State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

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To: ALL USERS OF THE BRIDGE
STANDARD DETAILS SHEETS (XS)

Date: July 3, 2014

File: **http://www.dot.ca.gov/hq/esc/techpubs/**

From: SHANNON POST, Chief
Office of Design and Technical Services
Structure Policy and Innovation
Division of Engineering Services

Subject: **BRIDGE STANDARD DETAIL SHEETS (XS) – JULY 2014 POSTING**

We are pleased to announce a major update to the Bridge Standards Detail Sheets (XS) effective July 2014.

As part of DES continuous quality improvement efforts, all sheets (except as noted below) have been reviewed and certified for compliance with current detailing standards, technical content and the 2010 Standard Specifications. Certification shall occur biennially or sooner if warranted. Subsequent postings will occur on a quarterly basis, with the next posting planned for October 2014.

Summary Table:

Number of Sheets	Type of Revision
97	No change, certification updated
44	Minor Revisions
6	Major Revisions
10	New Sheet
34	Archive
12	No action taken

Attached is a detailed description of the revisions to each sheet.

The Division of Engineering Services develops and maintains XS Sheets. The detail sheets are intended to be inserted directly into either the District PS&E package or the Structure PS&E package. The details are "Project Plans" for contract administration purposes in accordance with Section 5-1.02 "Contract Components", of the 2010 Standard Specifications.

The XS Sheets can be found at:
http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

Users are reminded of the following:

Disclaimer:
The California Department of Transportation (Caltrans) provides Bridge Standard Detail Sheets (XS) on an "as is" basis. All warranties and representations of any kind with respect to these sheets are disclaimed. These sheets are not Standard Plans and are subject to frequent modification. It is the responsibility of the user to ensure usage of the most current sheets and that the details shown are applicable for their specific project

Send general questions regarding the usage of XS sheets to "DES Design and Technical Services @ dot.ca.gov". Send technical questions to the applicable Technical Specialist or Technical Committee Manager.

I would like to take this opportunity to acknowledge and thank the numerous Technical Specialists, Technical Managers, Design Engineers and Structural Design Technicians who contributed their time and talent to this project.

Attachment
(1) Summary of Revisions to Bridge Standard Detail Sheets (XS) July 2014.

Attachment: Summary of Revisions to Bridge Standard Detail Sheets (XS)
July 2014

XS Sheet Number	XS Sheet Title	Previous Approval	Type of Revision	Summary of Revisions
Section 1	**BRIDGE SUPERSTRUCTURE**			
xs1-120	Precast Prestressed I Girder	July 2011	No Change	Certification updated
xs1-121-1	PC/PS Bulb-Tee Girder (Debonded Strands)	July 2011	No Change	Certification updated
xs1-121-2	PC/PS Bulb-Tee Girder (Miscellaneous Details)	July 2011	No Change	Certification updated
xs1-122-1	PC/PS Bulb-Tee Girder (Harped Strands)	July 2011	No Change	Certification updated
xs1-122-2	PC/PS Bulb-Tee Girder (Miscellaneous Details)	July 2011	No Change	Certification updated
xs1-125	PC/PS Concrete Slab Girder (Without CIP Deck)	July 2011	No Change	Certification updated
xs1-410-1	Steel Girder Shop Splice & Stud Connector Details	July 2011	No Change	Certification updated
xs1-410-2	Steel Girder Transverse Stiffener Details	July 2011	No Change	Certification updated
xs1-410-3	Steel Girder Connection Stiffener Details	July 2011	No Change	Certification updated
Section 2	**BRIDGE SUBSTRUCTURE**			
Section 3	**BRIDGE STRUCTURE APPROACHES**			
xs3-010-1	Structure Approach Type N (45D) Details No. 1	July 2011	No Action Taken	Updates planned for October posting
xs3-010-2	Structure Approach Type N (45D) Details No. 2	July 2011	No Action Taken	Updates planned for October posting
xs3-110	Structure Approach Drainage Details	July 2011	No Action Taken	Updates planned for October posting
xs3-120	Structure Approach Type N (30S)	July 2011	No Action Taken	Updates planned for October posting
xs3-130	Structure Approach Type R (30S)	July 2011	No Action Taken	Updates planned for October posting
xs3-140	Structure Approach Type N (30D)	July 2011	No Action Taken	Updates planned for October posting
xs3-150	Structure Approach Type R (30D)	July 2011	No Action Taken	Updates planned for October posting
xs3-160	Structure Approach Type EQ (10)	July 2011	No Action Taken	Updates planned for October posting
xs3-170	Structure Approach Type R (10S)	July 2011	No Action Taken	Updates planned for October posting
xs3-180	Structure Approach Type R (10D)	July 2011	No Action Taken	Updates planned for October posting

