

Drinking Water State Revolving Fund Green Project Reserve  
- Interim -



**Wilderness Ranch Homeowners Association (HOA)**  
**Drinking Water Lead Abatement Project**  
**SRF Loan #DW1810 (pop. 525)**  
**\$471,000**

**Interim Green Project Reserve Justification**

**Categorical GPR Documentation**

REPLACING 72 CORRODED WATER METERS WITH NEW METERS (Water Efficiency). Categorical GPR per 2.2-3a: *...replacing existing malfunctioning water meters with Automatic Meter Reading (AMR) systems; also 2.2-9: Projects that result from a water efficiency assessment such as water audits. (\$71,640)*

# WATER METER REPLACEMENT

## Summary

- Replacing 72 old corroded water meters with new lead-free meters.
- Loan amount = \$471,000
- GPR portion of loan = 15.2% (\$71,640) (Design cost estimate)

## Background

- Due to the high levels of lead in the public drinking water system (PWS), the Wilderness Ranch HOA has reached a compliance agreement with the Idaho Department of Environmental Quality (IDEQ) to ensure the HOA resolves the public health and safety risk associated with the high concentrates of lead in the PWS.
- The sole source of water supply for the PWS comes from Mores Creek through a membrane treatment plant that is producing water at a relatively low pH of 6.2. The slightly acidic source water results in increased potential of corrosion and consequential leaching of lead.
- The project will return the system to compliance by reducing the corrosion potential of the source water, conduct a study to identify and remove all materials with high lead concentrations, and install a chemical feed system to inject a corrosion inhibitor into the distribution system.

## Results<sup>1</sup>

- A water study and site survey indicated the older water meters and water meter box fittings were the most likely source of lead in the PWS.
- The study determined approximately 77 homes were constructed on or before 1986 (see site map on next page). 5 of the homes had recently replaced their meters with lead-free meters.
- The other 72 water meters are constructed of old brass and the attached fittings are old brass or galvanized.
- They will be replaced with lead free meters that do not leach lead and also provide more accurate readings.
- Increased water loss, due to leaks and inaccurate meter readings, can be partly attributed to the old meters.



## Other Benefits

- Accurate metering of water consumption is an important conservation measure because providing more accurate water bills result in more efficient consumption.
- Water leakage and inaccuracy increases with water meter age; therefore, an investment in water meters today leads to additional water and dollar savings over time.

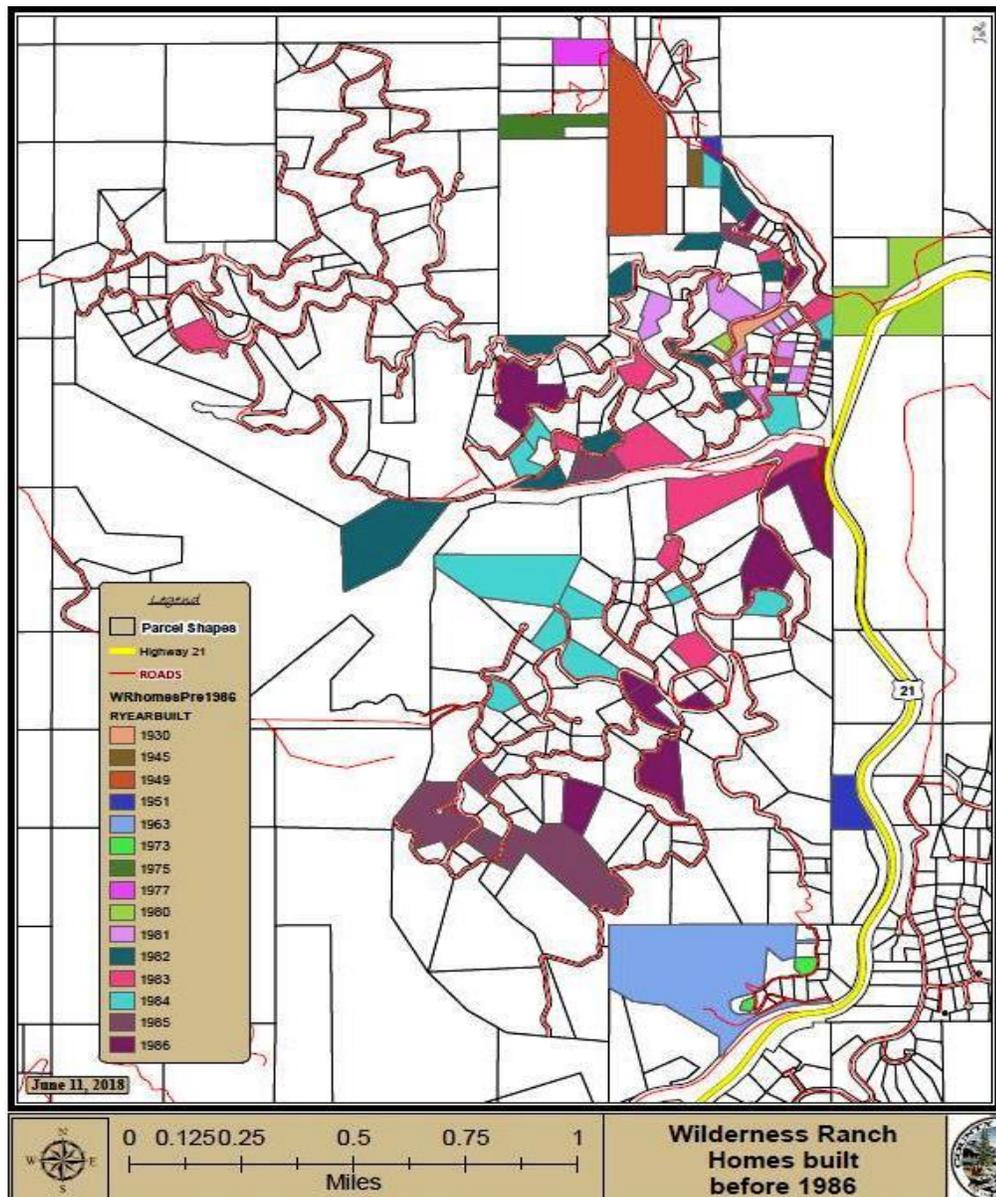


New Water Meter (typical)

<sup>1</sup> February 7, 2019 Mountain Waterworks email: Probst - McNeill

## Conclusion

- Replacement of the corroded water meters will reduce potential leaching of lead into the PWS.
- **GPR Costs:** Replacing malfunctioning water meters = \$71,640
- **GPR Justification:**
  - The project is Categorically GPR-eligible (Water Efficiency) per Section 2.2-3: *replacing existing malfunctioning water meters...*;
  - Also GPR-eligible per Section 2.2-9: *projects that result from a water efficiency assessment such as water audits*<sup>2</sup>.



<sup>2</sup> 2010 EPA Guidelines for Determining Project GPR-Eligibility. Attachment 2.