



King County

Metropolitan King County Council

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MEMORANDUM

DATE: June 8, 2010

TO: Metropolitan King County Council

FROM:  Cheryle Broom, County Auditor

SUBJECT: Oversight Monitoring Consultant Report - Review of *Brightwater Cost Update, Current Conditions and Trends, January 2010* (2010 Trend Report)

The Wastewater Treatment Division (WTD) transmitted their annual Brightwater Program cost update—the 2010 Trend Report—to council on April 30. It shows a revised cost estimate of \$1,816 to \$1,857 million, up approximately 1% from the previous year's estimate. The Trend Report estimate is based on information available as of December 31, 2009. Many significant developments have occurred since that time to address the construction delays on the Central Tunnel of the Brightwater conveyance system and potentially impacting the cost of the project.

Attached is the Brightwater Oversight Monitoring Consultant's (OMC) review of the Trend Report based on the best available information through the publication date. Considerable uncertainty still remains about the cost and schedule for completion of the BT-3 portion of the Central Tunnel. The OMC's report presents a more up-to-date and comprehensive (although not complete) compilation of estimated project costs organized in order to inform council's fiscal policy decisions.

The OMC estimate shows a range of undisputed program costs from \$1,815 to \$1,856 million. This estimate does not include the disputed costs of the Central Tunnel delay which represent a potentially significant cost exposure to the county. The OMC compiles the available estimates of known disputed costs. The majority of these costs will affect the cash flow on the project, even though the county is actively pursuing recovery of these costs through legal action. The remaining known disputed costs involve claims or disputed change order requests filed by the Central Tunnel contractor that the county has no obligation to pay at this time. The ultimate responsibility for the disputed costs is not likely to be resolved for some time.

At this time, known disputed costs are estimated by the OMC at \$178 million. The OMC identifies a few items for which there are no cost estimates available which could potentially increase disputed costs and cash flow demand further. These include the connection of the BT-3 tunnel segments between the two different boring machines,

reasonable construction contingency, and any additional non-construction costs such as engineering and construction management for the new BT-3 mining contract. We would encourage WTD to continue to monitor the status of all disputed costs, obtain or develop estimates of unquantified costs as soon as possible, and provide updates to the OMC as estimates become available.

The OMC report provides a detailed review of the 2010 Trend Report validating, for the most part, WTD's estimates of other project cost elements. In addition, the report includes an assessment of the remaining contingencies. The OMC forecasts that with effective project management up to \$25 million may remain available at project completion. We would encourage WTD to continue its assessment of available contingency.

The OMC lists the areas of cost uncertainty and identifies the major factors that would drive cost results closer to the lower end of the estimate range. Based on these factors, OMC and our office will be developing new recommendations for WTD and publish them in the next construction oversight report. A presentation of this attached report and the next construction oversight report is tentatively scheduled for the July 6 Government Accountability and Oversight Committee meeting.

The attached report was prepared by R. W. Beck who is under contract with the auditor's office to provide oversight consulting services on Brightwater. We want to acknowledge the Prosecuting Attorney's Office, council staff, Brightwater Program staff, and WTD management for their cooperation and assistance during the development of the report. Should you have questions or comments on the report, please contact Tina Rogers, the Capital Projects Oversight Manager, or Cheryle Broom, County Auditor.

CB:TR:jl

Attachment: Final Oversight Monitoring Consultant Report - Review of Brightwater Cost Update, Current Conditions and Trends, January 2010

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Final Report

Oversight Monitoring Consultant Report - Review of Brightwater Cost Update, Current Conditions and Trends, January 2010

King County
Brightwater Project Oversight Services
Contract No. P43024

June 2010



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Final Report

Oversight Monitoring Consultant Report - Review of Brightwater Cost Update, Current Conditions and Trends, January 2010

King County
Brightwater Project Oversight Services
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This report has been prepared for the use of the client for the specific purposes identified in the report. The conclusions, observations and recommendations contained herein attributed to R. W. Beck, Inc. (R. W. Beck) constitute the opinions of R. W. Beck. To the extent that statements, information and opinions provided by the client or others have been used in the preparation of this report, R. W. Beck has relied upon the same to be accurate, and for which no assurances are intended and no representations or warranties are made. R. W. Beck makes no certification and gives no assurances except as explicitly set forth in this report.

