

MEMO TO: County Engineers/Road Supervisors/Hwy. Administrators/Public Works Directors  
City Engineers/Street Superintendents/Consultants

DATE: February 2, 2009

SUBJECT: KDOT Pipe Policy

RE: BLP Memo 09-02

Attached is a copy of the current "KDOT Policy on the Use of Zinc Coated and Aluminum Coated Corrugated Steel Pipe (CSP); and Polyethylene (PE) and Polyvinyl Chloride (PVC) Pipe." This policy is commonly referred to as the "Pipe Policy." This policy was developed through input from various entities such as the pipe manufacturers, Federal Highway Administration, and KDOT. This policy is revisited periodically for appropriate modifications. This policy was previously revised on 2-18-91, 11-1-93, 8-3-00, and 11-20-01. The current policy was distributed to design consultants and the Kansas Chapter of the American Council of Engineering Companies on July 11, 2008 in a design practices memorandum, also known as a **Road Memorandum 08-01**. The Pipe Policy as well as this BLP Memo can be obtained from the Bureau of Local Projects website:

<http://www.ksdot.org/burLocalProj/default.asp>

The policy provides guidance for pipe type selection on all state and federal aid projects. The intent of the policy is to encourage more competitive bidding by allowing more options when determining a pipe material for a specific application. Design life, construction issues, maintenance requirements, physical properties of the pipe as well as hydraulic and structural design parameters were considered in developing this policy. The policy lists the restrictions and limitations for specific applications for each pipe type. For example, pipe fill height, type of road, traffic volume, soil & water properties, and type of application such as an entrance pipe or storm sewer may determine the allowable pipe type. If alternate pipe types are permissible then they should be allowed for installation in that application. The designer still has some flexibility in selecting the pipe type for a project application as provided in Note 1 of the Pipe Policy.

This policy will apply to all transportation projects utilizing state or federal monies. A provision included in the Pipe Policy (refer to Note 2) allows a local public authority (LPA) to develop its own pipe policy which could also apply to non-state highway projects maintained by the LPA. However, if the LPA's policy is more restrictive than the attached policy, the LPA's policy must be approved by the KDOT Bureau of Local Projects. If the LPA recommends a less restrictive pipe policy then no approval

is needed from KDOT. For example the LPA may allow all pipe types for their drainage needs as provided in the KDOT Standard Specifications. You are encouraged to review the attached policy and determine if your policy is more restrictive and if so, submit it to the Bureau of Local Projects for consideration. If you currently do not have your own policy and feel you need one that would be more restrictive than the KDOT Pipe Policy, please develop one and submit it to the Bureau of Local Projects for consideration. More restrictive local pipe policies must be based on sound engineering parameters, not just personal preference, before it is approved by KDOT. Note that failure to comply with the KDOT policy or following a policy not approved by KDOT could result in the non-participation of state or federal aid for those pipe drainage structures not in compliance.

The following are examples that may be considered in developing a more restrictive pipe policy for use on KDOT projects:

1. For storm sewers, additional width beyond the edge of paved roadway to the back of the inlets may be used as criteria for pipe type selection. Additional area may be considered for approval based on site specific applications.
2. Locations where a two lane road with a current volume of less than 3000 vehicles per day is being reconstructed in a suburban area that will result in significant traffic increase after construction of the project may use the ADT criteria as noted in the KDOT policy.
3. Areas of congested utility corridors may dictate that a flexible pipe encased in flowable fill or a rigid concrete pipe be used where sufficient utility/storm sewer separation can not be achieved. Without this additional protection, damage to flexible pipes could more likely occur during utility repair or utility installation. The damaged pipe may not be noticed until subsequent damage is caused to the road embankment or storm sewer system. A more stringent LPA pipe policy in regards to utilities will be based on a project by project basis.

