



State Revolving Fund Loan Program
an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275
Indianapolis, Indiana 46204
www.srf.in.gov

MEMORANDUM

TO: Official Loan File

FROM: Richard J. Ziemba

DATE: October 25, 2011

RE: Green Project Reserve, Business Case for City of Fort Wayne, Preliminary Engineering Report 2011-1, Ultra-Violet Disinfection and Reservoir Improvements: Water Main Replacement Projects; West Pump Station Improvements; Northwest Pump Station Improvements; and Planning and Design Engineering Services of Future Water Main Replacement Projects. SRF Project # DW 11030202.

Summary

1. The preliminary engineering report (PER) for the City of Fort Wayne consist of numerous projects, some of which contain green project reserve (GPR) components. The business cases were prepared by Hometown Engineering. The projects that have GPR components are as follows:
 - a. The replacement of approximately 23,200 feet of 4-inch to 8-inch water main – water efficiency;
 - b. Installation of a Ultra-Violet Disinfection system at the Three Rivers Filtration Plant – environmentally innovative; and
 - c. Installation of piping improvements at the north and south reservoirs at the Three Rivers Filtration Plant including the installation of solar panels on the West Gate House – energy efficiency.
2. The water main replacement projects meet the water efficiency category because the projects will save the City of Fort Wayne utility approximately 194,730 gallons of water loss per year. The estimated payback period is 33 years, which is less than the useful life of the pipe material of 50 years. The total project cost including engineering cost is estimated to be \$2,088,000.
3. The installation of the Ultra-Violet (UV) Disinfection system at the Three Rivers Filtration Plant will reduce the annual usage of Sodium Chlorite by approximately 254,800 – 382,200 pounds. The annual usage is approximately 509,508 pounds. This is an annual reduction of approximately 50% to 75% with the use of the UV system. The estimated project cost



including engineering cost is \$8,118,000. This project meets the requirements of the environmentally innovative category.

4. The installation of piping improvements to the north and south reservoirs at the Three Rivers Filtration plant coupled with the installation of 18 solar panel modules on the West Gate House roof will save electrical energy usage by allowing for improved operations during normal and peak water demand periods and providing electrical energy for the West Gate House. These solar panels will also be tied into the filtration plant energy grid system. It is estimated that the solar panels will save the utility approximately 5,319 kilowatt hours (KWH) per year of electrical energy. The total project cost including engineering cost is estimated to be \$458,410.
5. The estimated loan amount is 24,000,000, which the City of Fort Wayne will close a SRF loan on October 26, 2011. The total estimated GPR amount is \$10,664,403 which consists of \$9,884,730 for construction and \$779,673 for engineering.

Conclusions

1. The business cases were reviewed internally and found to be in accordance with meeting the GPR requirements for the water efficiency, energy efficiency and environmentally innovative categories.