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Final Oversight Monitoring Consultant Report Review of Brightwater Cost Update, Current Conditions and Trends, January 2010

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EXECUTIVE SUMMARY

This report is the Brightwater Oversight Monitoring Consultant (OMC) review of the Wastewater Treatment Division's (WTD) 2010 Trend Report¹, including an updated OMC cost estimate. Table 1 summarizes a revised OMC estimate of the total Brightwater cost and compares it with recent trend report costs and with the baseline budget. The WTD 2010 Trend Report estimate is \$1,816 to \$1,857 million reflecting less than a one percent increase over their 2009 estimate.

The updated OMC estimate below shows the non-disputed portion of Brightwater costs as a range from \$1,815 to \$1,856 million, with the range reflecting uncertainty in recovery of the Machinery & Equipment (M&E) sales tax exemption. The OMC recognizes there are a number of issues in dispute related to slower than planned BT-2 and BT-3 mining which could impact the ultimate cost of completion. Known disputed costs are approximately \$178 million, and OMC estimates that this could increase to over \$200 million by the end of the project. Known disputed costs include requested change orders (RCOs) and claims on BT-2 and BT-3, certain other change orders on other projects resulting from BT-2 and BT-3 mining delays, the estimated cost to complete the BT-3 mining, certain non-construction costs, and sales tax. The ultimate outcome and the cost implications of these disputed issues remain uncertain at this time.

Table 1
Summary of Revised OMC Cost Estimate

Project Component	WTD Baseline Budget	WTD 2009 Trend Report	WTD 2010 Trend Report	OMC 2009 Estimate	OMC 2010 Estimate
	3% Infl. - 5% Infl				
Conveyance	\$1,020.6 - \$1,105.5	\$921.2 - \$952.9	\$931.6 - \$963.3	\$929.2 - \$966.9	\$919.3 - \$951.1
Treatment Plant	\$639.6 - \$684.4	\$878.6 - \$887.9	\$884.2 - \$893.5	\$892.2 - \$907.5	\$895.2 - \$904.5
Subtotal	\$1,660.2 - \$1,789.9	\$1,799.8 - \$1,840.8	\$1,815.8 - \$1,856.8	\$1,821.4 - \$1,874.4	\$1,814.6 - \$1,855.6

OMC is not assessing the County's potential for success on the disputed issues as that opinion would require an assessment of legal issues. The County is represented by the Prosecutor's Office and its outside counsel, Stoel Rives, on the contract administration items that have become legal matters.

↑
This OMC 2010 estimate includes non-disputed costs only. Disputed costs are discussed in the main body of the report.

The OMC discussion of disputed costs later in this report also identifies costs that the County has already paid or has a contractual obligation to pay in order to complete the project.

¹ Full name of report is Brightwater Cost Update, Current Conditions and Trends, January 2010.

Because the OMC 2010 Estimate incorporates new information and does not include disputed costs, comparisons with the WTD 2010 Trend Report estimate and the 2009 OMC Estimate are difficult. Factors that will decrease the project cost are listed below and discussed in more detail in the main body of the report:

- Greater success in recovering and/or not being required to pay potentially disputed costs
- Ability to secure the full amount of the M&E sales tax exemption
- Successful completion of the remaining BT-3 mining at a cost less than estimated by WTD
- Ability to manage other project issues resulting in lower costs than estimated including: resolution of other existing change orders and claims; avoiding delays on other project contracts that influence cost, successful start up and commissioning of the treatment plant; and ramp down of project staff and consultant work as construction contracts are closed out

There is likely to be uncertainty over the total project cost for some time. BT-3 mining progress will be better known by early- to mid-2011 and WTD anticipates a trial and/or summary judgment hearing related to the sales tax exemption in summer 2011. Treatment plant commissioning is scheduled to begin in August 2011 and the conveyance system construction is not anticipated to be complete until late 2012. The timeline for resolution of the potentially disputed costs is not yet known, but could occur later than completion of conveyance system construction.

This report also includes an assessment of WTD's contingencies as reported in the 2010 Trend Report. This assessment concludes that WTD's construction contingency may be sufficient to cover risks in non-disputed portions of the Brightwater project, perhaps leaving up to \$25 million.