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Section 4	**BRIDGE ABUTMENTS**			
xs4-210	Slope Paving-Full Slope - No Skew	July 2011	Minor Revision	1. Note E was added for limits of slope paving and drainage layout 2. Detailed information for downdrain pipe and couplers were added
Section 5	**BRIDGE WINGWALLS**			
Section 6	**BRIDGE FOUNDATIONS**			
Section 7	**BRIDGE SEISMIC**			
xs7-010	Column Casing - Steel	July 2011	Minor Revisions	Revised fonts and line weights to reflect current standards
xs7-020	Column Casing - FRP Composite System	July 2011	Minor Revisions	Revised fonts and line weights to reflect current standards
xs7-021x	Column Casing - FRP Composite System Type 4	July 2011	Archive	Fiber composite system rarely used
xs7-030	Limits of Payment for Excavation and Backfill	July 2011	Minor Revisions	Revised fonts and line weights to reflect current standards
xs7-040	Cable Restrainer Type 1 (New)	July 2011	Major Revisions	This is one of two sheets that replace xs7-040. It fixes several errors in the old sheet, provides better details, and should result in less damage during earthquakes.
xs7-041	Cable Restrainer Type 1 (Retrofit)		New Sheet	This is one of two sheets that replace xs7-040. It fixes several errors in the old sheet, provides better details, and should result in less damage during earthquakes.
xs7-050-1	Cable Restrainer Type 2 Details No. 1 (New)	Jan 2012	Major Revisions	This is one of two sheets that replace xs7-050. It fixes several errors in the old sheet, provides better details, and should result in less damage during earthquakes.
xs7-050-2	Cable Restrainer Type 2 Details No. 2 (New)		New	This is one of two sheets that replace xs7-050. It fixes several errors in the old

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			Sheet	sheet, provides better details, and should result in less damage during earthquakes.
xs7-060x	Cable Restrainer Type 5	July 2011	Archive	Detail not used.
xs7-070	Restrainer Details for Pipe Extender/Shear Key (New)	July 2011	New Sheet	This is one of two sheets that replace xs7-070-1 Pipe/Cable Restrainer Systems - Details No. 1 (New) and xs7-070-2 Pipe/Cable Restraner Systems - Details No. 2 (New). This sheet gives details for putting restrainers in pipe seat extenders for new construction. It fixes several errors in the old sheets, it provides better details, and it should result in less damage during earthquakes. In particular, it addresses concerns that the concrete surrounding the pipe may not be able to support it if the supported span were to fall onto it during an earthquake.
xs7-070-1x	Pipe/Cable Restrainer Systems - Details No. 1 (New)	July 2011	Archive	Being replaced by xs7-070
xs7-070-2x	Pipe/Cable Restrainer Systems - Details No. 2 (New)	July 2011	Archive	Being replaced by xs7-070
xs7-071	Restrainer Details for Pipe Extender/Shear Key (Retrofit)		New Sheet	This is one of two sheets that replace xs7-070-1 Pipe/Cable Restrainer Systems - Details No. 1 (New) and xs7-070-2 Pipe/Cable Restraner Systems - Details No. 2 (New). This sheet gives details for putting restrainers in pipe seat extenders for new construction. It fixes several errors in the old sheets, it provides better details, and it should result in less damage during earthquakes. In particular, it addresses concerns that the concrete surrounding the pipe may not be able to support it if the supported span were to fall onto it during an earthquake.
xs7-080	Pipe Seat Extender/Shear Key Details (New)	July 2012	New Sheet	This is one of two sheets that replace xs7-080-1, xs7-080-2, & xs7-080-3. This sheet gives details for installing pipe extenders/shear keys in new construction. It fixes several errors in the old sheets, it provides better details, and it should result in less damage during earthquakes. In particular, it addresses concerns that the concrete surrounding the pipe may not be able to support it if the supported span were to fall onto it during an earthquake. Also, for new construction designers are using pipe extenders as shear keys and this new XS sheet relects that reality.
xs7-080-1x	Pipe Seat Extender Details (Retrofit)	July 2012	Archive	Being replaced by xs7-081
xs7-080-2x	Pipe Seat Extender Miscellaneous Details	July 2012	Archive	Details moved to sheet xs7-040
xs7-080-3x	Pipe/Cable Restrainer Systems Details (Retrofit)	July 2012	Archive	Being replaced by xs7-071

