

## **Green Business Case Billings Heights Various Water System Improvements**

### **Green Reserve Project Description**

The Billings Heights water system improvements project is being funded primarily with Drinking Water State Revolving Fund loans, including a principal forgiveness component. The project consists of the proposed construction of improvements to the public water system serving the County Water District of Billings Heights. Schedule I of the proposed project involves the furnishing and installation of new high-efficiency pumps at the Rolling Hills and Saint Andrews booster stations. Schedule II involves the furnishing and installation of 660 lineal feet of 12-inch diameter water main in Saint Andrews Drive from the Saint Andrews booster station to an existing water main in Wicks Lane and the furnishing and installation of 1205 lineal feet of 6-inch diameter water main in Augsburg Lane and A, B and C Streets. In addition, with the remaining funds new water meters are being purchased and installed.

### **Documents submitted and reviewed by the State:**

1. Preliminary Engineering Report for the County Water District of Billings Heights, prepared by Interstate Engineering of Billings, Montana, April 2006.
2. Energy Analysis of Booster Stations, a report prepared by William G. Enright, P.E., of Interstate Engineering of Billings, Montana, September 2010.

### **List of eligible Green Project Reserve components:**

1. Installation of new water meters, 660 lineal feet of new 12-inch diameter water main and new variable frequency drives at two pumping stations.
2. Total project cost = \$1,038,000
3. Total DWSRF request = \$1,038,000
4. Total project cost eligible for Green Project Reserve = \$823,630

### **Green Reserve Project – Categorical Project:**

The water meter component of the project is considered categorically green as defined by the USEPA guidance documents.

### **Green Reserve Project – Business Case Evaluation:**

As stated in the USEPA March 2, 2009, memorandum, for traditional projects that are not categorically green, for the project, or components of the project, to be counted towards the 20% requirement, the state project files must contain documentation that a clear business case for the project (or portion) investment includes achievement of identifiable and substantial benefits that qualify as Green Project benefits. The documentation should reference to a preliminary engineering or other planning document that makes clear that the basis upon which the project (or portion) was undertaken included identifiable and substantial benefits qualifying for the Green Project Reserve. The March 12, 2009, USEPA webcast slides 20 and 21 state that two components, the technical component and financial component, must be provided in the business case.

**Green Project Reserve Type:**

The project fits in the energy efficiency Green Project Reserve category.

**Technical Component Evaluation:**

A thorough technical component evaluation may be found in "Energy Analysis of Booster Stations," a report prepared by William G. Enright, P.E., of Interstate Engineering of Billings, Montana, September 2010. Data presented in the report document a pumping energy reduction of approximately 40 to 48 percent when compared to the existing piping and pump configuration.

**Financial Component Evaluation:**

A financial component evaluation may be found in "Energy Analysis of Booster Stations," a report prepared by William G. Enright, P.E., of Interstate Engineering of Billings, Montana, September 2010. Data presented in the report document a daily peak hour pumping cost savings of nearly \$500 when compared to the existing piping and pump configuration.

**Green Reserve Project – Evaluation Conclusion:**

The technical and financial evaluation of this project clearly shows substantial benefits in accordance with USEPA guidance with regard to the energy conservation that will be realized with less pumping energy and cost. As noted above, the green portion of the project from DWSRF funds will be \$823,630. Questions may be directed to Gary J. Wiens, P.E., Drinking Water State Revolving Fund, Department of Environmental Quality, [gwiens@mt.gov](mailto:gwiens@mt.gov) or 406-444-7838.