

BRIGHTWATER PROJECT OVERSIGHT REPORT FOR QUARTER ENDING SEPT. 30, 2009

CURRENT RISK RATING ◆ Corrective action is needed to address the schedule delay, risk of increased cost, and other issues described below.



PROJECT DESCRIPTION

The Brightwater wastewater treatment system is being constructed to meet the capacity needs outlined in the Regional Wastewater Services Plan. The new treatment plant is located north of State Route (SR) 522 and east of SR 9 and is designed to provide 36-million gallons per day capacity. It includes membrane bioreactor secondary treatment systems, Class B biosolids and reclaimed water production, odor control, and disinfection systems. The conveyance system includes 14 miles of large diameter tunnel connecting the plant to a marine outfall, diversion structures to direct flow from existing sewers into the new system, and an influent pump station. The Wastewater Treatment Division (WTD) is the project manager. The project is currently in the construction phase with multiple contracts using GC/CM, Design-Bid-Build, and Design-Build delivery methods. R.W. Beck is the Oversight Monitoring Consultant (OMC); their quarterly report is attached.

PROJECT STATUS ● = No Current Concerns ▼ = Attention Needed ◆ = Corrective Action Needed

● **Scope**

The scope of the final project has not changed, but plans are to start up the treatment plant prior to completion of the conveyance system. This change mitigates some of the risk of the conveyance system schedule delay; however, the cost and schedule implications are still being evaluated.

◆ **Schedule**

Milestone	Approved Schedule	Current Forecast	Comment
Treatment Plant substantial completion	Jan. 2011	Feb. 2011	weather delays
Conveyance System hydraulic completion	Jan. 2011	unavailable	delay likely more than 1 year
Accept wastewater for treatment	Mar. 2011	Aug. 15, 2011	without new conveyance system

▼ **Budget¹**: Cost updates show estimated costs at completion exceeding the baseline budget.

Project	Adopted 2004 Baseline		WTD 2009 Cost Update		OMC 2009 Estimate		LTD Expenses	LTD %
	3% Inflation	5% Inflation	Low ²	High	Low	High	Thru Nov 09	Expended
Conveyance	1,021	1,106	921	955	929	967	651	71%
Treatment Plant	640	684	879	890	892	907	666	76%
Total	\$1,660	\$1,790	\$1,800	\$1,844	\$1,821	\$1,874	\$1,317	73%

¹ All costs are shown in \$ millions.

² WTD's opinion of most probable outcome. This is the amount used for the Life to Date (LTD) % calculation.

▼ **Issues and Risks:** Strategies are in place but may not be adequate to address the following:

- Both Central Tunnel boring machines are stopped for extensive repair.
- After Central Tunnel mining resumes, additional maintenance stops and schedule delays may occur.
- Disagreement with Central Tunnel contractor over payment provisions related to cost of delay is likely.
- Treatment Plant instrumentation and control submittals are delayed, but no schedule impact at this time.

For detailed information including recommendations, see the following report

King County Auditor's Office – Cheryle Broom, County Auditor

The King County Auditor's Office was created in 1969 by the King County Home Rule Charter as an independent agency within the legislative branch of county government. Its mission is to promote and improve performance, accountability and transparency in King County government through conducting objective and independent audits and services.

Capital Projects Oversight Program – Tina Rogers, Manager

The Capital Projects Oversight Program (CPO) was established within the Auditor's Office by the Metropolitan King County Council through Ordinance 15652 in 2006. Its goal is to promote the delivery of capital projects in accordance with the council approved scope, schedule, and budget and to provide timely and accurate capital project reporting.

CPO oversight reports are available on the Auditor's Web site (www.kingcounty.gov/operations/auditor/reports) under the year of publication. Copies of reports can also be requested by mail at 516 Third Avenue, Rm. W-1033, Seattle, WA 98104, or by phone at 206-296-1655.

**ALTERNATIVE FORMATS AVAILABLE UPON REQUEST
CONTACT 206-296-1655 OR TTY 206-296-1024**

INTRODUCTION

Attached is the tenth quarterly *Brightwater Project Construction Phase Oversight Monitoring Consultant Report* prepared by R.W. Beck, the Oversight Monitoring Consultant (OMC), which is prepared and issued under the council-mandated Capital Projects Oversight (CPO) Program in the King County Auditor's Office. We are transmitting it to the Metropolitan King County Council (council) Government Accountability and Oversight Committee to provide timely information on the status of the scope, schedule, budget, and risk for the Brightwater project.

We continue to show the risk level for the Brightwater project as red, indicating that corrective action is needed to address the schedule delay, risk of cost increases, and other issues on the project. Included herein are four new recommendations which we offer to more fully address the serious concerns on the project.

