

GUIDELINES FOR USING BRIDGE STANDARDS ①

- Determine spans needed.
- For bridges of more than one span, determine the Seismic Zone of the bridge site in accordance with the AASHTO LRFD Bridge Design Specifications, 4th Edition with 2009 Interims, or later. If the bridge is a single span or if the bridge site is found to be in Seismic Zone 1, these Standards may be used without modification. If the bridge is more than one span and the bridge site is in Seismic Zone 2, a complete seismic analysis of the bridge must be performed in accordance with Section 4.7.4 of the design specifications to determine compliance of these Standards for use in Seismic Zone 2.
- Determine whether abutments will be integral or conventional. All components of bridge will carry the integral or conventional designation determined by the type of abutment chosen. Total bridge length using integral abutments may not exceed 400 feet.
- From BEAM SPAN SCHEDULE on Std. B40-GUIDE-2, choose type of beams for spans required.
- Standards required are listed in Reference Guide Schedules. All standards in the box at the intersection of the applicable row and column will be required. If the bridge contains multiple spans, standards listed in the schedules could be repeated under multiple beam types; however, only one copy of each standard is necessary in the plans. Standards are designated by two numbers - the first number is the Design Number and the second number is the sheet number. ②
Use the Reference Guide Schedules as follows:
 - ABUTMENTS on Std. B40-GUIDE-2
Knowing beam type, choose integral or conventional column to get standards required.
 - CROSS SECTIONS on Std. B40-GUIDE-3
Knowing beam type, choose integral or conventional column to get standards required.
 - LONGITUDINAL SECTIONS on Std. B40-GUIDE-3
Knowing beam type, choose integral or conventional column to get standards required.
 - SUPERSTRUCTURE BAR LISTS on Std. B40-GUIDE-3
Knowing beam type, choose integral or conventional column to get standards required.
 - BEAMS
Beam type will determine which schedule to use for beam details as follows:
 - If bridge has integral abutments and precast concrete beams, find beam type and column for span length to get standards required from PRECAST CONCRETE BEAMS - INTEGRAL on Std. B40-GUIDE-3.
 - If bridge has conventional abutments and precast concrete beams, find beam type and column for span length to get standards required from PRECAST CONCRETE BEAMS - CONVENTIONAL on Std. B40-GUIDE-4.
 - If Rolled beams are used, find span and choose conventional or integral column to get standards required from ROLLED BEAMS on Std. B40-GUIDE-4.
 - DIAPHRAGMS, BEARINGS AND SUPERSTRUCTURE QUANTITIES on Std. B40-GUIDE-5
Knowing beam type, choose integral or conventional column to get standards required.
 - APPROACH SLABS on Std. B40-GUIDE-5
Choose integral or conventional column to get standard required.
 - CONCRETE TRAFFIC RAIL on Std. B40-GUIDE-5
WITHOUT OPENINGS must be used if bridge is over traffic or a railroad; otherwise, WITH OPENINGS shall be used.
Knowing rail type, choose integral or conventional column to get standards required.
 - MISCELLANEOUS ITEMS on Std. B40-GUIDE-5
Include additional standards required. EXPANSION JOINT standards not required for integral bridges.
- Additional plan sheets must be provided by the Design Engineer which may include, but not be limited to the following:

TITLE SHEET
BRIDGE GENERAL NOTES ③
SUMMARY OF QUANTITIES (BRIDGE)
GENERAL PLAN AND ELEVATION ④
SUBSTRUCTURE STAKING DIAGRAM
FOUNDATION REPORT
SLOPEWALL DETAILS or RIPRAP DETAILS
PIER DETAILS ⑤

The State Bridge Standard Drawings provided herein are intended to be used for ODOT "standard" type bridges on the Oklahoma State Highway System. Each individual design, detail, note, table or part of information contained in the State Bridge Standard Drawings is only applicable to a bridge constructed in strict conformance to all relevant designs, details, notes, tables and information contained in the complete set of State Bridge Standard Drawings and the ODOT Standard Specifications for Highway Construction unless specifically noted otherwise in the State Bridge Standard Drawings. Bridges with properties that do not conform to the scope of the State Bridge Standard Drawings shall be considered "special" or "non-standard" and are intended to be separately designed and detailed for the specific application.

- Requires the following standards:

B40-GUIDE-1
B40-GUIDE-2
B40-GUIDE-3
B40-GUIDE-4
B40-GUIDE-5
- Terms used in Design Numbers:

PCB refers to Precast Concrete Beams
PC2 refers to P.C. Beams Type II and B
PC3 refers to P.C. Beams Type III and C
PC4 refers to P.C. Beam Type IV
PC234 refers to P.C. Beams Type II, B, III, C and IV
PC5 refers to P.C. Beams Type BT-72 and J
BT refers to P.C. Beam Type BT-72
RB refers to Hot Rolled Steel Beams
- Include paragraph on BRIDGE GENERAL NOTES as follows:

Comply with the requirements of the 2009 Oklahoma Standard Specifications for Highway Construction, except as modified by the Plans and Special Provisions.
- Copy DESIGN DATA to General Plan and Elevation sheet. Remove "Reference BEAM DETAILS" from LFD OPERATING RATING and replace with appropriate minimum rating for design used.
- Piers are to be designed and detailed specifically for the bridge configuration and site by the Design Engineer. Guidelines for pier cap design and detailing are provided on standards B40-PIER-STD, B40-PIER-SPED, and B40-PIER-SCAP.

APPROVED BY BRIDGE ENGINEER

Scott J. Smith

DATE

4/2/10

OKLAHOMA DEPT. OF TRANSPORTATION
BRIDGE STANDARD (ENGLISH)
REFERENCE GUIDE TO
STANDARD SERIES B40
(SHEET 1 OF 5)

2009 SPECIFICATIONS

B40-GUIDE-1

01E

B-15E