Missouri Department of Transportation

Bridge MicroStation® CADD Standards

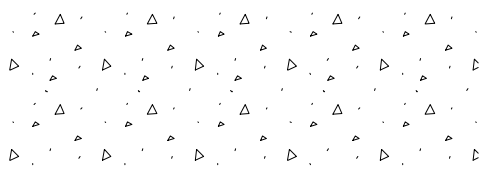
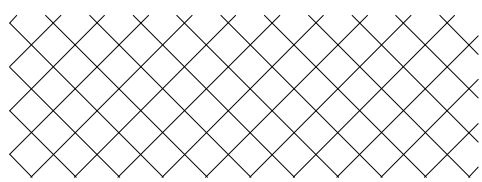
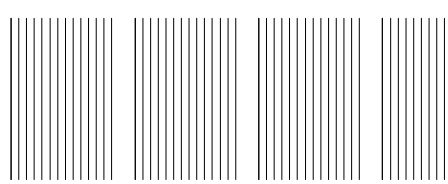
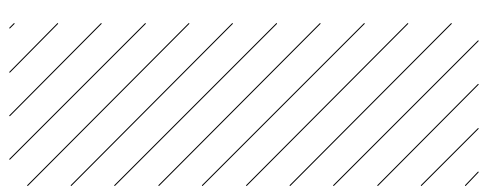
Effective March 11, 2009

This document is outdated.
Notes in red added Sept. 2020
Contact: BRstandards@modot.mo.gov

Bridge Standard Cells

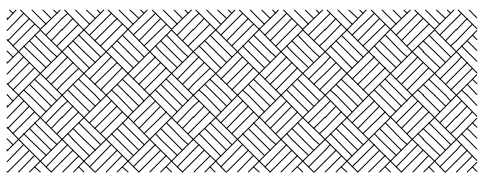
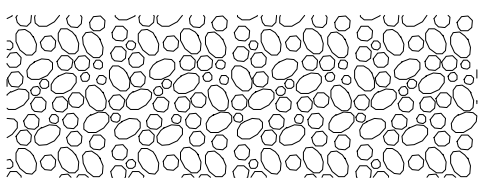
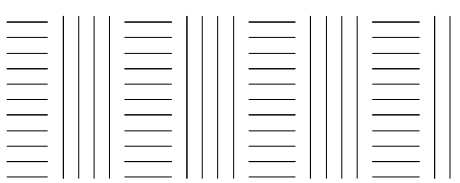
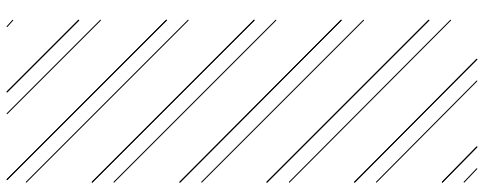
Area Patterns

All cells are now in Bridge_Details.cel or Bridge_Notes.cel

	Cell Name	Color	Level	Line Style	Line Weight
 Concrete Areafill	CONPAT bridge3.cel	7	Bridge-Patterns-hatch	0	0
 Crosshatching (Grid)	Hatch	7	Bridge-Patterns-hatch	0	1
 Finished Ground Areafill	FINISH bridge3.cel	7	Bridge-Patterns-hatch	0	1
 Hatching	Hatch	7	Bridge-Patterns-hatch	0	1

Bridge Standard Cells

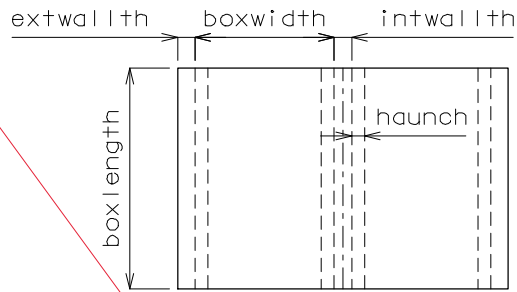
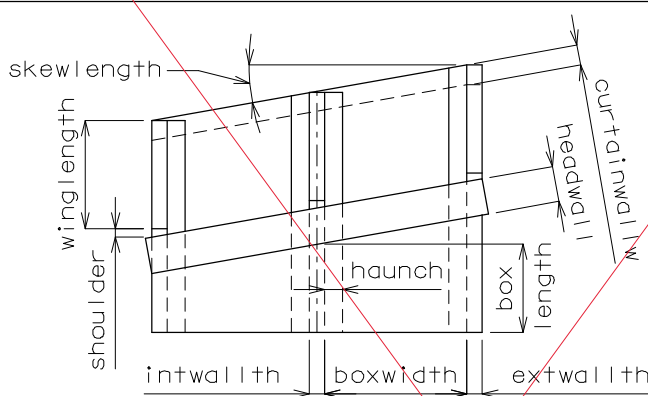
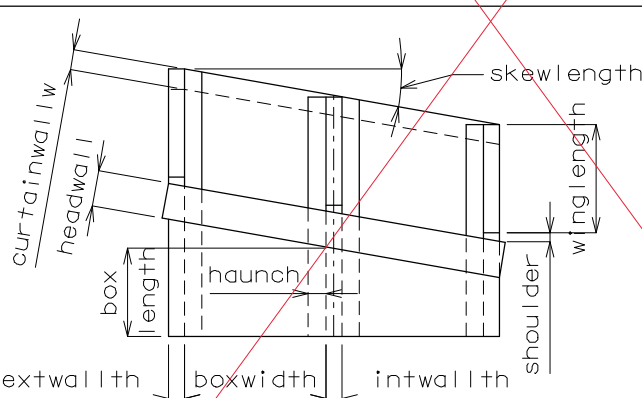
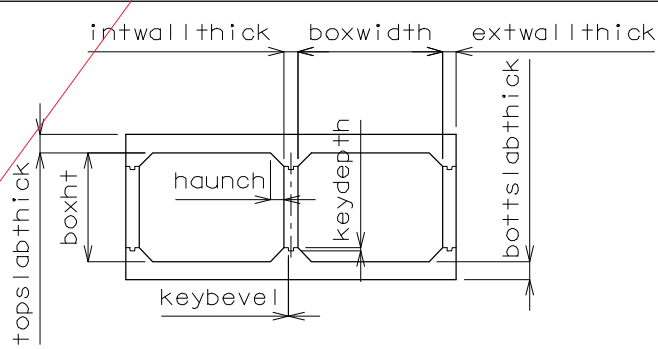
Area Patterns (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Natural Ground Areafill	SOIL1 bridge3.cel	7	Bridge-Patterns-hatch	0	1
 Rock Blanket Areafill	GRAVEL bridge3.cel	7	Bridge-Patterns-hatch	0	1
 Rock or Shale Areafill	ROCKLN bridge3.cel	7	Bridge-Patterns-hatch	0	1
 Steel Hatching	STL bridge3.cel	7	Bridge-Patterns-hatch	0	0

Bridge Standard Cells

Box Culverts

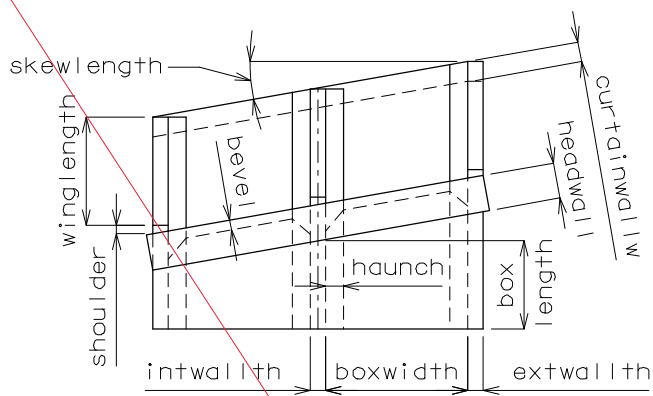
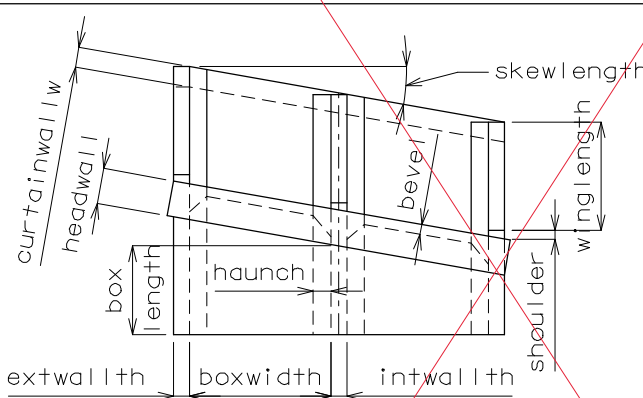
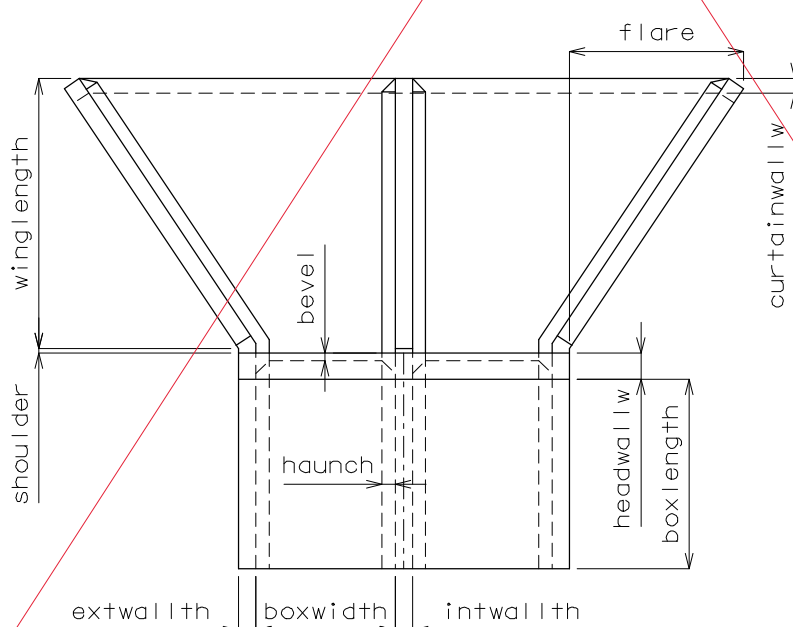
These cells are no longer available.

	Cell Name	Color	Level	Line Style	Line Weight
 Double Center Unit Plan (dd)	CPD (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Double Downstream Plan LA (dd)	DPDKL (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Double Downstream Plan RA (dd)	DPDKR (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Double Section Thru Box (dd)	BSEC1 (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies

Bridge Standard Cells

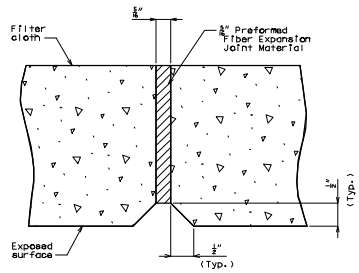
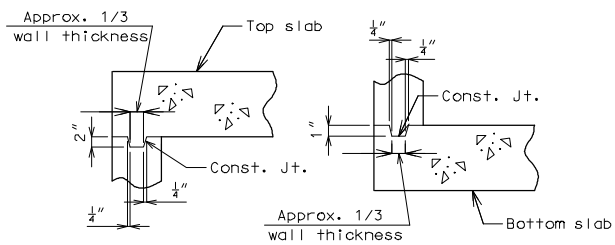
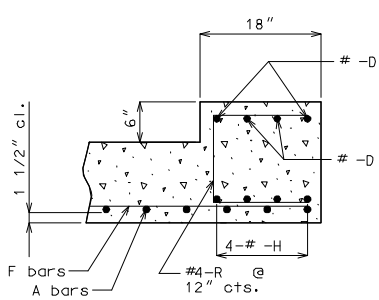
Box Culverts (Cont.)

These cells are no longer available.

