

**AGREEMENT FOR TECHNICAL ASSISTANCE
BETWEEN THE SECRETARY OF TRANSPORTATION
AND THE UNIVERSITY OF KANSAS**

THIS AGREEMENT made this 9th day of September, 2002, by and between the Secretary of Transportation of the State of Kansas, hereinafter called "**Secretary**," and The University of Kansas, hereinafter referred to as "**KU**," acting by and through Joanne Altieri, Director, Contract Negotiations and Research Compliances, its duly authorized representative.

WITNESSETH

WHEREAS, the **Secretary** has determined that research regarding "Construction of Crack-Free Concrete Bridge Decks" is needed and approved as part of the **KDOT** Research Program, and

WHEREAS, the proposed program is hereinafter called "Project," and

WHEREAS, the **KU** has qualified personnel with demonstrated expertise available to conduct the Project, and

WHEREAS, the **Secretary** is willing, subject to the terms of the **Agreement**, to reimburse **KU** for the assistance provided.

NOW THEREFORE, in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

Section 1. Scope of Services. The **KU** shall furnish the necessary personnel, facilities, and such other services as may be required to fulfill the tasks identified and described in the Workplan which is attached hereto and incorporated herein as Special Attachment No. 3.

Section 2. Contract Dates. The **KU** may commence work in conformity with the Workplan (Special Attachment No. 3) of this **Agreement** upon acceptance by the **Secretary** of the Workplan and shall prosecute the work outlined herein to begin on or after September 1, 2002 and with completion not later than March 30, 2008, unless the time is extended by the **Secretary**, as evidenced in writing.

Section 3. Basis of Payment. The **Secretary** agrees to reimburse the **KU** for the work completed and actual costs incurred in performance of the **Agreement** in accordance with the proposed budget, page 6 through 10 of the Workplan, in an amount not to exceed a total price of \$830,000. A combination of Federal monies and State monies are used to fund this Project. The project costs referred to in this **Agreement** shall be comprised of the allowable direct costs incidental to the performance of the work described in the Workplan and indirect costs. Indirect costs shall not exceed forty-five and one half (45.5) percent of the total modified direct costs to the extent that Federal-aid funds are used for payment. In the event final approval of Federal

appropriation is not obtained, the **Secretary** will be responsible for only those noncancelable obligations incurred by **KU** for work under this **Agreement**.

The **Secretary** agrees to make progress payments to the **KU** upon presentation of proper billing and certification of work performed. The **Secretary** will reimburse allowable costs as requested by the **KU** less two percent retainage. Certification of work performed will be documented by progress reports required under Section 11 of the **Agreement**. The **KU** shall indicate on the last project billing that it is the final billing. The final request for payment shall not be disbursed until the **Secretary** determines that all obligations of the **Agreement** have been completed. Reimbursement of any cost pursuant to this **Section** shall not constitute a final determination by the **Secretary** of the allowability of such cost and shall not constitute a waiver of any violation of the terms of the **Agreement** committed by the **KU**.

The **KU** agrees to obligate matching funds for additional direct and indirect costs included in the proposed budget in an amount of \$NONE. In the event final approval of Federal appropriation is not obtained, the **KU** will be responsible for only those additional direct and indirect costs associated with noncancelable obligations incurred by **KU** for work under this **Agreement**.

The portion of funds provided under the provisions of 23 U.S.C. 504 as amended by Section 5104 of the 1998 TEA-21 may not be used to reimburse travel, subsistence or salary costs of trainees.

The test of allowability of a cost to be applied in this **Agreement** is based on the reasonableness of the allocation of the cost under generally accepted cost accounting principles and practices and in accordance with 48 Code of Federal Regulations (CFR) 1-31.00 et. seq., and relevance to tasks identified and described in the Workplan. However, such costs are subject to limitation as per **Agreement**.

The final payment due under provisions of this **Agreement** shall be made within ninety (90) days after the **Secretary's** and the appropriate Federal agency's acceptance and approval of the Final Evaluation Report and **KU'S** compliance with OMB A-133, Single Audit Act.

Section 4. Covenant Against Contingent Fees. The **KU** warrants and guarantees that provisions for covenants against contingent fees found in Special Attachment No. 2 are incorporated in this **Agreement** and made a part hereof. For breach or violation of this warranty, the **Secretary** shall have the right to annul this **Agreement** without liability, or in his discretion to deduct from the **Agreement** price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

Section 5. Rights in the Project.

A. Rights in Data. The **KU** grants to the **Secretary**, for any governmental purposes, the right to publish, translate, reproduce, deliver, use and dispose of, and to authorize others to do so, all data, including reports, drawings, blueprints, computer software which includes but is not limited to documentation and source code, and other technical information resulting from the performance of work under this **Agreement**. When the **Secretary** authorizes

others to use, for governmental purposes, any patented or copyrighted items arising from the project, the **Secretary** will issue a standard restriction **Agreement** to each party receiving authorization for return to **KU**.

- B. Rights in Equipment. It is mutually agreed by the **KU** and the **Secretary** that all apparatus and equipment purchased with funds provided by the **Secretary** shall be used by the **KU** for the project. Upon the **KU** notifying the **Secretary** of completion of the project, the **Secretary** shall determine and notify the **KU** if such apparatus and equipment shall be used by the **Secretary** in the conduct of its works. During the contract dates, **KU** shall not bear the risk of loss or damage to apparatus or equipment purchased under this project and the **Secretary** has the option of whether or not to replace the loss or repair the damage to apparatus or equipment. The **Secretary** reserves the right to take possession of apparatus and equipment purchased for this **Agreement** within one year either after termination of the **Agreement** or completion of the project.
- C. Rights in Intellectual Property. Consistent with KDOT and Kansas Board of Regents policy, the **KU** will retain all rights to intellectual property including patents and copyrights arising from the project. The **Secretary** and the **U.S. Government** shall retain a royalty-free, nonexclusive, irrevocable license to use any patent or copyright arising from the project for any governmental purposes. If the **KU** elects not to pursue the patenting or copyrighting of intellectual property, the **KU** will provide written notification to the **Secretary** who shall be free to do so. The **KU** agrees to include, within the specification of any United States patent or copyright application and any patent and copyright issuing, the following statement, "The invention (copyright) was made with funds provided by the Federal government and State of Kansas through the Kansas Department of Transportation."
- D. Confidentiality. **Secretary** and **KU** agree that information exchanged and generated pursuant to this **Agreement**, will generally be non-confidential and suitable for publication. Nevertheless **Secretary**, and its duly authorized representatives may disclose to **KU**, during the course of the project, confidential information including data and statistics not suitable for public dissemination. **KU** agrees to maintain such information in confidence, and to prevent the disclosure thereof to others to the extent that such information is disclosed in writing and marked as confidential or proprietary; if orally disclosed, noted at the time of disclosure as being confidential and or proprietary, and reduced to writing within thirty (30) days after such oral disclosure, the writing being marked as confidential or proprietary. **KU** agrees that neither the **KU** nor any of its colleagues, employees or agents shall use any of the confidential information for any purpose whatsoever, other than to complete this assignment for KDOT. The **KU** agrees that the **KU** or any of its colleagues, employees or agents shall not keep any copies of the information provided by the **Secretary** or its duly authorized representatives that has been identified as confidential or proprietary, and provided pursuant to this **Agreement**.

