESSIVE STRENGTH = 4500 PSI.  
 REINFORCING STEEL - MIN. YIELD STRENGTH = 60,000 PSI.

**REINFORCING STEEL FOR SKEWED BRIDGES:** THE A AND C BARS SHALL BE PLACED PARALLEL TO THE CENTER LINE OF ROADWAY AND THE B BARS SHALL BE PLACED PARALLEL TO THE ABUTMENTS.

**LONGITUDINAL CONSTRUCTION JOINTS** REQUIRED FOR STAGE CONSTRUCTION SHALL BE ACCORDING TO 511.

**CURBS, BRIDGES WITH SIDEWALKS:** FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUNCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND ROADWAY CURB HEIGHT IN A LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10 FEET BEYOND END OF WINGWALL. WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH. HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FEET AND THE TRANSITION SHALL EXTEND BEYOND THE END OF APPROACH SLAB IF NECESSARY.

**APPROACH SLAB WIDTH (W):** APPROACH SLABS SHALL BE THE SAME WIDTH AS THE BRIDGE ROADWAY.

**APPROACH SLAB LENGTH (L):** THE LENGTH SHOULD BE BASED ON FACTORS SUCH AS THE SIZE AND AMOUNT OF EXCAVATION BEHIND THE ABUTMENTS, NEW OR EXISTING EMBANKMENTS AND SKEW OF THE BRIDGE. THE LENGTH SHALL BE SHOWN ON THE PROJECT PLANS.

**DECK CROWN AND SLOPE:** THE LOCATION OF THE CROWN POINT AND THE RATE OF CROSS SLOPE ON THE APPROACH SLAB SHALL CONFORM TO THAT OF THE BRIDGE DECK AND APPROACH PAVEMENT. IF THE RATE OF CROSS SLOPE OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB WHENEVER POSSIBLE.

**WEARING SURFACE:** GENERALLY APPROACH SLABS SHALL HAVE AN ASPHALT CONCRETE WEARING SURFACE ONLY WHEN BOTH THE APPROACH PAVEMENT SURFACE AND THE BRIDGE WEARING SURFACE ARE ASPHALT CONCRETE.

**PRESSURE RELIEF JOINTS:** RELIEF JOINTS, TYPE A, ARE TO BE PROVIDED REGARDLESS OF ABUTMENT DESIGN AT ALL BRIDGE APPROACHES WHERE APPROACH PAVEMENT IS RIGID, OR COMPOSITE CONSISTING OF A RIGID BASE. SEE STANDARD CONSTRUCTION DRAWING BP-2.3 FOR DETAILS

**BASIS OF PAYMENT:** IN ADDITION TO THE INCIDENTAL ITEMS LISTED IN 526.08, THE DEPARTMENT WILL INCLUDE THE FOLLOWING ITEMS FOR PAYMENT: THE PREFORMED EXPANSION JOINT FILLER AND JOINT SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB; AND THE TYPE "A" WATER-PROOFING AND THE PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL AT THE BRIDGE LIMIT END OF THE APPROACH SLAB.

THE DEPARTMENT WILL PAY FOR THE PRESSURE RELIEF JOINTS AND ANCHOR BARS (D801 OR D802) SEPARATELY.