	Cell Name	Color	Level	Line Style	Line Weight
 Double Upstream Plan LA (dd)	UPSDKL (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Double Upstream Plan RA (dd)	UPSDKR (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Double Upstream Plan Sq (dd)	UPFDQ (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies

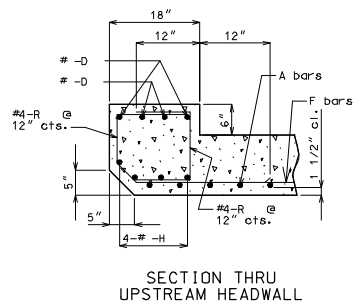
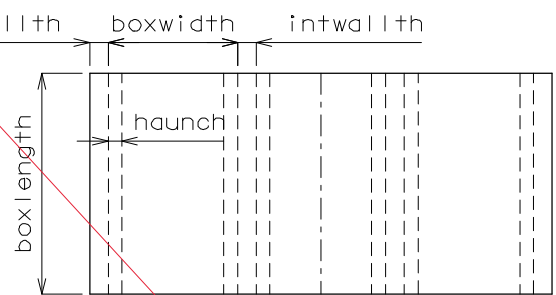
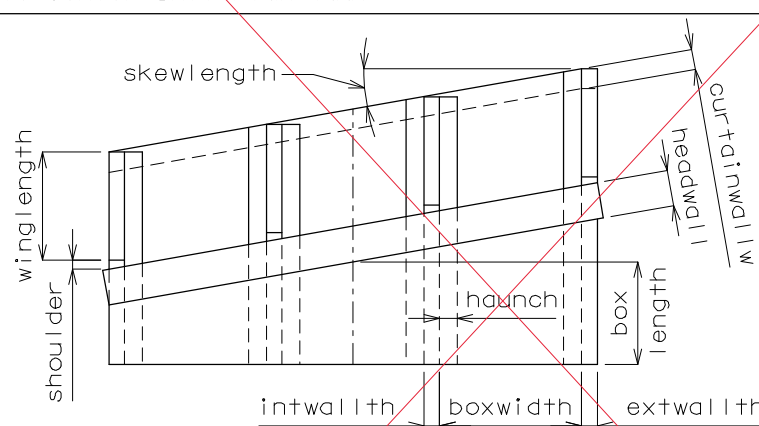
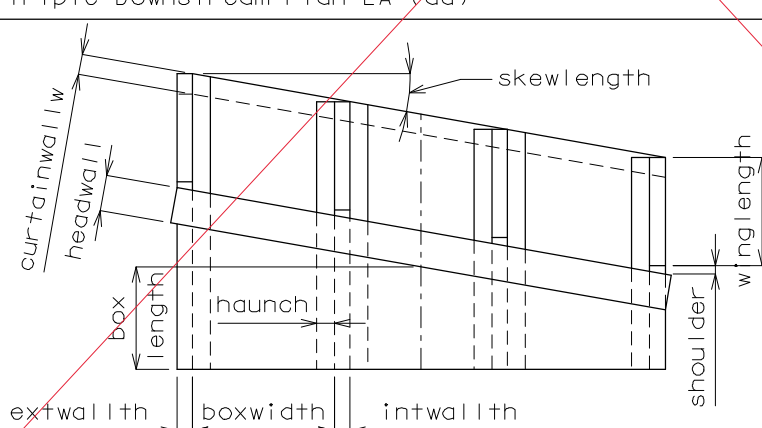
Bridge Standard Cells

Box Culverts (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 DETAIL OF FILLED TRANSVERSE JOINTS Filled Transverse Joint Detail	BXJT1 bridge1.cel	Varies	Varies	Varies	Varies
 DETAILS OF KEYED CONST. JOINT (Exterior wall shown, interior wall similar) Keyed Construction Joint Details	BXJT2 bridge1.cel	Varies	Varies	Varies	Varies
 Section Arrow	SECT bridge3.cel	2	section lines	0	7
 SECTION THRU DOWNSTREAM HEADWALL Section Thru Downstream Headwall	DNHDW bridge1.cel	Varies	Varies	Varies	Varies

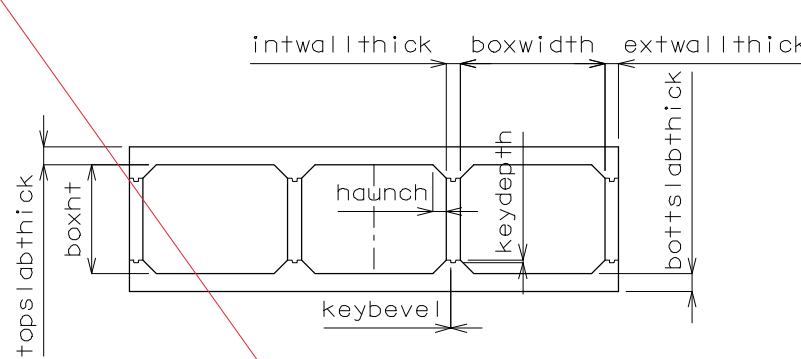
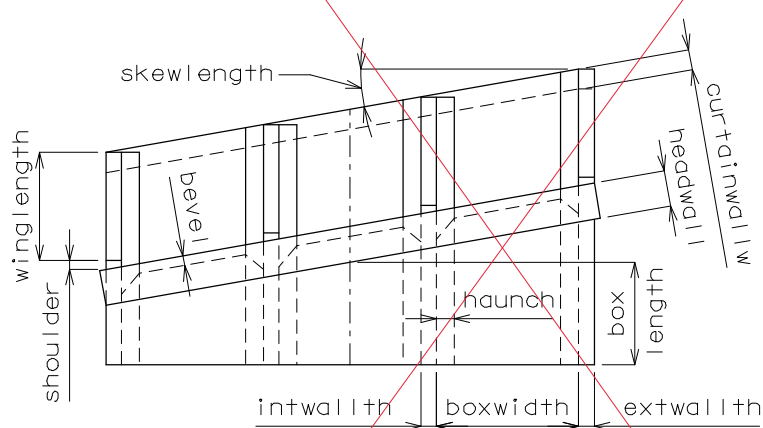
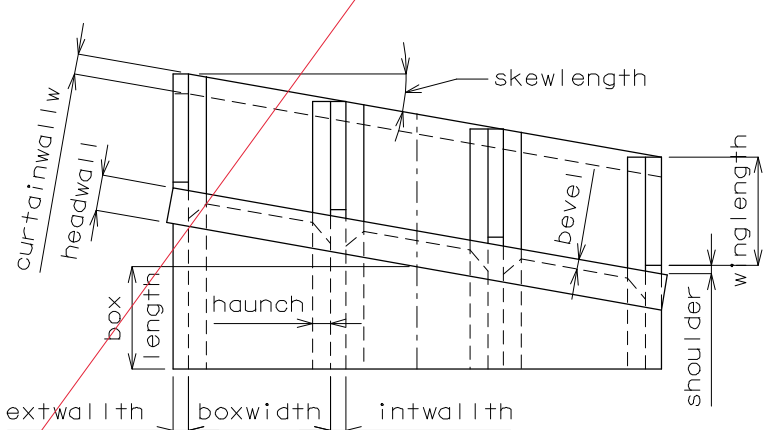
Bridge Standard Cells

Box Culverts (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Section Thru Upstream Headwall	UPHDW bridge1.cel	Varies	Varies	Varies	Varies
 Triple Center Unit Plan (dd)	CPT (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Triple Downstream Plan LA (dd)	DPTKL (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Triple Downstream Plan LA (dd)	DPTKR (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies

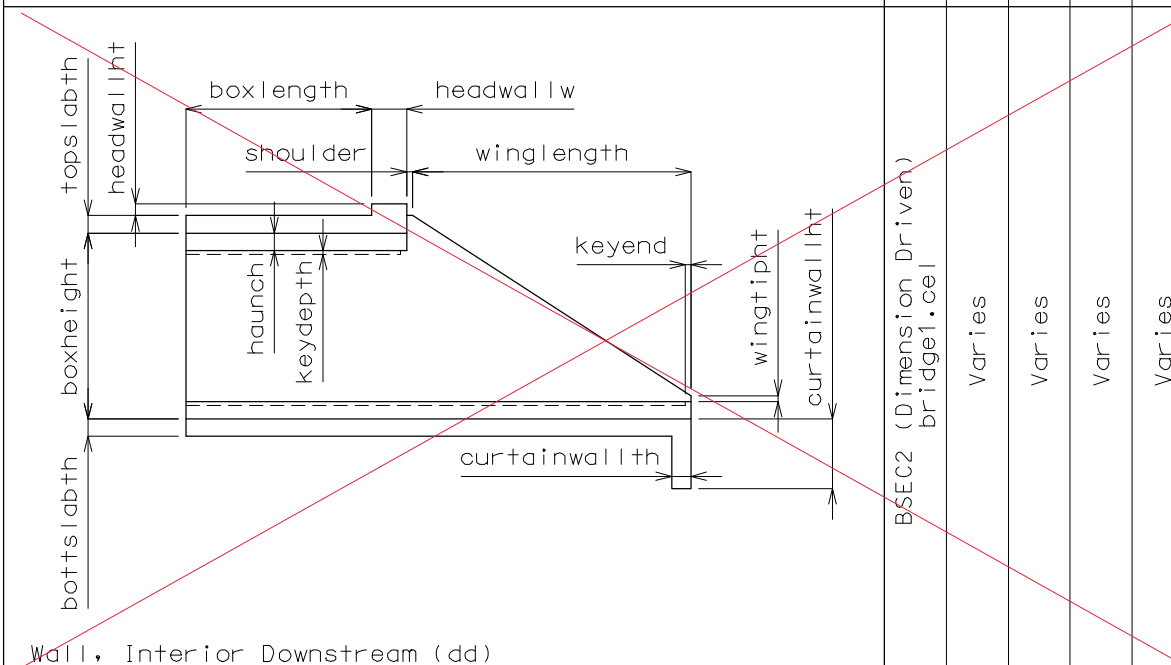
Bridge Standard Cells

Box Culverts (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Tripple Section Thru Box (dd)	BSEC3 (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Triple Upstream Plan LA (dd)	UPSTKL (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies
 Triple Upstream Plan LA (dd)	UPSTKR (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies

Bridge Standard Cells

Box Culverts (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Wall, Interior Downstream (dd)	BSEC2 (Dimension Driven) bridge1.cel	Varies	Varies	Varies	Varies

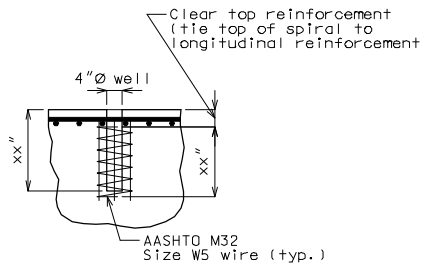
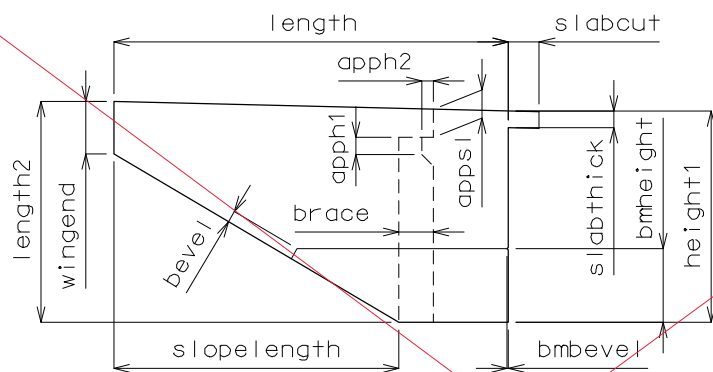
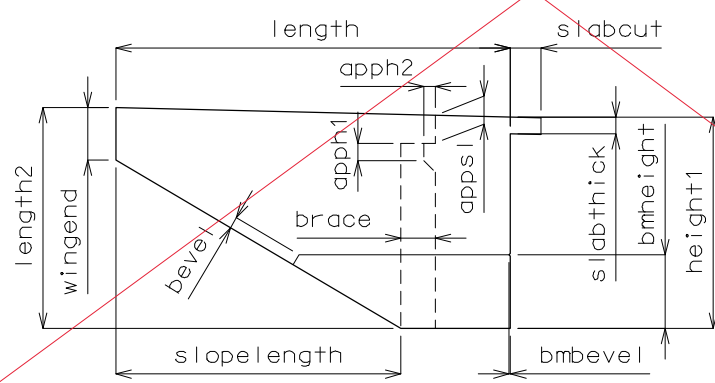
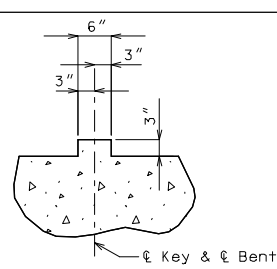
Bridge Standard Cells