Section 6. Work Responsibility. The parties hereto mutually agree that the services to be performed under the terms of this **Agreement** are to be performed by the **KU**, with principal

offices at the University of Kansas, Lawrence, Kansas and that their time and effort as defined in the Workplan, Special Attachment No. 3, cannot be assigned, sublet, or transferred to any other party without the written consent of the **Secretary**. **KU** accepts full responsibility for the Project and its conduct. The **KU** will bill the **Secretary** for reimbursement as specified in the **Agreement** as awarded. For the purposes of administrative efficiency, the **KU** will subcontract to the University of Kansas Center for Research, Inc. (KUCR), as KUCR is the normal administrative agency for projects under The University of Kansas. This subcontractual arrangement will in no way affect the work on the project, the scientific personnel, or the billing between the **KU** and the **Secretary**.

Section 7. Inspection and Approval of Work. The **KU** shall permit the **Secretary** or his duly authorized representative to inspect and audit all work, material, computer programs and other data and records either during the performance of project or for three years after final acceptance of the project. All work will be performed according to the requirements as outlined in the Workplan, Special Attachment No. 3. Final inspection of the project will be conducted by the **Secretary** or his duly authorized representative.

Section 8. Publication Provisions. Publication by any party to this **Agreement** shall give credit to all other parties. However, if the **Secretary** does not wish to subscribe to the findings or conclusions of an interim report, the following statement shall be added: "The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Kansas Department of Transportation." In the event of failure to reach a consensus between the **Secretary** and the **KU** relative to the publication of a final report, or any other reports during the period of the **Agreement**, the **Secretary** reserves the right to publish independently in which event the nonconcurrence of the **KU** shall be set forth in said publication, if requested by the **KU**.

Section 9. Audit and Retention of Records. Arrangements shall be made by the **KU** for the required financial and compliance audit to ensure that the audit will be made within the prescribed audit reporting cycle, and a copy of the OMB A-133 audit will be provided to the **Secretary**.

The **KU** shall be required to maintain accounting records and other evidence pertaining to the costs incurred and to make the records available to their office at all reasonable times during the **Agreement** period and for three (3) years from the date of the final payment to the **KU** under this **Agreement**. Such accounting records and other evidence pertaining to the costs incurred will be made available for inspection by the **Secretary** or his duly authorized representatives and copies thereof shall be furnished if requested.

Section 10. Termination of Agreement. Either party has the right to terminate this **Agreement** by giving thirty (30) days written notice in the event a determination is made that the project should be abandoned or indefinitely postponed; **Provided**, however, that in any case, the **KU** shall be paid the amount due for the services rendered and for any noncancelable obligations incurred prior to the date of termination on the basis of the provisions of this **Agreement** and provided that the **Secretary** shall receive full reports of all work performed to the date of termination of this **Agreement**.

Section 11. Reports. The **KUCR** shall advise the **Secretary** regarding the progress of the project at such times and in such a manner as the **Secretary** may require, including but not limited to the following:

- 1) A monthly summary of project expenditures by task including the following cost elements: salary & fringe benefits, overhead, professional services, supplies, travel, cumulative total task cost, and cumulative total cost expressed as percent of estimated total task cost.
- 2) A final report evaluating the effectiveness of the program.

Section 12. Cooperation and Disputes. The **Secretary** and the **KU** agree to make a reasonable effort to promptly resolve any disputes or questions concerning the project. The **Secretary** and the **KU** ensure that personnel will cooperate fully in carrying out the intent and provisions of this **Agreement**. The **Secretary** shall, in all cases not disposed of by **Agreement** among or between the parties to this **Agreement**, resolve any disputes which may arise in connection with the work being performed under this **Agreement**.

Section 13. Compliance with Laws. The **KU** in the implementation of the administrative service and the **KUCR** in the implementation of the Workplan, both as provided for in this **Agreement**, agree to comply with all federal, state and local laws, ordinances and regulations, including but not limited to Title VI, Title VII and Title IX of the Civil Rights Act of 1964 and Executive Order 11246 as amended by Executive Order 11375 entitled "Equal Employment Opportunity;" Executive Order 12549 regarding debarment, eligibility, indictments, convictions, or civil judgements; and 31 U.S.C. Section 1352: Section 319 P.L. 101.21 prohibiting use of Federal funds for lobbying activities which are incorporated herein as Special Attachments Nos. 1, 5 and 6, respectively.

Section 14. Responsibility to Employees. The **KU** accepts full responsibility for payment of unemployment insurance, workmen's compensation, and social security as well as all income tax deductions and any other taxes or payroll deductions required by the law for its employees engaged in the work authorized by the **Agreement**.

Section 15. Employment of Secretary's Employees. The **KU** will not, without written permission from the **Secretary**, engage the services of any person or persons in the employment of the **Secretary** for any work required by the terms of the **Agreement**.

Section 16. Contractual Provisions Attachment. The provisions found in Contractual Provisions Attachment Form DA—146a, Special Attachment No. 4, which is attached hereto, are hereby incorporated in this **Agreement** and made a part hereof.

