

**ATTACHMENT 51 – ANSWERS TO STANDARD SET OF QUESTIONS BY THE  
KANSAS DOT**  
(22 pages)

## **Kansas DOT**

July 22, 2008

Italics represent the responses by the Kansas DOT.

*This review is for the State System only and does not include the Kansas Turnpike Authority (KTA) and the Local System. The KTA is a separate quasi-governmental entity, and the Local System is administered by the Bureau of Local Projects.*

### **1. What was your procedure in reviewing consultant engineering bridge plans in the early 1960's? What is your procedure in reviewing consultant engineering bridge plans today?**

*In the 1960's Consultant plans were reviewed by a Squad Leader and the Bridge Engineer for constructability and conformance to AASHTO specifications. Spot checking may have been done but the structure was not re-analyzed structurally. An independent review by the Consultant's staff was done and two sets of initials were expected on the plan drawings.*

*Today Consultant plans are reviewed by a Senior Squad Leader and the Bridge Design Engineer for constructability and conformance to AASHTO specifications and the KDOT Bridge Design Manual. Spot checking is done but the structure is not re-analyzed structurally. An independent review by the Consultant's staff is done and two sets of initials are expected on the plan drawings. Final plan drawings are furnished (electronic format) and an e-file of the model for load rating is furnished. The load rating review (near final plans) is done to confirm the design concept, and to confirm the load rating. This file is updated for the "as-constructed" model used for a load rating and future permits. Very unique structures may not get this design/rating review.*

### **2. How do you ensure the QA/QC process of a consultant engineering firm is adequate? In the early 1960's and today? What procedures are in-place to ensure that the consultant does not submit an inadequate design?**

*In the 1960's Consultant plans were prepared for letting by experienced staff. The plans were reviewed by Materials and field Construction staff for completeness. The Consultant reviewed Shop Drawings and SHC approved. Fabrication and construction non-compliance was evaluated by the Bridge Section. Review by experienced Engineers in Bridge, Construction, and Materials spotted errors and questioned items of concern.*

*Today Consultant plans are prepared with guidance from the Bridge Design Manual for bid items and specifications. The Senior Squad Leader and the Bridge Design Engineer review plans for constructability and conformance to AASHTO specifications and the KDOT Bridge Design Manual. The Consultant reviews Shop Drawings and KDOT approves. Fabrication and construction non-compliance is evaluated by the Bridge Design Section. Review by Engineers in Bridge, Construction, and Materials spot errors and question items of concern. The*

*design/rating review was implemented to catch design criteria/specification errors. Detail errors must be spotted in the final plan review or in the Shop Drawing Approval phase.*

**3. What does the Kansas DOT consider a red-flag item when reviewing consultant engineering bridge plans? What follow-up action is taken to address the red-flag item? Describe the level of detail the Kansas DOT uses in reviewing consultant engineering bridge plans?**

*Red-flag items include not following the Bridge Design Manual, the Geology Foundation Report, and/or AASHTO Specifications. Depending on the concern - call in the Consultant for a discussion; mark-up a set of plans; or telephone call/e-mail. Discussion at Field Check describes design intent and criteria by individual structure. Visual review of plans and a design/rating check at final plan stage. Back-checking of changes are done.*

**4. Does the Kansas DOT review consultant engineering bridge plans concurrently with the FHWA Division Office? Does the Kansas DOT review the consultant plans with the expectation that FHWA will be performing a similar type of review?**

*Most plans are done by “certification acceptance.” Interstate and major structures keep FHWA in the loop at Field Check and PS&E. Any significant plan or specification change would also involve FHWA. Unless a very unique structure greater than \$5 million or more, FHWA does not review. Our KDOT review is “as an owner and maintainer” of the structure.*

**5. What are the qualifications of the Kansas DOT personnel who conduct the review of consultant engineering bridge plans?**

*In most cases a PE with bridge experience. We have many with MS degrees and occasionally some have taken the SE test. We staff structural designers, load raters, and computer software programmers.*

*The Squad Leaders have over 20 years experience in reviewing consultant engineering bridge plans.*

**6. What is the percentage of bridge design work that is done in-house versus the percentage that is done by consultant engineering firms?**

*Historically – 50% by construction dollar. During the last two major programs (Highway 89-98) (Transportation 00-09), the number was over 70%.*

**7. Describe the structure of the Kansas DOT? Is the bridge office centrally organized? How many district bridge offices are located in the state? Are consultant engineering bridge plans reviewed at the central office or district bridge office?**

- *One of the six States that are split into State/Local venues*
- *Both are centralized – State Bridge Office in the Bureau of Design; and the Bridge Section of the Bureau of Local Projects.*
- *Only minor maintenance plans are done in the District Offices. The SBO has a squad that does “structural” maintenance plans. There are five “on-call” consultants.*
- *All consultant plans receive a review.*
- *See organization charts.*

# ***KANSAS DEPARTMENT OF TRANSPORTATION***



## ***ORGANIZATIONAL CHART 2007***

July 1, 2007  
Revised 4/27/08

**ORGANIZATIONAL CHARTS REFLECT  
POSITIONS AS OF JULY 01, 2007.  
REVISED April 27, 2008.  
THE OFFICIAL RECORD FOR  
POSITIONS AND REPORTING  
RELATIONSHIP IS THE  
POSITION DESCRIPTION.**