Final Oversight Monitoring Consultant Report Review of Brightwater Cost Update, Current Conditions and Trends, January 2010

Introduction

This report is the Brightwater Oversight Monitoring Consultant (OMC) review of the Wastewater Treatment Division's (WTD) 2010 Trend Report. WTD published its 2010 Trend Report on April 30, 2010. OMC's review began in mid-April when advance draft materials were provided by WTD. OMC also received considerable assistance from WTD in responding to questions and requests for backup data.

This report describes key 2010 Trend Report assumptions and changes from the 2009 Trend Report, and presents a revised OMC estimate of Brightwater project costs. There are a number of terms in this report that have been defined in previous OMC reports². This background information is not repeated in this report, and previous reports should be referenced for any clarification that may be needed.

Key 2010 Trend Report Assumptions

The 2010 Trend Report is based on project progress through December 31, 2009. Correspondingly, major project developments occurring since then are noted but not specifically included in the 2010 Trend Report cost estimate, and are relevant to the OMC 2010 estimate. These developments include:

- April 2010 execution of the contract to complete BT-3 mining (BT-3C contract) with JayDee/Coluccio (JDC).
- Execution of a \$4.8 million change order with JayDee/Coluccio/Taisei (JCT) in March 2010 to begin activities supporting mining of the BT-3 tunnel with the BT-4 tunnel boring machine (TBM) during the negotiation of the BT-3C contract.
- Two February 2010 agreements with Vinci/Parsons/Frontier-Kemper (VPFK) related to BT-2 and BT-3 construction. These agreements included VPFK's withdrawal of two major requested change orders, establishing monetary incentives for VPFK in its remaining BT-2 mining, and payment of \$4 million to VPFK recognizing the need for interventions at greater pressures than specified in the construction specifications.

² Previous reports containing background information and definitions of terms include Oversight Monitoring Consultant, Review of Brightwater Cost Update – Current Conditions and Trends, January 2009.

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- Negotiation of an approximately \$5.73 million change order for the Influent Structure (IS) redesign. This change order re-sequences the construction of the IS to allow startup of the treatment plant prior to the completion of the conveyance system.

The 2010 Trend Report noted that the County Executive issued a Determination of Emergency and that actions were underway in 2010 to complete the BT-3 mining using the West Tunnel contractor. The Trend Report included the existing VPFK contract value plus existing construction contingency, and a ramp-down of non-construction costs in 2011 and 2012 as construction activities finish.

The 2010 Trend Report presents a range of total project costs, and the range depends on whether WTD receives a projected \$41 million state sales tax machinery and equipment (M&E) exemption related to biosolids and reclaimed water production³.

Changes from WTD's 2009 Trend Report

Considerable construction progress occurred during 2009, and this progress is reflected in the 2010 Trend Report. As of March 31, 2010, over \$1.4 billion has been spent on the project to date, representing approximately 80 percent of WTD's estimated project cost. 2009 construction activities are not summarized in this report, but have been summarized in previous OMC quarterly reports.

Some of WTD's schedule assumptions in the 2010 Trend Report have changed from the 2009 Trend Report. Although the Treatment Plant substantial completion date has not shifted, delayed conveyance schedules have resulted in increases in WTD's projection of non-construction costs.

Overall, WTD's total project cost is approximately \$16 million higher in the 2010 Trend Report than the 2009 Trend Report. The reasons for this cost increase are:

- Increased non-construction costs of \$13 million. These increased costs are primarily due to schedule revisions which require engineering, construction management, King County staffing, and oversight for a longer duration. These costs were partially offset by reducing the project contingency from \$4 million to \$0.
- Including a \$5.7 million cost omitted from the 2009 Trend Report related to owner-furnished equipment. This oversight occurred due to past adjustments to the division of work among the liquids contract, solids contract, and materials furnished by the owner.
- Other smaller changes that form the balance of the \$16 million increase.

The 2010 Trend Report does not contain a detailed discussion of the disputed costs related to slower than planned BT-2 and BT-3 mining.

³ Washington state law (RCW 82.08.02565) provides for an exemption of state sales tax for machinery and equipment used in the manufacture of a product for sale. WTD has received this exemption related to biosolids production at other treatment plants. Receipt of this exemption for Brightwater is disputed, resulting in legal action by WTD.

Revised OMC Estimate

Non-Disputed Costs

OMC's revised estimate of non-disputed costs is summarized in Table 2 for conveyance and Table 3 for the treatment plant. This estimate shows previously reported project costs and a revised estimate of non-disputed project costs.

