

OHIO ENVIRONMENTAL PROTECTION AGENCY
DRINKING WATER STATE REVOLVING FUND (DWSRF)
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 (ARRA)
GREEN PROJECT INFORMATION

FFY 2009 ARRA GREEN PROJECT INFORMATION FORM

The Federal American Recovery and Reinvestment Act of 2009 (ARRA) requires a minimum amount of funding be used toward Green Infrastructure, Energy Efficiency, Water Efficiency, or other Environmentally Innovative activity. To ensure that this requirement is met, Ohio EPA is requiring ARRA recipients to provide additional information about potential green components of their project(s).

In many instances, a Business Case is required for justification to consider an item or activity "green". The US Environmental Protection Agency (EPA) has provided guidance for help in evaluating the green elements of a project. Please complete this cover sheet and appropriate page(s), as noted below for each project that will incorporate a "green" component(s). More guidance is provided on the back of each form.

PWS Name: Fostoria

PWSID: OH7400411

Project Name: Lime Sludge Press Project

PPL #: 73

(as assigned by OEPA- refer to project list on web)

Total Estimated Project Cost: \$1,600,000

Total Est. Green Amount: \$940,000

ARRA maximum \$ 800,000.00

Type of "Green" Element(s) included in this project. For each box that is checked the corresponding page of this form must be completed and submitted with this cover page. Attach additional pages as necessary:

- Green Infrastructure** (porous pavement, bioretention, trees, green roofs, and other practices that mimic natural hydrology and reduce effective imperviousness)
- Energy Efficiency** (energy audit, water pump system improvements or replacements, variable frequency drives, SCADA, on-site clean power, solids treatment or handling, replacement or rehabilitation of distribution lines)
- Water Efficiency** (water meter installation or replacement, leak detection equipment, water line replacement, water audit, water efficient fixtures)
- Other Environmentally Innovative Activity**

Completed by:

Name: Linda Benham
(please print)

Title: Environmental Supervisor

Signature: _____

Date: 10/27/09

For OEPA use only:

Project #: FS390364-0004

DWSRF #:

PPL # 73

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Energy Efficiency (energy audit, leak detection equipment, water pump system improvements or replacements, variable frequency drives, on-site clean power for treatment systems, replacement or rehabilitation of distribution lines)

PWS Name: Fostoria

PWSID: OH7400411

Project Name: Lime Sludge Press Project

PPL #: 73

(as assigned by OEPA— refer to project list on web)

Total Estimated Project Cost: \$1,600,000

Total Est. Green Amount: \$ 940,000

ARRA maximum \$ 800,000.00

Project Summary:

The project includes a sludge dewatering system which includes a gravity thickener, feed pumps, filter press and oil/water separator. The plate and frame filter press will improve the handling, management and disposal of the sludge.

Pump Facilities

Age of existing pumps or pumping facilities?	
Existing pump/motor efficiency rating, if known?	
New pump/motor efficiency rating.	
Estimated Annual Electrical Savings	
Estimated Annual Costs Savings	

Business Case Narrative: (Calculate Energy Efficiency Improvements and costs savings)

Solids treatment improvements are categorically eligible for the GPR if these changes achieve a 20% net energy reduction. The energy reduction is in the cost of running equipment to clean and remove the sludge from the lagoons. The city estimates it uses \$200,000 per year to clean the lagoons. They spend \$50,000 per year to remove the sludge. The cost to run the sludge press is estimated to be \$3,000. The cost savings is \$47,000 per year. Over a 20 year period, this amounts to a savings of \$940,000.

Background

- The City of Fostoria Water Treatment Plant (WTP) currently produces sludge from its two (2) flocculation/sedimentation basins, its settling basins and its filter back washing processes. Currently, the sludge is pumped to one of three storage lagoons for dewatering by means of evaporation. The lagoons are cleaned as needed, with the accumulated lime transferred off-site to a licensed landfill or land applied in accordance with Fostoria's approved program. However, the land application program has been unsuccessful so far due to insufficient staffing and the lack of participating landowners.

The sludge lagoons are located along the southerly edge of Reservoir Number 3 and by the CSX Railroad tracks. The lagoons average nine feet of depth, and do not have underdrains, so they are generally difficult to maintain and inefficient at producing a dry product. The community does not have land application equipment capable of handling this moist lime product, and depends on contracted sludge removal as necessary.

The addition of a sludge press would allow for the elimination of two (2) of the storage lagoons. One smaller lagoon will be kept in service in the event that the press is shut down for repairs or maintenance.

Summary

- The City currently needs to spend over \$200,000/year to clean the existing sludge lagoons.
- The estimated cost for an excavator to remove the lime sludge is approximately \$50,000/year.
- The operational cost for the lime sludge press is estimated to be approximately \$3,000/year.
- The City will see a reduction in the overall cost for the lime sludge of at least \$47,000/year and will no longer need an excavator to remove the sludge from the lagoons.
- The lime sludge will be a product that can be used by a local fertilizer plant or by local farms for treatment on farm fields and will allow the City to provide a recycled product for local use.

Conclusion

- The saving the city will realize with the construction of the lime sludge press project will more than cover the loan cost for the project.