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xs7-081	Pipe Seat Extender/Shear Key Details (Retrofit)		New Sheet	This is one of two sheets that replace xs7-080-1, xs7-080-2, & xs7-080-3. This sheet gives details for installing pipe extenders/shear keys in new construction. It fixes several errors in the old sheets, it provides better details, and it should result in less damage during earthquakes. In particular, it addresses concerns that the concrete surrounding the pipe may not be able to support it if the supported span were to fall onto it during an earthquake. Also, for new construction designers are using pipe extenders as shear keys and this new XS sheet relects that reality. Finally, we are providing details both for new construction and for existing bridges.
xs7-090	Cable Restrainer Hardware Details	July 2011	Major Revisions	This sheet replaces the existing xs7-090. The sheet updates changes in the Special Provisions and lessons learned from previous earthquakes. All of the adjustment hardware is now shown on the hinge seat side and the tension indicator is now placed on the suspended side of the hinge. The washer size, thread locking system, and other components have been updated. The sheet has been reorganized to make the information easier to understand.
xs7-100-1	Slab Bridge Seat Extender - Details No. 1	July 2011	Minor Revisions	Revised fonts and line weights to reflect current standards
xs7-100-2	Slab Bridge Seat Extender - Details No. 2	July 2011	Minor Revisions	Revised fonts and line weights to reflect current standards
xs7-110	Deck and Soffit Openings	July 2011	Minor Revisions	Revised fonts and line weights to reflect current standards
Section 8	**BRIDGE JOINT SEALS**			
xs8-010	Strip Joint Seal Assembly - Maximum Movement Rating = 4"	Sept 2013	No Change	Certification updated, sheet title updated
xs8-020	Joint Seal - Hinge Details - Movement Rating Greater than 4"	July 2011	No Change	Certification updated
xs8-030	Joint Seal - Abutment Details - Movement Rating Greater than 4"	July 2011	No Change	Certification updated

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xs8-050	Joint Armor for Pedestrian Walkways	Jan 2014	Minor Revisions	This sheet meets ADA compliance for expansion joints in pedrestian walkways
Section 9	**BRIDGE BEARINGS**			
xs9-010	PTFE/Spherical Expansion Bearing Details	July 2011	No Changes	Certification updated
xs9-020	PTFE/Spherical Fixed Bearing Details	July 2011	No Changes	Certification updated
xs9-030	Steel Laminated Elastomeric Bearings	Nov 2013	No Changes	Certification updated
Section 10	**BRIDGE DECK DRAINS**			
xs10-010	Deck Drain - Type C	July 2011	No Action Taken	Updates planned for October posting
xs10-020	Deck Drain - Type D-2 Modified	July 2011	No Action Taken	Updates planned for October posting
Section 11	**RAILROAD**			
xs11-010	Minimum Railroad Requirements for Overhead Structures	July 2011	Minor Revisions	Change the "Minimum Construction Clearance Envelope" detail to show a 21'-6" minimum vertical clearance from the top of rail. Currently, we show a 21'-0" min. vertical clearance from the top of rail for UPRR and 21'-6" for BNSF. UPRR has requested an increase, which makes it equal to the clearance required by BNSF.
Section 12	**EARTH RETAINING SYSTEMS**			
xs12-020	Test Soil Nail Details	July 2011	No Change	No change, certification updated.
xs12-021	Wall Drain Details	July 2011	No Change	No change, certification updated.
xs12-030-1x	Tiedown Anchor Details No. 1	July 2011	Archive	Used LFD methodology
xs12-030-1	Vertical Ground Anchor Details No. 1	July 2011	No Change	No change, certification updated.
xs12-030-2x	Tiedown Anchor Details No. 2	July 2011	Archive	Used LFD methodology
xs12-030-2	Vertical Ground Anchor Details No. 2	Nov 2011	No Change	No change, certification updated.
xs12-040	Sub Horizontal Ground Anchor Details	Jan 2012	No Change	No change, certification updated.
xs12-050	Cantilever Soldier Pile Wall Details	Jan 2012	Minor	Changed nomenclature of backfill material from Structural Concrete (Soldier Pile