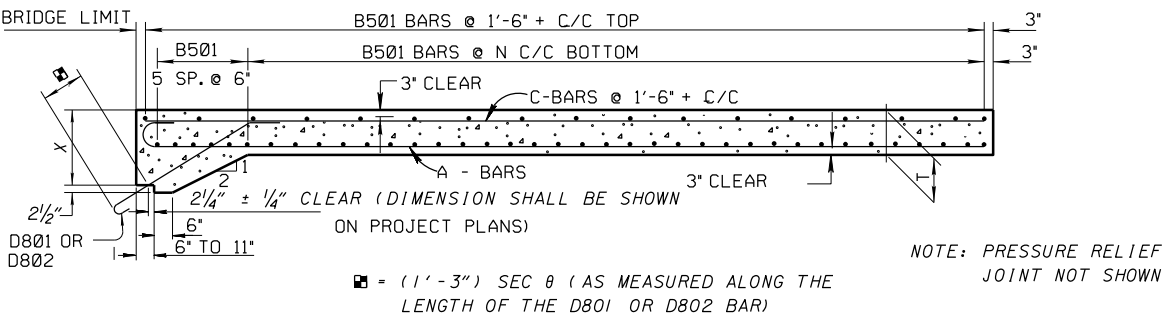
**APPROACH SLAB FOR SKEWED STRUCTURE**

**GENERAL:** THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW LENGTH, SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQUARE YARDS), AND SPECIAL NOTES AND DETAILS WHERE NECESSARY. FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON, THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

THE D801 OR D802 ANCHOR BARS SHALL BE DIMENSIONED IN THE CONTRACT PLANS AND INCLUDED WITH ITEM 509 FOR PAYMENT FOR EACH SPECIFIC BRIDGE. D801 BARS CANNOT BE USED AS SHOWN IF APPROACH SLABS ARE SUPPORTED ON BACKWALLS LESS THAN 14 INCHES THICK. D802 BARS SHALL BE USED ON PRESTRESSED CONCRETE BOX BEAM BRIDGES WITH APPROACH SLABS SUPPORTED ON BACKWALLS 11 INCHES THICK.

D801 BARS CANNOT BE USED AS SHOWN WHERE APPROACH SLABS ARE SUPPORTED ON BACKWALLS LESS THAN 14 INCHES THICK. D802 BARS SHALL BE USED ON PRESTRESSED CONCRETE BOX BEAM BRIDGES WHERE THE APPROACH SLAB IS SUPPORTED ON AN 11 INCH THICK BACKWALL.

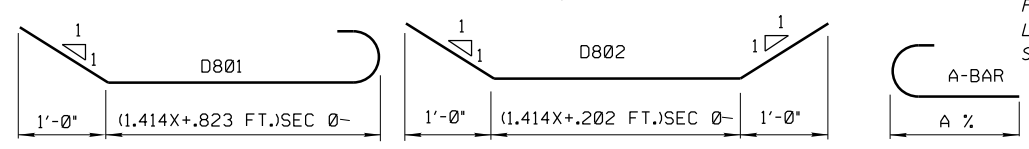
\* AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, B501 BARS MAY BE LAPPED 2'-6" MINIMUM AT THE CENTERLINE OF ROADWAY, OR WHERE REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINTS, IN LIEU OF PROVIDING FULL LENGTH BARS AS SHOWN.

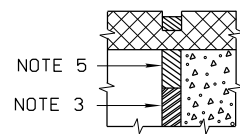


**SECTION B-B**

REINFORCING STEEL (FOR ONE APPROACH SLAB)													
LENGTH L	THICKNESS T	A-BARS				B501 (BOTTOM)		B501 (TOP)		C-BARS			D801 OR D802 NO. REQ'D.
		SP'C'G K	MARK	LENGTH	DIMENSION A	NO. REQ'D.	SP'C'G N	NO. REQ'D.	LENGTH	NO. REQ'D.	MARK	LENGTH	
15'-0"	12"	10"	A1001	15'-11"	14'-6"	$\left[ \begin{matrix} W-0.5 \\ 12 \end{matrix} \right] + 1$ (W-0.5)sec θ	9"	22	$\left[ \begin{matrix} W-0.5 \\ 12 \end{matrix} \right] + 1$ (W-0.5)sec θ	11	C501	14'-6"	$\left[ \begin{matrix} W-0.5 \\ 18 \end{matrix} \right] + 1$ (W-0.5)sec θ
20'-0"	13"	7 1/2"	A1002	20'-11"	19'-6"		8"	31		14	C502	19'-6"	
25'-0"	15"	7"	A1003	25'-11"	24'-6"		8"	39		18	C503	24'-6"	
30'-0"	17"	6 1/2"	A1004	30'-11"	29'-6"		8 1/2"	44		21	C504	29'-6"	