Bridge Manual

	Text Height	Cell Name or Type	Color	Level	Line Style	Line Weight
Bridge Manual Manual Section - Section . Page: GENERAL General Revised: Bridge Manual Sheet Text	na	SHT3 bridge2.cel	varies	varies	varies	varies
EMF Plot (Printer driver file)	na	na	na	na	na	na
Example Text 0.02 Small	1/4"	Text	5	Bridge-Maual text	0	2
Example Text 0.0225 Medium	9/32"	Text	1	Bridge-Maual text	0	5
Example Text 0.025 Large	5/16"	Text	1	Bridge-Maual text	0	9
Example Text 0.03 Xtra-Large	3/8"	Text	2	Bridge-Maual text	0	7

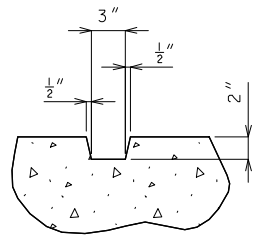
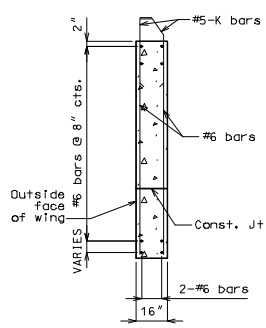
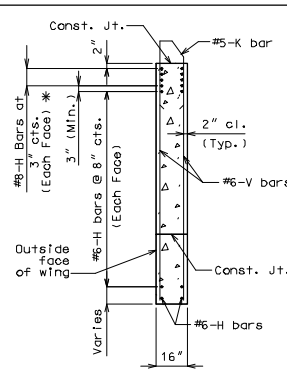
Bridge Standard Cells

End Bents

	Cell Name	Color	Level	Line Style	Line Weight
 DETAIL OF ANCHOR BOLT WELLS Double Center Unit Plan (dd)	ANWEL bridge1.cel	Varies	Varies	Varies	Varies
 Elevation of Wing A-A (dd)	WINGA (Dimension Driven) bridge2.cel	Varies	Varies	Varies	Varies
 Elevation of Wing B-B (dd)	WINGB (Dimension Driven) bridge2.cel	Varies	Varies	Varies	Varies
 TYPICAL SECTION THRU KEY Section Thru Key for Integral Bent	KEY2 bridge2.cel	Varies	Varies	Varies	Varies

Bridge Standard Cells

End Bents (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 SECTION THRU KEY Section Thru Key for Non-Int Bent	KEY3 bridge2.cel	Varies	Varies	Varies	Varies
 Section Arrow	SECT bridge3.cel	2	section lines	0	7
 TYPICAL SECTION THRU WING Typ. Section Thru Wing	WINGS bridge2.cel	Varies	Varies	Varies	Varies
 TYPICAL SECTION THRU WING Typ. Section Thru Wing	WINGS1 bridge2.cel	Varies	Varies	Varies	Varies

Bridge Standard Cells

Front Sheets

	Cell Name	Color	Level	Line Style	Line Weight
Boring Symbol	BORING bridge3.cel	4	Bridge-Text -Small	0	2
Finished Ground Cell	FINISH bridge3.cel	7	Bridge-Patterns-hatch	0	1
HYDROLOGIC DATA Drainage Area = sq. miles Design Discharge = cu. ft./sec. (years) Design H.W. Elev. = feet (years) Estimated Backwater = feet BASIC FLOOD DATA Discharge = cu. ft./sec. (years) H.W. Elevation = feet Estimated Backwater = feet OVERTOPPING FLOOD DATA Discharge = cu. ft./sec. (years) Hydrologic Data with Flood	HYD1 bridge3.cel	varies	varies	varies	varies
HYDROLOGIC DATA Drainage Area = sq. miles Design Discharge = cu. ft./sec. (years) Design H.W. Elev. = feet (years) Estimated Backwater = feet OVERTOPPING FLOOD DATA Discharge = cu. ft./sec. (years) Hydrologic Data without Flood	HYD2 bridge3.cel	varies	varies	varies	varies
Natural Ground Cell	SOIL1 bridge3.cel	7	Bridge-Patterns-hatch	0	0
N North Arrow	NORTH bridge3.cel	4	Bridge-Text-Medium	0	2

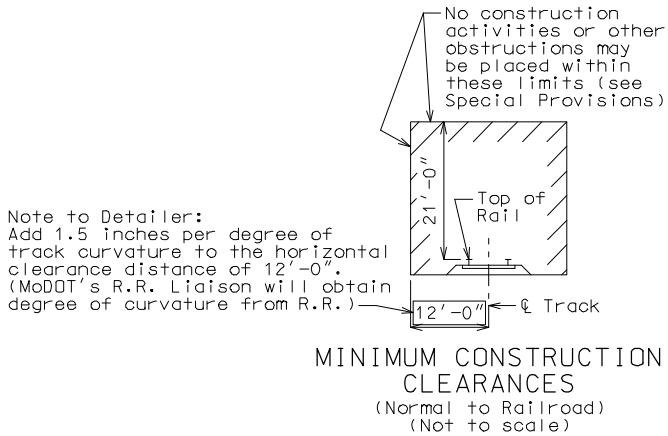
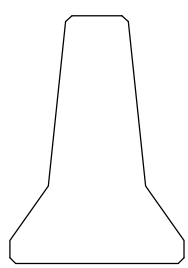
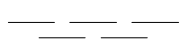
Bridge Standard Cells

Front Sheets (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
HYDROLOGIC DATA Drainage Area = _____ (sq. mi.) Design High Water (DHW) Elev. = _____ Design High Water Frequency = _____ (year) Design High Water Discharge = _____ (cfs) Backwater/Base Flood Data (100 year) High Water Elev. = _____ Design Discharge = _____ (cfs) Estimated Backwater = _____ (ft) Outlet Velocity = _____ (ft/sec) Roadway Overtopping Design Elev. (1' below shoulder) = _____ Design Discharge = _____ (cfs) Design Frequency = _____ (year) P D Hydrologic Culvert 03	HYD03 bridge3.cel	varies	varies	varies	varies
HYDROLOGIC DATA Drainage Area = _____ (sq. mi.) Backwater/Base Flood Data (100 year) High Water Elev. = _____ Design Discharge = _____ (cfs) Estimated Backwater = _____ (ft) Average Velocity thru Opening = _____ (ft/sec) Freeboard Design Frequency = _____ (year) Design Discharge = _____ (cfs) Freeboard = _____ (ft) Design High Water (DHW) Elev. = _____ Roadway Overtopping Design Elev. (1' below shoulder) = _____ Design Discharge = _____ (cfs) Design Frequency = _____ (year) P D Hydrologic w/freeboard 04	HYD04 bridge3.cel	varies	varies	varies	varies

Bridge Standard Cells

Front Sheets (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Railroad Construction Clearance	RRCONSTCLR bridge3.cel	varies	varies	varies	varies
 Rock or Shale Cell	ROCKLN bridge3.cel	7	Bridge-Patterns-hatch	0	1
 type F temp Conc Barrier Curb	TEMP CURB bridge1.cel	7	Bridge-Patterns-hatch	0	1
 Rock or Shale Cell	WATER bridge3.cel	7	Bridge-Patterns-hatch	0	1

Bridge Standard Cells

Geometry

	Type	Color	Level	Line Style	Line Weight		Cell Name	Color	Level	Line Style	Line Weight
Center Lines	Linear	5	Bridge-Center	4	2	Concrete Object Lines	Linear	1	Bridge-Concrete	0	5
Constructions	Linear	7	Bridge-Construction	0	0	Detail Circle	Linear	7	Bridge-Dimensions	2	1
Existing Structure	Linear	5	Bridge-Existing	1	2	Ground Line (Plain)	Linear	1	Bridge-Ground line	0	5
Hidden Lines	Linear	4	Bridge-Hidden	2	4	Long Break & Match Lines	Linear	5	Bridge-Break lines	0	2
Misc Object Lines (Yellow)	Linear	5	Bridge-Miscellaneous	0	2	Point (Character "X")	Linear	7	Bridge-Miscellaneous	0	15
Point (Zero-Length Line)	Linear	7	Bridge-Miscellaneous	0	15	Reinforcing Steel (In Plan)	Linear	4	Bridge-Structural-Steel	0	4

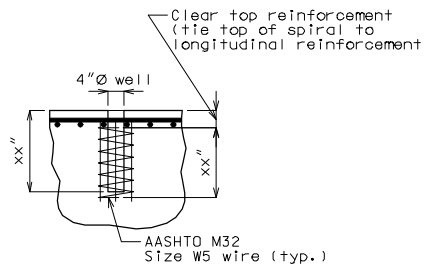
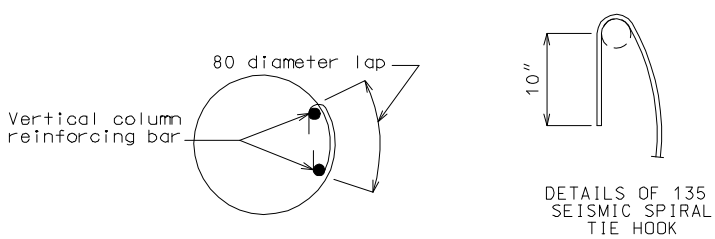
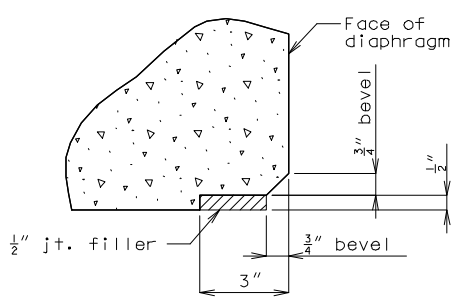
Bridge Standard Cells

Geometry (Cont.)