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			Revisions	Wall) to Concrete Backfill (Soldier Pile Wall). Added 3" clearance between bottom of hole and bottom of soldier pile.
xs12-060-1	Soldier Pile Wall with Walers-Details No. 1	Jan 2012	Minor Revisions	Changed nomenclature of backfill material from Structural Concrete (Soldier Pile Wall) to Concrete Backfill (Soldier Pile Wall). Added 3" clearance between bottom of hole and bottom of soldier pile.
xs12-060-2	Soldier Pile Wall with Walers-Details No. 2	Jan 2012	Minor Revisions	Changed nomenclature of backfill material from Structural Concrete (Soldier Pile Wall) to Concrete Backfill (Soldier Pile Wall).
xs12-070	Soldier Pile Wall with Ground Anchors	Jan 2012	Minor Revisions	Changed nomenclature of backfill material from Structural Concrete (Soldier Pile Wall) to Concrete Backfill (Soldier Pile Wall). Added 3" clearance between bottom of hole and bottom of soldier pile.
xs12-080	Soldier Pile Wall Lagging Details	Jan 2012	No Change	Certification updated.
xs12-090	Concrete Barrier Slab Details	Jan 2012	No Change	Certification updated.
Section 13	**MECHANICALLY STABILIZED EMBANKMENT**			
xs-13-020-1	Mechanically Stabilized Embankment - Details No. 1	Jan 2012	No Change	Certification updated.
xs-13-020-2	Mechanically Stabilized Embankment - Details No. 2	Jan 2012	No Change	Certification updated.
xs-13-020-3	Mechanically Stabilized Embankment - Details No. 3	Jan 2012	No Change	Certification updated.
xs-13-020-4	Mechanically Stabilized Embankment - Details No. 4	July 2011	No Change	Certification updated.
xs-13-020-5	Mechanically Stabilized Embankment - Details No. 5	Jan 2012	No Change	Certification updated.
xs-13-020-6	Mechanically Stabilized Embankment - Details No. 6	Jan 2012	No Change	Certification updated.
Section 14	**RETAINING WALLS WITH SOUNDWALLS**			
xs14-210x	Retaining Wall Type 1SW	July 2011	Archive	Used LFD methodology
xs14-210-1	Retaining Wall Type 1SW - Details No.1	July 2011	No Change	Certification updated.
xs14-210-2	Retaining Wall Type 1SW - Details No.2	Dec 2012	No Change	Certification updated.
xs14-220x	Retaining Wall Type 1SWB	July 2011	Archive	Used LFD methodology
xs14-220-1	Retaining Wall Type 1SWB - Details No.1	July 2011	No Change	Certification updated.
xs14-220-2	Retaining Wall Type 1SWB - Details No.2	Dec 2012	No Change	Certification updated.
xs14-310-1x	Retaining Wall Type 1SWP - Details No. 1	July 2011	Archive	Used LFD methodology

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xs14-310-1	Retaining Wall Type 1SWP - Details No. 1	July 2011	No Change	Certification updated.
xs14-310-2x	Retaining Wall Type 1SWP - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-310-2	Retaining Wall Type 1SWP - Details No. 2	July 2011	No Change	Certification updated.
xs14-320-1x	Retaining Wall Type 1SWBP - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-320-1	Retaining Wall Type 1SWBP - Details No. 1	July 2011	No Change	Certification updated.
xs14-320-2x	Retaining Wall Type 1SWBP - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-320-2	Retaining Wall Type 1SWBP - Details No. 2	July 2011	No Change	Certification updated.
xs14-340x	Retaining Wall Type 5SW	July 2011	Archive	Used LFD methodology
xs14-340-1	Retaining Wall Type 5SW - Details No.1	July 2011	No Change	Certification updated.
xs14-340-2	Retaining Wall Type 5SW - Details No.2	July 2011	No Change	Certification updated.
xs14-350x	Retaining Wall Type 5SWB	July 2011	Archive	Used LFD methodology
xs14-350-1	Retaining Wall Type 5SWB - Details No.1	July 2011	No Change	Certification updated.
xs14-350-2	Retaining Wall Type 5SWB - Details No.2	July 2011	No Change	Certification updated.
xs14-360-1x	Retaining Wall Type 5SWP - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-360-1	Retaining Wall Type 5SWP - Details No. 1	July 2011	No Change	Certification updated.
xs14-360-2x	Retaining Wall Type 5SWP - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-360-2	Retaining Wall Type 5SWP - Details No. 2	July 2011	No Change	Certification updated.
xs14-370-1x	Retaining Wall Type 5SWBP - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-370-1	Retaining Wall Type 5SWBP - Details No. 1	July 2011	No Change	Certification updated.
xs14-370-2x	Retaining Wall Type 5SWBP - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-370-2	Retaining Wall Type 5SWBP - Details No. 2	July 2011	No Change	Certification updated.
xs14-375-1	Retaining Wall Type 7B - Details No. 1	April 2013	No Change	Certification updated.
xs14-375-2	Retaining Wall Type 7B - Details No. 2	July 2011	No Change	Certification updated.
xs14-380-1x	Retaining Wall Type 7SW - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-380-1	Retaining Wall Type 7SW - Details No. 1	July 2011	No Change	Certification updated.
xs14-380-2x	Retaining Wall Type 7SW - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-380-2	Retaining Wall Type 7SW - Details No. 2	July 2011	No Change	Certification updated.
xs14-390-1x	Retaining Wall Type 7SWB - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-390-1	Retaining Wall Type 7SWB - Details No. 1	July 2011	No Change	Certification updated.
xs14-390-2x	Retaining Wall Type 7SWB - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-390-2	Retaining Wall Type 7SWB - Details No. 2	Jan 2012	No Change	Certification updated.