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Bridge 24

# ABBREVIATIONS AND CODES

## CLASSIFIED TITLE CODES

ACCT - ACCOUNTANT  
ACCT SPEC - ACCOUNTING SPECIALIST  
ADM ASST - ADMINISTRATIVE ASSISTANT  
ADM OFFICER - ADMINISTRATIVE OFFICER  
ADM SP - ADMINISTRATIVE SPECIALIST  
APPL P/A - APPLICATIONS PROGRAMMER/ANALYST  
ARCH - ARCHEOLOGIST  
ATTY - ATTORNEY  
BLD SYS TECH - BUILDING SYSTEMS TECHNICIAN  
CHEM - CHEMIST  
COMP OP - COMPUTER OPERATOR  
COMP OPS MGR - COMPUTER OPERATIONS MANAGER  
COMP OPS SUP - COMPUTER OPERATIONS SUPERVISOR  
CONSERV SP - CONSERVATION PROGRAM SPECIALIST  
CUST WKR - CUSTODIAL WORKER  
DATA CTR MGR - DATA CENTER MANAGER  
DBASE P/A - DATABASE PROGRAMMER/ANALYST  
DBASE ADIMIN I, II, III - DATABASE ADMINISTRATIVE I, II OR III  
ED INFO REP - EDUCATIONAL/INFORMATIONAL REPRESENTATIVE  
ELEC TECH - ELECTRONICS TECHNICIAN  
ELEC TECHNOL - ELECTRONICS TECHNOLOGIST  
ENG ASSOC - ENGINEERING ASSOCIATE  
ENG TECH - ENGINEERING TECHNICIAN  
ET ASSOC - ENGINEERING TECHNICIAN ASSOCIATE  
ET SENIOR - ENGINEERING TECHNICIAN SENIOR  
ET SPECIAL - ENGINEERING TECHNICIAN SPECIALIST  
ENV GEOL - ENVIRONMENTAL GEOLOGIST  
ENV SCI - ENVIRONMENTAL SCIENTIST  
EO - EQUIPMENT OPERATOR  
EO TR - EQUIPMENT OPERATOR TRAINEE  
EO SR - EQUIPMENT OPERATOR SENIOR  
EO SP - EQUIPMENT OPERATOR SPECIALIST  
EP TECH II - EQUIPMENT PLANNING TECHNICIAN II  
EP TECH III - EQUIPMENT PLANNING TECHNICIAN III  
EQ BODY MECH - EQUIPMENT BODY MECHANIC  
EQUIP MECH - EQUIPMENT MECHANIC  
EQUIP MECH SR - EQUIPMENT MECHANIC SENIOR  
EQUIP MECH SP - EQUIPMENT MECHANIC SPECIALIST  
EQ SHP SUPT - EQUIPMENT SHOP SUPERINTENDENT  
FAC MNT SUPV - FACILITIES MAINTENANCE SUPERVISOR  
FIN ECON - FINANCIAL ECONOMIST  
GEOL - GEOLOGIST  
GEOL TR - GEOLOGIST TRAINEE  
GEOL ASSOC - GEOLOGIST ASSOCIATE  
GMR SR - GENERAL MAINTENANCE & REPAIR TECHNICIAN  
GMR TECH - GENERAL MAINTENANCE & REPAIR TECHNICIAN SENIOR  
GRAPH DES - GRAPHIC DESIGNER  
GD SR - GRAPHIC DESIGNER SENIOR  
GD SP - GRAPHIC DESIGNER SPECIALIST  
HR PROF - HUMAN RESOURCE PROFESSIONAL

## CLASSIFIED TITLE CODES

HWY MNT SUPT - HIGHWAY MAINTENANCE SUPERINTENDENT  
HWY MNT SUPV - HIGHWAY MAINTENANCE SUPERVISOR  
IND HYGST - INDUSTRIAL HYGENIST  
IND SFT COOR - INDUSTRIAL SAFETY COORDINATOR  
INST SERV TEC - INSTALLATION/SERVICE TECHNICIAN  
INST SERV SUP - INSTALLATION/SERVICE SUPERVISOR  
IR MANGR - INFORMATION RESOURCE MANAGER  
IR SPEC - INFORMATION RESOURCE SPECIALIST  
IT CONSULT - INFORMATIONAL TECHNOLOGY CONSULTANT  
IT PROJ MANGR - INFORMATION TECHNOLOGY MANAGER  
LABORER  
LAND ARCH - LANDSCAPE ARCHITECT  
LAND SURV I - LAND SURVEYOR I  
LAND SURV II - LAND SURVEYOR II  
LAW CLRK - LAW CLERK  
LEGAL ASST - LEGAL ASSISTANT  
LIBRARIAN I  
MECH - MECHANIC  
MECH HELP - MECHANIC'S HELPER  
MED PROD DIR - MEDIA PRODUCTION DIRECTOR  
MEDIA TECH - MEDIA PRODUCTION TECHNICIAN  
MS ANALYST - MANAGEMENT SYSTEMS ANALYST  
OFF ASST - OFFICE ASSISTANT  
PHOTOG - PHOTOGRAPHER  
PHOTOG SR - PHOTOGRAPHER SENIOR  
PLANNER  
PR PROC SUPV - PRINTER PROCESS SUPERVISOR  
PR SR - PRINTER SENIOR  
PR SUPV - PRINTING SUPERVISOR  
PR SHOP MGR - PRINT SHOP MANAGER  
PROCUR OFF - PROCUREMENT OFFICER  
PROF CE - PROFESSIONAL CIVIL ENGINEER  
PROF GEOL - PROFESSIONAL GEOLOGIST II, III, IV  
P/A MGR - PROGRAM ANALYSIS MANAGER  
PROG CNSLT - PROGRAM CONSULTANT  
PS ADMIN - PUBLIC SERVICE ADMINISTRATOR  
PS EXEC - PUBLIC SERVICE EXECUTIVE  
PUB WRITER - PUBLICATIONS WRITER  
REF/AC TEC - REFRIGERATOR & AIR CONDITIONING SERVICE TECHNICIAN  
REF/AC TECH SR - REFRIGERATOR & AIR CONDITIONING SERVICE TECHNICIAN SENIOR  
RES ANL - RESEARCH ANALYST  
RW AGENT - RIGHT OF WAY AGENT  
RW APPR - RIGHT OF WAY PROPERTY APPRAISER  
RW APPR SUP - RIGHT OF WAY PROPERTY APPRAISER SUPERVISOR  
SFT HLTH INS - SAFETY & HEALTH INSPECTOR  
SGN SHP SUPV - SIGN SHOP SUPERVISOR  
SGN SHP WRKR - SIGN SHOP WORKER  
SP INVEST - SPECIAL INVESTIGATOR

