

Kansas Department of Transportation
Bureau of Construction and Maintenance

Guidelines for Development, Review and Approval Of:

Standard Specifications
for State Road and Bridge Construction

and

Special Provisions to the
Standard Specifications
for State Road and Bridge Construction

Revised June 2008

1.0 PURPOSE

This document provides guidance for the development, review and approval of the *Standard Specifications for State Road and Bridge Construction* and the Special Provisions that supplement the *Standard Specifications for State Road and Bridge Construction*.

2.0 BACKGROUND

a. Definitions:

(1) **Standard Specifications:** the current edition of KDOT's *Standard Specifications for State Road and Bridge Construction*.

(2) **Special Provisions:** approved supplementary provisions, additions or revisions to the Standard Specifications. These are low-numbered special provisions used on numerous projects. They require FHWA approval when used on federally funded projects. They should not contain proprietary information.

(3) **Project Special Provisions:** approved supplementary provisions, additions or revisions to the Standard Specifications that address conditions specific to an individual project. These are high-numbered special provisions used only on a specific project. They do not require FHWA approval. **NOTE:** If it is deemed necessary to re-use a Project Special Provision on numerous contracts, it should be submitted to become a 'standard' special provision.

(4) **Specification Review Group:**

District Construction Engineers
Curt Niehaus-Materials & Research
Abe Rezayazdi-Construction & Maintenance
Brenda Perry-Construction & Maintenance
Lee Ann Legge-Construction & Maintenance
Amy Rockers-Road Design
John Jones-Bridge Design
Jeff Henry-Traffic
Rod Lacy-Local Projects

b. Kansas Statutes (K.S.A.) give the Secretary of Transportation the authority to devise and adopt Standard Specifications for road, bridge and culvert construction. The Bureau of Construction and Maintenance is responsible for the Standard Specifications. Other Bureaus of KDOT contribute to the writing and revising of the Standard Specifications.

Changing technology, new materials and products, changes in construction procedures, and changes in policy and laws make it necessary to periodically update the Standard Provisions. Until the current edition of the Standard Specifications is updated, Special Provisions and Project Special Provisions are developed to supplement the Standard Specifications.

c. The objectives of these guidelines are:

- to establish procedures for development, review and approval of Standard Specifications and Special Provisions and Project Special Provisions;
- to establish responsibility for preparation of draft and final documents, review and approval of the documents and distribution of the documents;
- to obtain uniformity throughout KDOT.

3.0 PROCEDURE

a. **Determine if a Special Provision is Necessary.**

(1) Check Existing Specifications. Verify that our standard specifications do not cover the information needed.

NOTE: If these are consultant-designed projects, do not just forward a batch of special provisions to the Specification Section. It is up to the party responsible for the plans to perform the initial review of any submitted special provisions, since we are not familiar with the plans.

(2) Plan Notes. When possible, use notes on plans rather than creating a special provision.

(3) New Bid Items Require Specifications. If a new bid item is needed, there **MUST** be a special provision to cover it. When possible, use plan notes, and have the work subsidiary to an existing bid item already covered by our specifications. This would eliminate the need for a new bid item and/or special provision.

b. Submitting a Proposed Special Provision.

(1) Timeliness. If a special provision or project special provision is deemed necessary, do **NOT** wait until the last minute to create one. ‘Standard’ special provisions require FHWA approval and project special provisions can be complicated. Special Provisions should be submitted a minimum of 3 months in advance of the proposed letting date. This is due in part because the letting documents (plans and proposals) are actually printed a 5-6 weeks prior to the letting date.

(2) Format. Submit the draft in word.doc format (not Adobe Acrobat), font-Times New Roman, preferably with no built in formatting. See Appendix.

(3) Modifying an Existing Specification. If modifying existing specifications, obtain copies of the word documents from the Specification Section ([Brenda Perry](#) or [Lee Ann Legge](#)). Use the Track Changes feature to make modifications. It is important for us to know what has been modified. We will then format the document to a special provision highlighting the changes.

(4) Creating a New Special Provision or Project Special Provision. When there is not an existing specification, please create an initial draft with the needed content and if possible, written in the imperative mood (Instead of “the Contractor shall construct the item...” use “Construct the item...”). We will help clean up the document for formatting, grammar, imperative mood, etc.