W = APPROACH SLAB WIDTH, OUT TO OUT, IN FEET  
 θ = ANGLE OF SKEW  
 K = A-BAR SPACING IN INCHES  
 N = B-BAR SPACING IN INCHES  
 X = APPROACH SLAB THICKNESS AT ABUTMENT END IN FEET  
 % = OUT TO OUT

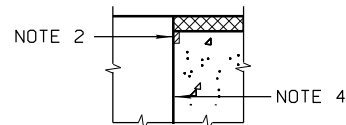




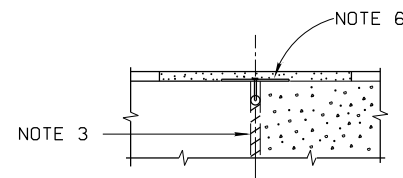
DETAIL A



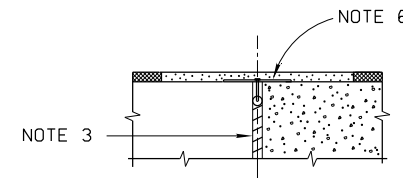
DETAIL B



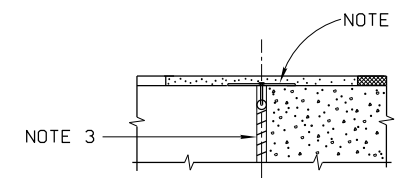
DETAIL C



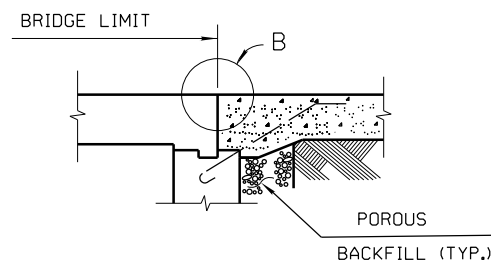
DETAIL D



DETAIL E

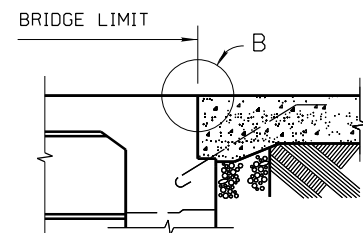


DETAIL F

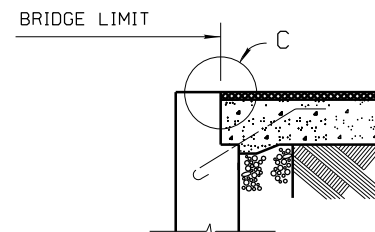


ON SLAB BRIDGES

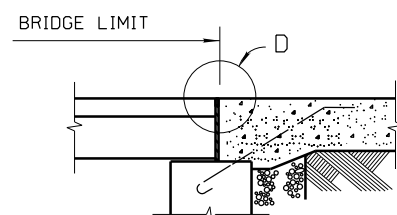
CONCRETE WEARING SURFACE ON BRIDGE DECK AND APPROACH SLAB



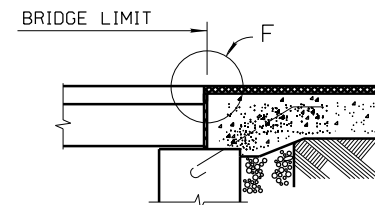
ON BRIDGES WITH INTEGRAL CONSTRUCTION (SEMI-INTEGRAL SIMILAR)