Section 17. Indemnification Agreement. The **KU** agrees to indemnify and hold harmless the **Secretary** and the **Secretary's** duly authorized representatives from any and all costs, liabilities, expenses, suits, judgments, damages to person or property or claims of any nature whatsoever arising out of the negligent acts of the **KU**, the **KU** employees or subcontractors, in the performance of this **Agreement**. The **KU** shall not be required to indemnify and hold the

Secretary harmless for negligent acts of the **Secretary** or his or her duly authorized representatives or employees. Nothing in this indemnification clause is meant to affect Section 4 Disclaimer of Liability of DA—146a, Special Attachment No. 4.

Section 18. Prohibited Interest. No member, officer or employee of the **KU** during his/her tenure or one year thereafter shall have any interest, direct or indirect, in this **Agreement** or the proceeds thereof other than that allowed by Board of Regents policy.

IN WITNESS WHEREOF: the parties hereto have caused this **Agreement** to be signed by their duly authorized officers on the day and year first above written.

KU

Secretary

Joanne Altieri
Joanne Altieri
Director
Contract Negotiations and
Research Compliances

Warren L. Sick
E. Dean Carlson
Secretary of Transportation
By: Warren L. Sick, P.E.
Assistant Secretary and
State Transportation Engineer

Paul M. Mauer 8-26-02
ATTEST

Connie S. Nordstrom
ATTEST

- Special Attachment No. 1, Civil Rights Act
- Special Attachment No. 2, Certification - Covenant Against Fees
- Special Attachment No. 3, Workplan
- Special Attachment No. 4, Form DA-146a
- Special Attachment No. 5, Certification - Debarment
- Special Attachment No. 6, Certification - Federal Aid Contracts



KANSAS DEPARTMENT OF TRANSPORTATION

Special Attachment

To Contracts or Agreements Entered Into
By the Secretary of Transportation of the State of Kansas

NOTE: Whenever this Special Attachment conflicts with provisions of the Document to which it is attached, this Special Attachment shall govern.

THE CIVIL RIGHTS ACT OF 1964, AND ANY AMENDMENTS THERETO,
REHABILITATION ACT OF 1973, AND ANY AMENDMENTS THERETO,
AMERICANS WITH DISABILITIES ACT OF 1990, AND ANY AMENDMENTS THERETO,
AGE DISCRIMINATION ACT OF 1975, AND ANY AMENDMENTS THERETO
EXECUTIVE ORDER 12898, FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN
MINORITY POPULATIONS AND LOW INCOME POPULATIONS (1994) AND ANY
AMENDMENTS THERETO,
49 C.F.R. PART 26.1 (DBE PROGRAM), AND ANY AMENDMENTS THERETO

NOTIFICATION

The Secretary of Transportation for the State of Kansas, in accordance with the provisions of Title VI and Title VII of the Civil Rights Act of 1964 (78 Stat. 252), §504 of the Rehabilitation Act of 1973 (87 Stat. 355) and the Americans with Disabilities Act of 1990 (42 USC 12101), the Age Discrimination Act of 1975 (42 USC 6101) and the Regulations of the U.S. Department of Transportation (49 C.F.R., Part 21, 23 and 27), issued pursuant to such Act, and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations (1994), and the DBE Program (49 C.F.R., Part 26.1), hereby notifies all contracting parties that, the contracting parties will affirmatively insure that this contract will be implemented without discrimination on the grounds of race, religion, color, gender, age, disability, national origin, or minority populations and low income populations as more specifically set out in the following nine "Nondiscrimination Clauses".

CLARIFICATION

Where the term "consultant" appears in the following seven "Nondiscrimination Clauses", the term "consultant" is understood to include all parties to contracts or agreements with the Secretary of Transportation of the State of Kansas.

Nondiscrimination Clauses

During the performance of this contract, the consultant, or the consultant's assignees and successors in interest (hereinafter referred to as the "consultant's"), agrees as follows:

- (1) **Compliance with Regulations:** The consultant will comply with the Regulations of the U.S. Department of Transportation relative to nondiscrimination in federally-assisted programs of the U.S. Department of Transportation (Title 49, Code of Federal Regulations, Parts 21, 23 and 27, hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- (2) **Nondiscrimination:** The consultant, with regard to the work performed by the consultant after award and prior to the completion of the contract work, will not discriminate on the grounds of race, religion, color, gender, age, disability, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The consultant will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- (3) **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations, either competitive bidding or negotiation made by the consultant for work to be performed under a subcontract including procurements of materials or equipment, each potential subcontractor or supplier shall be notified by the consultant of the consultant's obligation under this contract and the Regulations relative to nondiscrimination on the grounds of race, religion, color, gender, age, disability, national origin or minority populations and low income populations.
- (4) **Information and Reports:** The consultant will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and the Secretary of Transportation of the State of Kansas will be permitted access to the consultants books, records, accounts, other sources of information, and facilities as may be determined by the Secretary of Transportation of the State of Kansas to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a consultant is in the exclusive possession of another who fails or refuses to furnish this information, the consultant shall so certify to the Secretary of Transportation of the State of Kansas and shall set forth what efforts it has made to obtain the information.
- (5) **Employment:** The consultant will not discriminate against any employee or applicant for employment because of race, religion, color, gender, age, disability, or national origin.

(Revised 07-29-1999)

- 6) Sanctions for Noncompliance: In the event of the consultant's noncompliance with the nondiscrimination provisions of this contract, the Secretary of Transportation of the State of Kansas shall impose such contract sanctions as the Secretary of Transportation of the State of Kansas may determine to be appropriate, including, but not limited to,
 - (a) withholding of payments to the consultant under the contract until the contractor complies, and/or
 - (b) cancellation, termination or suspension of the contract, in whole or in part.
- (7) Disadvantaged Business Obligation
 - (a) Disadvantaged Businesses as defined in the Regulations, shall have a level playing field to compete fairly for contracts financed in whole or in part with Federal funds under this contract.
 - (b) All necessary and reasonable steps shall be taken in accordance with the Regulations to ensure that Disadvantaged Businesses have equal opportunity to compete for and perform contracts. No person(s) shall be discriminated against on the basis of race, color, gender, or national origin in the award and performance of Federally-assisted contracts.
- (8) Executive Order 12898
 - (a) To the extent permitted by existing law, and whenever practical and appropriate, all necessary and reasonable steps shall be taken in accordance with Executive Order 12898 to collect, maintain, and analyze information on the race, color, national origin and income level of persons affected by the programs, policies and activities of the Secretary of Transportation and use such information in complying with this Order.
- (9) Incorporation of Provisions: The consultant will include the provisions of paragraph (1) through (8) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, order, or instructions issued pursuant thereto. The consultant will take such action with respect to any subcontract or procurement as the Secretary of Transportation of the State of Kansas may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a consultant becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the consultant may request the State to enter into such litigation to protect the interests of the State.

