

Interagency Planning

A series of bi - weekly meetings between Bureau of Environmental Services and Clean Water Services staff were held during August through December 2008 to develop short and long - term solutions. BES contract staff built and calibrated a model of the CWS collection system for the purpose of determining the effect of Fanno Flows on the CWS Fanno Basin collection system. The modeling results demonstrated that with the additional flows from Portland’s Fanno Basin:

- ❑ The CWS Fanno Interceptor will convey all flows for storms up to a 1.7 - inch storm in 24 - hours (slightly under a 1 - year storm).
- ❑ The CWS Fanno Interceptor will be fully utilized and near overflow conditions for storms at or above 2.3 inches in 24 - hours (a 2 - year storm level).

This analysis showed that to avoid compromising the structural integrity of the CWS Fanno system there is no feasible alternative to bypassing treatment under certain storm conditions.

In September of 2008 a Mutual Agreement and Order (MAO) between CWS, BES and Department of Environmental Quality was signed that stipulated the City develop a Wet Weather Response Plan to address short term mitigation and control strategies and a Capital Improvement Plan to address long term strategies. The *Fanno Wet Weather Monitoring & Response Plan* developed under the MAO describes the procedure that would lead to a decision to operate the Fanno Pump Station or discharge sewage to Fanno Creek.

The interagency team explored longterm options that would result in CWS conveying and treating flow ranging from 0 - 100% of the flow from the Fanno Pump Station service area. Table x summarizes the options considered and the 20 - year net present value (NPV) costs.

Table 1
Net Present Value Cost (millions) of Options for Conveying and Treating Fanno Pump Station Basin Flows

	BES Debt	Service	BES	Operating
Option 1: Turn Fanno Basin PS off, divert all Portland flows to CWS for treatment; pay CWS for Areas A and C	\$0	\$0	\$61	\$61
Option 2: Pump at existing capacity (24 cfs), with peak flows diverted to CWS; pay CWS for net of Area C and Area B plus peak diversions.	\$14.5	\$6.5	\$10	\$31
Option 3: Pump only Portland’s allocated share of flow (= Area A), divert CWS Area B flows continuously to CWS; pay CWS only for Area C.	\$14.5	\$4.5	\$31	\$50
Option 4: Increase Fanno Basin PS & FM capacity to 39 cfs, pump all basin flows to Portland; pay CWS only for net of Area C and Area B.	\$34	\$7	\$10	\$51

Area A: Tax lots within that Fanno Pump Station Service area that are within the City of Portland

Area B: Tax lots within that Fanno Pump Station Service area that are outside the City of Portland

Area C: Tax lots outside the Fanno Pump Station Service area, within the City of Portland, and flow by Gravity to CWS

BES debt service is related to new Fanno pumping and conveyance facilities and required downstream gravity system improvements. The BES operating cost includes the operating costs of the pump station, downstream collection system and treatment costs. Payments to CWS represent the cost under the current wholesale agreement between BES and CWS. The following discussion summarizes pros and cons of the four options.

Option 1: Under this option CWS would likely require BES to perform extensive Inflow and Infiltration reduction activities. Therefore, the true cost to BES is not reflected in the BES operating costs.

Option 2: Under the current agreement, when BES discharges flow to CWS at the Fanno diversion structure, CWS assesses charges based on the volume spilled. The total volume spilled during extreme

events is very small compared to the total annual flow. For this reason, the payment to CWS under Options 2 and 4 is essentially the same. The lowest cost option, Option 2 was not acceptable to CWS as they would be required to increase conveyance and pumping to accommodate the peak flows and would receive essentially no compensation for managing this flow.

Option 3: This option would require CWS to increase collection system capacity. In addition, the monitoring of flow from the interconnected system would be very difficult.

Option 4: This option is essentially the same NPV cost as Option 3. BES was much farther along in the design process and therefore the completion of the increased pumping and conveyance was more certain than Option 3.

DECISION: Option 4 was selected.

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The CIP plan submitted to DEQ in March 2009 committed BES to reestablishing the existing Fanno Pump Station firm capacity of 24 cfs with surge protection by August 2011 and increasing the total firm pumping capacity to 40 cfs by November 2012.