Country Haven Estates Wastewater Facility Project
SRF Loan #WW 1704 (pop. 126)
$1,400,000

Preliminary Green Project Reserve Justification

Categorical & Business Case GPR Documentation

- TREATED EFFLUENT LAND DISPOSAL SYSTEM (Innovative). Business Case GPR per Section 4.4-1: State programs are allowed flexibility in determining what projects qualify as innovative in their state based on unique geographical or climatological conditions; and Section 4.4-1b: Technology or approach that is not widely used in the State, but does perform as well or better than conventional technology/approaches at lower cost. ($850,000).

Prepared by the State of Idaho SRF Loan Program
July 2017
1. TOTAL EVAPORATION LAGOONS (PRELIMINARY)

**Summary**

- Country Haven Estates is planning to upgrade existing wastewater treatment and disposal lagoons and construct new wastewater facilities which include a new effluent evaporation system. The system will be designed for total evaporation of treated effluent, resulting in a zero discharge system.
- Loan amount = $1,400,000
- GPR Costs = New lagoons = $850,000 (Preliminary Conceptual Cost Estimate)
- Green portion of loan = 62%

**Background**

- While specific impacts are undetermined, seepage from the Association’s wastewater lagoons has the potential to negatively impact water quality in the Eastern Snake River Plain sole source aquifer.

**LAS GPR Justification – Business Case**

- The project implements the Capital Improvement Plan, and is the most cost-effective solution.
- The chosen alternative, to line the existing treatment lagoons with an impermeable membrane and to construct additional lagoon cells, results in the total evaporation of effluent.
- The other wastewater treatment and disposal options evaluated included decentralized wastewater solutions, including large septic tanks and a community soil absorption system. After the chosen alternative, this was the next most viable and economical alternative considered. However, a community soil absorption system would have been located over a protected sole source aquifer and would most likely have necessitated nutrient removal.

**LAS Benefits**

- The proposed project will reduce lagoon seepage to below acceptable levels and will reduce the potential negative impact to groundwater quality.
- The chosen alternative is a zero-discharge solution. The total evaporation of treated effluent as a final disposal alternative will perform better than both conventional technologies, as well as non-conventional decentralized alternatives.
- The chosen alternative is the most sustainable in that it will maintain the low-maintenance characteristics of the current system.
- Staying with an all-evaporation system also means the current classification of the system as a “VERY SMALL WASTEWATER SYSTEM” will not be elevated.
- An effluent discharge permit will not be required.

**Conclusion**

- The total evaporation system was chosen over more conventional alternatives because it is the most cost-effective and results in the greatest positive benefit to groundwater and to surface water quality.
- **GPR Costs Identified**: Effluent Evaporation System = $850,000 (Preliminary Cost Estimate)
- **GPR Justification**: Business Case (Innovative) per Section 4.4-1: *State programs are allowed flexibility in determining what projects qualify as innovative in their state based on unique geographical or climatological conditions; and 4.4-1b: Technology or approach that is not widely used in the State, but does perform as well or better than conventional technology/approaches at lower cost.*

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1 FY17 SRF WW Loan Agreement #1704
2 Country Haven Wastewater Facilities Planning Study, Keller Engineers Revised February 2017