APPROACH SLAB SUPPORTED ON ABUTMENT BACKWALL

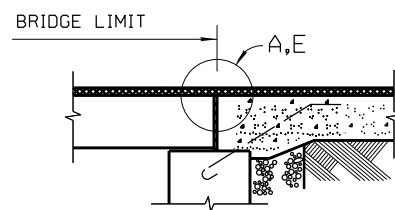


ON PRESTRESSED CONCRETE BOX BEAM BRIDGES

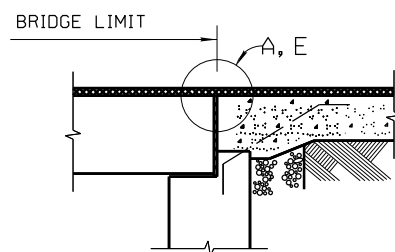


ON PRESTRESSED CONCRETE BOX BEAM BRIDGES

CONCRETE WEARING SURFACE ON BRIDGE DECK ONLY

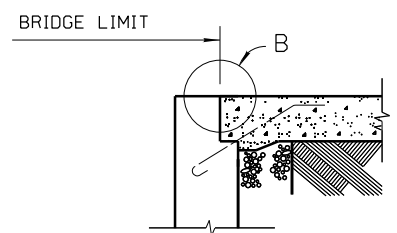


ON PRESTRESSED CONCRETE BOX BEAM BRIDGES



APPROACH SLAB SUPPORTED ON ABUTMENT BACKWALL

ASPHALT CONCRETE WEARING SURFACE ON BRIDGE DECK AND APPROACH SLAB



APPROACH SLAB SUPPORTED ON ABUTMENT BACKWALL

CONCRETE WEARING SURFACE ON BRIDGE DECK AND APPROACH SLAB

NOTE 1: PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11 (1/4" WIDE FOR A 1/2" WIDE GROOVE) PLACED IN 1/2" x 2/4" GROOVE.

NOTE 2: PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11 (1/4" WIDE FOR A 1/2" WIDE GROOVE) PLACED IN 1/2" x 2/8" GROOVE.

NOTE 3: 1" PREFORMED EXPANSION JOINT FILLER, 705.03.

NOTE 4: TYPE "A" WATERPROOFING.

NOTE 5: SEE PLAN INSERT SHEET, "ABUTMENT JOINTS IN BITUMINOUS CONCRETE, BOX BEAM BRIDGES."