The end of Table 3 combines the conveyance and treatment plant costs. The range shown in OMC's 2010 estimate corresponds to the M&E sales tax exemption for that has not yet been secured by WTD for the Brightwater project.

Table 2
Conveyance Cost Comparisons, \$M

Conveyance Component	Baseline Budget 3% Infl. - 5% Infl.	WTD 2009 Trend Report	WTD 2010 Trend Report	OMC 2009 Estimate	OMC 2010 Estimate
Construction					
Construction Contracts	\$580.4 - \$630.5	\$580.9	\$588.9	\$580.9	\$583.9
Construction Mitigation Contracts	\$4.8 - \$5.2	\$2.8	\$3.8	\$2.8	\$3.8
Judgments/Claims	\$0.0	\$0.9	\$1.6	\$0.9	\$2.1
Owner Controlled Insurance	\$0.0	\$17.1	\$17.0	\$17.1	\$17.0
Construction Contingency (1)	\$61.9 - \$70.2	\$64.0	\$55.1	\$64.0	\$46.9
Sales Tax (2)	\$57.5 - \$62.8	\$26.1 - \$57.8	\$27.7 - \$59.4	\$26.1 - \$57.8	\$26.1 - \$57.8
Owner Furnished Equipment and Materials	\$0.1 - \$0.1	\$1.1	\$1.1	\$1.1	\$1.1
Outside Agency Implementation/Const.	\$0.0	\$5.2	\$5.3	\$5.2	\$5.3
Other Capital Charges	\$0.0	\$0.2	\$0.3	\$0.2	\$0.3
Construction Subtotal	\$704.8 - \$768.7	\$698.2 - \$729.9	\$700.9 - \$732.6	\$698.2 - \$729.9	\$686.6 - \$718.3
Non-Construction					
Engineering Services	\$87.3 - \$91.3	\$78.4	\$80.5	\$78.4	\$80.5
Planning and Management Services	\$60.5 - \$63.3	\$73.6	\$80.0	\$73.6	\$80.0
Permitting and Other Agency Support	\$22.1 - \$22.8	\$1.2	\$1.2	\$1.2	\$1.2
Right-of-Way	\$21.2 - \$21.5	\$30.8	\$31.0	\$30.8	\$31.0
Miscellaneous Services and Materials	\$4.8 - \$5.0	\$4.9	\$4.7	\$4.9	\$4.7
Staff Labor	\$30.4 - \$31.8	\$32.0	\$33.3	\$32.0	\$33.3
Non-Construction Subtotal	\$226.3 - \$235.6	\$221.0	\$230.8	\$221.0	\$230.8
Project Contingency	\$89.5 - \$101.1	\$2.0	\$0.0	\$10.0 - \$16.0	\$2.0
CONVEYANCE SUBTOTAL	\$1,020.6 - \$1,105.5	\$921.2 - \$952.9	\$931.6 - \$963.3	\$929.2 - \$966.9	\$919.3 - \$951.1

Notes:

(1) OMC's assessment of the adequacy of the construction contingency is discussed later in this report.

(2) Range of sales tax is a result of whether the County receives the full amount of the machinery and equipment tax exemption.

OMC 2010 estimate includes
non-disputed costs only.

