

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: T. K. Koch, P.E.
State Structures Engineer

DATE: January 12, 2016

SUBJECT: DESIGN MANUAL REVISIONS

The following sections and figures of Chapter 7 and Chapter 12 in the Design Manual have been revised:

Section	Summary of Revision(s)
7.2.2.1	Provided reference to Figure 7-15 for detailing the berm for a 2'-6" deep end bent cap.
7.2.4	Revised the requirements for calculating the minimum turned back wingwall length.
7.2.6.4	Added the requirement to detail a shear key in construction joints in end bent caps. Added guidance for locating the construction joint in stage-constructed end bent caps on skews.
7.2.7	Added guidance to provide plan notes indicating the required coating type for steel sheet piles. The plan notes related to galvanizing and metallizing steel sheet piles have been added to the Standard Substructure Notes.
7.3.1	Revised the geometric criteria for integral end bents from tangent alignment to allow straight girders on tangent or curved alignments. Added guidance allowing integral end bents to exceed the length limit as long as a joint is detailed at an interior bent(s) such that the length between end bent and joint(s) satisfies the limit.
7.3.2	Added guidance to detail the edges of integral end bent diaphragms to match the outside edges of the superstructure, and to not detail the integral diaphragms the full length of the end bent cap.
7.3.3	Revised the prebored hole fill material required for drilled-in piles.
7.3.4	Added reference to Section 7.2.4 for end bent wingwall layout. Added guidance to detail the section of wingwall above the horizontal construction joint in an integral end bent cap as Class A concrete cast prior to the end bent diaphragm and end section of the bridge deck near the integral end bent.
7.3.5	Added allowance for approach slabs to be cast monolithically with integral end bent diaphragms.

7.4.1	Added guidance to coordinate with Roadway Design requesting a grade and/or alignment change if a non-standard bent type, such as an integral bent or post-tensioned bent, would be required to satisfy vertical clearance.
7.4.2.4	Revised the minimum required clearance between the edge of a pile to the adjacent shear stirrup from 4" to 2".
7.4.3.1	Added guidance to the bent plan layout section to show the bridge survey line or control line, the centerline of piles and the centerline of bearings.
7.4.3.2	Revised guidance for detailing bent bridge seats; added reference to Figure 7-2; revised the reference to Figure 7-9.
7.4.3.5	Added the requirement to detail a shear key in construction joints in interior bent caps. Added guidance to detail reinforcement lap splices whenever possible for stage-constructed interior bent caps, unless separate bent cap segments are detailed for each stage. Also added guidance that reinforcing steel mechanical couplers are only permitted when lap splices are not feasible. These additions provide consistency with Section 7.2.6.4 for end bents.
7.4.5.2	Added guidance to consider drilled shafts for interior bents located in water if pile excavation would be required. Added clarity for pay items related to SID Inspections, CSL Tubes, and CSL Testing shown in the Total Bill of Material and in the Bill of Material on Bent plan sheets.
12-6	Added guidance on determining and providing information regarding slope pivot points to facilitate proper grading of fill and construction of slope protection.

Figure	Summary of Revision(s)
7-15	Provided separate guidance for determining wing lengths for steam crossings and highway and railroad crossings.
7-15a	Provided separate guidance for determining wing lengths for steam crossings and highway and railroad crossings.
12-25a	Added guidance on determining slope pivot point information.

The Design Manual, Design Manual Figures and Standard Notes are available online.

TKK/TMG/kaw

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