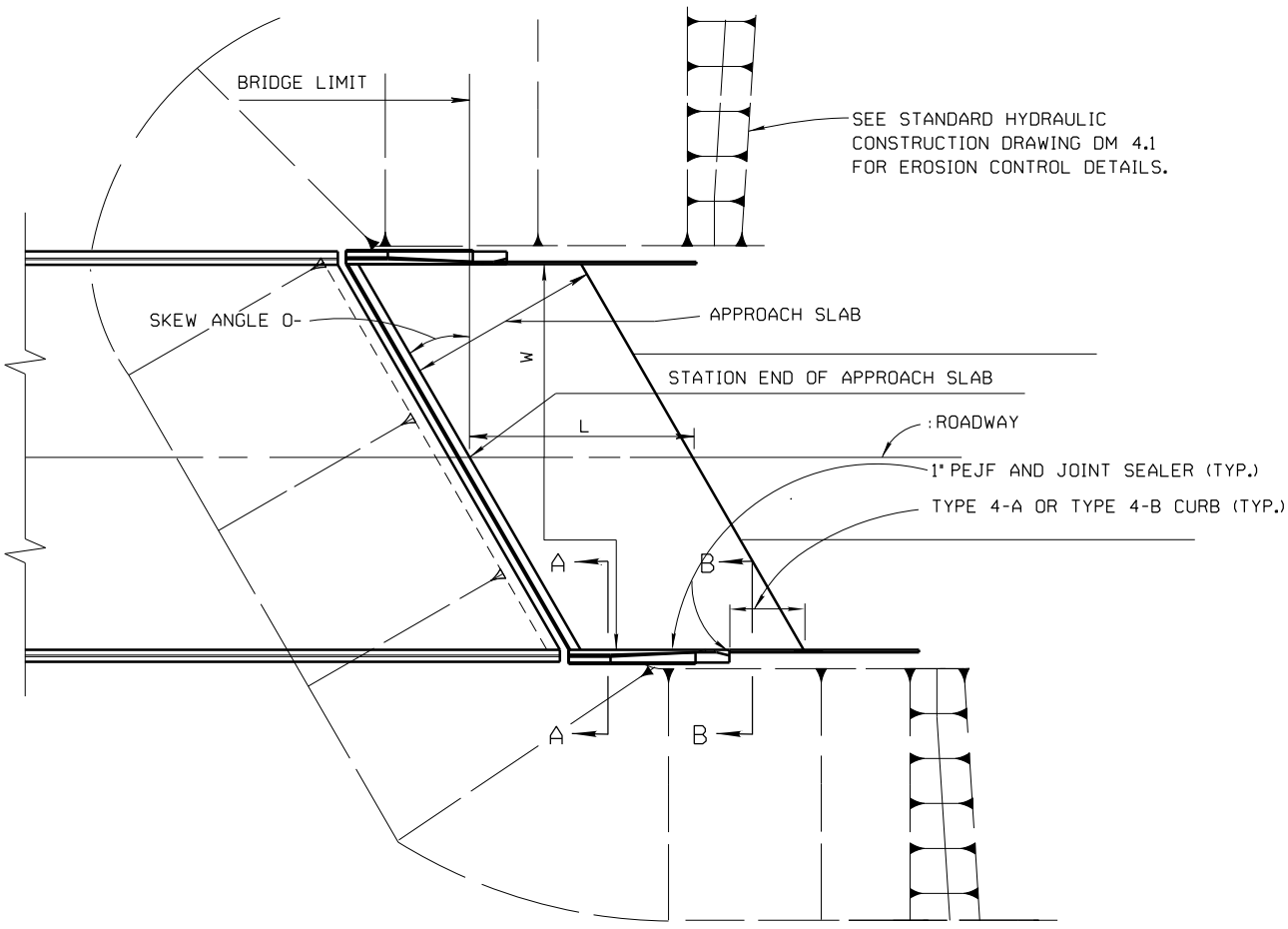
NOTE 6: SEE PLAN INSERT SHEET, "POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM."