(5) Communication. Make sure all appropriate Bureaus/District Construction Engineers are aware of the content of the special provision. The special provision will be sent to the review group before it is approved, so it is better to get their input ahead of time.

(6) The proposal submitted must state what work is to be done, what materials will be used and how they are accepted, what the construction requirements are, and how the work will be measured and paid for. References to other standards (such as ASTM, AASHTO, the City of Overland Park) are encouraged, if appropriate.

When required, include proprietary information in the plans. Also, Materials and Research could create a prequalification list, when necessary, and when given enough lead time.

(7) Unacceptable Procedures.

a. Dropping off notes with limited information.

b. Stopping by and telling us you need a special provision for an item with no information.

c. The response “I normally don’t deal with specs” when information is requested.

The content of special provisions needs to be created by the experts working in the area of the topic. It is our job to oversee the information to try to ensure the information, terminology, bid items, formatting, etc. is clear and consistent.

c. Proposed Specifications. Submit proposed changes to the Standard Specifications, proposed Special Provisions, proposed revisions to Special Provisions, and proposed Project Special Provisions to the Specification Engineer and Specification Technician in the Bureau of Construction and Maintenance. Submit proposed work schedule specifications to the Assistant Bureau Chief, Bureau of Construction and Maintenance. Submit the proposed specifications well in advance of the desired date of use.

d. Preparation of Draft Specifications. The Specification Engineer or Specification Technician will prepare a draft specification (according to these Guidelines) from the information submitted in the proposed specification.

e. Review of the Draft Specifications. The Specification Engineer will distribute the draft specifications to the Specification Review Group and other interested parties for review and comments. The Specification Engineer will distribute the draft specifications to the Bureau, the Districts, other Bureaus of KDOT, other State Agencies, the Federal Highway Administration (FHWA), Contractors, and organizations representing the highway construction industry, and material manufacturers and suppliers, as appropriate.

Note: Neither KDOT’s resources or time will allow that everyone (who might be interested in the specification) reviews the draft specifications. KDOT will endeavor to obtain an appropriate review of the draft specifications, but recognizes the fact that sometimes this does not happen. If deficiencies are

discovered in published specifications, KDOT encourages comments, and will consider all comments for possible revision of the specification.

f. Assessment of the Review Comments. The Specification Engineer or Specification Technician will compile the comments received from those who reviewed the draft specifications. The Chief of Construction and Maintenance (or his designate) will evaluate the information and, if warranted, make changes to the draft.

If the review of the initial draft justifies significant changes, the Specification Engineer or Specification Technician will prepare a second draft for review and comments.

g. Approval of the Specifications. The Chief of Construction and Maintenance (or his designate), acting on the comments and recommendations of those who reviewed the drafts, will accept (or reject) the specifications for KDOT.

Before the Standard Specifications or Special Provisions are included in any contract that is federally funded, the FHWA must concur with KDOT's approval of the specifications.

The Chief of Construction and Maintenance (or his designate) will submit Standard Specifications, Special Provisions and revisions of Special Provisions to FHWA for their review and concurrence. The Specifications Engineer will electronically transmit a cover letter and the specifications to FHWA. The FHWA will electronically notify the Specifications Engineer of their concurrence (or rejection).

Project Special Provisions do not require prior concurrence by the FHWA. The FHWA will approve (or reject) Project Special Provisions as part of the Plans, Specifications and Estimates (PS&E) package.

h. Distribution and Use of Approved Specifications. The Specification Engineer will publish approved Standard Specifications. The Specification Engineer will distribute complimentary copies of the Standard Specifications, to KDOT, FHWA, other States, the Counties of the State and pre-qualified contractors.

The Contract and Proposal Technician, Bureau of Construction and Maintenance will process the sales of the Standard Specifications to the public.

The Specification Technician will post approved Special Provisions and approved revisions of Special Provisions on the Internet, and will electronically notify KDOT of their posting.

APPENDIX

SPECIFICATION LANGUAGE

The specifications must be clear and brief. Requirements must be definite and complete. Non-essential information only serves to confuse the understanding and application of the specification. The specifications communicate the contractor's requirements, and how the Engineer will accept and measure the contractor's work.