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xs14-400-1x	Retaining Wall Type 7SWP - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-400-1	Retaining Wall Type 7SWP - Details No. 1	July 2011	No Change	Certification updated.
xs14-400-2x	Retaining Wall Type 7SWP - Details No. 2	Jan 2012	Archive	Used LFD methodology
xs14-400-2	Retaining Wall Type 7SWP - Details No. 2	July 2011	No Change	Certification updated.
xs14-410-1x	Retaining Wall Type 7SWBP - Details No. 1	July 2011	Archive	Used LFD methodology
xs14-410-1	Retaining Wall Type 7SWBP - Details No. 1	July 2011	No Change	Certification updated.
xs14-410-2x	Retaining Wall Type 7SWBP - Details No. 2	July 2011	Archive	Used LFD methodology
xs14-410-2	Retaining Wall Type 7SWBP - Details No. 2	July 2011	No Change	Certification updated.
Section 15	**SOUNDWALLS**			
xs15-120-1	Masonry Block Sound Wall on Retaining Wall - Details No. 1	July 2011	Major Revisions	Revised the minimum compressive strength of CMU. It was increased to 2000 psi from 1500 psi per ASTM C90-14. Typical section revised. Note 6 added.
xs15-120-2	Masonry Block Sound Wall on Retaining Wall - Details No. 2	July 2012	No Change	Certification updated.
xs15-130-1	Masonry Block Sound Wall w/Barrier on Retaining Wall - Details No. 1	July 2012	Major Revisions	Revised the minimum compressive strength of CMU. It was increased to 2000 psi from 1500 psi per ASTM C90-14. Typical section revised. Some notes deleted.
xs15-130-2	Masonry Block Sound Wall w/Barrier on Retaining Wall - Details No. 2	Sept 2013	No Change	Certification update.
Section 16	**BARRIERS AND RAILINGS**			
xs16-010	Thrie Beam Connection-Type 25	July 2011	Minor Revisions	Revised line thickness to match current detailing standards. Revised controlling field dimension note to say "must" instead of "shall". Added section C-C to plan view and renamed "Concrete Barrier Type 25" cross-section detail to "Section C-C". Revised Section C-C to show barrier cross-section outline on top of a wingwall (similar to Section A-A) instead of on top of a bridge deck overhang.
xs16-020	Thrie Beam Connection-Type 27	July 2011	Minor Revisions	Revised line thickness to match current detailing standards. Revised controlling field dimension note to say "must" instead of "shall".
xs16-025	Thrie Beam Connection-Type 1	July 2011	Minor Revisions	Revised line thickness to match current detailing standards. Revised controlling field dimension note to say "must" instead of "shall".

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xs16-026	Thrie Beam Connection-Type 2, Alternatives No. 1 & No. 2	Aug 2011	Minor Revisions	Revised line thickness to match current detailing standards. Revised controlling field dimension note to say "must" instead of "shall". Added a second alternative and cross-section to the sheet. Added other minor changes.
xs16-027	Thrie Beam Connection-Type 2, Alternatives No. 3		New Sheet	Added a third alternative to Thrie Beam Connection - Type 2 that shows curb and vertical parapet portion both tapering to 20:1 at the same time (requested by Districts, HQ Division of Maintenance, and HQ Division of Traffic Operations).
xs16-030	Thrie Beam Connection-Type 9	July 2011	Minor Revisions	Revised line thickness to match current detailing standards. Revised controlling field dimension note in lover left to say "must" instead of "shall".
xs16-035	Concrete Barrier Type 80,732,& 736-Tubular Bicycle Railing Details	Aug 2012	No Change	Certification updated.
xs16-040	Concrete Barrier Type 27S/SV Transition to Type 736S/SV	July 2011	Archive	Detail not used
xs16-045	Concrete Barrier Type 736 Retrofit on Existing Bridge Deck and Wing Wall	Jun 2012	No Change	Certification updated.
xs16-050-1	Concrete Barrier Type 90-Details No. 1	July 2011	Minor Revisions	Corrected some rebar detailing errors/omissions in the Type 90A-2 and Type 90B-2 views. Corrected a rebar #5 stirrup dimension. Added note 8 by moving "Note:For rail details, see "Concrete Barrier Type 90, Details No. 3 sheet". Corrected some font sizing to match current detailing standards.
xs16-050-2	Concrete Barrier Type 90-Details No. 2	July 2011	Major Revisions	Eliminated deflection joint in the Plan and Elevation views, and eliminated the corresponding "Deflection Joint Detail". Also deleted "Expansion Joint Detail" on Details No. 2 sheet. Revised font sizes and line weights to conform with current detailing standards. Added arrow to concrete barrier joint with note stating "Open Joint to Match Deck or Wall Joint Width"
xs16-050-3	Concrete Barrier Type 90-Details No. 3	July 2011	Minor Revisions	Renamed "Deflection or Expansion Splice" to "Expansion Splice". Revised the Expansion Sleeve Detail" to move slot holes to the right side instead of left side. Moved details so that the "Expansion Sleeve Detail" was directly over the "Expansion Splice" detail, and so that the "Standard Sleeve Detail" was directly over the "Standard Splice" detail. Revised "1 inch Minimum" to "1 inch Larger Than Width of Bridge Splice" detail. Revised font sizes to conform with current detailing standards.