TYPE "A" WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

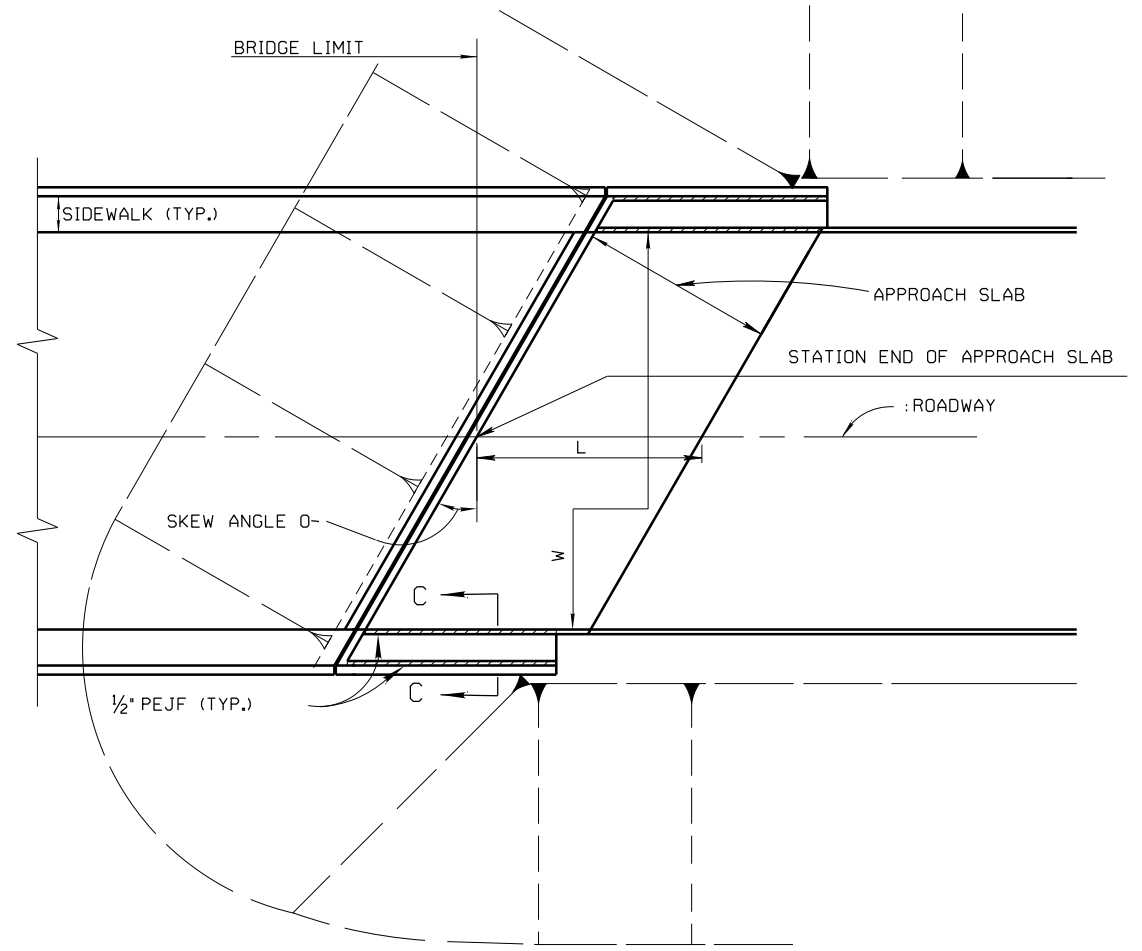
FOR PRESTRESSED CONCRETE BOX BEAM BRIDGES WITH ASPHALT CONCRETE ON BOTH BRIDGE DECK AND APPROACH SLAB, THE TOP OF APPROACH SLAB AT THE BRIDGE END SHALL BE CONSTRUCTED TO THE LEVEL OF THE TOP OF THE BEAMS TO FACILITATE WATERPROOFING OF THE JOINT. THE THICKNESS OF ASPHALT CONCRETE AT THE APPROACH END OF THE SLAB SHALL BE THE THICKNESS OF ASPHALT CONCRETE USED ON THE ROADWAY PAVEMENT. THE THICKNESS OF ASPHALT CONCRETE SHALL VARY UNIFORMLY, IF NECESSARY, IN THE LENGTH OF THE APPROACH SLAB. THE SUBGRADE (SUBBASE) SHALL BE GRADED TO PERMIT THE BOTTOM OF THE APPROACH SLAB TO BE PARALLEL TO THE TOP.

FOR STRUCTURES WITHOUT STRIP SEAL, COMPRESSION SEAL OR POLYMER MODIFIED ASPHALT EXPANSION JOINTS, THAT HAVE AN ASPHALT CONCRETE WEARING SURFACE ON BOTH THE BRIDGE DECK AND APPROACH SLAB, EXTEND THE DECK WATERPROOFING 2'-0" BEYOND THE BRIDGE LIMITS. FOR STRUCTURES WITH STRIP SEAL AND COMPRESSION SEAL EXPANSION JOINTS, END THE DECK WATERPROOFING AT THE PRESTRESSED BOX BEAM NOTCH. FOR STRUCTURES WITH POLYMER MODIFIED ASPHALT EXPANSION JOINTS, EXTEND THE DECK WATERPROOFING TO THE CENTERLINE OF THE JOINT.