(Revised 07-29-1999)

CERTIFICATION OF THE UNIVERSITY OF KANSAS

I hereby certify that I am the Director and duly authorized representative of Contract Negotiations and Research Compliances at The University of Kansas and that neither I nor the above agency I here represent has:

- (a) employed or retained for the payment of a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or a consultant) to solicit or secure this Agreement,
- (b) agreed, as an express or implied condition for obtaining this Agreement, to employ or retain the services of any firm or person in connection with carrying out the contract, or
- (c) paid, or agreed to pay, to any firm, organization of persons (other than a bona fide employee working solely for me or a consultant) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the Agreement;

except as here expressly stated (if any):

I acknowledge that this certificate is to be furnished to the Secretary of Transportation of the State of Kansas in connection with this Agreement and is subject to applicable State and Federal laws, both criminal and civil.

8/26/02
(Date)

Joanne Altieri
Joanne Altieri
Director, Contract Negotiations and Research Compliance

CERTIFICATION OF THE SECRETARY OF TRANSPORTATION

I hereby certify that I am the Secretary of Transportation of the State of Kansas, and that The University of Kansas or their representative has not been required, directly or indirectly as an express or implied condition in connection with obtaining or carrying out this Agreement to:

- (a) employ or retain, or agree to employ or retain, any firm or person, or
- (b) pay, or agree to pay, to any firm, person, or organization, any fee, contribution, donation, or consideration of any kind;

except as here expressly stated (if any):

I acknowledge that this certificate is to be furnished to the above referenced firm in connection with this Agreement, and is subject to applicable State and Federal laws, both criminal and civil.

9/9/02
(Date)

Warren L. Sick
E. Dean Carlson, P.E.
Secretary of Transportation
By: Warren L. Sick, P.E.
Assistant Secretary and
State Transportation Engineer

Special Attachment
No. 3
13 sheets total

Proposal to

Kenneth Hurst, Engineering Manager
State Bridge Office
Docking State Office Building - 930 West
Topeka, KS 66612-1568
PHONE: (785) 296-3761

for

Construction of Crack-Free Concrete Bridge Decks

Period of Performance: 09/01/02 – 03/30/08
Funds Requested: \$830,000

submitted by

David Darwin, Principal Investigator
The University of Kansas
Department of Civil, Environmental & Architectural Engineering
Learned Hall, 1530 W. 15th Street, Room 2006
Lawrence, KS 66045-7609
Phone: (785) 864-3827
FAX: (785) 864-5631
e-mail address: daved@ku.edu

Contractual Contact

Joanne Altieri, Director
Contract Negotiations and Research Compliance
The University of Kansas Center for Research, Inc.
2385 Irving Hill Road, Lawrence, KS 66045-7563
Phone: (785) 864-7462 FAX: (785) 864-5049
jaltieri@ku.edu

The University of Kansas Center for Research, Inc.
2385 Irving Hill Road Lawrence, KS 66045-7563
FEIN #48-0680117

CONSTRUCTION OF CRACK-FREE CONCRETE BRIDGE DECKS

General Problem Statement

Cracks in concrete bridge decks provide easy access for water and deicing chemicals that shorten the life of the deck. Both materials increase the effects of freeze-thaw damage, while the deicing chemicals lead to higher concentrations of chlorides, and subsequently, corrosion of reinforcing steel. Measurements taken on bridges in Kansas show that dense, high quality concrete can significantly slow the penetration of chlorides to the level of the reinforcing steel. However, measurements taken at cracks show that the chloride content of the concrete can exceed the corrosion threshold at the level of the reinforcing steel by the end of the first winter. The formation of cracks, thus, significantly lowers the effectiveness of other techniques that are used to increase the life of a deck.

Background

Research, some of which dates back over 30 years, has addressed the causes of cracking in bridge decks in North America. The research includes two detailed bridge deck surveys carried out by the University of Kansas during the past decade (with another scheduled to start this year). The results of the studies provide specific guidance on modifications in materials and construction techniques that will reduce the amount of cracking in bridge decks: Settlement cracks, transverse deck cracks that form immediately over reinforcing bars, can be reduced with increased cover, decreased bar size, and decreased concrete slump. Shrinkage cracks can be reduced by decreasing the volume of water and cement, and maintaining an air content above 6%. Optimized aggregate gradations can be used to minimize the cement paste constituent of concrete, and workability can be enhanced at reduced paste contents using water reducers and superplasticizers. Increased compressive strength, normally associated with high-performance concrete, often has a negative impact on cracking. During construction, plastic shrinkage cracks increase as the rate of evaporation from the concrete surface increases. Even when plastic

shrinkage cracking is not specifically observed, conditions associated with high evaporation rates are also associated with increased total cracking in the completed deck, due to movement of plastic concrete. Techniques such as wind breaks and fogging have had a positive impact on the problem, as has thorough curing of the concrete. The surveys by the University of Kansas demonstrate that, in general, cracking increases with increased age. However, concretes cast in different eras exhibit significantly different amounts of cracking — decks in Kansas cast between 1983 and 1987 average less than half the crack density of bridges cast since 1990. This observation is taken as evidence by some of the effect of the progressively finer gradations of portland cement that have been produced to provide higher early strengths, but that also produce concretes with a greater tendency to shrink.

In spite of this accumulation of knowledge, only a small number of these findings have been used to implement changes in bridge deck design and construction procedures. In specific cases, on-site observations indicate that it is possible to develop nearly crack-free bridge decks, if “best practices” are followed. Even with these few successes, most bridge decks exhibit significant cracking, exposing the reinforcing steel to deicing chemicals and subsequent corrosion and increasing the degree of saturation, which increases the impact of freeze-thaw cycles. However, the current level of understanding offers the potential of constructing bridge decks with minimum cracking on a routine basis.