	Type	Color	Level	Line Style	Line Weight		Cell Name	Color	Level	Line Style	Line Weight
● Reinforcing Steel (In Section)	Linear	4	Bridge-Reinforcement	0	4	Structural Steel Object Lines	Linear	4	Bridge-Structural Steel	0	4

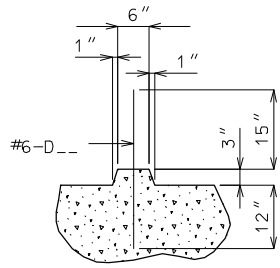
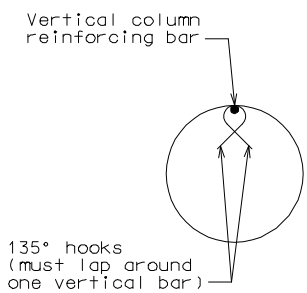
Bridge Standard Cells

Intermediate Bents

	Cell Name	Color	Level	Line Style	Line Weight
 DETAIL OF ANCHOR BOLT WELLS Anchor Bolt Well Detail	ANWEL bridge1.cel	varies	varies	varies	varies
 ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR (USE FOR INTERMEDIATE SPLICES OF SPIRALS) Anchor Splice for Spiral Bar	SPIRA bridge3.cel	varies	varies	varies	varies
 DETAIL "A" Detail "A" for Diaphragm	DIADT bridge3.cel	varies	varies	varies	varies
section Arrow	SECT bridge3.cel	2	section lines	0	7

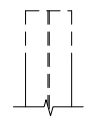
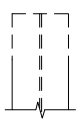
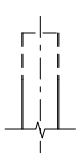
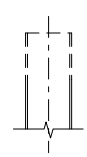
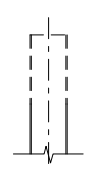
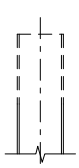
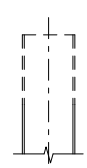
Bridge Standard Cells

Intermediate Bents (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 DETAIL OF KEY Section Thru Key for Int Bent	KEY1 bridge3.cel	varies	varies	varies	varies
 DETAIL OF SEISMIC STIRRUP BAR Seismic Stirrup Bar (Column)	STIRP bridge3.cel	varies	varies	varies	varies

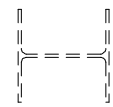
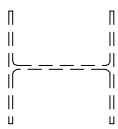
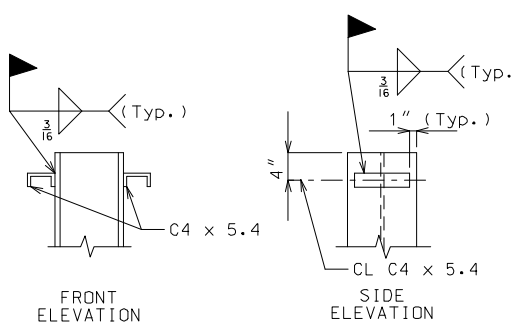
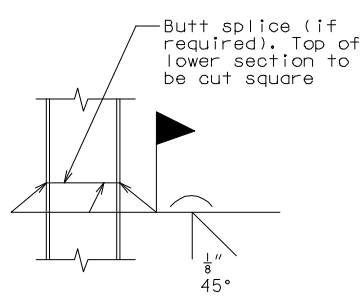
Bridge Standard Cells

Piles

	Type	Color	Level	Line Style	Line Weight		Cell Name	Color	Level	Line Style	Line Weight
Pile Elev, Flg, 12″ Emb. 10x42	PILE3 bridge3.cel	4	varies	varies	varies	 Pile Elev, Flg, 12″ Emb. 12x53	PILE3A bridge3.cel	4	varies	varies	varies
 Pile Elev, Flg, 12″ Emb. 14x73	PILE3B bridge3.cel	4	varies	varies	varies	Pile Elev, Flg, 18″ Emb. 10x42	PILE1 bridge3.cel	4	varies	varies	varies
Pile Elev, Flg, 18″ Emb. 12x53	PILE1A bridge3.cel	4	varies	varies	varies	Pile Elev, Flg, 18″ Emb. 14x73	PILE1B bridge3.cel	4	varies	varies	varies
 Pile Elev, Web, 12″ Emb. 10x42	PILE4 bridge3.cel	4	varies	varies	varies	 Pile Elev, Web, 12″ Emb. 12x53	PILE4A bridge3.cel	4	varies	varies	varies
Pile Elev, Web, 12″ Emb. 14x73	PILE4B bridge3.cel	4	varies	varies	varies	 Pile Elev, Web, 18″ Emb. 10x42	PILE2 bridge3.cel	4	varies	varies	varies
 Pile Elev, Web, 18″ Emb. 12x53	PILE2A bridge3.cel	4	varies	varies	varies	 Pile Elev, Web, 18″ Emb. 14x73	PILE2B bridge3.cel	4	varies	varies	varies

Bridge Standard Cells

Piles (Cont.)

	Type	Color	Level	Line Style	Line Weight		Cell Name	Color	Level	Line Style	Line Weight
	PILE10 bridge3.cel	4	Bridge-Structural-Steel	2	2		PILE12 bridge3.cel	4	Bridge-Structural-Steel	2	2
	PILE14 bridge3.cel	4	Bridge-Structural-Steel	2	2						
 DETAILS OF PILE ANCHORS Pile Seismic Anchor Detail							PICHSC bridge3.cel	varies	varies	varies	varies
 STEEL PILE SPLICE Pile Splice Detail							PILSP bridge3.cel	varies	varies	varies	varies

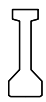
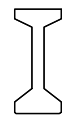
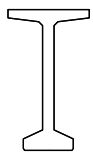
Bridge Standard Cells

Prestressed Girders

	Type	Color	Level	Line Style	Line Weight		Cell Name	Color	Level	Line Style	Line Weight
Coil Tie Insert	COIL bridge2.cel	4	Bridge-Reinforcent	0	4	NU 29 (NU 750)	NU29 bridge2.cel	1	Bridge-Concrete	0	5
NU 35 (NI 900)	NU35 bridge2.cel	1	Bridge-Concrete	0	5	NU 43 (NU1100)	NU43 bridge2.cel	1	Bridge-Concrete	0	5
NU 53 (NU 1350)	NU53 bridge2.cel	1	Bridge-Concrete	0	5	NU 63 (NU 1600)	NU63 bridge2.cel	1	Bridge-Concrete	0	5
NU 70 (NU 1800)	NU70 bridge2.cel	1	Bridge-Concrete	0	5	NU 78 (NU 2000)	NU78 bridge2.cel	1	Bridge-Concrete	0	5
NU 94 (NU 2400)	NU94 bridge2.cel	1	Bridge-Concrete	0	5	Prestressing Strand ("+")	STRAND bridge2.cel	4	Bridge-Reinforcement	0	4
Type 2 P/S I-Girder (2'-8")	PSGDR2 bridge2.cel	1	Bridge-Concrete	0	5	Type 3 P/S I-Girder (3'-3")	PSGDR3 bridge2.cel	1	Bridge-Concrete	0	5

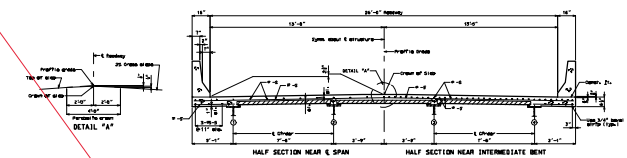
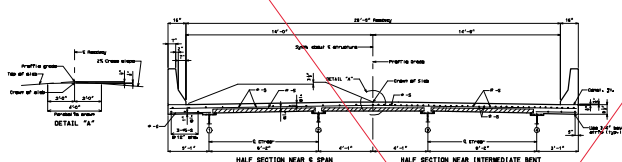
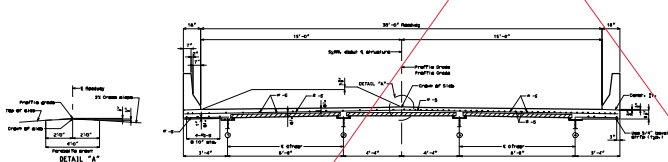
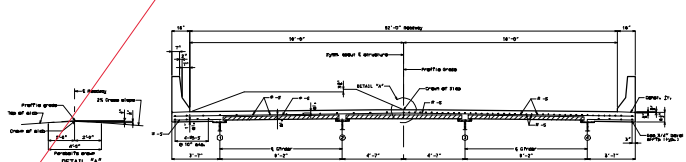
Bridge Standard Cells

Prestressed Girders (Cont.)

	Type	Color	Level	Line Style	Line Weight		Cell Name	Color	Level	Line Style	Line Weight
 Type 4 P/S I-Girder (3'-9")	PSGDR4 bridge2.cel	1	Bridge-Concrete	0	5	 Type 6 P/S I-Girder (4'-6")	PSGDR6 bridge2.cel	1	Bridge-Concrete	0	5
 Type 7 (Bulb Tee) Girder Sec.	PSBTEE bridge2.cel	1	Bridge-Concrete	0	5						

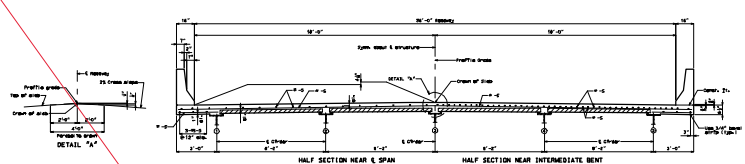
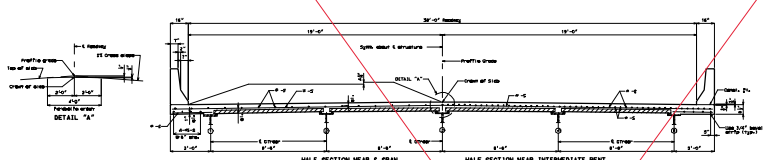
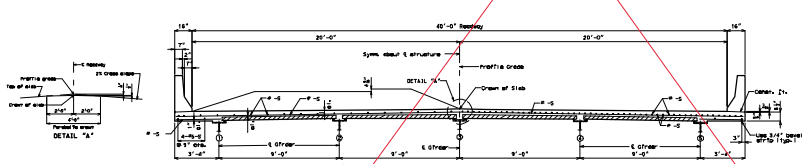
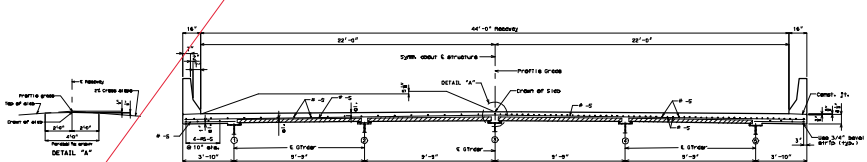
Bridge Standard Cells

Slab Cross Sections (old) 2% Cross Slope (Current)

	Cell Name	Color	Level	Line Style	Line Weight
 2% Slope Slab Section 26'-0" 4 Girder	SLS2N bridge3.cel	varies	varies	varies	varies
 2% Slope Slab Section 28'-0" 4 Girder	SLS3N bridge3.cel	varies	varies	varies	varies
 2% Slope Slab Section 30'-0" 4 Girder	SLS3AN bridge3.cel	varies	varies	varies	varies
 2% Slope Slab Section 32'-0" 4 Girder	SLS4N bridge3.cel	varies	varies	varies	varies

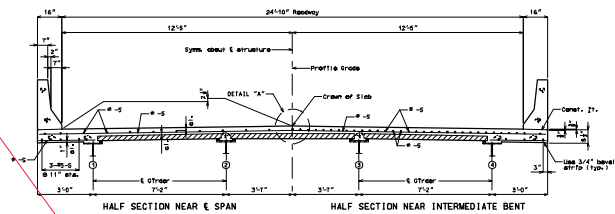
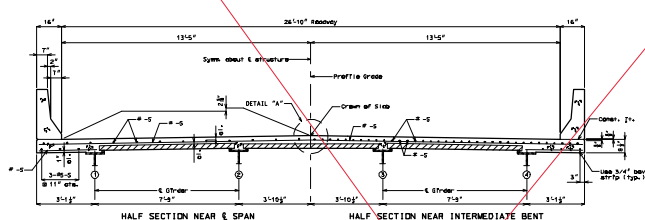
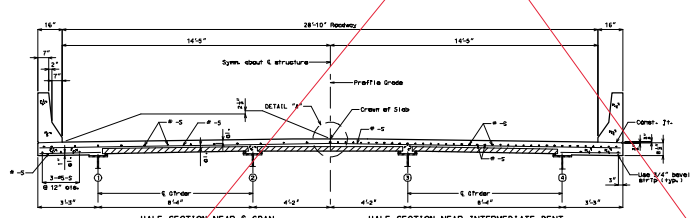
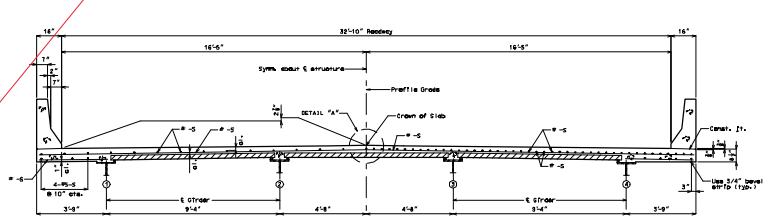
Bridge Standard Cells