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xs16-070	Concrete Barrier Type 60-Steel Channel Closure Details	July 2011	No Change	Certification Updated
xs16-075	Concrete Barrier Type 60P	July 2012	Minor Revisions	Changed direction of holes in post and simplified detail B. Dimension change in Detail A. Consolidation and/or clarification of various notes and dimensions. Minor drafing updates. Clarification of rebar clear cover requirement in footing.
xs16-076	Concrete Barrier Type 60PR		New Sheet	Added new sheet to use with existing Type 60 barriers.
xs16-077	Concrete Barrier Type 60AP Details		New Sheet	Added new sheet for use with existing Type 60A barriers on CRCP
xs16-090-1	Concrete Barrier Type 60R-Transition at Bridge Column-Details No. 1	July 2012	No Change	Certification Updated
xs16-090-2	Concrete Barrier Type 60R-Transition at Bridge Column-Details No. 2	July 2012	No Change	Certification Updated
xs16-091-1	Concrete Barrier Type 60G-Transition at Bridge Column-Details No. 1	Aug 2012	No Change	Certification Updated
xs16-091-2	Concrete Barrier Type 60G-Transition at Bridge Column-Details No. 2	Aug 2012	No Change	Certification Updated
xs16-100	Concrete Barrier Type 60A and Type 60SA Mod	July 2011	No Change	Certification Updated
xs16-120-1	California ST-20S Bridge Rail-Details No. 1	July 2011	Minor Revisions	Revised tubuar steel designation from "TS" to "HSS" at all locations on sheet to meet current standards. Revised "3/4 dia Stud Bolt with Nuts & Washers, Typ" to "3/4 dia Stud Bolt with Nuts & Washers, Snug Tight, and Thread Locking System, Typ.". Revised "(5 1/8 Thread) wrench tight" to (5 1/8 Thread) Snug Tight, and Thread Locking System". Revised "Stud Attached with Full Penetration Butt Weld" to "Stud Attached with CJP Weld" to meet current standard. Revised line weights to meet current standards.
xs16-120-2	California ST-20S Bridge Rail-Details No. 2	July 2011	Minor Revisions	The departure end endblock shown in the "Rail Post Layout, Single Direction Traffic Only" detail is revised to be 5'-0" long. Removed repetitive notes for each approach and departure end detail and consolidated them into a single NOTE at the bottom center of this xs sheet. Removed Pay Limits. Revised line weights to meet current detailing standards.

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xs16-120-3	California ST-20S Bridge Rail-Details No. 3	July 2011	Minor Revisions	Revised the length of departure end endblock to 5'-0" and major revision to increase the amount of reinforcing in both the approach and departure end blocks. Revised tubular steel designation from "TS" to "HSS" to meet current standards. Removed notes #1, #2, and #4 (and renumbered remaining four notes) because the information is covered in the specifications regarding shop plans. Revised line weights to match current detailing standards.
xs16-120-4	California ST-20S Bridge Rail-Details No. 4	July 2011	Minor Revisions	Revised tubuar steel designation from "TS" to "HSS" at all locations on sheet to meet current standards. Revised "HS bolts with washers, wrench tightened" to "HS bolts with nuts and washers, snug tightened, and thread locking system". Revised line weights to match current detailing standards.
xs16-130-1	California ST-70 Bridge Rail-Details No. 1	July 2011	Minor Revisions	Revised tubuar steel designation from "TS" to "HSS" at all locations on sheet. Revised "3/4 dia Stud Bolt with Nuts & Washers, Typ" to "3/4 dia Stud Bolt with Nuts & Washers, Snug Tight, and Thread Locking System, Typ.". Revised "(5 1/8 Thread) wrench tight" to (5 1/8 Thread) Snug Tight, and Thread Locking System". Revised "Stud Attached with Full Penetration Butt Weld" to "Stud Attached with CJP Weld" to meet current standard. Revised dimension of bar in Section B-B.
xs16-130-2	California ST-70 Bridge Rail-Details No. 2	July 2011	Minor Revisions	The departure end endblock shown in the "Rail Post Layout, Single Direction Traffic Only" detail is revised to be 5'-0" long. Removed repetitive notes for each approach and departure end detail and consolidated them into a single NOTE at the bottom center of this xs sheet. Removed Pay Limits. Revised line weights to meet current detailing standards.
xs16-130-3	California ST-70 Bridge Rail-Details No. 3	Sept 2013	Minor Revisions	Revised the length of departure end endblock to 5'-0" and major revision to increase the amount of reinforcing in both the approach and departure end blocks. Revised tubular steel designation from "TS" to "HSS" to meet current standards. Removed notes #1, #2, and #4 (and renumbered remaining four notes) because the information is covered in the specifications regarding shop plans. Revised line weights to match current detailing standards.
xs16-130-4	California ST-70 Bridge Rail-Details No. 4	July 2011	Minor Revisions	Revised tubuar steel designation from "TS" to "HSS" at all locations on sheet to meet current standards. Revised "HS bolts with washers, wrench tightened" to "HS bolts with nuts and washers, snug tightened, and thread locking system" to