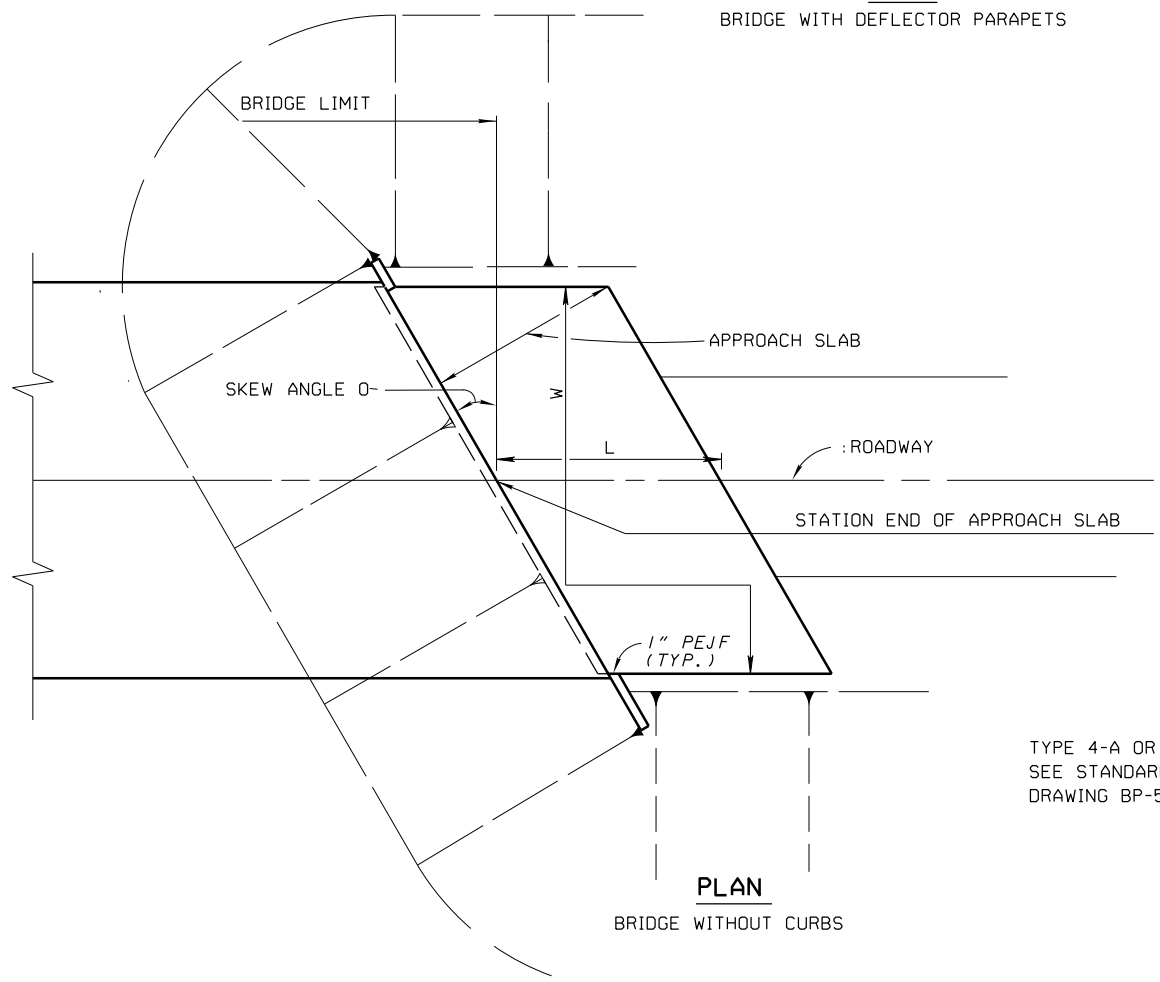
⊕ - THE APPROACH SLAB SEAT FOR THIS PRESTRESSED CONCRETE BOX BEAM BRIDGE IS SHOWN AT THE SAME ELEVATION AS THE BEAM SEAT. HOWEVER, IT MAY ACTUALLY BE HIGHER OR LOWER THAN THE BEAM SEAT DEPENDING ON THE BOX BEAM DEPTH.



