



MEMO TO: Mayor Vandernail and the Board of Trustees
FROM: Russell Pennington, P.E., Public Works Director
DATE: March 20, 2019
SUBJECT: Staff Report PW: Water System flowmeter upgrades

MATTER BEFORE BOARD:

Purchase three mag-meter flowmeters to be installed at the Fraser Water Treatment Plant (FrWTP) and at two wells in the Fraser Well Field. This is year one of a three-year project. In year two, staff anticipates completion the Fraser Well field. Year three, staff anticipates to outfit the wells in the Maryvale Well Field.

ACTION REQUESTED:

Approval of a budgeted expenditure from the Equipment Purchases and Repair Account (50-40-510) of the 2019 Water Fund.

BACKGROUND:

The 2019 Operating Budget includes the purchase and installation of a mag-meter type flowmeters for the FrWTP and the Fraser well field.

Water right diversions are tracked by the State of Colorado. A water right can be diverted from a single point or many points. Frasers diversion points are its wells. Each well (diversion) should be recorded daily and submitted to the State Engineers Office monthly so they may be accurately accounted for by water right. Due to mechanical resource limitations, Fraser does not submit monthly data in the States preferred reporting protocol.

The State Engineers Office has discussed with Fraser the quality of our monthly submittals. At issue are the accuracy, appropriateness, and quantity of data provided. Fraser is getting-by, right now, but if we do not improve the accuracy and quality of data, the state may require all mechanical meters to be on a calibration schedule and require daily well reads by Staff. The District 5 Water Commissioner agrees the water system flowmeter upgrades project is an appropriate direction to improve Fraser's diversion reporting.

Currently, Fraser has mechanical meters in all of its wells. There are two types of mechanical flowmeters in place today. They both have issues.

1. One model of flow meter is out of production which makes parts difficult to find or they are unavailable.
2. The other model is delicate. 'Fish gravel' sized rocks damage the performance of this model. Fraser regularly replaces one a year at approximately \$1500/meter.
3. Mechanical meters are less accurate, require regular maintenance, and require site visits to get a production data.
4. Due to the above, Fraser is not currently able follow and meet the State preferred reporting protocol.
5. Neither model communicates with the water master SCADA computer.

These proposed upgrades will increase our operational efficiency, quality of monthly submittals, and enable staff to better evaluate well and well field operations. To not push forward with these upgrades, will cost as much or more in the long run. Fraser will spend excess dollars on labor, maintenance and replacement.

The cost of the project is as follows:

Well 5 - \$7,980

Well 1 - \$8,090

Fraser Water Treatment Plant – \$12,247

Total Project Cost - \$28,317

RECOMMENDATION:

Motion to approve **Resolution No. 2019-03-06** authorizing the Town Manager to contract with Brown's Hill Engineer for purchase and installation of mag-meter flowmeters using the Equipment Purchases and Repair Account (50-40-510) of the 2019 Water Fund in an amount not to exceed \$30,000.

Staff is currently considering accelerating the project to a two-year timeline and will ask the Board to consider funding years two and three in the 2020 budget. Until the transition from mechanical meters to mag-meters is complete, Fraser will create a compilation report for the State to accommodate the transition.