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XS Sheet Number	XS Sheet Title	Previous Approval	Type of Revision	Summary of Revisions
				meet current standards. Revised line weights to current detailing standards.
xs16-140-1	Chain Link Railing Type 2 - Details No. 1	July 2011	No Change	Certification Updated
xs16-140-2	Chain Link Railing Type 2 - Details No. 2	July 2011	No Change	Certification Updated
xs16-150-1	Chain Link Railing Type 2 - ST-10 - Details No. 1	July 2011	No Change	Certification Updated
xs16-150-2	Chain Link Railing Type 2 - ST-10 - Details No. 2	July 2011	No Change	Certification Updated
xs16-160	Chain Link Railing Type 3	July 2011	No Change	Certification Updated
xs16-165	Chain Link Railing Type 3L	July 2011	No Change	Certification Updated
xs16-170-1	Chain Link Railing Type 4 - Details No. 1	July 2011	No Change	Certification Updated
xs16-170-2	Chain Link Railing Type 4 - Details No. 2	July 2011	No Change	Certification Updated
xs16-180-1	Chain Link Railing Type 4 - ST-10 - Details No. 1	July 2011	No Change	Certification Updated
xs16-180-2	Chain Link Railing Type 4 - ST-10 - Details No. 2	July 2011	No Change	Certification Updated
xs16-200	Chain Link Railing Type 6	July 2011	No Change	Certification Updated
xs16-210-1	Chain Link Railing Type 7L - Details No. 1	July 2011	No Change	Certification Updated
xs16-210-2	Chain Link Railing Type 7L - Details No. 2	July 2011	No Change	Certification Updated
xs16-220-1	Chain Link Railing Type 7 (MOD) - Details No. 1	April 2013	No Change	Certification Updated
xs16-220-2	Chain Link Railing Type 7 (MOD) - Details No. 2	July 2011	No Change	Certification Updated
Section 17	**UNDERGROUND STRUCTURES**			
xs17-030	CIP Bottomless Culvert Foundation : Piles/ Footings on Rock	Oct 2013		Renumbered page - See xs17-051
xs17-040	CIP Bottomless Culvert Foundation : Piles/ Footings on Soil	Oct 2013		Renumbered page - See xs17-052
xs17-050-1	CIP Bottomless Culvert: General Configurations	Nov 2011	Minor Revisions	Design Notes change: Edition for AASHTO LRFD Bridge Design Specs and CA Amendments is changed from 4th Edition to 6th Edition. Construction Notes change: text "consideration" is changed to "authorization". Some grammar errors were corrected. Added definitions: Sp = parapet span, W = width, and L = length. Plan sheet subtitle: General Configuration is changed to General Configurations.
xs17-050-2	CIP Bottomless Culvert: Wall, Slab, & Pile Details	Oct 2013	Minor Revisions	Flow line grade signs are revised using standard signs. Errors in steel reinforcement call outs are corrected. Call outs for Pile Cap/Footing are updated to the name of the new plan sheet (Foundation Details sheet). Plan sheet subtitle:

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XS Sheet Number	XS Sheet Title	Previous Approval	Type of Revision	Summary of Revisions
				Wall, Slab & Foundation Details is changed to Wall, Slab & Pile Details
xs17-050-3	CIP Bottomless Culvert: Foundation Details	Oct 2013	Minor Revisions	Flow line grade signs are revised using standard signs. Errors in steel reinforcement call outs are corrected. Material properties for piles and concrete are deleted because they are shown on xs17-050-1; CIP Bottomless Culvert - General Configurations
xs17-051	CIP Bottomless Culvert: Piles/Footings on Rock	Oct 2013	Minor Revisions	Plan sheet number xs17-030 is changed to xs17-051. Signs for flow line grade and finish grade are revised using standard signs. Errors in steel reinforcement call outs are corrected. Plan sheet title is changed from "CIP Bottomless Culvert Foundation" to "CIP Bottomless Culvert". Note 1 for culvert definition is deleted. Note 3 for shear reinforcement is deleted. A new note is added: Quantites are approximate and for design purposes only. Note number sequece is reordered.
xs17-052	CIP Bottomless Culvert: Piles/Footings on Soil	Oct 2013	Minor Revisions	Plan sheet number xs17-040 is changed to xs17-052. Signs for flow line grade and finish grade are revised using standard signs. Errors in steel reinforcement call outs are corrected. Plan sheet title is changed from "CIP Bottomless Culvert Foundation" to "CIP Bottomless Culvert". Note 1 for culvert definition is deleted. Note 3 for shear reinforcement is deleted. A new note is added: Quantites are approximate and for design purposes only. Note number sequece is reordered.
xs17-060	Corrugated Metal Culvert	Oct 2013	New Sheet	Two plan sheets of xs17-060-1 and xs17-060-2 are merged into one plan sheet as xs17-060. Added "CSP" to chart title "SSPP Specified Thickness (Inches)". Notes 1, 2, 3 and 4 in notes of "Steps in Using Welded Headed Studs Selection Charts" are moved to User Guide. Notes 1, 2 and 3 in notes of "Procedures for Corrugated Steel (CSP) Culvert Invert Repair" are moved to User Guide. Notes 1 and 2 in notes "Construction Notes" are removed. Note number sequence reordered. "H4L" is deleted from call out for weld studs to eliminate the specified type of studs. Revised language for call out for void filling using grounding or slurry to "void to be filled".
xs17-060-1x	Culvert - Corrugated Metal - General Procedures for Invert Repair	July 2011	Archive	
xs17-060-1xx	Corrugated Metal Culvert: Procedures for Invert Repair	Oct 2013	Archive	Combined sheet with xs17-060-2 to make new sheet xs17-060
xs17-060-2x	Culvert - Corrugated Metal - Details for Invert Repair	July 2011	Archive	

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XS Sheet Number	XS Sheet Title	Previous Approval	Type of Revision	Summary of Revisions
xs17-060-2xx	Corrugated Metal Culvert: Details for Invert Repair	July 2011	Archive	Combined sheet with xs17-060-1 to make new sheet xs17-060
Section 18	**SIGNS AND OVERHEAD STRUCTURES**			
xs18-010	Temporary Wood Poles-General Notes	Nov 2012	Minor Revisions	Revised General Note 1. Clarified dp and d1…dn on Projected Depth of Overhead Bundle
xs18-020	Temporary Wood Poles-Non-Guyed-No Signals on Spans	Nov 2012	Minor Revisions	Changed clearance to bottom of the signal on the pole from 10' maximum to 10' minimum for Case 1N. Added CCTV on top of pole to case 2N. Added Note 3. Clarified Item 4. Minor revision Item 2.
xs18-030	Temporary Wood Poles-Guyed-No Signals on Spans	Nov 2012	Minor Revisions	Minor modifications to items 2, 4, and 9
xs18-040	Temporary Wood Poles-Guyed-With Signals on Spans	Nov 2012	Minor Revisions	Clarified Item 4.
xs18-050	Temporary Wood Poles-Non-Guyed-With Signals on Spans	Nov 2012	Minor Revisions	Corrected item 4.
xs18-080-1	Temporary Wood Poles-Details No. 1	Nov 2012	No Change	Certification updated.
xs18-080-2	Temporary Wood Poles-Details No. 2	Nov 2012	No Change	Certification updated.
xs18-080-3	Temporary Wood Poles-Details No. 3	Nov 2012	No Change	Certification updated.
xs18-080-4	Temporary Wood Poles-Details No. 4	Nov 2012	Minor Revisions	Revised note 4 and added note 5. Added reference to note 5 in the elevation view.
xs18-080-5	Temporary Wood Poles-Details No. 5	Nov 2012	No Change	Certification updated.
Section 19	**CURB RAMPS**			
xs19-010-1	Curb Ramp, Case 1 - Details No. 1	Aug 2013	Minor Revisions	Revised notes. Revised line type to show existing construction.
xs19-010-2	Curb Ramp, Case 1 - Details No. 2	Aug 2013	Minor Revisions	One asterisk removed
xs19-020-1	Curb Ramp, Case 2 - Details No. 1	Aug 2013	Minor Revisions	Revised notes. Revised line type to show existing construction.
xs19-020-2	Curb Ramp, Case 2 - Details No. 2	Aug 2013	No Change	Certification updated.

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XS Sheet Number	XS Sheet Title	Previous Approval	Type of Revision	Summary of Revisions
xs19-030-1	Curb Ramp, Case 3 - Details No. 1	Aug 2013	Minor Revisions	Revised notes. Revised line type to show existing construction.
xs19-030-2	Curb Ramp, Case 3 - Details No. 2	Aug 2013	No Change	Certification updated.

SUMMARY	
No Change	97
Minor Revision	44
Major Revision	6
Add New Sheet	10
No Action Taken	12
Archive	34
Total	203