Slab Cross Sections (old) (Cont.) 2% Cross Slope (Current)

	Cell Name	Color	Level	Line Style	Line Weight
 2% Slope Slab Section 36'-0" 5 Girder	SLS5N bridge3.cel	varies	varies	varies	varies
 2% Slope Slab Section 38'-0" 5 Girder	SLS6N bridge3.cel	varies	varies	varies	varies
 2% Slope Slab Section 40'-0" 5 Girder	SLS7N bridge3.cel	varies	varies	varies	varies
 2% Slope Slab Section 44'-0" 5 Girder	SLS8N bridge3.cel	varies	varies	varies	varies

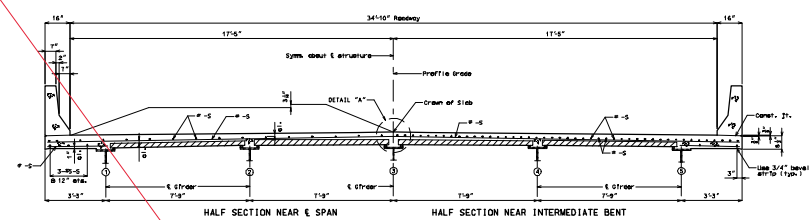
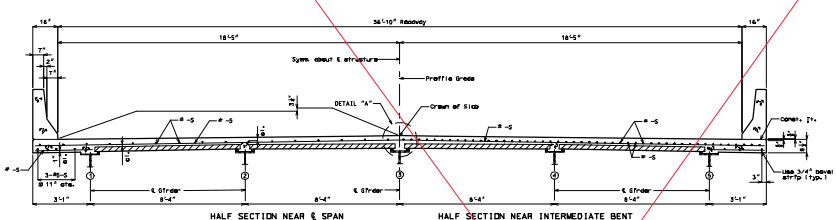
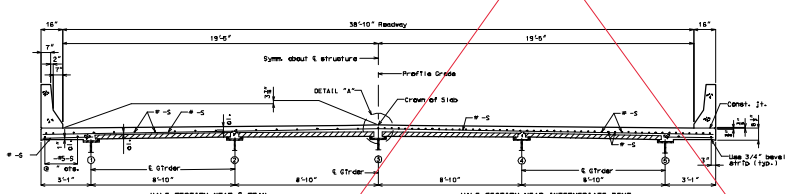
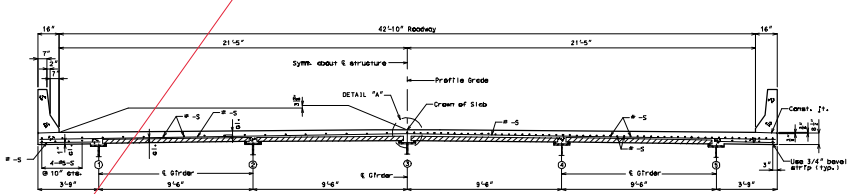
Bridge Standard Cells

Slab Cross Sections (old) (Cont.) 1.875% Cross Slope (Old)

	Cell Name	Color	Level	Line Style	Line Weight
 3/16"/ft Slab Section 24'-10" 4 Girder	SLS1 bridge3.cel	varies	varies	varies	varies
 3/16"/ft Slab Section 26'-10" 4 Girder	SLS2 bridge3.cel	varies	varies	varies	varies
 3/16"/ft Slab Section 28'-10" 4 Girder	SLS3 bridge3.cel	varies	varies	varies	varies
 3/16"/ft Slab Section 32'-10" 4 Girder	SLS4 bridge3.cel	varies	varies	varies	varies

Bridge Standard Cells

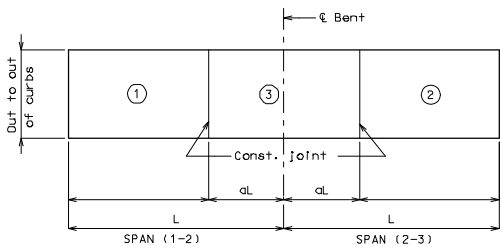
Slab Cross Sections (old) (Cont.) 1.875% Cross Slope (Old)

	Cell Name	Color	Level	Line Style	Line Weight
 3/16"/ft Slab Section 34'-10" 5 Girder	SLS5 bridge3.cel	varies	varies	varies	varies
 3/16"/ft Slab Section 36'-10" 5 Girder	SLS6 bridge3.cel	varies	varies	varies	varies
 3/16"/ft Slab Section 38'-10" 5 Girder	SLS7 bridge3.cel	varies	varies	varies	varies
 3/16"/ft Slab Section 42'-10" 5 Girder	SLS8 bridge3.cel	varies	varies	varies	varies

Bridge Standard Cells

Slab Pouring Sequences

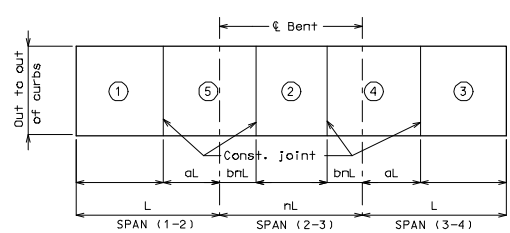
	Cell Name	Color	Level	Line Style	Line Weight
Pouring Sequence Case 1, 2 Span	C1SP2 bridge3.cel	varies	varies	varies	varies
Pouring Sequence Case 1, 3 Span	C1SP3 bridge3.cel	varies	varies	varies	varies



	Sequence of Pours			Min. rate of pour cu. yds./hr.	
	Direction			With retarder	No retarder
Basic sequence	1	2	3	25	25
	Either direction				
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.					
Alternate "A" pours	1	3 + 2			
	End to 3	1 to end			
Alternate "B" pours	1 + 3 + 2				
	End to end				

Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE



	Sequence of Pours					Min. rate of pour cu. yds./hr.	
	Direction					With retarder	No retarder
Basic sequence	1	2	3	4	5	25	25
	Either direction						
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.							
Alternate "A" pours	1	5 + 2	4 + 3				
	End to 5	1 to 4	2 to end				
Alternate "B" pours	1 + 5 + 2	4 + 3					
	End to 4	2 to end					
Alternate "C" pours	1 + 5 + 2 + 4 + 3						
	End to end						

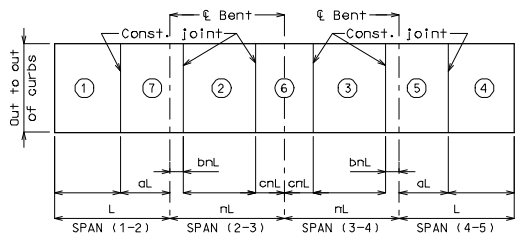
Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE

Bridge Standard Cells

Slab Pouring Sequences (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
Pouring Sequence Case 1, 4 Span	C1SP4 bridge3.cel	varies	varies	varies	varies

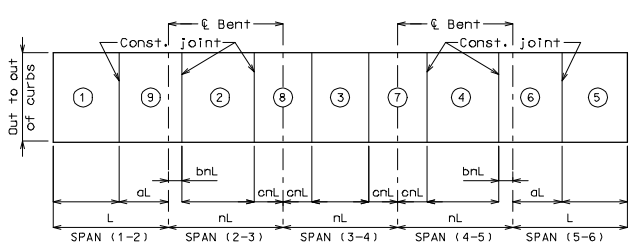


	Sequence of Pours							Min. rate of pour cu. yds./hr.	
	Direction							With retarder	No retarder
Basic sequence	1	2	3	4	5	6	7	25	25
	Either direction								
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.									
Alternate "A" pours	1	7 + 2	6 + 3	5 + 4					
	End to 7	1 to 6	2 to 5	3 to end					
Alternate "B" pours	1 + 7 + 2	6 + 3	5 + 4						
	End to 6	2 to 5	3 to end						
Alternate "C" pours	1 + 7 + 2	6 + 3 + 5 + 4							
	End to 6	2 to end							
Alternate "D" pours	1 + 7 + 2 + 6 + 3 + 5 + 4								
	End to end								

Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE

Pouring Sequence Case 1, 5 Span	C1SP5 bridge3.cel	varies	varies	varies	varies



	Sequence of Pours									Min. rate of pour cu. yds./hr.	
	Direction									With retarder	No retarder
Basic sequence	1	2	3	4	5	6	7	8	9	25	25
	Either direction										
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.											
Alternate "A" pours	1	9 + 2	8 + 3	7 + 4	6 + 5						
	End to 9	1 to 8	2 to 7	3 to 6	4 to end						
Alternate "B" pours	1 + 9 + 2	8 + 3	7 + 4 + 6 + 5								
	End to 8	2 to 7	3 to end								
Alternate "C" pours	1 + 9 + 2 + 8 + 3	7 + 4 + 6 + 5									
	End to 7	3 to end									
Alternate "D" pours	1 + 9 + 2 + 8 + 3 + 7 + 4 + 6 + 5										
	End to end										

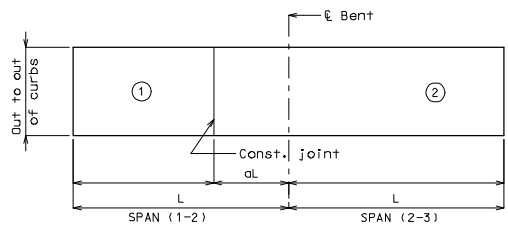
Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE

Bridge Standard Cells

Slab Pouring Sequences (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
Pouring Sequence Case 2, 2 Span	C2SP2 bridge3.cel	varies	varies	varies	varies



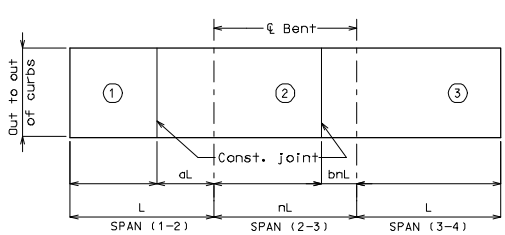
	Sequence of Pours		Min. rate of pour cu. yds./hr.
	Direction		With retarder
Basic sequence	1 End to 2	2 1 to end	25
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.			
Alternate "A" pours	1 + 2 End to end		

Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

	Cell Name	Color	Level	Line Style	Line Weight
Pouring Sequence Case 2, 3 Span	C2SP3 bridge3.cel	varies	varies	varies	varies



	Sequence of Pours			Min. rate of pour cu. yds./hr.
	Direction			With retarder
Basic sequence	1 End to 2	2 1 to 3	3 2 to end	25
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate "A" pours	1 + 2 End to 3		3 2 to end	
Alternate "B" pours	1 + 2 + 3 End to end			

Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

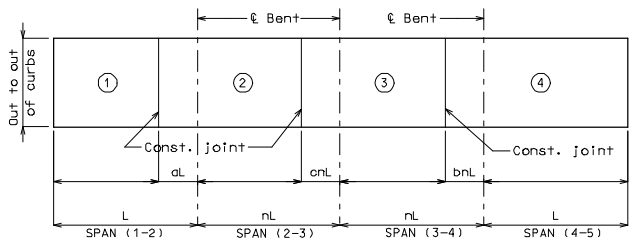
The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

Bridge Standard Cells

Slab Pouring Sequences (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
Pouring Sequence Case 2, 4 Span	C2SP4 bridge3.cel	varies	varies	varies	varies