Write the specifications in the imperative mood (active voice). In this style of writing the subject (the contractor, vendor, fabricator, or manufacturer) is implied. Also implied are "shall" or similar words and phrases. The word "will" generally pertains to the decisions or actions of KDOT.

Conventions for Writing KDOT Specifications:

- Write to an 8th grade level (most newspapers are written to a 6th grade level).
- Use simple words that accurately convey the thought. If possible, use words of 3 syllables or less.
- Do not use ambiguous words and phrases.
- Write simple sentences with short words (17 to 20 words, maximum length of sentence). Use one thought for 1 sentence
- Write short paragraphs (3 to 4 sentences with related thoughts).
- If possible, write statements in positive form.
- If the statement must be negative, use *do not*. Example: Do not damage the existing trees.
- Do not repeat requirements found elsewhere in the Contract Documents.
- If possible, use Arabic numerals rather than words for numbers.
- Always use numerals for dimensions, percent, degrees of temperature, and dollars and cents. Example: 2 mm by 15 mm, 15 percent, 10°C, or \$15.75.
- Write time and date in numerals. Example: 5:23 p.m., June 1, 1944; December 23, 1946.
- Omit unneeded zeros in time and money references. Example: use \$200, not \$200.00; use 6 p.m., not 6:00 p.m.
- Use numerals for numbers with decimals.
- For numbers less than one, preface the number with a zero. Example: 0.235, 0.25, 0.5.
- Use metric unit symbols with numerals. Example: 3 m², 35 mm, 5 L, 4.17 kPa, 22°C.
- Write out the metric unit if numerals are not used. Example: measure by the meter, volume is calculated to the nearest cubic meter
- Follow the rules for writing metric units found in ASTM E 380 *Standard Practice for Use of The International System of Units (SI)*.
- Acceptable abbreviations are found in DIVISION 100 of the Standard Specification. The use of an abbreviation not listed in DIVISION 100 must be preceded by an identification of the abbreviation. Example: Kansas Department of Wildlife and Parks (KDWP). Once the abbreviation is identified, the abbreviation can be used in subsequent text.
- Do not use symbols in text (except for metric symbols with numerals). Example: use *per* instead of /, use *at* instead of @, EXCEPT use *% instead of percent*.
- Use symbols in tables and charts where space is limited.
- Use italics, parentheses, and quotation marks sparingly.
- Use the word *amount* when writing about money. Use the word *quantity* when writing about other measurable sums.
- Use capital letters consistently. Use capitals when writing proper nouns, titles, and scientific terms. Use capitals when writing the principals of the Contract, the Contractor and the Secretary (or Department or Engineer).
- Use terms and phrases consistently. Example: if writing about *waterproofing membrane*, do not interchange the term *sealant* with *waterproofing membrane*.
- Do not add (*s*) after a word to indicate dual meaning. In most cases the plural of the word can be used.
- Write measurable standards. Define acceptance requirements.
- Do not write discretionary standards or requirements. Example: *as approved by the Engineer*.

- Omit needless words. Example: use *essential* instead of *absolutely essential*, *later* instead of *at a later date*, *before* instead of *prior to*, and *use* instead of *utilize*.
- Do not use *and/or*; use one or the other.
- For consistency use the action verb *provide* instead of *furnish*, *comply* instead of *meet or conform*. If stating a condition, use *if* instead of *when*. Use *that* to introduce a necessary clause. Use *which* to introduce a non-defining or parenthetical clause.
- Do not drop an article (a, an, the) for the sake of brevity. The article is necessary to convey a clear meaning.

SPECIFICATION FORMAT

Use *Times New Roman*, 10 point size.

Use 1 inch for the top, bottom, left and right margins on all sheets.

Use the following four part format for construction specifications:

- 1.0 DESCRIPTION**
- 2.0 MATERIALS**
- 3.0 CONSTRUCTION REQUIREMENTS**
- 4.0 MEASUREMENT AND PAYMENT**

Use the following five part format for material specifications:

- 1.0 DESCRIPTION**
- 2.0 REQUIREMENTS**
- 3.0 TEST METHODS**
- 4.0 PREQUALIFICATION**
- 5.0 BASIS OF ACCEPTANCE**

If any part of the format outline is not applicable to a particular specification, do not change the format. Instead, identify the item as no information presented. Example: **2.0 MATERIALS** - None Specified or **4.0 PREQUALIFICATION** - Not Required.