Table 3
Treatment Plant Cost Comparisons, \$M

Treatment Plant Component	Baseline Budget 3% Infl. - 5% Infl.	WTD 2009 Trend Report	WTD 2010 Trend Report	OMC 2009 Estimate	OMC 2010 Estimate
Construction					
Construction Contracts	\$296.5 - \$323.4	\$418.4	\$432.6	\$418.4	\$437.7
Construction Mitigation Contracts	\$31.1 - \$33	\$26.5	\$25.8	\$26.5	\$25.8
Judgments/Claims	\$0.0	\$0.2	\$0.2	\$0.2	\$0.2
Owner Controlled Insurance	\$0.0	\$9.3	\$9.3	\$9.3	\$9.3
Construction Contingency (1)	\$31.6 - \$35.7	\$26.6	\$19.0	\$32.2	\$17.8
Sales Tax (2)	\$24.9 - \$27.2	\$29.6 - \$38.9	\$30.2 - \$39.5	\$29.6 - \$38.9	\$29.9 - \$39.2
Owner Furnished Equipment and Materials	\$0.0	\$28.9	\$28.5	\$28.9	\$29.4
Outside Agency Implementation/Const.	\$0.0	\$8.0	\$5.9	\$8.0	\$5.9
Other Capital Charges	\$0.0	\$2.5	\$2.9	\$2.5	\$2.9
Construction Subtotal	\$384.1 - \$419.4	\$550.0 - \$559.2	\$554.4 - \$563.7	\$555.5 - \$564.8	\$558.7 - \$568.0
Non-Construction					
Engineering Services	\$50.3 - \$54.5	\$76.4	\$76.6	\$76.4	\$76.6
Planning and Management Services	\$23.4 - \$24.1	\$30.3	\$32.0	\$30.3	\$32.0
Permitting and Other Agency Support	\$24.7 - \$25.6	\$7.5	\$7.1	\$7.5	\$7.1
Right-of-Way	\$103.3 - \$104.5	\$181.9	\$181.8	\$181.9	\$181.8
Miscellaneous Services and Materials	\$4.7 - \$4.9	\$4.8	\$5.5	\$4.8	\$5.5
Staff Labor	\$25.9 - \$27.3	\$29.1	\$30.0	\$29.1	\$30.0
Non-Construction Subtotal	\$235 - \$240.9	\$329.9	\$333.0	\$329.9	\$333.0
Project Contingency	\$31.2 - \$35.3	\$2.0	\$0.0	\$10.0 - \$16.0	\$3.5
Credits and Revenues	(\$10.8) - (\$11.3)	(\$3.2)	(\$3.1)	(\$3.2)	(\$3.1)
TREATMENT PLANT SUBTOTAL	\$639.6 - \$684.4	\$878.6 - \$887.9	\$884.2 - \$893.5	\$892.2 - \$907.5	\$895.2 - \$904.5
TOTAL	\$1,660.2 - \$1,789.9	\$1,799.8 - \$1,840.8	\$1,815.8 - \$1,856.8	\$1,821.4 - \$1,874.4	\$1,814.6 - \$1,855.6

Notes:

(1) OMC's assessment of the adequacy of the construction contingency is discussed later in this report.

(2) Range of sales tax is a result of whether the County receives the full amount of the machinery and equipment tax exemption.

↑
OMC 2010 estimate includes
non-disputed costs only.

Key differences between OMC's estimate of non-disputed costs and the 2010 Trend Report estimate are:

- OMC's conveyance construction costs are lower than the 2010 Trend Report's costs because the remaining BT-3 mining costs in VPFK's contract are excluded. Since JDC is completing the remaining BT-3 mining, both WTD and VPFK anticipate a deductive change order of approximately \$16.5 million to remove the remainder of BT-3 mining from VPFK's scope. Since this development happened after December 31, 2009, it is not included in WTD's 2010 Trend Report. This resulting decrease in construction cost is partially offset by OMC's addition of the value of change orders executed since December 31, 2009.

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- OMC's construction contingency is lower than the 2010 Trend Report's costs because the value of change orders executed since December 31, 2009 is subtracted.

Key factors that will drive costs toward the lower end of the range include:

- Obtaining the full amount of the M&E sales tax exemption.
- Ability to manage issues on the portions of the project that are not disputed, with the goal of reducing costs: resolution of existing change orders and claims; avoiding delays on project contracts that influence cost, successful start up and commissioning of the treatment plant; and ramp down of project staff and consultant work as construction contracts are closed out.

Disputed Costs

Table 4 summarizes known disputed costs related to the Central Tunnel's BT-2 and BT-3. These disputed costs are related to the slower than planned BT-2 and BT-3 mining progress where ultimate payment responsibility has not yet been determined. The costs shown in Table 4 are not intended to be an opinion by either R. W. Beck or King County that the cost is appropriate, includes all potentially disputed costs, or that any one party has ultimate payment responsibility. Also, inclusion of these amounts in Table 4 is not intended to be an opinion by R. W. Beck or King County regarding which costs the County will choose to dispute with various parties.