## CLASSIFIED TITLE CODES

SR LAB SCIEN - SENIOR LABORATORY SCIENTIST  
SR ADM ASST - SENIOR ADMINISTRATIVE ASSISTANT  
SR ADM SP - SENIOR ADMINISTRATIVE SPECIALIST  
STAFF DEV - STAFF DEVELOPMENT SPECIALIST  
STATE AUD - STATE AUDITOR  
STOREKPR - STOREKEEPER  
SURVEY COORD - LAND/ENGINEERING SURVEY COORDINATOR  
SYS SW P/A - SYSTEMS SOFTWARE PROGRAMMER/ANALYST  
SYS SW SPEC - SYSTEMS SOFTWARE SPECIALIST  
SYS SW STF CNSLT - SYSTEMS SOFTWARE STAFF CONSULTANT  
TS CNSLT I - TECHNOLOGY SUPPORT CONSULTANT I  
UTIL WRKR - UTILITY WORKER  
WELDER

## UNCLASSIFIED TITLE CODES

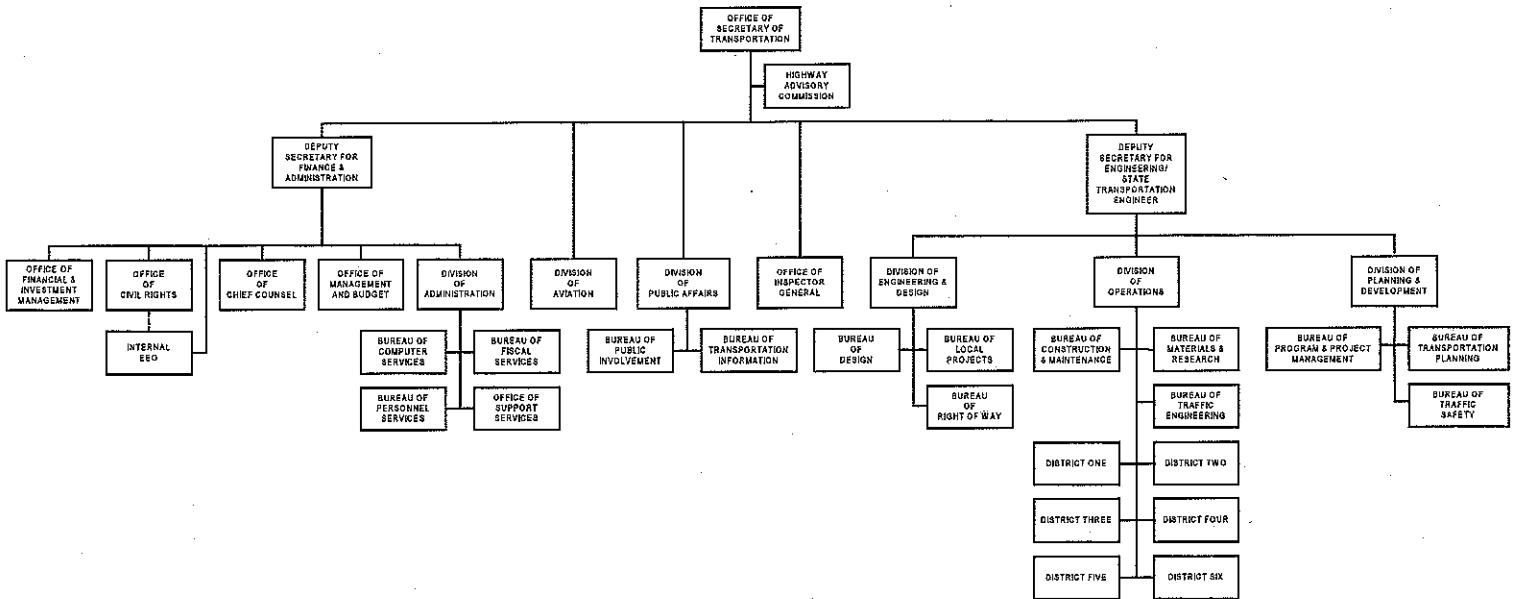
ASST DIRECTOR - ASSISTANT DIRECTOR  
ASST SEC/STE - ASSISTANT SECRETARY & STATE TRANSPORTATION ENGINEER  
BUR CHF - BUREAU CHIEF  
DIR OF ADMIN - DIRECTOR OF ADMINISTRATION  
DIR OF AV - DIRECTOR OF AVIATION  
DIR OF E & D - DIRECTOR OF ENGINEERING AND DESIGN  
DIR OF OPER - DIRECTOR OF OPERATIONS  
DIR OF P & D - DIRECTOR OF PLANNING AND DEVELOPMENT  
ENTER ARCH - ENTERPRISE ARCHITECT  
IR SUPR - INFORMATION SYSTEMS SUPERVISOR  
MANAGER/ADMIN - MANAGER/ADMINISTRATOR  
OFF ASST III - OFFICE ASSISTANT III  
PI OFF - PUBLIC INFORMATION OFFICER  
PLANNER  
POL DEV PLAN - POLICY DEVELOPMENT PLANNER  
PROJ COOR - PROJECT COORDINATOR  
PROJ MNGR - PROJECT MANAGER  
SEC OF TRANS - SECRETARY OF TRANSPORTATION  
SIGN INV TECH - SIGN INVENTORY TECHNICIAN  
SP ASST/DIR - SPECIAL ASSISTANT TO THE SECRETARY/DIRECTOR OF PUBLIC AFFAIRS

## MISCELLANEOUS

@ - COMPREHENSIVE PROGRAM MANAGEMENT SYSTEM (CPMS) ORGANIZATIONAL BREAKDOWN STRUCTURE ELEMENT (OBSE)  
(HTP) - HALF-TIME POSITION  
(UNCL TEMP) - UNCLASSIFIED TEMPORARY POSITION  
(U) - UNCLASSIFIED POSITION