Benefits

State departments of transportation expend significant effort and resources on the construction of durable reinforced concrete bridges and bridge decks. Existing data indicates that specific modifications to construction procedures, materials, and design details will significantly reduce the degree of cracking in bridge decks, and thus reduce exposure of reinforcing steel to the corrosive effects of deicing chemicals and decrease freeze-thaw damage. Of the two, corrosion is by far the greater problem. The project will provide a mechanism for combining ideas from research and practice to develop a comprehensive strategy for the construction of bridge

decks. If successful, the result will be a major reduction in bridge deck cracking, an improvement in durability, and an increase in the useful life of bridges. A great deal is known about the factors that affect cracking in bridge decks — it is time to implement that knowledge.

Work Plan and Schedule

The purpose of this study is to implement the most cost-effective techniques for improving bridge deck life through the reduction of cracking. The work will involve cooperation between cement companies (including the development of coarser, low-shrinkage cement), contractors, and designers. The following tasks will be used to achieve this objective.

1. Develop a detailed plan to construct bridge decks with minimum cracking by incorporating “best practices” dealing with materials, construction procedures, and structural design. This step will involve the cataloging of available techniques and meeting with department of transportation personnel from multiple states, as well as other experts, to select the procedures to be used and the bridge types to which they will be applied.

2. Work with state DOTs, designers, contractors, inspectors, and material suppliers to modify designs, specifications, contracting procedures, construction techniques, and materials to obtain decks exhibiting minimal cracking. In this step, for example, contractor pay items may need to be changed to ensure that the concrete is fully consolidated, plastic shrinkage is minimized, and high-quality long-term curing is used. Concrete mixes with low cement contents and cements with low shrinkage characteristics will be evaluated. Also included in this task is a cost/benefit analysis to determine the feasibility of new construction and/or design provisions. Results of this task will help guide the final implementation scheme.

3. Select and schedule bridges to be constructed using “best practices,” and pre-qualify designers and contractors in application of the techniques. Twenty bridges, 10 in northeast Kansas and 10 in other participating states, will be constructed using the new techniques. Researchers from the University of Kansas and state DOT personnel will work closely with designers and contractors to achieve the desired results. Pre-qualification of designers and contractors will in-

clude workshops sponsored by the University of Kansas to help educate and train engineers in implementing the "best-practices" identified in Tasks 1 and 2.

4. Carry out detailed crack surveys on the bridge decks, three months, six months, one year, two years, and three years after construction. The surveys will be done using techniques developed at the University of Kansas that involve identifying and measuring all cracks visible on the upper surface of the bridge deck. Initially, surveys will be done by the University of Kansas. As the project progresses, teams from outside of the State of Kansas will be trained in the survey techniques.

5. Correlate the cracking measured in Task 4 with the environmental and site conditions, construction techniques, design specifications, and material properties and compare with earlier data. Similar data from participating states, where it exists, will be incorporated in the analysis. Final cost estimates will be compared with potential benefits.

6. Document the results of the study. A final report will be prepared and disseminated to participating states regarding the findings of Tasks 1-5. Recommendations for further implementation and/or studies will be discussed in a final presentation of results to a committee of the Pooled-Fund Study participants.

7. Develop a training program, including a video produced by KDOT Support Services, to assist the participating states in implementing the findings of the study. The program will consist of workshops to be held at the representative state DOT offices. These workshops will be individually coordinated with each participating DOT.

A technical committee, structured with one representative from each state providing funds, will oversee the project. It is anticipated that status report meetings will be held annually. An attempt will be made to schedule status report meetings to coincide with national meetings attended by the participants. Three meetings will be held during the first year in conjunction with the development of the plan described in Task 1.

Schedule

<u>Task</u>	<u>Months</u>
1. Develop detailed construction plans	1 – 15
2. Modify designs, specifications, contracting procedures, construction techniques, and materials	6 – 24
3. Select and schedule bridges; pre-qualify designers and contractors	9 – 24
4. Perform crack surveys	12 – 60
5. Correlate findings and develop cost-benefit estimates	36 – 60
6. Prepare final report	48 – 60
7. Develop training program and present workshops	48 – 60

Proposed Budget

The proposed budget (see following pages) covers the period 9/1/02 – 8/31/07. The period of performance includes a six-month unfunded, no-cost extension to 3/30/08.

The Kansas Department of Transportation will prepare the training video demonstrating the key findings of this study, as described in Task 7. The individual state departments of transportation will provide traffic control and support personnel during crack surveys (Task 4) and meeting space for workshops (Tasks 3 and 7). State departments of transportation will construct 20 bridges, as described in Task 3.

PROPOSED BUDGET

Year 1: 09/01/02 to 08/31/03

					Federal (SPR)	State of Kansas	Total
SALARIES AND WAGES							
Senior Personnel							
		% time	Months	Rate			
<i>David Darwin, PI</i>							
summer		100	1.5	14,189	21,284	0	21,284
<i>JoAnn Browning, Co-I</i>							
summer		100	1.5	6,885	<u>10,328</u>	0	<u>10,328</u>
Total senior personnel					31,612	0	31,612
Other Personnel							
	Persons	% time	Months	Rate			
<i>Graduate Student(s)</i>							
acad	2	50	9.0	2,600	23,400	0	23,400
summer	2	50	3.0	2,600	<u>7,800</u>	0	<u>7,800</u>
Total other personnel					<u>31,200</u>	0	<u>31,200</u>
Total salaries and wages					62,812	0	62,812
FRINGE BENEFITS							
28% faculty and staff					8,851	0	8,851
4% students (employed 75% or less)					<u>1,248</u>	0	<u>1,248</u>
Total fringe benefits					<u>10,099</u>	0	<u>10,099</u>
Total salaries, wages & fringe benefits					72,911	0	72,911
TRAVEL							
Total travel					0	0	0
OTHER DIRECT COSTS							
Research materials & supplies					1,000	0	1,000
Publications (copying and distribution of research results)					500	0	500
Consultant Services					6,000	0	6,000
Other:							
Tuition for 2 GRAs: Fall 02 (9 hrs) + Spring 03 (10 hrs) + Sum 03 (3 hrs)					7,984	7,984	7,984
Travel for state representatives					12,000	0	12,000
Computer networking costs					<u>4,420</u>	0	<u>4,420</u>
Total "Other"					<u>24,404</u>	<u>7,984</u>	<u>24,404</u>
Total Other Direct Costs					<u>23,920</u>	<u>7,984</u>	<u>31,904</u>
TOTAL DIRECT COSTS					96,831	7,984	104,815
BASE					96,831		96,831
INDIRECT COSTS (45.5% of total direct costs excluding equipment and tuition allowance)					44,058		44,058
TOTAL PROPOSED COSTS - YEAR 1					\$140,889	\$7,984	\$148,873

