



MISSOURI DEPARTMENT OF NATURAL RESOURCES

**City of Waynesville
Wastewater Treatment Plant Improvements Project**

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

**State Fiscal Year 2011 Intended Use Plan
Project Number C295637-01**

**Loan Closing Date: January 11, 2011
Loan Amount: \$4,750,000
Green Amount: \$911,218**

I. COLLECTION SYSTEM REHABILITATION

Summary

- Rehabilitation of the City of Waynesville's wastewater collection system to reduce excessive inflow and infiltration (I/I).
- Total Loan amount = \$4,750,000
- Estimated energy efficient (green) portion of loan = 19.2% (\$911,218.40)

Background

The existing collection system has 11 miles of gravity sewer and 0.72 miles of force main that are at least 25 years of age and 15 miles of gravity sewer and 0.2 miles of force main that are at least 50 years of age. The system currently experiences average peak flows 8.4 times its average design flow due to excessive amounts of I/I. This I/I results in sanitary sewer overflows (SSOs), excessive run times at the pump stations, and higher energy usage at the Waynesville Wastewater Treatment Facility (WWTF).

Energy Efficiency Justification

This project consists of replacing approximately 1,830 linear feet of 15-inch gravity sewer, construction of approximately 2,336 linear feet of 8-inch gravity sewer, rehabilitation of approximately 14,745 linear feet of gravity sewer with Cured-In-Place Pipe, rehabilitation of approximately 290 vertical feet of existing manholes and the necessary appurtenances to make a complete and usable sewage collection system to serve the project area. The reduction in I/I from this project will reduce the run times of the pump stations which in return will reduce the energy usage at the pump station. It will also reduce the amount the amount of water needing to be treated at the WWTF which will reduce the energy use of the WWTF.

Conclusion

- The proposed collection system rehabilitation will result in energy savings and is cost effective.
- 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.

- CM Archer Group facility plan, “Wastewater Treatment Plant Improvements” for the city of Waynesville, Missouri sealed September 24, 2009.