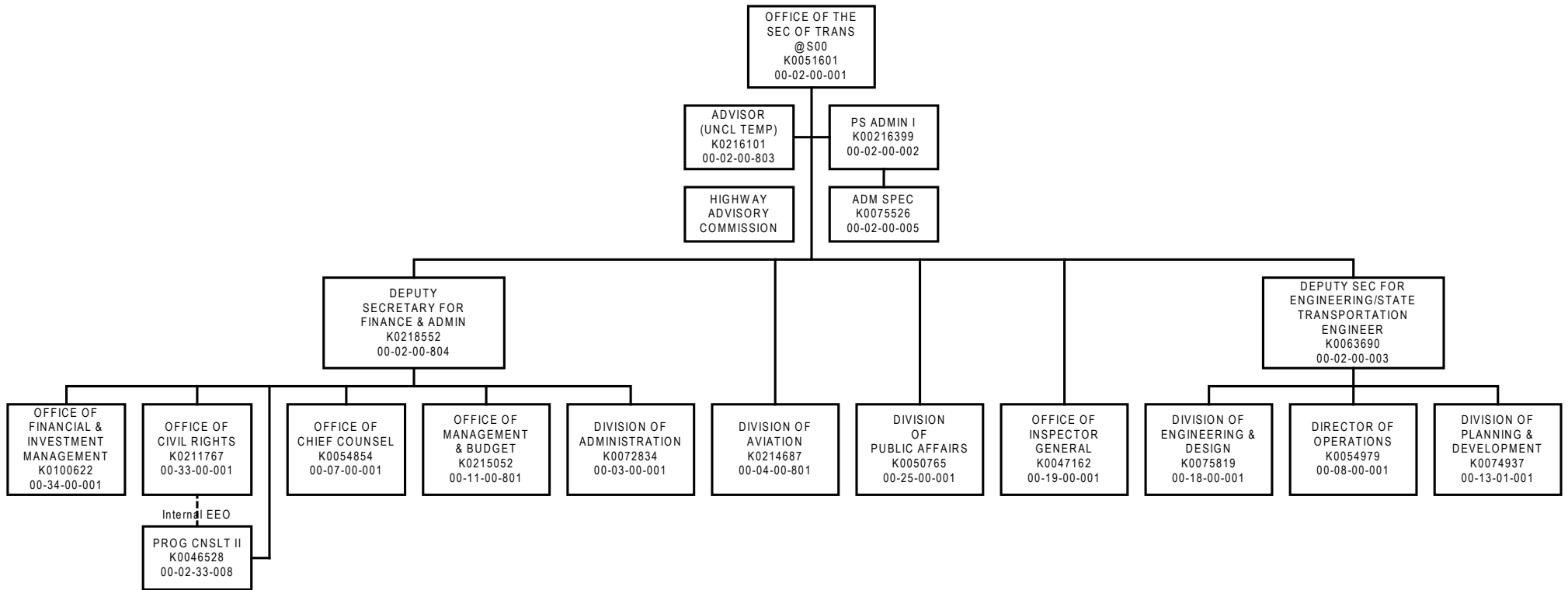


# ORGANIZATIONAL CHART KANSAS DEPARTMENT OF TRANSPORTATION



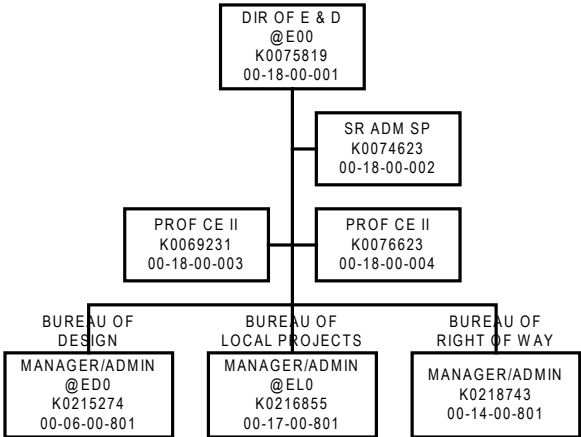
SECRETARY OF TRANSPORTATION  
NOVEMBER 13, 2007