PROPOSED BUDGET (Continued)

Year 2: 09/01/03 to 08/31/04

					Federal (SPR)	State of Kansas	Total
SALARIES AND WAGES							
Senior Personnel							
	% time	Months	Rate				
<i>David Darwin, PI</i>							
summer	100	1.5	14,898	22,347	22,347	0	22,347
<i>JoAnn Browning, Co-I</i>							
summer	100	1.5	7,229	10,844	10,844	0	10,844
Total senior personnel				33,191	33,191	0	33,191
Other Personnel							
	Persons	% time	Months	Rate			
<i>Graduate Student(s)</i>							
acad	2	50	9.0	2,730	24,570	0	24,570
summer	2	50	3.0	2,730	8,190	0	8,190
<i>Undergraduate Student(s)</i>							
calendar	1		250.0	7.00	1,750	0	1,750
Total other personnel				34,510	34,510	0	34,510
Total salaries and wages				67,701	67,701	0	67,701
FRINGE BENEFITS							
28% faculty and staff				9,293	9,293	0	9,293
4% students (employed 75% or less)				1,380	1,380	0	1,380
Total fringe benefits				10,673	10,673	0	10,673
Total salaries, wages & fringe benefits				78,374	78,374	0	78,374
TRAVEL							
<i>(a) to east/west coast for professional meeting</i>							
	# Persons	Trips	Days	Amount			
Transportation (airfare)	2	1	5	500	1,000		
Total (a)					1,000	0	1,000
<i>(b) to bridge site and training sessions</i>							
Transportation - mileage at current State of Kansas rate				3,850	3,850		
Per diem				1,000	1,000		
Total (b)				4,850	4,850	0	4,850
Total travel					5,850	0	5,850
OTHER DIRECT COSTS							
Research materials & supplies				1,000	1,000	0	
Publications (copying and distribution of research results)				500	500	0	
Other:							
Tuition: Fall 03 (9 hrs) + Spring 04 (10 hrs) + Sum 04 (3 hrs)				9,168	5,152	4,016	9,168
Travel for state representatives				12,000	12,000	0	12,000
Computer networking costs				4,745	4,745	0	4,745
Total "Other"				25,913	21,897	4,016	25,913
Total Other Direct Costs					23,397	4,016	27,413
TOTAL DIRECT COSTS					107,621	4,016	111,637
BASE					102,469		102,469
INDIRECT COSTS (45.5% of total direct costs excluding equipment and tuition allowance)					46,623		46,623
TOTAL PROPOSED COSTS - YEAR 2					\$154,244	\$4,016	\$158,260

PROPOSED BUDGET (Continued)

Year 3: 09/01/04 to 08/31/05

SALARIES AND WAGES					Federal (SPR)	State of Kansas	Total
Senior Personnel							
	% time	Months	Rate				
David Darwin, PI							
summer	100	1.5	15,643	23,465	23,465	0	23,465
JoAnn Browning, Co-I							
summer	100	1.5	7,590	11,385	11,385	0	11,385
Total senior personnel				34,850	34,850	0	34,850
Other Personnel							
	Persons	% time	Months	Rate			
<i>Graduate Student(s)</i>							
acad	2	50	9.0	2,867	25,803	0	25,803
summer	2	50	3.0	2,867	8,601	0	8,601
<i>Undergraduate Student(s)</i>							
calendar	Persons		Hours	Rate			
	1		250.0	7.35	1,838	0	1,838
Total other personnel					36,242	0	36,242
Total salaries and wages					71,092	0	71,092
FRINGE BENEFITS							
28% faculty and staff				9,758	9,758	0	9,758
4% students (employed 75% or less)				1,450	1,450	0	1,450
Total fringe benefits					11,208	0	11,208
Total salaries, wages & fringe benefits					82,300	0	82,300
TRAVEL							
<i>(a) to east/west coast for professional meeting</i>							
	# Persons	Trips	Days	Amount			
	2	1	5				
Transportation (airfare)				500	1,000		
Total (a)					1,000	0	1,000
<i>(b) to bridge site and training sessions</i>							
Transportation - mileage at current State of Kansas rate				4,043	4,043		
Per diem				1,050	1,050		
Total (b)					5,093	0	5,093
Total travel					6,093	0	6,093
OTHER DIRECT COSTS							
Research materials & supplies				1,000	1,000	0	1,000
Publications (copying and distribution of research results)				500	500	0	500
Other:							
Tuition: Fall 04 (9 hrs) + Spring 05 (10 hrs) + Sum 05 (3 hrs)				10,518	10,518	0	10,518
Travel for state representatives				12,000	12,000	0	12,000
Computer networking costs				5,021	5,021	0	5,021
Total "Other"					27,539	0	27,539
Total Other Direct Costs					29,039	0	29,039
TOTAL DIRECT COSTS					117,432	0	117,432
BASE					106,914		106,914
INDIRECT COSTS (45.5% of total direct costs excluding equipment and tuition allowance)					48,646		48,646
TOTAL PROPOSED COSTS - YEAR 3					\$166,078	\$0	\$166,078

PROPOSED BUDGET (Continued)