Within the pipe policy there are provisions for determining if corrugated steel pipe is allowed as well as the protective coating type, galvanized or aluminized. Site specific testing is required to determine if aluminized steel pipe is allowed in 35 counties. Specifically soil and water measurements of ph and resistivity are necessary. This requires specialized testing at each corrugated steel pipe location. For long storm sewer lines, the testing will be completed at 1000 foot intervals. In order to avoid the LPA from bearing this additional project development cost, a special note should be placed on the plans instructing the contractor to obtain the lab tests and service life results by utilizing Attachment 2 in the KDOT Pipe Policy to determine if a 50 year service life is obtained. The counties affected by this provision are listed in Attachment No. 1 of the Pipe Policy. Where this testing is required, the approval to use ACSP will be made by the LPA or their designated engineering consultant based on the data submitted by the contractor. The following note should be added to the plans when appropriate:

**“The use of Aluminized Corrugated Steel Pipe (ACSP) will only be approved after the contractor submits verification that ACSP meets KDOT pipe policy service life criteria. Prior to using ACSP on this project, the contractor will need to submit to the Engineer the certified lab reports for the soil & water ph and resistivity values as well as determine the resulting service life value based on instructions in the KDOT Pipe Policy for each pipe location. All work, labor, materials and incidentals for this evaluation shall be subsidiary.”**

To assist the contractors when bidding state or federal aid projects, the plans will need to indicate which pipe material types are acceptable for use at each location. The plans will need to reflect this requirement beginning with the June 2009 letting. **Road Memorandum 08-01**, provided direction regarding KDOT’s desired method of indicating which pipe material types are acceptable at a specific location, how the pipe drainage structures for a project will be summarized in the plans, and how they will be recapitulated. Information regarding the new bid items that will be used, example summary and recap sheets, and the standard drawings were also provided in **Road Memorandum 08-01**. The construction specifications, bid items, and materials specifications can be found at:

<http://www.ksdot.org/burConsMain/specprov/specifications.asp>

Standard drawings for pipes and end sections, as well as examples for pipe culvert summaries, construction notes, and summary of drainage structures can be found at:

<http://kart.ksdot.org/>

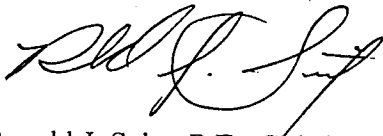
In addition to the information listed above, another note will need to be added to the pipe culvert summary sheet in the plans to indicate that the pipes on this project meet the current KDOT pipe policy or a local pipe policy approved by KDOT. The following is an example note that LPA or their engineer will place near the *Pipe Culvert Summary* in the plans:

THE PIPES ON THIS PROJECT ARE IN ACCORDANCE WITH  
THE CURRENT KDOT PIPE POLICY OR LOCAL PIPE POLICY  
THAT HAS BEEN APPROVED BY KDOT.

Locally developed pipe policies must be submitted to the KDOT Bureau of Local Projects for approval. Please submit these to Jeff Horton, Bureau of Local Projects, Road Team Leader, for consideration. If you have any questions, please contact Jeff Horton at (785) 296-3861.

Thank you for your support in accommodating the revised pipe policy criteria. Through this effort we are increasing bidding competition as well as allowing the use of innovative products that have undergone significant research and development efforts prior to being considered for use in road and bridge construction.

Sincerely,



Ronald J. Seitz, P.E., Chief  
Bureau of Local Projects

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Attachments (Road Memo 08-01 and KDOT Pipe Policy)

- c: American Council of Engineering Consultants
- ✓ Kansas Contractors Association
- Norm Bowers, P.E., Local Road Engineer, Kansas Association of Counties
- Don Moler, Executive Director of the Kansas League of Municipalities
- Michael Bowen, P.E., Federal Highway Administration, Kansas Division Administrator
- Dan Scherschligt, P.E., Division Director of Engineering and Design
- Rick Kreider, P.E., Chief, Bureau of Materials & Research
- Jim Kowach, P.E., Chief, Bureau of Design
- Roy Risky, P.E., Chief, Bureau of Construction and Maintenance
- Mike Floberg, P.E., Chief, Bureau of Transportation Safety and Technology
- District Engineers
- Freddie Simmons, P.E., KDOT Consultant
- File