Table 4
Known Disputed Costs

Disputed Cost	Source	Known Estimated Cost, \$M	Notes
Paid by WTD as of 3/31/10 - County Will Seek Reimbursement			
VPFK RCO 85/86	Conditional change orders 13, 15, 18	\$20.0	Tunnel Boring Machine repairs; paid to contractor under a series of conditional change orders.
JCT CO 14	Executed change order	\$4.8	Certain construction activities related to the BT-3 mining completion that were initiated prior to the execution of the BT-3C contract with JDC.
JDC BT3C Contract	Reported by WTD	\$8.8	Amount invoiced by contractor. Reported by WTD per Council Motion 13188, Section C (6)
Kiewit IPS CO 16, 23	Executed change orders	\$5.7	Redesign of the Influent Structure to allow construction to proceed in advance of BT-2 mining completion
Sales Tax	9.5% of above costs	\$3.7	Sales tax is not included in conveyance construction contracts
Non-Construction Costs	2010 Trend Report, Page 5	\$4.9	OMC believes it is likely that the cost cited by WTD does not reflect all potentially disputed non-construction costs. Additional future costs (particularly CM associated with BT-3C contract) not included in this total are also anticipated.
Subtotal		\$48.0	
Contractual Obligation to Pay in Future - County Will Seek Reimbursement			
JDC BT3C Contract	Estimate of remaining costs	\$63.8	Cost estimate provided by WTD, based on BT-3C contract terms and completion of BT-3 mining by Sept 2011.
Sales Tax	9.5% of above costs	\$6.1	Sales tax is not included in conveyance construction contracts
Subtotal		\$69.8	
Requested Change Orders/Claims Denied by King County			
VPFK RCO 65	Contractor's cost proposal	\$15.0	Differing Site Condition for Increased Hyperbaric Work. Reflects Only Past Costs.
VPFK Claim 6 (RCO 66)	Contractor's cost proposal	\$32.9	Differing Site Condition for Changed Soil Condition and Defective Specification. Reflects only past costs.
VPFK RCO 85/86	Contractor's cost proposal	\$4.0	Tunnel Boring Machine repairs. Excludes the \$20 million already paid to VPFK under Conditional Change Orders 13, 15, and 18.
VPFK RCO 90	Contractor's cost proposal	\$2.3	RCO submitted in April 2010 for boulders encountered during BT3 mining.
VPFK RCO 95 and 96	Contractor's cost proposal	\$0.9	Similar to RCO 65 and 66, for the period between May 31, 2009 and February 14, 2010
Sales Tax	9.5% of above costs	\$5.2	Sales tax is not included in conveyance construction contracts
Subtotal		\$60.3	
TOTAL		\$178.1	

Note: Contractor cost proposal does not imply County or OMC concurrence with the cost estimate.

The above total of \$178.1 million of known disputed costs does not include the following:

- An anticipated change order with VPFK for work resulting from the BT-3C contract, including construction of the connection point between the two BT-3 TBMs and removal of VPFK's TBM from its present location.
- A reasonable construction contingency based on the construction risks and cost-reimbursable fixed-fee contract type, for unanticipated costs in the contract with JDC.
- A reasonable project contingency based on construction risks, for any additional non-construction costs such as engineering and construction management.

OMC is not recommending a specific contingency level in this report but points out that WTD's original construction contingency for the central tunnel was 15 percent of the central tunnel construction bid. OMC would expect a BT-3C contingency of at least 15 percent of the BT-3C estimated construction cost given the nature of remaining construction activities and the cost-reimbursable fixed-fee contract type.

There is likely to be uncertainty over these costs for some time. Certainty will only come after completion of BT-3 mining (anticipated by WTD to occur in late 2011) and resolution of disputes related to BT-2 and BT-3 mining. The County has initiated a lawsuit against VPFK and its surety Travelers concerning some of the disputed items and a trial date is currently set for October 2011.

OMC is not assessing the County's potential for success on the disputed issues as that opinion would require an assessment of legal issues. The County is represented by the Prosecutor's Office and its outside counsel, Stoel Rives, on the contract administration items that have become legal matters. However, the OMC feels these disputed costs represent potentially significant cost exposure to the County and enough is known about the disputed costs to acknowledge and report herein.

Table 4 divides the known disputed costs into three categories:

- (1) Approximately \$48 million that has already been paid by WTD as of March 31, 2010; it is assumed that in a dispute, WTD would seek reimbursement of these costs;
- (2) Approximately \$69.8 million where WTD has a contractual obligation to pay, but has not yet paid; it is assumed that in a dispute WTD would seek reimbursement of costs paid. This value is based on WTD's current estimate of BT-3C completion schedule; and
- (3) Approximately \$60.3 million of claims and disputed change orders that WTD does not at this time have a contractual obligation to pay. WTD would seek to avoid paying these costs.

