



# KING COUNTY AUDITOR'S OFFICE

12/20/2017

## Second Follow Up on Performance Audit of the Georgetown Wet Weather Treatment Station Project

TO:

Metropolitan  
King County  
Councilmembers

FROM:

KyMBER WALTMUNSON,  
County Auditor

**Wastewater Treatment Division (WTD) has implemented most of the recommendations, which should improve cost estimating and project cost control.** Our 2016 follow up to this 2014 audit found that of the eight recommendations, three had been implemented and were considered "done," progress had been made on three recommendations, one recommendation was closed because the time for implementing it had passed, and one recommendation was open. This follow-up addresses the four recommendations that were either in-progress or open as of the 2016 follow up.

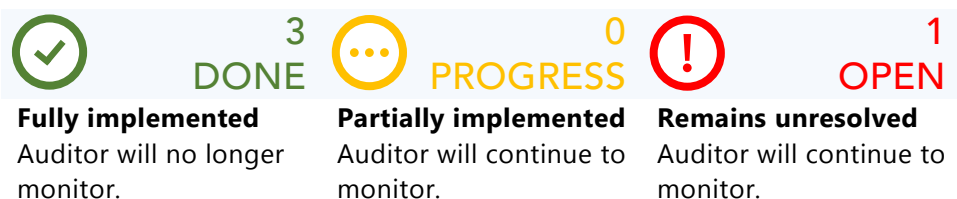
Of the four remaining recommendations, WTD has implemented three and one remains open. Implementation of the three recommendations should result in more accurate planning-level cost estimates for combined sewer overflow (CSO) projects, and better control of cost growth as a project moves from the planning phase to the design/construction phase.

**WTD is still planning to select preferred project alternatives with uncertain cost information, which could result in selecting a high-cost alternative.**

Recommendation 7 directed the division to revisit the recommended alternatives for the eight remaining CSO projects, and develop one or more alternatives to a sufficient level of cost certainty before selecting which alternative to construct. This recommendation was based on WTD's practice of selecting a preferred alternative for CSO projects during the planning phase, prior to any significant design, when project costs are still very uncertain. The audit noted that many CSO projects were subject to substantial cost increases as the project moved from the planning phase to the design/construction phase.

While WTD will revisit alternatives and their estimated costs for the eight remaining CSO projects during the current Long Term Control Plan update process, which is expected to be completed in mid-2018, it still plans to choose a preferred alternative for each project during the planning phase, when project costs are still very uncertain. This could result in selecting an alternative to move forward that may turn out to be substantially more expensive than alternatives that are rejected in the planning phase.

Of the 4 remaining audit recommendations:



**King County**

Please see below for details on the implementation status of these recommendations.

## Recommendation 2

DONE 

**The Wastewater Treatment Division (WTD) should continue to take steps to improve the quality of its planning-level cost estimates, including:**

- a) continuing to apply changes to WTD's contingency policy in its cost estimates**
- b) continuing to work with a consultant to identify and implement methods to improve planning-level cost estimates**
- c) developing planning-level cost estimation guidelines**
- d) developing techniques to use historical information to inform estimates of likely costs of projects**
- e) employing independent validation of early cost estimates.**

STATUS UPDATE: WTD has fully implemented this recommendation by developing a new risk-adjusted cost model, adopting new project contingency practices, conducting pilots of the new estimating tools, providing training on the new estimating tools to both planning and project delivery staff, and implementing the new tools across WTD capital programs. Implementation of this recommendation should result in more accurate project cost estimates at both the planning phase and the project delivery phase.

## Recommendation 3

DONE 

**The Wastewater Treatment Division should further develop performance appraisal criteria for project managers, including more specific criteria applicable to management of scope, schedule, budget, and project quality during preliminary design phase work.**

STATUS UPDATE: WTD has developed additional performance appraisal criteria for project managers, including criteria for managing costs, schedule, and quality of a project. Implementation of this recommendation should provide greater accountability over cost growth as a project moves from planning to design/construction.

## Recommendation 4

DONE 

**The Wastewater Treatment Division should increase management and monitoring of consultant contracts in order to minimize project scope and cost growth prior to project baseline.**

STATUS UPDATE: WTD has developed an exception report that identifies when contingency for consultant and construction contracts exceeds the 10 percent contract value threshold. This report is provided to the division and department directors. Implementation of this recommendation makes sure top management is aware when contracts are at risk of exceeding budget, which is an early indicator that project costs may exceed the budget.

## Recommendation 7

OPEN 

**The Wastewater Treatment Division should revisit the alternatives selected for the other eight combined sewer overflow (CSO) control projects in the 2012 CSO Control Plan and, for each project, should develop one or more alternatives to a sufficient level of cost certainty before selecting which alternative to construct.**

STATUS UPDATE: WTD is revisiting the alternatives for the remaining CSO projects as part of the 2018 Long Term Control Plan update process. It is using its revised cost-estimating methodology to evaluate alternatives, which is intended to provide more accurate planning-level cost estimates. However, WTD still intends to select the preferred alternative during the planning phase, when costs are very uncertain. The 2012 Long Term Control Plan stated that the cost estimates for the projects in that plan were subject to a range of uncertainty of -50 percent to +100 percent. The audit found that the final cost of CSO projects that had completed construction prior to the audit often exceeded the planning-level estimate by substantially more than 100 percent. WTD has indicated that for the 2018 Long Term Control Plan Update, it will continue to select a recommended alternative at the planning phase, when cost estimates are subject to a range of uncertainty of -50 percent to +100 percent. Therefore, WTD still intends to identify a single recommended alternative for each project with very uncertain cost information, which could result in choosing an alternative that turns out to be significantly more expensive than other potential alternatives.

In order to implement this recommendation, WTD should bring forward more than one project alternative to a sufficient level of cost certainty before selecting which alternative to construct. At a minimum, a "sufficient level of certainty" should be a level of uncertainty that is narrower than the -50 percent to +100 percent range for planning-level cost estimates.

Larry Brubaker, Senior Principal Management Auditor, conducted this review. Please contact Larry at 206-477-1034 if you have any questions about the issues discussed in this letter.

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