



MISSOURI DEPARTMENT OF NATURAL RESOURCES

**City of Cuba
Phase II – Sewer Line Replacement**

**Clean Water State Revolving Fund
Green Project Reserve
Business Case**

**State Fiscal Year 2011 Intended Use Plan
Project Number C295560-01**

**Loan Closing Date: June 22, 2011
Loan Amount: \$2,460,000
Green Amount: \$188,268**

I. COLLECTION SYSTEM REHABILITATION

Summary

- Replacement of gravity sewer lines due to reduce inflow and infiltration
- Total Loan amount = \$2,460,000
- Estimated energy efficient (green) portion of loan = 7.6% (\$188,268)

Background

The replacement of four sections and the relocation of two sections of the existing collection system were included in the project to replace sections of broken vitrified clay pipe (VCP) that were sources for infiltration and inflow into the collection system.

Energy Efficiency Justification

This work consisted of replacing approximately 3,970 linear feet of eight inch (8”) VCP with polyvinyl chloride (PVC) pipe and replacement of approximately 20 manholes which reduced I/I flows and energy consumption at the wastewater treatment facility by reducing the amount of wastewater entering the treatment facility.

Conclusion

- Per Section 3.5-4, *“Infiltration/inflow (I/I) correction projects that save energy from pumping and reduced treatment costs and are cost effective.”*

References

- Attachment 2. 2011 Clean Water and Drinking Water State Revolving Fund 20% Green Project Reserve Guidance for Determining Project Eligibility.
- Missouri Engineering Company facility plan for sewer system improvements dated December 2008 and revised January 2010.