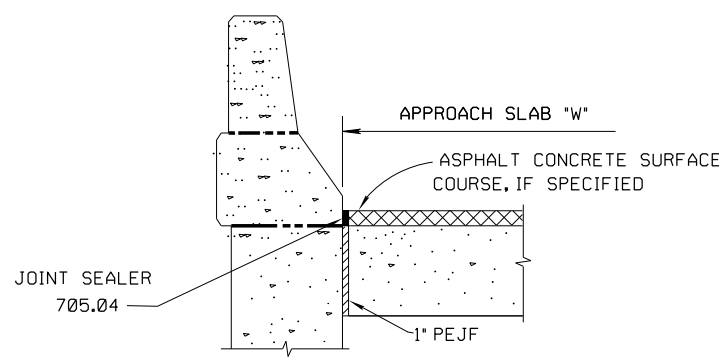
**PLAN**  
BRIDGE WITH DEFLECTOR PARAPETS



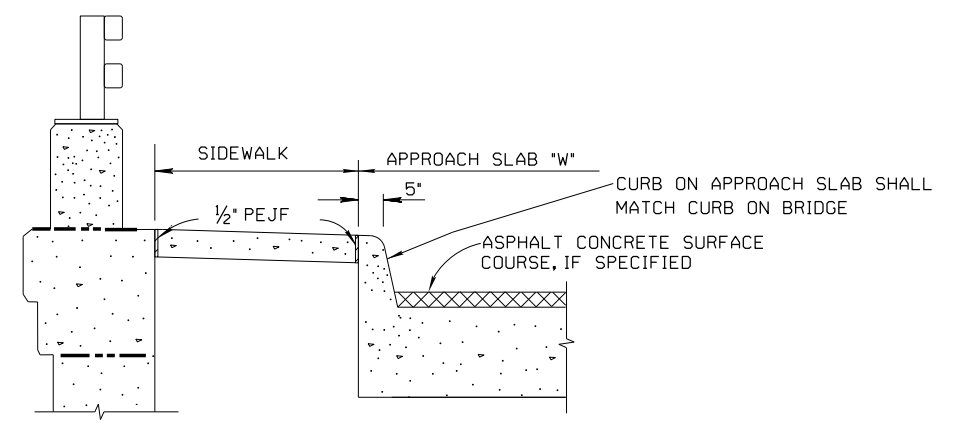
**PLAN**  
BRIDGE WITH SIDEWALKS



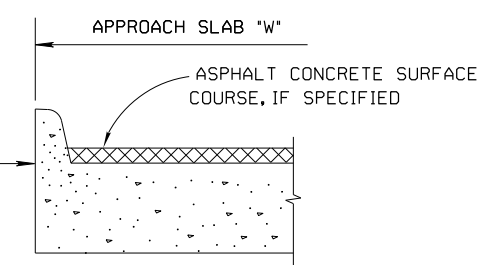
**PLAN**  
BRIDGE WITHOUT CURBS



**SECTION A-A**



**SECTION C-C**



**SECTION B-B**

TYPE 4-A OR TYPE 4-B CURB  
SEE STANDARD CONSTRUCTION  
DRAWING BP-5.1

**LEGEND**  
W= APPROACH SLAB WIDTH, OUT TO OUT, IN FEET.  
L= APPROACH SLAB LENGTH.  
PEJF = PREFORMED EXPANSION JOINT FILLER.

REVISIONS	DESIGNED	CHECKED	REVIEWED
09-15-94 04-20-01 07-19-02 01-18-73	JFF JFF JFF	JAM JAM	LMW LMW
	DRAWN		
	JFF		AS-1-81