

**ATTACHMENT 54 – ANSWERS TO STANDARD SET OF QUESTIONS BY THE
NEBRASKA DEPARTMENT OF ROADS**

(3 pages)

Nebraska Department of Roads

July 23, 2008

Italics represent the responses by the Nebraska Department of Roads.

1. What was your procedure in reviewing consultant engineering bridge plans in the early 1960's? *A general plan review was done to ensure sufficiency of detail. All dimensions were checked and all Bill of Reinforcing Bars were checked.* **What is your procedure in reviewing consultant engineering bridge plans today?** *We review consultant bridge plans at three different stages. We review the bridge plans at the 65% stage. At this stage the bridge is completely designed and the plans completely detailed. The superstructure of the bridge is also load rated at this stage. Another review is conducted at the 90% stage. At this stage the bridge design has been checked and all the details on the plans checked. Our final review occurs at the 100% stage before the plans are turned-in for the letting.*

2. How do you ensure the QA/QC process of a consultant engineering firm is adequate? In the early 1960's and today? *Process and procedures today are similar to the early 1960's. We hire qualified and experienced consultants. We make sure the consultants include sufficient hours in their proposal for QA/QC work.* **What procedures are in-place to ensure that the consultant does not submit an inadequate design?** *Consultants are required to design the bridge, detail the bridge plans, and then perform an independent check of the bridge design and the bridge plan details. They are required to submit copies of the design computations and the check computations to show that this was done. All work is required to be done by or under the direct supervision of a professional engineer. The consultant is required to put the seal and signature of a registered professional engineer licensed in the State of Nebraska on all sheets of the final bridge plans.*

3. What does the Nebraska Department of Roads consider a red-flag item when reviewing consultant engineering bridge plans? *Incomplete plans or bridges with a low load rating.* **What follow-up action is taken to address the red-flag item?** *Written and/or verbal communication with the consultant to correct the problem.* **Describe the level of detail the Nebraska Department of Roads uses in reviewing consultant engineering bridge plans?** *The 65% plan review is a general review for adherence to the scope of the project and Nebraska Department of Roads (NDOR) policies and procedures and includes load rating of the superstructure. The 90% plan review is a more detailed review to verify that the bridge plans are complete and consistent with current NDOR Bridge Division policies, standards, and procedures. The 100% plan review ensures that all previous comments have been addressed and incorporated into the plans. A review of the plans is also done at this point by an Assistant Bridge Engineer.*

4. Does the Nebraska Department of Roads review consultant engineering bridge plans concurrently with the FHWA Division Office? No. Does the Nebraska Department of Roads review the consultant plans with the expectation that FHWA will be performing a similar type of review? No.

5. What are the qualifications of the Nebraska Department of Roads personnel who conduct the review of consultant engineering bridge plans? The people who do consultant plan reviews are the same people who do our in-house bridge designs. Most of our engineers are professional engineers. Non-licensed engineers work under the direct supervision of a professional engineer.

6. What is the percentage of bridge design work that is done in-house versus the percentage that is done by consultant engineering firms? On the state system, approximately 95% of our final bridge design work is done in-house and 5% is done by consultants. On the local system, approximately 5% of our final bridge design work is done in-house and 95% is done by consultants.

7. Describe the structure of the Nebraska Department of Roads? All roadway and bridge design work is done in our central office in Lincoln. The construction inspection and maintenance is the responsibility of our 8 districts. Is the bridge office centrally organized? Yes. How many district bridge offices are located in the state? There are 8 district offices located in the state. Are consultant engineering bridge plans reviewed at the central office or district bridge office? They are reviewed at the central office.