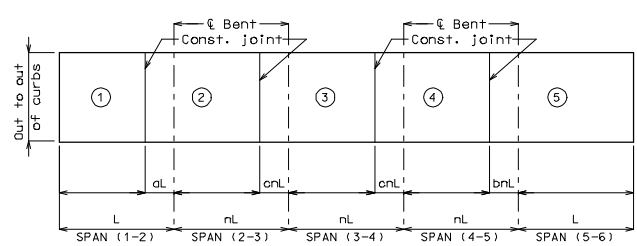
	Sequence of Pours				Min. rate of pour cu. yds./hr.
	Direction				With retarder
Basic sequence	1	2	3	4	25
	End to 2	1 to 3	2 to 4	3 to end	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.					
Alternate "A" pours	1 + 2		3	4	
	End to 3		2 to 4	3 to end	
Alternate "B" pours	1 + 2		3 + 4		
	End to 3		2 to end		
Alternate "C" pours	1 + 2 + 3 + 4				
	End to end				

Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

Pouring Sequence Case 2, 5 Span	C2SP5 bridge3.cel	varies	varies	varies	varies



	Sequence of Pours					Min. rate of pour cu. yds./hr.
	Direction					With retarder
Basic sequence	1	2	3	4	5	25
	End to 2	1 to 3	2 to 4	3 to 5	4 to end	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate "A" pours	1 + 2		3	4 + 5		
	End to 3		2 to 4	3 to end		
Alternate "B" pours	1 + 2 + 3			4 + 5		
	End to 4			3 to end		
Alternate "C" pours	1 + 2 + 3 + 4 + 5					
	End to end					

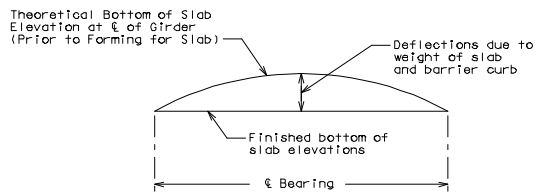
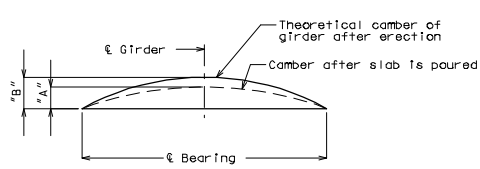
Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

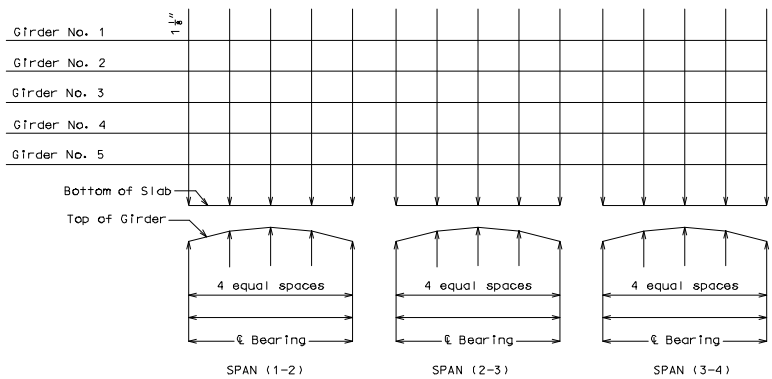
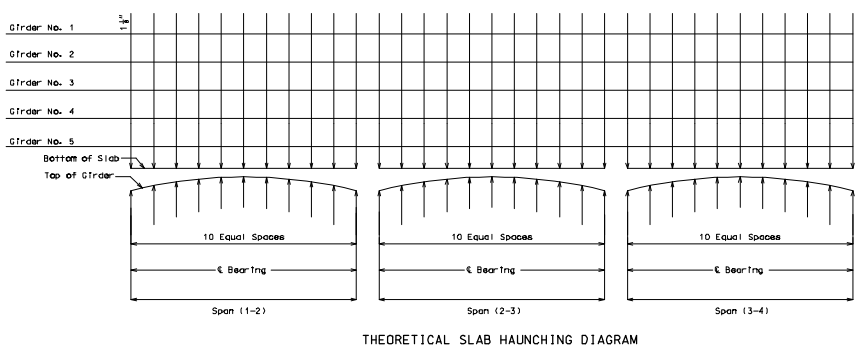
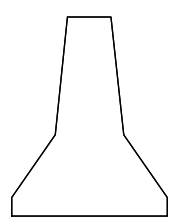
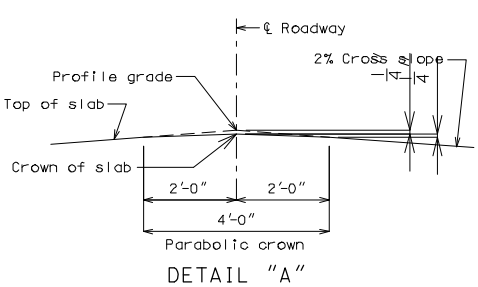
Bridge Standard Cells

Slab Sheet Details

	Cell Name	Color	Level	Line Style	Line Weight
Barrier Curb Section	CURB bridge1.cel	1	Bridge-Concrete	0	5
 TYPICAL SLAB ELEVATIONS DIAGRAM Bottom of Slab Elev Diagram	BOSD bridge3.cel	varies	varies	varies	varies
Theoretical Bottom of Slab Elevations at ℄ of Girder (Prior to Forming for Slab) ✱✱ Span (1-2) (℄ brg - ℄ brg.): ℄ brg. / .25 / .50 / .75 / ℄ brg. Span (2-3) (℄ brg - ℄ brg.): ℄ brg. / .25 / .50 / .75 / ℄ brg. Span (3-4) (℄ brg - ℄ brg.): ℄ brg. / .25 / .50 / .75 / ℄ brg. Girder no. Girder no. Girder no. Girder no. Girder no. ✱✱ Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier curb. Bottom of Slab Elev Quarter Pts	BOS4 bridge3.cel	varies	varies	varies	varies
Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab) ✱✱ Span (1-2) (⌞ " ℄ brg - ℄ brg.): ℄ brg. / .10 / .20 / .30 / .40 / .50 / .60 / .70 / .80 / .90 / ℄ brg. Girder no. 1 Girder no. 2 Girder no. 3 Girder no. 4 Girder no. 5 Span (2-3) (⌞ " ℄ brg - ℄ brg.): ℄ brg. / .10 / .20 / .30 / .40 / .50 / .60 / .70 / .80 / .90 / ℄ brg. Girder no. 1 Girder no. 2 Girder no. 3 Girder no. 4 Girder no. 5 Span (3-4) (⌞ " ℄ brg - ℄ brg.): ℄ brg. / .10 / .20 / .30 / .40 / .50 / .60 / .70 / .80 / .90 / ℄ brg. Girder no. 1 Girder no. 2 Girder no. 3 Girder no. 4 Girder no. 5 ✱✱ Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier curb. Bottom of Slab Elev Tenth Pts	BOS10 bridge3.cel	varies	varies	varies	varies
 Span (-): "A" / "B" Span (-): "A" / "B" Ext. girder: " / " / " / " Int. girder: " / " / " / " ℄ Girder: " / " / " / " GIRDER CAMBER DIAGRAM Girder Camber Diagram (P/S)	CAMBER bridge3.cel	varies	varies	varies	varies

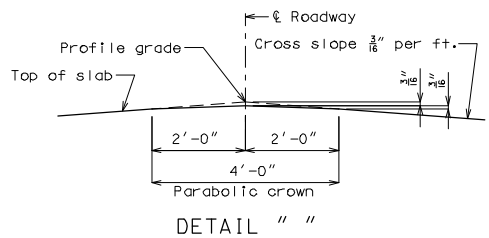
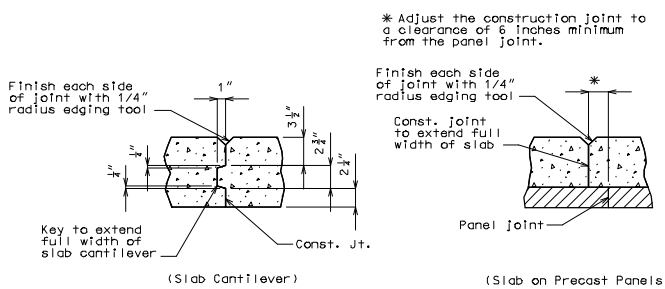
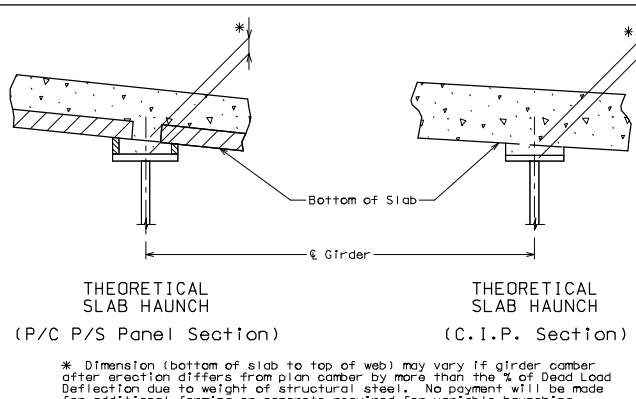
Bridge Standard Cells

Slab Sheet Details (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Haunching Diagram Quater Pts	HNCH4 bridge3.cel	varies	varies	varies	varies
 Haunching Diagram Tenth Pts	HNCH1 bridge3.cel	varies	varies	varies	varies
 Barrier Curb Section	MEDBC bridge1.cel	1	Bridge-Concrete	0	5
 Parabolic Crown Detail-2% Slope	PARAN bridge3.cel	varies	varies	varies	varies

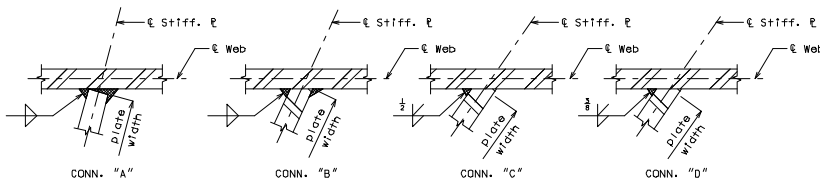
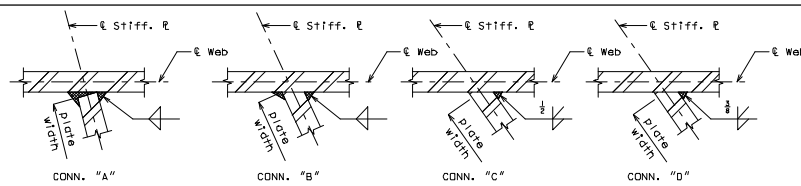
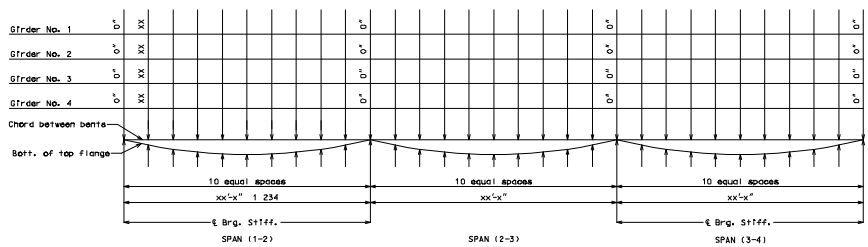
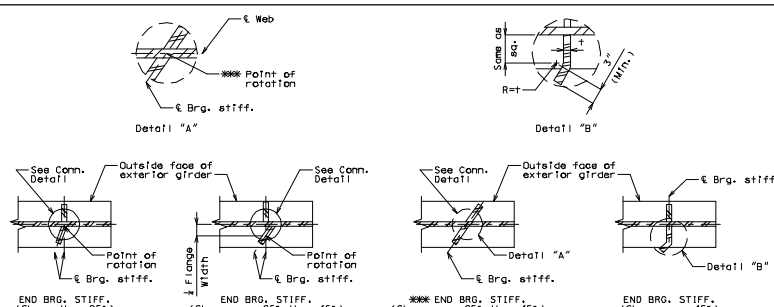
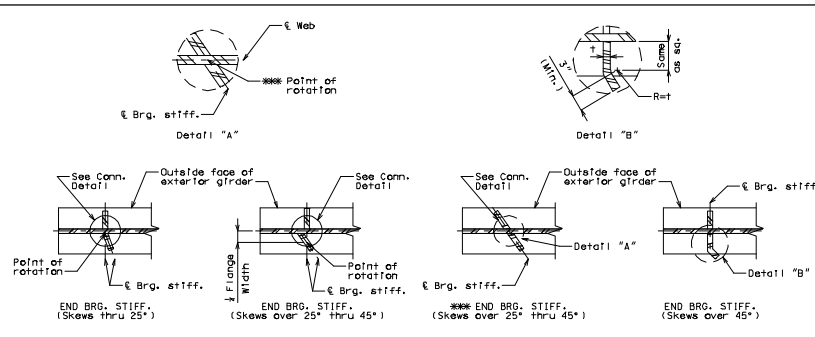
Bridge Standard Cells