Year 4: 09/01/05 to 08/31/06

					Federal (SPR)	State of Kansas	Total
SALARIES AND WAGES							
Senior Personnel							
	% time	Months	Rate				
<i>David Darwin, PI</i>							
summer	100	1.5	16,425	24,638	24,638	0	24,638
<i>JoAnn Browning, Co-I</i>							
summer	100	1.5	7,970	<u>11,955</u>	<u>11,955</u>	0	<u>11,955</u>
Total senior personnel				36,593	36,593	0	36,593
Other Personnel							
	Persons	% time	Months	Rate			
<i>Graduate Student(s)</i>							
acad	2	50	9.0	3,010	27,090	0	27,090
summer	2	50	3.0	3,010	9,030	0	9,030
<i>Undergraduate Student(s)</i>							
calendar	1		250.0	7.72	<u>1,930</u>	0	<u>1,930</u>
Total other personnel					<u>38,050</u>	0	<u>38,050</u>
Total salaries and wages					74,643	0	74,643
FRINGE BENEFITS							
28% faculty and staff				10,246	10,246	0	10,246
4% students (employed 75% or less)				<u>1,522</u>	<u>1,522</u>	0	<u>1,522</u>
Total fringe benefits					11,768	0	11,768
Total salaries, wages & fringe benefits					86,411	0	86,411
TRAVEL							
<i>(a) to east/west coast for professional meeting</i>							
	# Persons	Trips	Days	Amount			
Transportation (airfare)	2	1	5	500	<u>1,000</u>		
Total (a)					1,000	0	1,000
<i>(b) to bridge site and training sessions</i>							
Transportation - mileage at current State of Kansas rate				4,245	4,245		
Per diem				1,103	<u>1,103</u>		
Total (b)					<u>5,348</u>	0	<u>5,348</u>
Total travel					6,348	0	6,348
OTHER DIRECT COSTS							
Research materials & supplies				500	500	0	500
Publications (copying and distribution of research results)				500	500	0	500
Other:							
Tuition: Fall 05 (9 hrs) + Spring 06 (10 hrs) + Sum 06 (3 hrs)				12,038	12,038	0	12,038
Travel for state representatives				12,000	12,000	0	12,000
Computer networking costs				<u>5,290</u>	<u>5,290</u>	0	<u>5,290</u>
Total "Other"					<u>29,328</u>	0	<u>29,328</u>
Total Other Direct Costs					30,328	0	30,328
TOTAL DIRECT COSTS					123,087	0	123,087
BASE					111,049		111,049
INDIRECT COSTS (45.5% of total direct costs excluding equipment and tuition allowance)					50,527		50,527
TOTAL PROPOSED COSTS - YEAR 4					\$173,614	\$0	173,614

PROPOSED BUDGET (Continued)

Year 5: 09/01/06 to 08/31/07

					Federal (SPR)	State of Kansas	Total
SALARIES AND WAGES							
Senior Personnel							
	% time	Months	Rate				
<i>David Darwin, PI</i>							
summer	100	1.5	17,246	25,869	25,869	0	25,869
<i>JoAnn Browning, Co-I</i>							
summer	100	1.5	8,369	<u>12,554</u>	<u>12,554</u>	0	<u>12,554</u>
Total senior personnel				38,423	38,423	0	38,423
Other Personnel							
	Persons	% time	Months	Rate			
<i>Graduate Student(s)</i>							
acad	2.0	50	9.0	3,161	28,449	0	28,449
summer	2.0	50	3.0	3,161	9,483	0	9,483
<i>Undergraduate Student(s)</i>							
calendar	1		250.0	8.11	<u>2,028</u>	0	<u>2,028</u>
Total other personnel					39,960	0	39,960
Total salaries and wages					78,383	0	78,383
FRINGE BENEFITS							
28% faculty and staff				10,758	10,758	0	10,758
4% students (employed 75% or less)				<u>1,598</u>	<u>1,598</u>	0	<u>1,598</u>
Total fringe benefits					<u>12,356</u>	0	<u>12,356</u>
Total salaries, wages & fringe benefits					90,739	0	90,739
TRAVEL							
<i>(a) to east/west coast for professional meeting</i>							
	# Persons	Trips	Days	Amount			
Transportation (airfare)	2	1	5	500	<u>1,000</u>		
Total (a)					1,000	0	1,000
<i>(b) to bridge site and training sessions</i>							
Transportation - mileage at current State of Kansas rate				4,457	4,457		
Per diem				1,158	<u>1,158</u>		
Total (b)					<u>5,615</u>	0	<u>5,615</u>
Total travel					6,615	0	6,615
OTHER DIRECT COSTS							
Research materials & supplies				500	500	0	500
Publications (copying and distribution of research results)				500	500	0	500
Other:							
Tuition: Fall 06 (9 hrs) + Spring 07 (10 hrs) + Sum 07 (3 hrs)				13,730	13,730	0	13,730
Travel for state representatives				12,000	12,000	0	12,000
Computer networking costs				<u>6,103</u>	<u>6,103</u>	0	<u>6,103</u>
Total "Other"					<u>31,833</u>	0	<u>31,833</u>
Total Other Direct Costs					32,833	0	32,833
TOTAL DIRECT COSTS					130,187	0	130,187
BASE					116,457		116,457
INDIRECT COSTS (45.5% of total direct costs excluding equipment and tuition allowance)					52,988		52,988
TOTAL PROPOSED COSTS - YEAR 5					\$183,175	\$0	\$183,175
TOTAL PROPOSED COSTS YEAR 1 - YEAR 5					\$818,000	\$12,000	\$830,000

Project Personnel:

The project will be directed by David Darwin, Deane E. Ackers Professor of Civil Engineering and Director of the Structural Engineering and Materials Laboratory, and JoAnn Browning, Assistant Professor of Civil Engineering at the University of Kansas. Darwin has extensive experience in concrete materials, the causes and control of cracking in concrete decks, and bridge deck evaluation. He has directed two bridge deck evaluation studies for KDOT and is now initiating a third with Browning. He is an active researcher in both reinforced concrete and steel/concrete composite structures, and is past chairman of American Concrete Institute Committee 224, Cracking, and the American Society of Civil Engineer Committee on Composite Construction. Browning is an expert on reinforced concrete, with experience in field studies of both bridges and engineering materials. Browning has completed a study estimating the long-term behavior of a fiber-reinforced composite bridge deck for KDOT. She has experience with material testing of concrete and soil, and is currently involved with materials research using recycled aggregate. She is a member of ACI Committee 408, Bond and Development of Reinforcement, a committee now chaired by Darwin. Both Darwin and Browning are currently directing a long-term study on bridge deck durability with emphasis on selecting cost-effective corrosion protection systems.

Professors Darwin and Browning will be assisted in this research by one or more students and researchers in the School of Engineering at the University of Kansas who have the appropriate training in reinforced concrete and composite structures.

Reports/Deliverables

The deliverables for the proposed project are (1) a technical report documenting the research procedures and results, and (2) a training program and video for state DOT personnel, designers, and contractors. Progress reports will be provided on a quarterly basis.

Recommended Implementation Plan

The implementation program will consist of (1) the presentation of workshops to state departments of transportation describing the procedures and findings developed in this study, (2) the modification of design and construction specifications to place the findings into practice, (3) the performance of crack surveys, using the techniques implemented in this study, to monitor new bridges, as well as the bridges constructed in this study, and (4) the implementation of findings developed following the study to continually improve design and construction techniques for minimal cracking in reinforced concrete bridge decks.