# OFFICE OF THE SECRETARY OF TRANSPORTATION

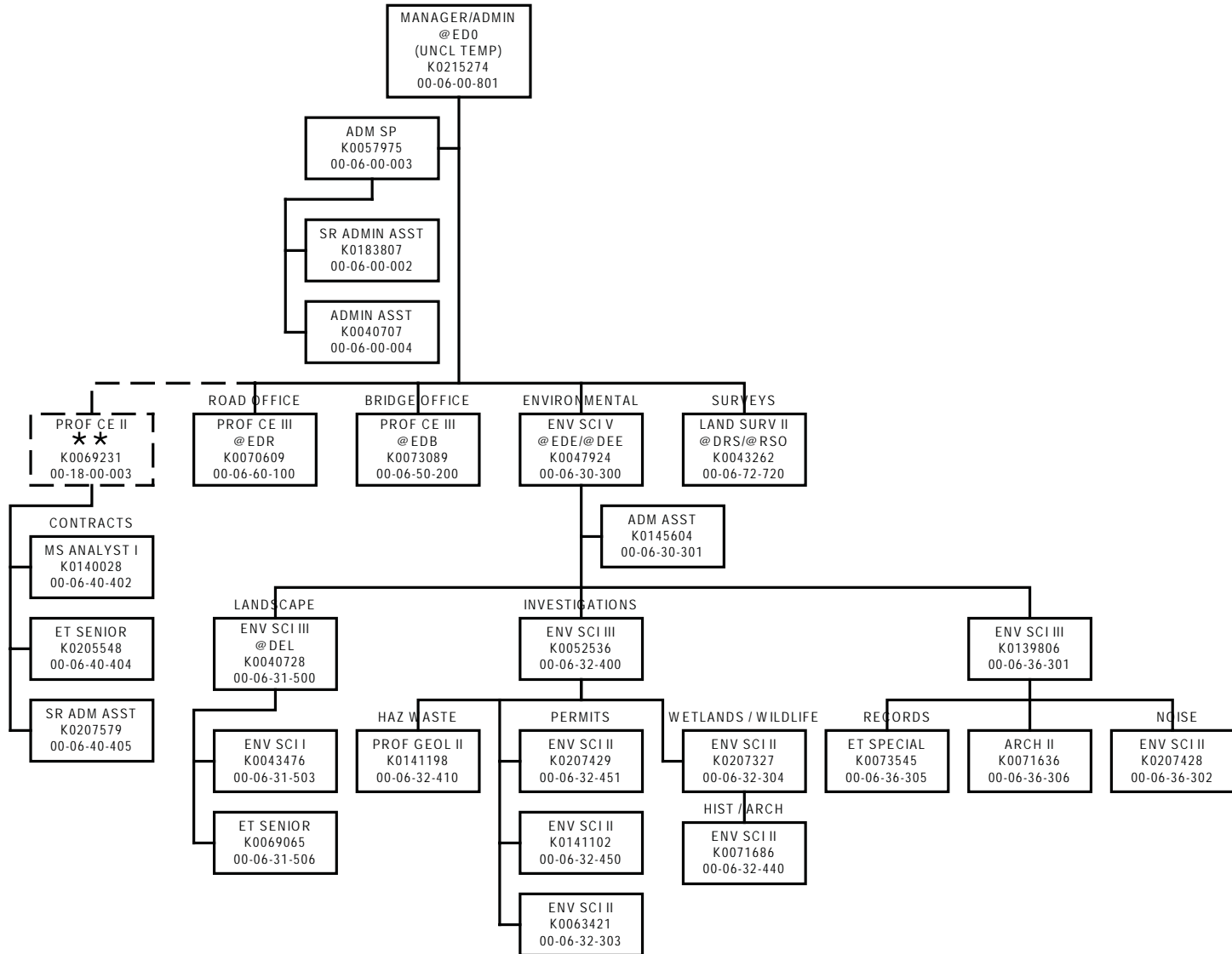


**DIVISION OF  
ENGINEERING  
AND DESIGN**

# DIVISION OF ENGINEERING & DESIGN

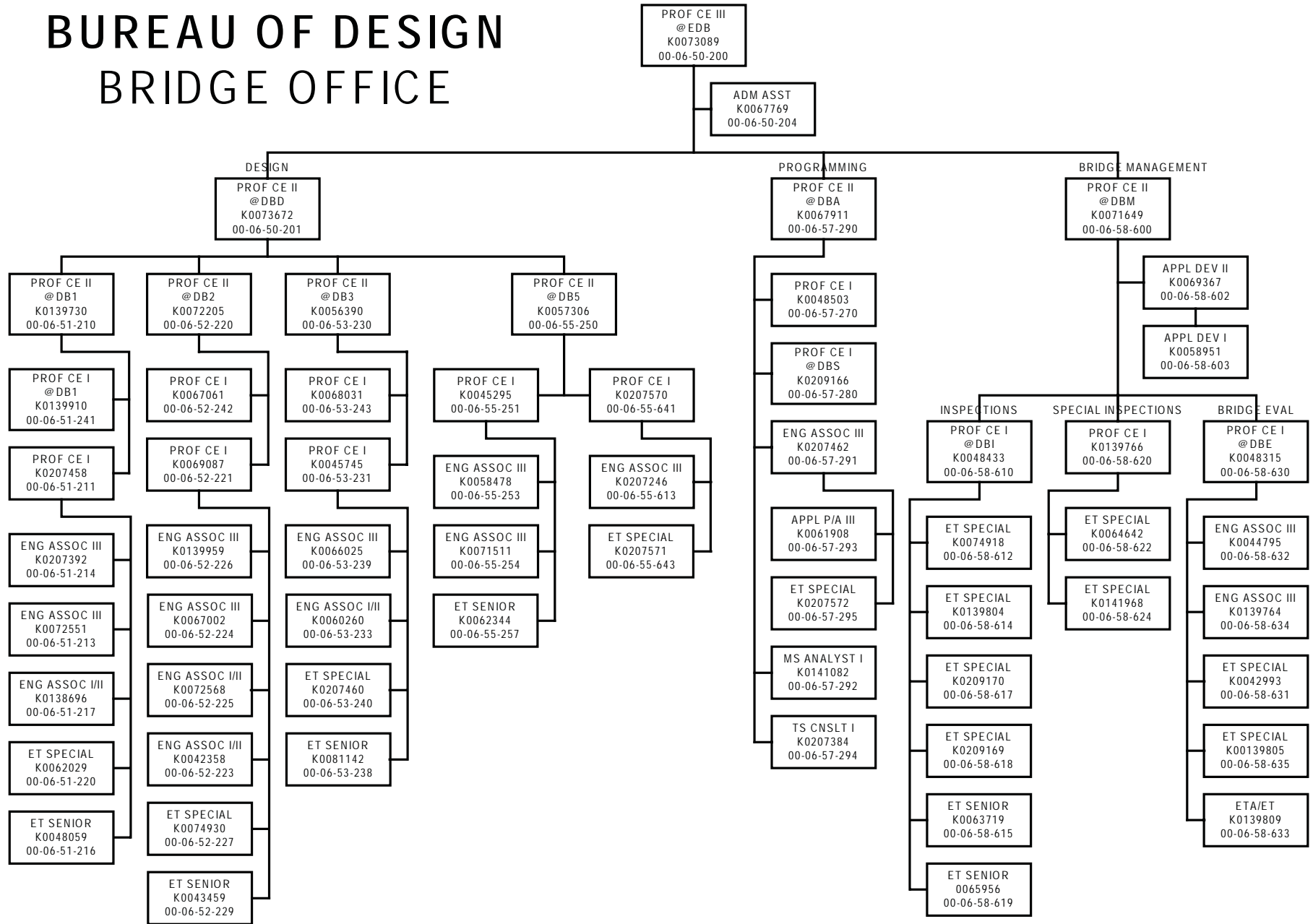


# BUREAU OF DESIGN

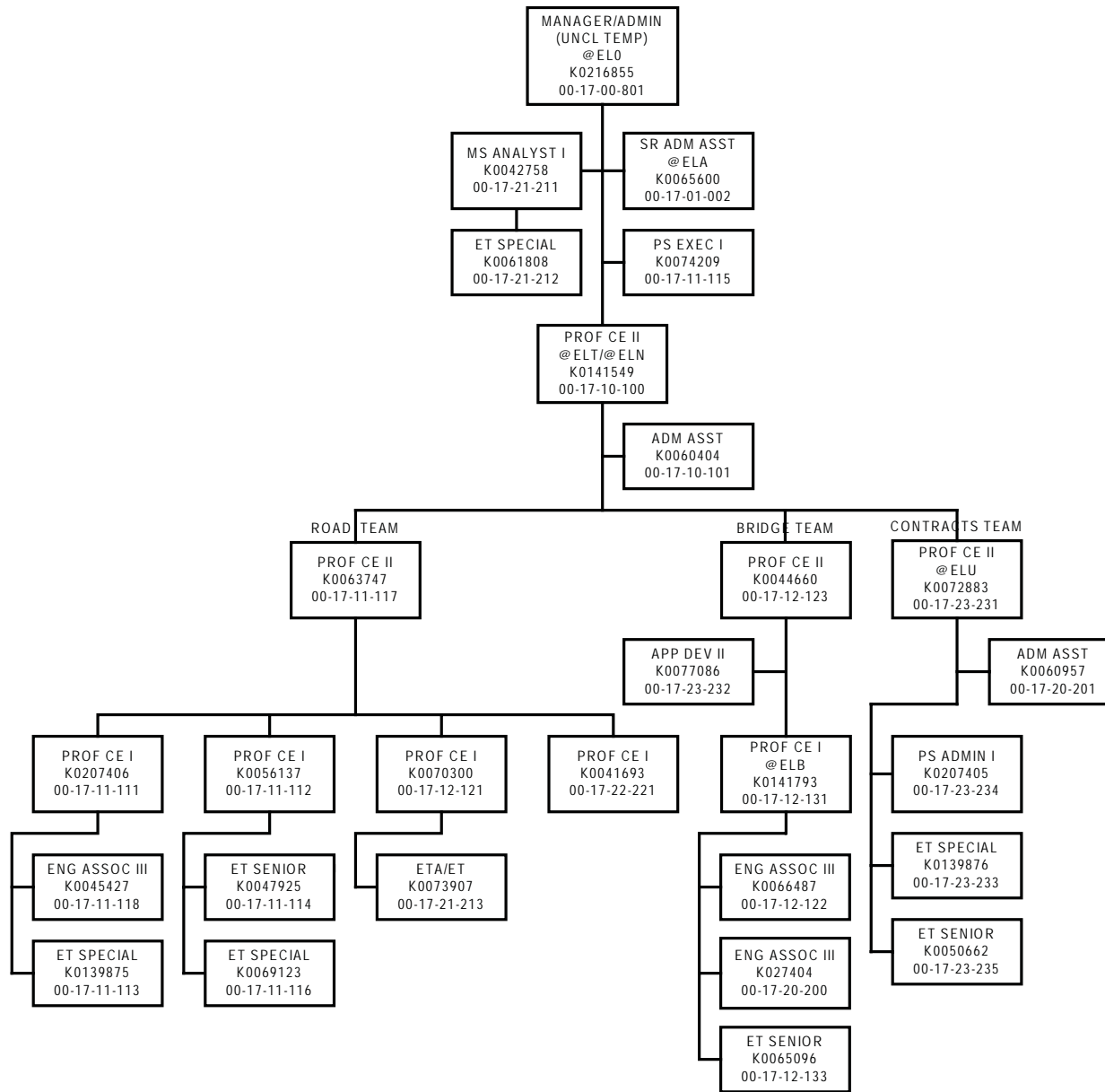


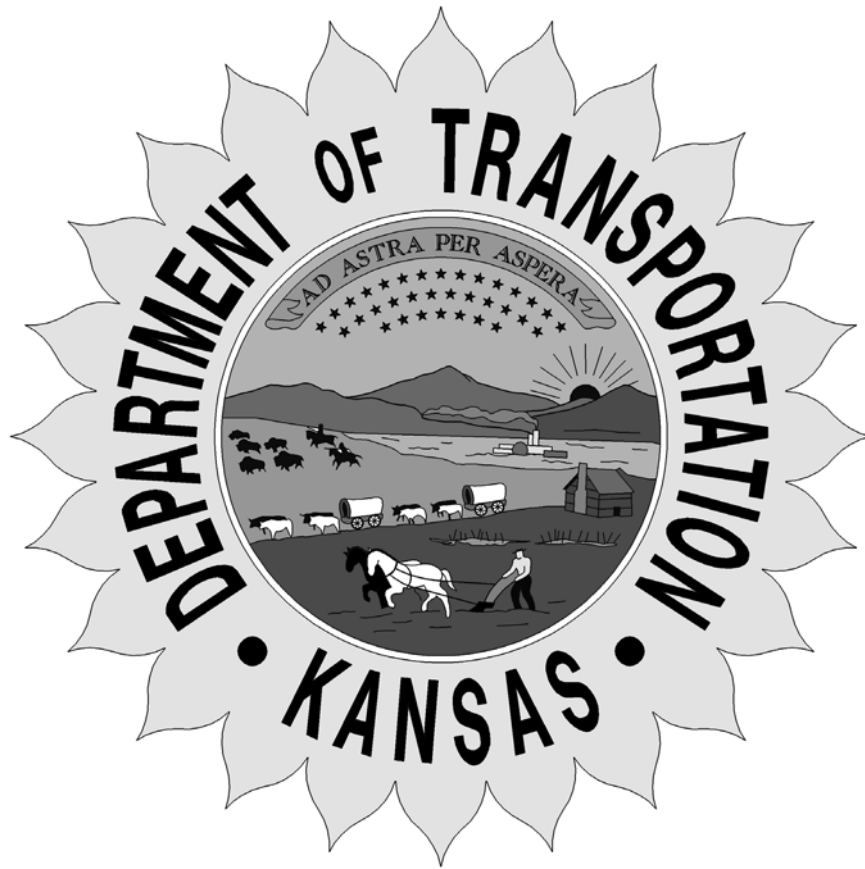
\*\* REPORTS TO DIRECTOR OF ENGINEERING AND DESIGN

# BUREAU OF DESIGN BRIDGE OFFICE



# BUREAU OF LOCAL PROJECTS





# DESIGN MANUAL

## Volume III - Bridge Section

### U.S. Customary Units

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# INTRODUCTION

## 1.1 PURPOSE AND SCOPE

The purpose of the Bridge Manual is to provide general guidelines, including procedures and instructions, for the design and preparation of bridge plans and specifications for the Kansas Department of Transportation (KDOT). While it is intended that the manual will provide uniformity in design and define bridge design policy, it does not preclude exceptions and deviations where justified; however, these are subject to the approval of the State Bridge Engineer. For an appropriate structure to be selected for a particular site, a combination of sound engineering principles, experience, and judgment is required.