Slab Sheet Details (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Parabolic Crown Detail-3/16"/ft	PARA bridge3.cel	varies	varies	varies	varies
 Slab Construction Joint Detail	SLBJT bridge3.cel	varies	varies	varies	varies
 Theoretical Slab Haunch Detail	TSH bridge2.cel	varies	varies	varies	varies
Theoretical Slab Haunch Detail	THRIE bridge1.cel	4	Bridge-Structural steel	0	4

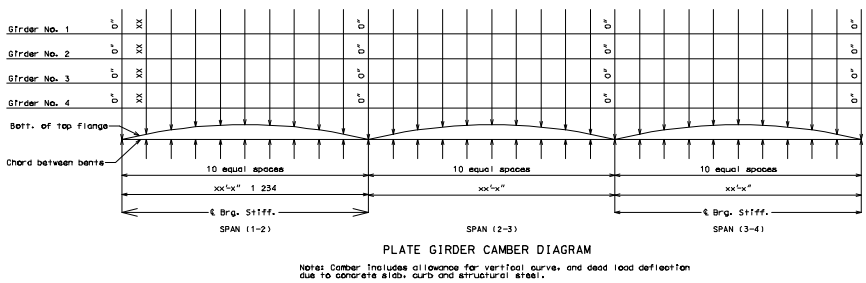
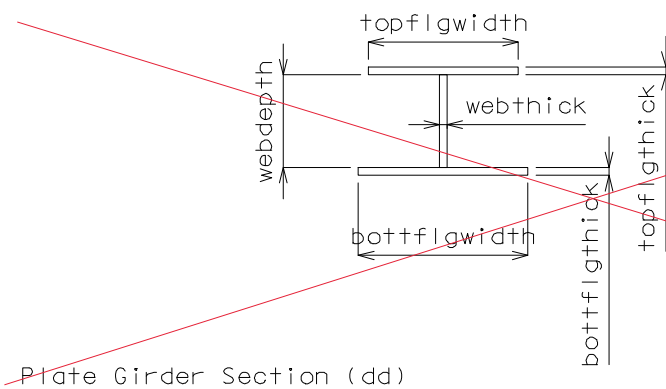
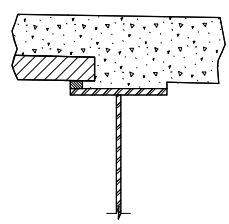
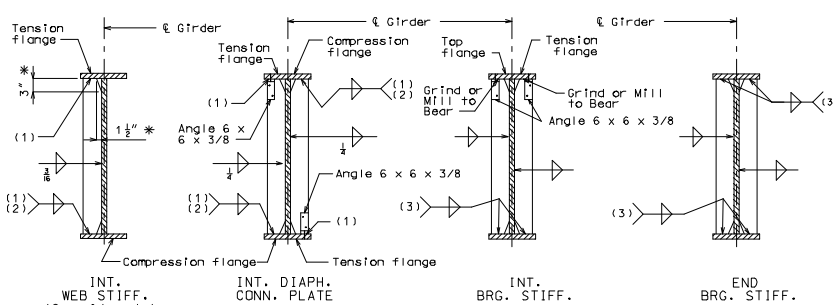
Bridge Standard Cells

Steel Girders

	Cell Name	Color	Level	Line Style	Line Weight
 WELDING DETAILS Connection Weld Details, Left	PCONL bridge2.cel	varies	varies	varies	varies
 WELDING DETAILS Connection Weld Details, Right	PCONR bridge2.cel	varies	varies	varies	varies
 DEAD LOAD DEFLECTION Note: % of dead load deflection is due to the weight of structural steel. Dead load deflection includes weight of structural steel, concrete slab, and barrier curb. Deadload Deflection Tenth Pts	DLD10 bridge2.cel	varies	varies	varies	varies
 TYPICAL LOCATION DETAILS Location Details, Left Advance	PLOCL bridge2.cel	varies	varies	varies	varies
 TYPICAL LOCATION DETAILS Location Details, Right Advance	PLOCR bridge2.cel	varies	varies	varies	varies

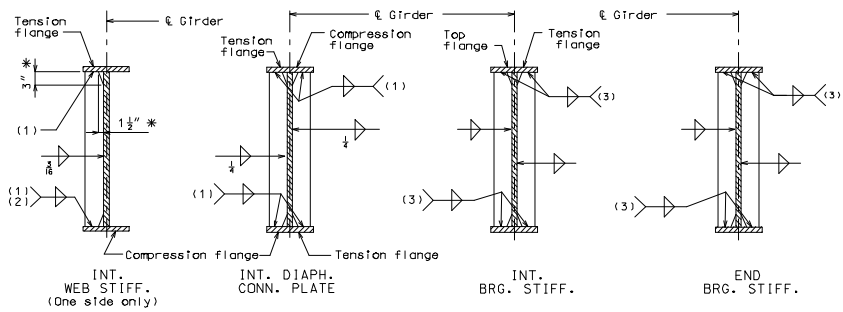
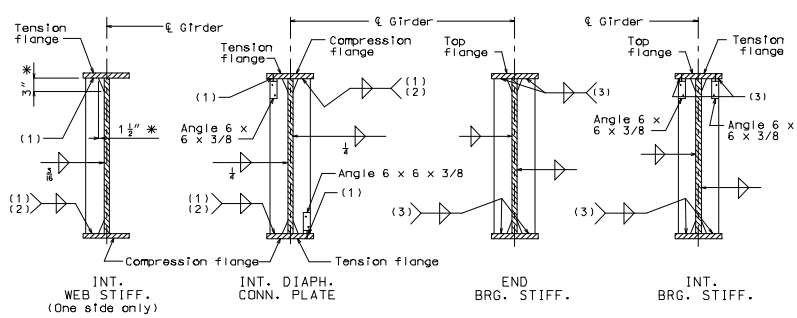
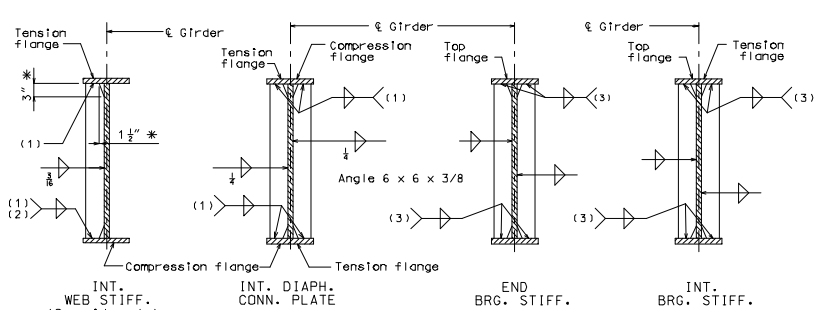
Bridge Standard Cells

Steel Girders (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Deadload Deflection Tenth Pts	PGC10 bridge2.cel	varies	varies	varies	varies
 Plate Girder Section (dd)	PLGDR (Dimension Driven) bridge2.cel	4	Bridge-Structural-Steel	0	4
 DETAIL "A" Steel Girder Overhang Detail	SDETA bridge3.cel	varies	varies	varies	varies
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. * Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Cur Gdr Skw >20 w/L	PSTFD bridge2.cel	varies	varies	varies	varies

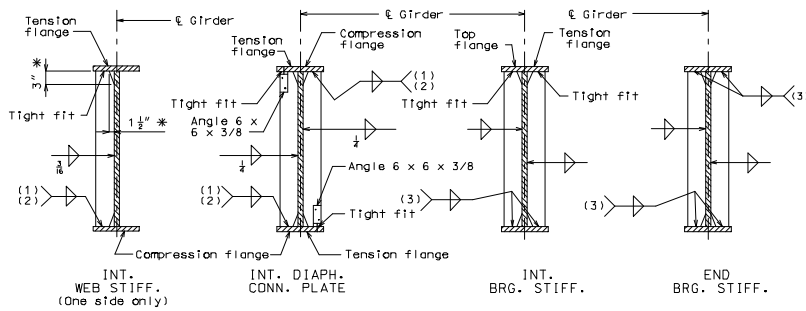
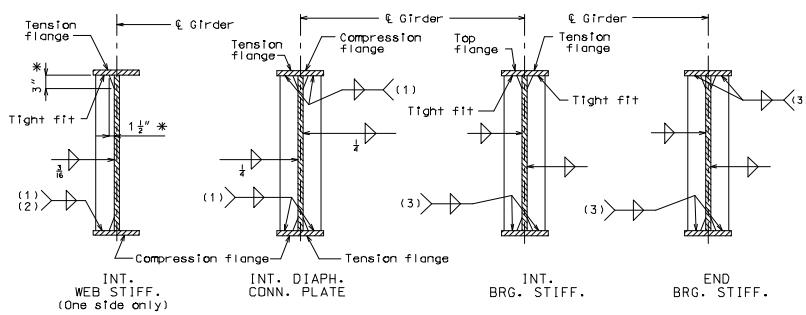
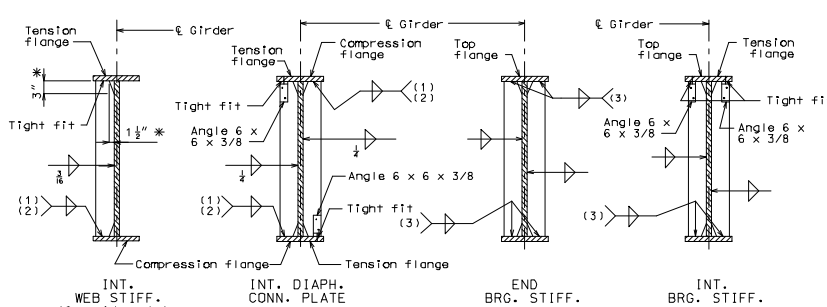
Bridge Standard Cells

Steel Girders (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. ✱ Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Cur Gdr Skw >20 wo/L	PSTFH bridge2.cel	varies	varies	varies	varies
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. ✱ Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Cur Gdr Skw =<20 w/L	PSTFB bridge2.cel	varies	varies	varies	varies
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. ✱ Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Cur Gdr Skw =<20 wo/L	PSTFF bridge2.cel	varies	varies	varies	varies