CONTRACTUAL PROVISIONS ATTACHMENT

Important: This form contains mandatory contract provisions and must be attached to or incorporated in all copies of any contractual agreement. If it is attached to the vendor/contractor's standard contract form, then that form must be altered to contain the following provision:

"The Provisions found in Contractual Provisions Attachment (Form DA-146a, Rev. 1-01), which is attached hereto, are hereby incorporated in this contract and made a part thereof."

The parties agree that the following provisions are hereby incorporated into the contract to which it is attached and made a part thereof, said contract being the _____ day of _____, 20_____.

1. **Terms Herein Controlling Provisions:** It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the contract in which this attachment is incorporated.
2. **Agreement With Kansas Law:** All contractual agreements shall be subject to, governed by, and construed according to the laws of the State of Kansas.
3. **Termination Due To Lack Of Funding Appropriation:** If, in the judgment of the Director of Accounts and Reports, Department of Administration, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges hereunder, State may terminate this agreement at the end of its current fiscal year. State agrees to give written notice of termination to contractor at least 30 days prior to the end of its current fiscal year, and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to 90 days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided State under the contract. State will pay to the contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the agreement by State, title to any such equipment shall revert to contractor at the end of State's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to the agency or the contractor.
4. **Disclaimer Of Liability:** Neither the State of Kansas nor any agency thereof shall hold harmless or indemnify any contractor beyond that liability incurred under the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.).
5. **Anti-Discrimination Clause:** The contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 et seq.) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111 et seq.) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101 et seq.) (ADA) and to not discriminate against any person because of race, religion, color, sex, disability, national origin or ancestry, or age in the admission or access to, or treatment or employment in, its programs or activities; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration; (f) if it is determined that the contractor has violated applicable provisions of ADA, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration.

Parties to this contract understand that the provisions of this paragraph number 5 (with the exception of those provisions relating to the ADA) are not applicable to a contractor who employs fewer than four employees during the term of such contract or whose contracts with the contracting state agency cumulatively total \$5,000 or less during the fiscal year of such agency.
6. **Acceptance Of Contract:** This contract shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
7. **Arbitration, Damages, Warranties:** Notwithstanding any language to the contrary, no interpretation shall be allowed to find the State or any agency thereof has agreed to binding arbitration, or the payment of damages or penalties upon the occurrence of a contingency. Further, the State of Kansas shall not agree to pay attorney fees and late payment charges beyond those available under the Kansas Prompt Payment Act (K.S.A. 75-6403), and no provision will be given effect which attempts to exclude, modify, disclaim or otherwise attempt to limit implied warranties of merchantability and fitness for a particular purpose.
8. **Representative's Authority To Contract:** By signing this contract, the representative of the contractor thereby represents that such person is duly authorized by the contractor to execute this contract on behalf of the contractor and that the contractor agrees to be bound by the provisions thereof.
9. **Responsibility For Taxes:** The State of Kansas shall not be responsible for, nor indemnify a contractor for, any federal, state or local taxes which may be imposed or levied upon the subject matter of this contract.
10. **Insurance:** The State of Kansas shall not be required to purchase, any insurance against loss or damage to any personal property to which this contract relates, nor shall this contract require the State to establish a "self-insurance" fund to protect against any such loss of damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.), the vendor or lessor shall bear the risk of any loss or damage to any personal property in which vendor or lessor holds title.
11. **Information:** No provision of this contract shall be construed as limiting the Legislative Division of Post Audit from having access to information pursuant to K.S.A. 46-1101 et seq.
12. **The Eleventh Amendment:** "The Eleventh Amendment is an inherent and incumbent protection with the State of Kansas and need not be reserved, but prudence requires the State to reiterate that nothing related to this contract shall be deemed a waiver of the Eleventh Amendment."

CERTIFICATION BY PROSPECTIVE PARTICIPANTS
AS TO CURRENT HISTORY REGARDING DEBARMENT, ELIGIBILITY,
INDICTMENTS, CONVICTIONS, OR CIVIL JUDGMENTS

JOANNE ALTIERI, Director, Contract Negotiations and Research Compliance, The University of Kansas, being duly sworn (or under penalty of perjury under the laws of the United States), certifies that, except as noted below, The University of Kansas, or any person associated therewith in the capacity of director, officer, principal investigator, project director, manager, auditor, or any position involving the administration of federal funds:

- (a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- (b) has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- (c) does not have a proposed debarment pending; and,
- (d) has not been indicted, convicted or has a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

Exceptions: _____

Providing false information may result in criminal prosecution or administrative sanctions.

8/26/02
Date

Joanne Altieri
Joanne Altieri
Director, Contract Negotiations and Research Compliance
The University of Kansas

This project or contract is being funded in part by federal funds, and therefore the following certification applies:

CERTIFICATION FOR FEDERAL AID CONTRACTS

The following provision shall apply to all applicants for or recipients of federal funding on federal contracts, grants, loans, or cooperative agreements in excess of \$100,000, pursuant to 31 U.S.C. Section 1352: Sect. 319 of P.L. 101.121.

Each applicant for or recipient of any amount of federal funding shall signify in writing below the amount of federal funding applied for or received by this contract, loan, grant, or cooperative agreement, if known.

The prospective participant certifies, by signing below and submitting this bid, proposal, grant, loan, cooperative agreement, or contract, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. (A copy of Standard Form LLL is attached.)

A disclosure form must also be submitted at the end of each calendar year quarter in which there occurs any event which requires disclosure or that materially affects the accuracy of the information contained in any previously filed disclosure form. The original of the disclosure form shall be submitted to: William L. Jacobs, the KDOT Project Manager for this project or contract.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Signature of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by signing below that he or she shall require that the language of this certification be included in all lower tier subcontracts which exceed \$100,000, and that such subrecipients shall certify and disclose accordingly. The originals of all disclosure forms submitted to the prime contractor by lower tiers shall be sent to the KDOT Project Manager named above.

Joanne Altieri
Signature Joanne Altieri

8/26/02
Date

Director, Contract Negotiations & Research Compliance
Title

The University of Kansas
Agency

\$818,000
Amount of Federal Funds (if known)

Project or Contract No.