This manual has been prepared for general guidance concerning design procedures, general practice and policy. Many of the subjects presented only highlight some of the design criteria and procedures. It is not intended that the topic discussions in the manual be all-inclusive; however, the Bridge Designer, the Design Checker and the Detailer are responsible for a complete analysis and design for a safe, economical, and maintainable structure. The contents of this manual should not supplant or interfere with individual incentive or the development of new concepts in the design and preparation of plans for bridges.

Finally, to reflect the findings in research, new products or changes in design concepts, new or revised design and detail sheets will be issued for the Bridge Manual.

## 1.2 LEGAL REQUIREMENTS

The following excerpts are from the general provisions of the statutes of the State of Kansas regarding the legal requirements for bridge design and construction:

### **1.2.1 K.S.A. 68-1101 Definitions; concrete overflow bridge or ford as a bridge.**

*Unless the context clearly indicates otherwise the following words shall have the meanings herein ascribed to them wherever they appear in chapter 68 of the Kansas Statutes Annotated, and acts amendatory thereof or supplemental thereto:*

- (1) The word "bridge" shall mean a structure having a clear span of more than twenty (20) feet, measured along the centerline of the road between the inside faces of end supports, and multiple-span structures where the sum of the individual clear spans plus the aggregate width of the intermediate support or supports is in excess of twenty (20) feet;*
- (2) The word "culvert" shall mean any waterway structure not defined as a bridge;*
- (3) The word "subway" shall mean a clear opening for public highway travel under a bridge or trestlework;*
- (4) The word "structure" shall mean either a bridge, a culvert or a subway.*

*For the purposes of this chapter, a concrete overflow bridge or ford, forty (40) feet or more in length, shall be considered a bridge, and may be constructed and maintained in accordance with the laws relating to the construction and maintenance of bridges; and any concrete overflow bridge or ford less than forty (40) feet in length shall be considered a culvert and may be constructed and maintained in the manner provided by law for the construction and maintenance of culverts.*

### **1.2.2 K.S.A. 68-1108 Standard specifications.**

*That standard specifications for all bridges, culverts and railroad overhead crossings and subways shall be furnished without cost to the counties, townships and railroad companies by the secretary of transportation, and all work shall be done in accordance therewith.*

### **1.2.3 K.S.A. 68-1109 Roadway and grade of bridges and culverts on county and township roads and on highways over railroad tracks.**

- (a) Except as otherwise provided, all bridges constructed on county major collector roads or highways and on county minor collector roads or highways shall have a clear roadway of not less than 24 feet. Except as otherwise provided, bridges constructed on township and local service roads and highways shall have a clear roadway of not less than 20 feet. A bridge over 100 feet in length constructed on a county major collector road or highway or on a county minor collector road or highway may have a clear roadway of less than 24 feet, if approved by the county engineer, and a bridge over 100 feet in length constructed on a township or local service road or highway may have a clear roadway of less than 20 feet when approved by the county engineer.*
- (b) All culverts constructed on county major collector roads or highways or on county minor collector roads or highways shall have a clear roadway of not less than 24 feet. The roadway of any bridge constructed on any public road or highway over the tracks of any railroad shall not be less than 24 feet wide for any county major collector road or highway or county minor collector road or highway and not less than 20 feet wide for any township or local service road or highway.*

### **1.2.4 K.S.A. 68-1111 Approval of plans by county engineer or state engineer.**

*All plans for the construction or repair of highway bridges and culverts, the estimated cost of which does not exceed the sum of \$200,000, shall be submitted to the county engineer for approval. If the estimated cost thereof exceeds the sum of \$200,000, such plans and estimates, before final adoption, shall be submitted to the state transportation engineer for approval.*

*The state transportation engineer shall examine and return the same with the engineer's approval or with such changes and modifications as the engineer may require noted*

*thereon, with the reasons therefor. The plans shall be changed to conform to the requirements of the state transportation engineer, and shall be adopted by the board of county commissioners and all work done in accordance therewith. No contract shall be legal and binding on the county unless the plans and estimates of cost have been approved by the county engineer or the state Transportation engineer, as provided in this section. All estimates for bridges and culverts shall be made separately from the dirt approaches thereto. On low-water bridges with roadways 18 feet or more in width no guardrail shall be required unless the county board deems it necessary.*

### **1.2.5 Approval of Plans by Federal Highway Administration**

All Federal-Aid projects that are: 1) not on the Interstate, 2) 3R projects on the Interstate, and 3) new/reconstruction projects on the Interstate with a cost less than \$1 million are "Exempt Oversight" with the exception of certain research and planning projects that require FHWA Oversight.

The exemption process removes FHWA from oversight of design activities, PS&E approval and concurrence in award and construction activities. On NHS projects, Federal requirements that apply to these activities are to be followed (documentation of design exceptions, materials requirements, approval of change orders, etc.) although specific FHWA review, approval or concurrence as appropriate is not required. As stipulated in 23 USC 109, Standards, on non-NHS projects, the KDOT will follow State laws and procedures as they would for State funded only projects.

Bridge projects are administered in accordance with the current edition of the Bureau of Local Projects' *Project Development Manual for Non-National Highway System Local Government Road and Street Projects*.

The FHWA Headquarters Bridge Division is responsible for the approval of preliminary plans for unusual bridges and structures on the Interstate System.

Unusual bridges include those the FHWA Divisions determine have: (1) difficult or unique foundation problems, (2) new or complex designs with unique operational or design features, (3) bridges with exceptionally long spans, or (4) bridges being designed with procedures that depart from currently recognized acceptable practices. Examples of unusual bridges include cable-stayed, suspension, arch, segmental concrete, movable, or truss bridges. Other examples are bridge types that deviate from the AASHTO bridge design standards, or AASHTO guide specifications for highway bridges; major bridges using load and resistance factor design specifications; bridges requiring abnormal dynamic analysis for seismic design; bridges designed using a three-dimensional computer analysis; bridges with spans exceeding 500 feet; and bridges with major supporting elements of "ultra" high strength concrete or steel.

