



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: Project File, City of Elwood, Wastewater Treatment Plant (WWTP) Improvements, SRF Project # WW12 48 09 02

FROM: Jack Fisher

DATE: November 19, 2014

RE: Green Project Reserve (GPR), Business Case

Summary:

- The proposed improvements to the WWTP will increase the average design capacity and peak design capacity in order to allow more flow to be treated during wet weather flow conditions.
- WWTP improvements include: installing a fine screen; replacing the influent pumps and adding variable frequency drives; converting part of the equalization basin to aeration basins; installing fine bubble diffusers; installing high efficient blowers; installing a flow splitter box for final clarifiers; installing new return activated sludge/waste activated sludge pumps; replacing the chlorine disinfection system with a ultra-violet (UV) disinfection system; and converting the existing the existing sludge processing tanks to aerobic digesters.
- The estimated Total Project Cost is \$7,757,000.
- Estimated State Revolving Fund Loan Amount is \$7,757,000.
- Estimated GPR portion cost of loan associated with the WWTP improvements is **\$1,354,000** and **\$159,624** for planning and design costs for a total of **\$1,513,624**. This represents 19.5 % of the estimated loan amount.

Conclusions

- By installing high efficiency pumps and motors equipped with VFDs the system will realize a reduction of 34.7% in energy costs and 40.8 % in energy savings.
- Fine bubble diffusers will provide more efficient power consumption with approximately 10% reduction in energy.
- Replacing the chlorine disinfection system with UV will result in annual chemical savings of \$37,300 and regulating the bulb operation to coincide with the flow will generate an energy savings of 73% and a cost savings of \$19,053.