The materials presented in a construction specification are usually referenced to a material specification. However, if it is necessary to present the material requirement in the construction specification, include all the necessary elements of the five part material specification.

Use the following outline and text headings for specifications:

SECTION NUMBER

↓1

TITLE

↓2

1.0 DESCRIPTION

→tab This is text without a text heading. Limit text headings, when used, to three levels (not counting Section and subsection titles). Limit yourself to two levels of text headings whenever possible, this will help with the comprehension of the text.

↓1

→tab **a.** This is the first level of text headings. Parentheses are not used at this level. A **bold** lower case letter followed by a period is used.

↓1

→tab **b. Example.** The first level of text headings may also be a **bold** lower case letter followed by a period, followed by a word in **bold** print.

↓1

→tab **c. The Run-In Text Heading.** The first level of text headings may also be a **bold** lower case letter followed by a period, followed by phase or sentence in **bold** print.

→tab (1) This is the second level of text headings. Bold numerals are not used at this level; however, parentheses are used.

→tab (2) We recommend that this is the limit of text heading you use. However, if you must use a third level, an example is shown below:

→tab→tab (a) Bold letters are not used at this level. However, parentheses are used. Also the hanging indent is used.

→tab→tab (b) A reminder, whenever possible limit your text headings to two levels. The comprehension of the text is easier with less levels of text headings.

→tab (3) Yet another example of the second level of text headings.

↓1

→tab **d.** In some cases, it may be desirable to use “bullets” instead of using further text heading:

- Bullets may be useful in making lists.
- Bullets may be useful in highlighting requirements.

↓2

2.0 MATERIALS

→tab **a.**

↓1

→tab **b.**

→tab (1)

→tab (2)

→tab →tab (a) hanging indent

→tab →tab (b) hanging indent

→tab →tab (c) hanging indent

↓1

→tab **c.**

↓1

→tab **d.**

↓2

3.0 CONSTRUCTION REQUIREMENTS, etc.

Use the following header on Special Provisions:

Special Provision Number (assigned by the Bur. of Const. & Maint.)→

Sheet number, of consecutively numbered sheets→

XXXXX*
Sheet 1 of 14

**KANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION TO THE
STANDARD SPECIFICATIONS, 2007 EDITION**

Show the date the Special Provision is written and identify the author on the final sheet of the Special Provision. Example:

10-15-01 C&M (HRP)
↑ ↑ ↑
Date written (October 15, 2001) KDOT Bureau or Office (Construction and Maintenance) Author's Initials (Herbert R. Porter)

Use the following codes for the various KDOT Bureaus and Offices:

| | |
|---------|---|
| C&M | Bureau of Construction and Maintenance |
| BD | Bureau of Design |
| BD(BS) | Bureau of Design (Bridge Section) |
| BD (CS) | Bureau of Design (Coordinating Section) |
| BD(ES) | Bureau of Design (Environmental Section) |
| BD(RS) | Bureau of Design (Road Section) |
| OES | Office of Engineering Support |
| LP | Bureau of Local Projects |
| M&R | Bureau of Materials and Research |
| M&R(SP) | Bureau of Materials and Research (Soils & Pavement Section) |
| M&R(GS) | Bureau of Materials and Research (Geology Section) |
| M&R(MT) | Bureau of Materials and Research (Material Test Unit) |
| M&R(RU) | Bureau of Materials and Research (Research Unit) |
| RW | Bureau of Right-of-Way |
| TE | Bureau of Traffic Engineering |

* Special Provision number format:

Standard Special Provision: YY-SSXXX-RXX

Project Special Provision: YY-PSXXXX

Work Schedule Special Provision: YY-WSXXXX

Modified Requirements Special Provision: YY-MRXXXX

YY - 07 the year

SS - the DIVISION Number (01-General Clauses and Covenants & Equipment, 02-Earthwork, etc.)

PS - Project Special

WS - Work Schedule

MR - Modified Requirements

XXX or XXXX - a Sequential Number of Special Provisions in that DIVISION/Category

RXX - the Revision Number for that Special Provision

With this format, the Special Provisions listed in the proposal, will be grouped by DIVISION.