Unusual structures include tunnels, geotechnical structures featuring new or complex wall systems or ground improvement systems, and hydraulic structures that involve complex stream stability countermeasures, or designs or design techniques that are atypical or unique.

If FHWA approval is required, they should be involved as early as possible in the project development.

Preliminary documents submitted to FHWA Headquarters should include the preliminary design plans and supporting data along with the Kansas FHWA Division's review comments and recommendations. Supporting information should include bridge/structures related environmental concerns and suggested mitigation measures, studies of bridge types and span arrangements, approach bridge span layout plans and profile sheets, controlling vertical and horizontal clearance requirements, roadway geometry, design specifications used, special design criteria, special provisions and cost estimates. Hydraulic and scour design studies/reports should also be submitted showing scour predictions and related mitigation measures. Geotechnical studies/reports should be submitted along with information on substructure and foundation types. Early and complete submissions will facilitate meaningful and expeditious reviews and approvals.

FHWA no longer requires alternate designs on major structures. However, on major structures (over \$10 million), substantial savings in bridge cost could result. Alternate plans will be considered on a project-by-project basis.

### 1.2.5.1 Section 1805. Use of Debris from Demolished Bridge and Overpasses

PUBLIC LAW 109-59—AUG. 10, 2005  
**SAFE, ACCOUNTABLE, FLEXIBLE, EFFICIENT  
 TRANSPORTATION EQUITY ACT: A LEGACY  
 FOR USERS**

119 STAT. 1144 PUBLIC LAW 109-59—AUG. 10, 2005  
 Public Law 109-59

109th Congress

An Act

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

**SEC. 1805. USE OF DEBRIS FROM DEMOLISHED BRIDGES AND OVERPASSES.**

(a) **IN GENERAL.**—Any State that demolishes a bridge or an overpass that is eligible for Federal assistance under the highway bridge replacement and rehabilitation program under section 144 of title 23, United States Code, is directed to first make the debris from the demolition of such bridge or overpass available for beneficial use by a Federal, State, or local government, unless such use obstructs navigation.

(b) **RECIPIENT RESPONSIBILITIES.**—A recipient of the debris described in subsection (a) shall—

(1) bear the additional cost associated with having the debris made available;

23 USC 144 note.

119 STAT. 1460 PUBLIC LAW 109-59—AUG. 10, 2005

(2) ensure that placement of the debris complies with applicable law; and

(3) assume all future legal responsibility arising from the placement of the debris, which may include entering into an agreement to hold the owner of the demolished bridge or overpass harmless in any liability action.

(c) **DEFINITION.**—In this section, the term “beneficial use” means the application of the debris for purposes of shore erosion control or stabilization, ecosystem restoration, and marine habitat creation.

KDOT Practice is:

- At field check the squad leader asks the local district office present if the material could be beneficial to them, that is, can KDOT use the rubblized concrete materials.
- If there is a County, City or regulator agency (i.e. Parks and Wildlife) they are asked if there is beneficial use for their interests. (an example would be at Leavenworth State Lake; the lake needed jetties to resist wave action at the dam and in the plans KDOT directed the Contractor to place the rubblized material per Parks and Wildlife instructions)
- If there are no takers for the rubblized concrete material (per the hierarchy above) the Bridge Design Engineer will place General Notes on the plans (Attached) which allows the Contractor to use this material per KDOT Standard Construction Specifications in place of the bid

item, Slope Protection (Shot Rock or Aggregate) or it may be allowed by the Engineer as ditch lining.

It is our understanding that the intent of the law is for shore erosion and marine creation. Which KDOT does not have. Also the law states in sections (a) ... “federal, state **OR** local government”. Or is the keyword here; if the intent is for Midwest states (not coastal) then in our opinion we still are in compliance because we offer it to us (KDOT) and therefore meets the **OR** portion of the tort. It does not say **AND** meaning we would be required, if this is truly intended for the Midwest, to offer it to **all** the above group.

### 1.2.6 Railroad Agreement

Work to be done on, over or under railroad right-of-way are first be reviewed and approved by the railroad company involved. All correspondence concerning railroads are to be routed through the Coordinating Section in the Bureau of Design.

For proposed new structures, the railroad shall be sent a copy of the Field Check plans and be invited to the field check. Check with the railroad concerning the number of field check sets required. See [Attachment 1.2.6-1 Overhead Submittal Checklist](#) for Railroad Overhead Submittal Checklist and pre-field check data that needs to be sent to the railroads.

The field check set should include the following details:

- (1) Vertical clearances from top of rail. (See Section [2.2.3 Clearance to Railroads](#)).
- (2) Crash wall details if required.
- (3) Horizontal clearances from center of track to face of pier.
- (4) If critical, the horizontal distance from centerline of track to intersection of backslope measured at top of rail.
- (5) Construction clearance diagram.
- (6) Location and depth of footings.
- (7) If a bridge is on a skew, show a cross section perpendicular to centerline of track.
- (8) Method of removing existing structure.
- (9) Erection procedures.
- (10) Railroad Clearance and Track Protection, STD. BR105.
- (11) Bridge Rail and fencing requirements (See Section [3.2.10.2 Railings](#)).
- (12) Do not use open bridge deck drains over railroad ROW. If drainage cannot be carried off the end of the bridge, collect drainage in drain pipes and carry down piers.

If the railroad has no objections to the proposed work, approval is normally transmitted by letter.

When the final plans are sent to PS&E, send a copy of the completed plans to the railroad. For a railroad overpass structure, compute the quantities of the bridge between railroad right-of-way lines or 50 feet either side of the centerline of the track. Submit the quantities to the Bureau of Construction for their use in computing Protective Liability Insurance. See [Figure 1.2.6-1 Railroad Protective Liability Insurance](#) .

Falsework or forming plans also need to be approved by the railroad. (See [5.0 FALSEWORK DESIGN, ANALYSIS AND INSPECTION](#))