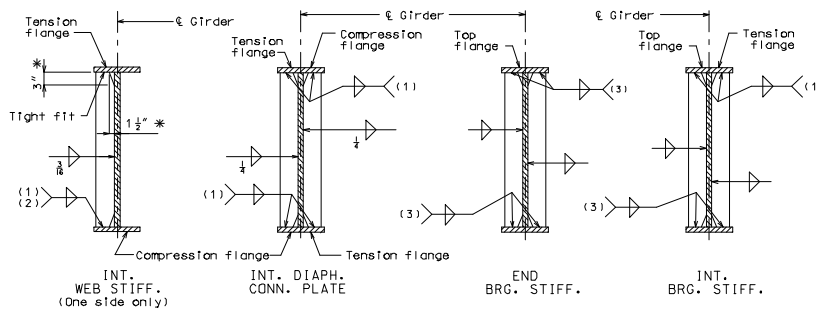
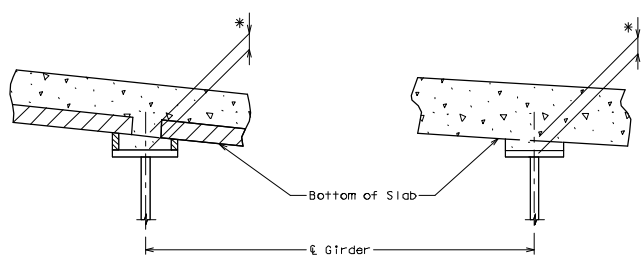
Bridge Standard Cells

Steel Girders (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. * Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Str Gdr Skw >20 w/L	PSTFC bridge2.cel	varies	varies	varies	varies
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. * Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Str Gdr Skw >20 wo/L	PSTFG bridge2.cel	varies	varies	varies	varies
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. * Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Str Gdr Skw =<20 w/L	PSTFA bridge2.cel	varies	varies	varies	varies

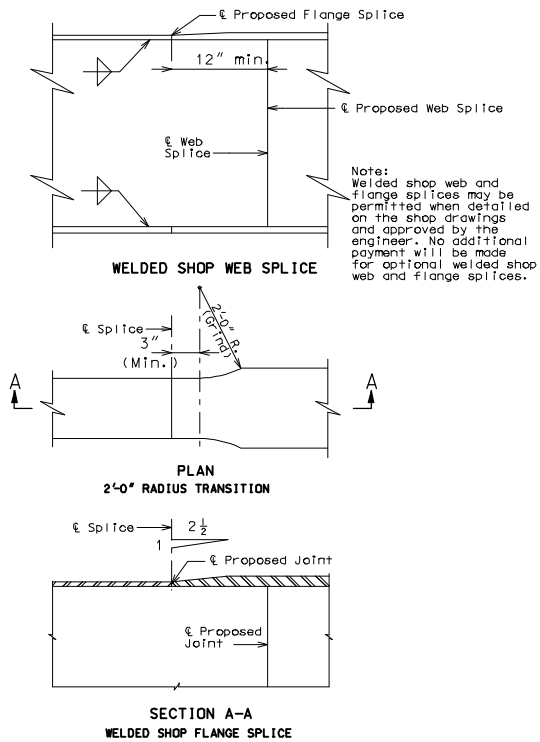
Bridge Standard Cells

Steel Girders (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 (1) Tight fit (2) Weld to compression flange as located on elevation of girder. (3) Grind or mill to bear. * Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff. WELDING DETAILS Stiff Str Gdr Skw =<20 wo/L	PSTFE bridge2.cel	varies	varies	varies	varies
 THEORETICAL SLAB HAUNCH (P/C P/S Panel Section) THEORETICAL SLAB HAUNCH (C.I.P. Section) * Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than the % of Dead Load Deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variable haunching. Theoretical Slab Haunch Detail	TSH bridge2.cel	varies	varies	varies	varies

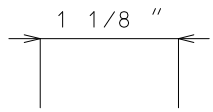
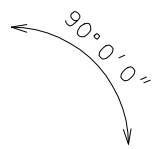
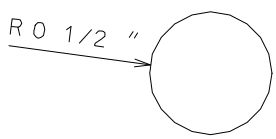
Bridge Standard Cells

Steel Girders (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
 Theoretical Slab Haunch Detail	WELSP bridge2.cel	varies	varies	varies	varies

Bridge Standard Cells

Text & Dimensions

	Text Height	Cell Name or Type	Color	Level	Line Style	Line Weight
 Dimension	1/8"	Dimension	5	Bridge-Dimensions	0	2
 Dimension Angle	1/8"	Dimension	5	Bridge-Dimensions	0	2
 Dimension Radius/Dia	1/8"	Dimension	5	Bridge-Dimensions	0	2
FOR INFORMATION ONLY NOT FOR CONSTRUCTION For Information Only stamp	5/16"	For Information Only Stamp bridge3.cel	2	Bridge-Text-Large	0	14
Example Large Text (Sheet Titles)	1/4"	Text	2	Bridge-Text-Large	0	7

Bridge Standard Cells

Text & Dimensions (Cont.)

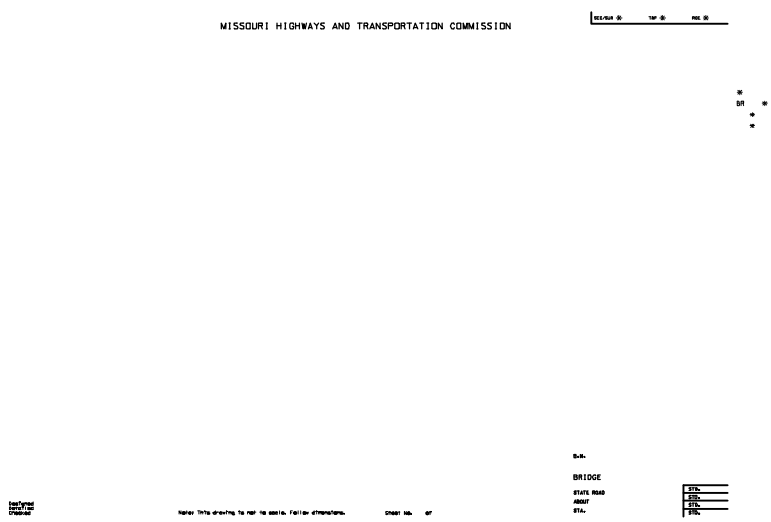
	Text Height	Cell Name or Type	Color	Level	Line Style	Line Weight
Note Leadered Note 1 & 2 (Both have same outcome, different ways to insert)	1/8"	Text	5	Bridge-Leader notes	0	2
Example Medium Text (Titles)	1/4"	Text	1	Bridge-Text-Medium	0	5
 Post-It Notes (Does not print)	na	Text	na	Bridge-Miscellaneous	na	na
Example Small Text (General)	1/8"	Text	5	Bridge-Text-Small	0	2
1 Text In A Bubble	1/8"	Text	5	Bridge-Text-Small	0	2

Note:
Text Height applies to full size text only. Any scaling factor applied to text must be applied to the text height as well. If the MoDOT Settings Manager is used with the correct scale and dimensions settings, any standard MicroStation text is automatically scalled to the correct size.

Text in a Bubble and Leader Note 1 have their own settings dialog box which has scale factors that are multipiers to the Settings Manager's scale and dimension factors.

Bridge Standard Cells

Text for New Title Block

	Text Height	Cell Name or Type	Color	Level	Line Style	Line Weight
Example Co., Job No., Bridge No. Text	1/8"	Text	4	Bridge-Dimensions	0	4
 Front Sheet Text	na	Front Sheet Text for New Title Block bridge3.cel	varies	varies	varies	varies
Example Revision Date Text	1/16"	Text	4	Bridge-Dimensions	0	3
Example Revision Description Text	1/16"	Text	4	Bridge-Dimensions	0	3

Bridge Standard Cells

Text for New Title Block (Cont.)

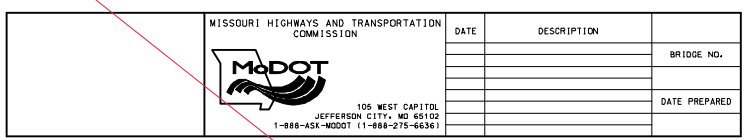
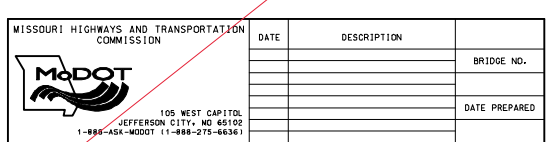
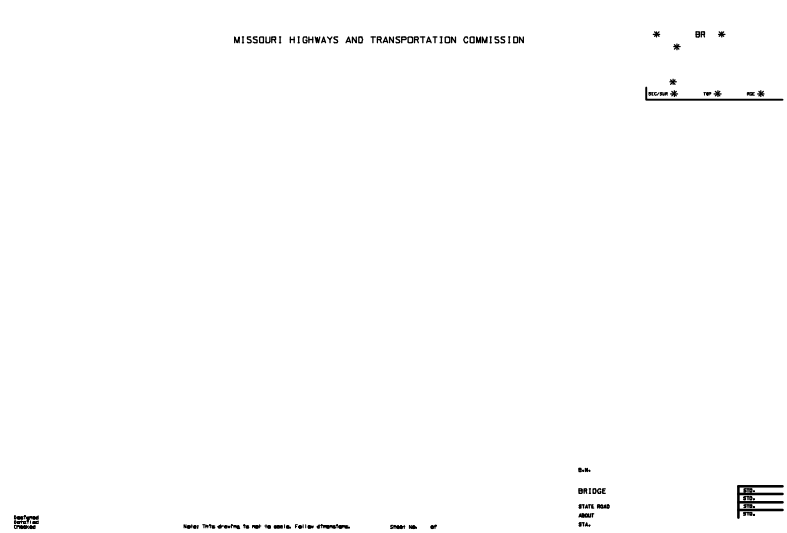
	Text Height	Cell Name or Type	Color	Level	Line Style	Line Weight
Example Rte., Dist., & Sht. No. Text	3/16"	Text	1	Bridge-Dimensions	0	4
SAFE & SOUND Safe & Sound Logo	na	SS LOGO bridge2.cel	ByLevel	Bridge-Dimensions	(0)ByLevel	ByLevel
Second Sheet Text	na	Second Sheet Text for New Title Block bridge3.cel	varies	varies	varies	varies

Note:
Text Height applies to full size text only. Any scaling factor applied to text must be applied to the text height as well. If the MoDOT Settings Manager is used with the correct scale and dimensions settings, any standard MicroStation text is automatically scalled to the correct size.

Text in a Bubble and Leader Note 1 have their own settings dialog box which has scale factors that are multipiers to the Settings Manager's scale and dimension factors.

Bridge Standard Cells

Text for Old Title Blocks

	Cell Name	Color	Level	Line Style	Line Weight
 Add-on to old TB-Consultant	Modification to old title block-Consultant (bridge3.cel)	varies	varies	varies	varies
 Add-on to old TB-MoDOT	Modification to old title block-MoDOT (bridge3.cel)	varies	varies	varies	varies
 FRONT SHEET TEXT (NEW)	FRONT SHEET TEXT (NEW) bridge3.cel	varies	varies	varies	varies

Bridge Standard Cells

Text for Old Title Blocks (Cont.)

	Cell Name	Color	Level	Line Style	Line Weight
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION STATE / Proj. No. / SHEET No. MO SEC/TWP TWP RGE B.M. BRIDGE STATE ROAD ABOUT PROJECT NO. JOB NO. STA. RTE. COUNTY Certified Correct Notes: This drawing is not to scale. Follow dimensions. Sheet No. of Front Sheet Text	SHT1 bridge2.cel	varies	varies	varies	varies
* BR * * * Certified Correct Notes: This drawing is not to scale. Follow dimensions. Sheet No. of SECOND SHEET TEXT (NEW)	SECOND SHEET TEXT (NEW) bridge3.cel	varies	varies	varies	varies
STATE / Proj. No. / SHEET No. MO COUNTY Certified Correct Notes: This drawing is not to scale. Follow dimensions. Sheet No. of Second Sheet Text	SHT2 bridge2.cel	varies	varies	varies	varies