This division of costs is provided because the three categories have differing effects on the project's cash flow and could potentially impact future fiscal-related decisions.

Other Areas of Uncertainty

BT-3C Completion Schedule

The BT-3C cost estimate shown in Table 4 is WTD's estimate based on its review of construction records from JCT in its previous West Tunnel construction work, negotiated parameters in the BT-3C contract (including home office overhead percentage and lump sum equipment costs), and certain schedule assumptions that include completion of mining in December 2011. Assuming that WTD's estimate accurately reflects the final BT-3C contract provisions, if mining ends sooner, the cost will decrease – WTD estimates a \$1.6 million decrease for completion 30 days early. WTD estimates that if mining lasts three months longer than estimated, the cost would increase by \$4.8 million.

BT-3C completion schedule also affects non-construction costs. This occurs by requiring additional construction management, administration, geotechnical, and engineering work by consultants and WTD staff. Some of these costs are already included in the 2010 Trend Report but it is likely that WTD's non-construction cost estimate for conveyance is too low.

Treatment Plant Startup Schedule

With the construction of the redesigned IS, WTD has continued its ongoing startup planning in anticipation of an August 2011 treatment plant startup date. To date, startup activities continue to proceed well, and there is no reason to expect a startup delay. The critical path to treatment plant startup remains within the IPS contract. There is currently an approximate 2.5 month interval between treatment plant substantial completion and initiation of clean water testing; as a result, there is some capacity to absorb treatment plant construction delays without affecting the overall startup schedule. OMC's contingency analysis below addresses the sufficiency of WTD's contingency to cover additional capital costs that could result from a slip in the treatment plant startup date.

Delays in treatment plant construction, IPS construction, and treatment plant startup would also require additional non-construction costs, which are not included in WTD's 2010 Trend Report but are addressed in OMC's contingency analysis below.

M&E Tax Exemption

As described in previous OMC Trend Report reviews, WTD is seeking a M&E sales tax exemption related to the production of reclaimed water and biosolids. WTD is anticipating a summer 2011 date for trial and/or summary judgment hearings. In its 2009 and 2010 Trend Reports, WTD assumes the total potential tax exemption to be approximately \$41 million. The uncertainty over the availability of all or a portion of this tax exemption is part of the range in the revised OMC cost estimate. By the time this issue is resolved, WTD will have already paid the sales tax and would have to seek recovery of its costs.

Contingency Assessment

WTD's cost estimate includes two types of contingencies for the Brightwater project. Construction contingencies are intended to cover additional costs paid to construction contractors for items such as change orders and claims. Project contingencies are primarily intended to cover non-construction cost risks, for items such as engineering, construction management, administration, and land purchases.

Conveyance Construction Contingency (Excluding Disputed Costs)

As a construction change order is executed, WTD moves its cost into construction costs from the construction contingency. Excluding BT-2 and BT-3 mining, the risk of future change orders is decreasing but still exists. This contingency assessment evaluates ability of the construction contingency to cover the cost risk of existing and future potential change orders for non-disputed portions of the project. Table 5 shows remaining construction contingency shown in the 2010 Trend Report, after subtraction of executed change orders since December 31, 2009.

Table 5
Remaining Conveyance Construction Contingency as of 3/31/10

Conveyance Construction Contingency in 2010 Trend Report	\$55,050,805	
Minus Certain Executed Change Orders Since 12/31/09		
East Tunnel	(\$0)	
Central Tunnel (Excluding Disputed Costs)	(\$5,955,568)	Excludes BT-2 incentives that are unearned
West Tunnel	(\$2,606,621)	
IPS	(\$341,769)	
Remaining Conveyance Construction Contingency	<u>\$46,146,847</u>	

To keep construction costs within WTD's 2010 Trend Report estimate (excluding disputed costs), this contingency needs to cover the items shown in Table 6.

Table 6
Potential Demands on Remaining Conveyance Construction Contingency
(Excluding Disputed Costs)

- East Tunnel: resolution of the \$6.7M in potential change orders and/or claims.
 - East Tunnel: any future change orders associated with the remaining \$4.3M of work to be completed.
 - Central Tunnel BT-2: remaining \$3.5 million of BT-2 mining incentives, depending on VPFK's progress.
 - Central Tunnel VPFK BT-2 and BT-3: future change orders associated with the remaining \$47.9M of work to be completed as of March 31, 2010.
 - Central Tunnel VPFK BT-2 and BT-3: resolution of the \$4.5M in potential change orders (excluding those listed above as potentially disputed costs).
 - West Tunnel: resolution of the \$0.5M in potential change orders.
 - West Tunnel: any future change orders associated with the remaining \$15.5M of work to be completed as of 3/31/10, and any deviation of the construction cost of remaining work as a result of transferring the work from a hard-bid contract to the cost reimbursable fixed fee BT-3C contract
 - IPS: resolution of the \$4.2M in potential change orders
 - IPS: any future change orders associated with the remaining \$66.1M of work to be completed as of 3/31/10.
 - Marine Outfall: bid risk and any future change orders associated with diffuser cap removal.
 - Ancillary Facilities: bid risk and any future change orders associated with Ballinger Way Portal Odor Control facilities.
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OMC believes that WTD's remaining conveyance construction contingency should be adequate to cover these potential demands, given industry-standard assumptions on the amount of future change orders as a percentage of remaining contract work to be completed. At best, OMC estimates that WTD may not use or otherwise leave available up to \$20 million for other purposes.

Treatment Plant Construction Contingency

Table 7 shows remaining treatment plant construction contingency shown in the 2010 Trend Report, after subtraction of executed change orders since December 31, 2009.

Table 7
Remaining Treatment Plant Construction Contingency as of 3/31/10

Treatment Plant Construction Contingency in 2010 Trend Report	\$19,042,705
Minus Executed Change Orders Since 12/31/09	
Liquids	(\$942,037)
Solids	(\$303,271)
Remaining Treatment Plant Construction Contingency	<u>\$17,797,397</u>

To keep construction costs within WTD's 2010 Trend Report estimate, this contingency needs to cover the items shown in Table 8.

Table 8
Potential Demands on Remaining Treatment Plant Construction Contingency

- Liquids: resolution of the \$1.1M in existing potential change orders.
 - Liquids: future change orders associated with the remaining \$59.5M of work to be completed.
 - Liquids: any use of buyout savings after 12/31/09.
 - Liquids: anticipated future change order to cover the expected interval between substantial completion and the clean water test. Currently, this interval is 2.5 months.
 - Solids: resolution of the \$1.0M in existing potential change orders.
 - Solids: future change orders associated with the remaining \$46.3M of work to be completed.
 - Solids: anticipated future change order to cover the expected interval between substantial completion and the clean water test. Currently, this interval is 2.5 months.
 - Owner-furnished Membranes: anticipated future requested change order related to inflation escalation on membranes. OMC has not evaluated whether the membrane supplier is entitled to any payment from WTD related to this issue.
 - Instrumentation and Control Services: difference between the cost of contracting certain startup assistance directly with the contractor and the allowances in Kiewit and Hoffman's contract for similar services.
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OMC believes that WTD's remaining treatment plant construction contingency should be adequate to cover these potential demands, given industry-standard assumptions on the amount of future change orders as a percentage of remaining contract work to be completed. Additionally, the cost of the items in Table 8 may be partially offset if WTD is able to recover costs incurred when the treatment plant contract was split into liquids and solids phases. OMC believes it is appropriate to assume WTD's remaining treatment plant construction contingency might be more than what is necessary to cover these anticipated costs, leaving a small amount, ranging from \$0 to \$5 million, available for other uses.

Project Contingency (Excluding Disputed Costs)

In the 2010 Trend Report, WTD reduced its project contingency from a total of \$4 million to \$0. The project contingency is primarily intended to cover non-construction cost risks. Although non-construction cost risks have decreased as construction has progressed, some non-construction cost risks remain.

OMC believes it is prudent to maintain the project contingency and the revised OMC estimate includes a project contingency. For the treatment plant, OMC has included \$3.5 million, representing approximately six months of projected 2011 non-construction costs. For conveyance, OMC has included \$2 million, representing six months of delay for remaining conveyance projects excluding aspects of the project such as BT-3 mining that would be considered disputed.