We conduct oversight through monthly meetings led by the auditor's office with the project team members from Wastewater Treatment Division (WTD), and representatives from Office of Management and Budget (OMB), the OMC, and council staff. We also obtain information through monthly project reports, site visits, and direct contact with WTD staff and project consultants.

The attached OMC report covers the third quarter of 2009, ending September 30. Where more current information is available, it has been included.

PROJECT STATUS UPDATE

Scope

The scope of the final project has not changed; however, as reported last quarter, plans are underway to allow for startup of the treatment plant prior to the completion of the conveyance system. This change was made so that wastewater can be pumped to the treatment plant to initiate testing and plant operation and to minimize delay between completion of construction and close out of the treatment plant construction contracts. This is a reasonable mitigation strategy based on consideration of alternatives to manage the consequences of a conveyance system delay. The detailed cost and schedule implications of this change are under development pending receipt of detailed responses from the contractor on the influent structure design modifications. With the approval of the 2009 budget appropriation for Brightwater, the council called for a full report on the strategy and analysis and verification that WTD's projected operating costs for the Brightwater treatment system are reasonable during both the early post-commissioning phase when Brightwater effluent will be conveyed to other treatment plants for discharge; and when fully operational and discharging effluent via the Brightwater conveyance system.¹ CPO and the OMC have begun participation in the council-mandated collaborative effort to develop potential strategies to maximize operational savings before and during the commissioning of the Brightwater treatment system. A report of these efforts is due to the council by April 2, 2010.

There is a firm commitment of \$148.7 million for mitigation established by various agreements. In the event that there are actual cost savings or cost overruns in any of the mitigation activities, the scope of uncompleted projects will need to be adjusted. Therefore, the final scope of the mitigation will not be known until later. Favorable bidding conditions reported in the last quarterly report resulted in anticipated cost savings in excess of \$2 million on one of the final mitigation project bids. No decision has been made on which mitigation project(s) will be selected to use these savings. WTD intends to defer that

¹ Ordinance 16717, Section 105, Proviso 2.

decision until more is known about final costs of mitigation activities underway. We believe this is a prudent approach.

Schedule

The date for hydraulic completion of the treatment plant has been substantially unchanged for the past six months, and February 21, 2011 is for the liquids contract and February 23, 2011 for the solids contract. As reported last quarter, the anticipated date the treatment plant will accept wastewater for treatment is now in August 2011, reflecting approximately a five-month delay from the original schedule. This schedule is based on start up of the plant independent of completion of the Brightwater Conveyance System to the new marine outfall, by discharging effluent through existing conveyance infrastructure to the West Point and South Treatment Plants.

Concerns about conveyance schedule delays have continued to increase since the last report, predominantly because of delays in mining on the Central Tunnel contract. Repair of both Central Tunnel boring machines is taking several months longer than anticipated at the time of our last report. This additional delay and the increased divergence between the treatment plant and conveyance schedules validates the decision to modify the influent structure design to allow for build-out of the influent structure, system testing, and treatment plant startup independent of the Central Tunnel schedule. This revised sequence of work has moved the critical path for treatment plant commissioning from Central Tunnel mining and influent structure construction to the ongoing construction of the Influent Pump Station (IPS) and system startup.

The OMC reports that the completion schedule for BT-2 and BT-3 of the Central Tunnel contract is not known at this time. The attached OMC report includes a range of possible dates for completion of mining of BT-2 and BT-3 to illustrate the schedule impacts of a variety of assumptions. The earliest date for substantial completion of this part of the conveyance system based on reasonable assumptions is in April 2012.

Budget

The current cost estimate for the project is presented as a range between \$1,800 and \$1,844 million in the 2009 Trend Report prepared by WTD and provided to council in May. At that time, WTD presented the lower number of the range as the most probable outcome, which is approximately \$10 million higher than the baseline cost estimate with five percent inflation. \$41 million of the \$44 million range is a potential exemption from sales tax on the portions of project costs associated with the production of biosolids and reclaimed water for resale. WTD reports that the Prosecuting Attorney's Office is actively pursuing this exemption.

The OMC's current cost estimate is presented as a range from \$1,821 to \$1,874 million. The OMC reports that their estimate more likely represents the outcome of the project costs. Under normal conditions, WTD would provide a comprehensive project cost estimate update with the 2010 Trend Report in early May 2010. In the last quarterly report, the OMC recommended that WTD provide the council with an updated opinion of the project costs sooner, shortly after the receipt of a revised schedule from the IPS contractor for work on the redesigned influent structure. The IPS contractor submitted the preliminary schedule for review and acceptance on November 2. WTD plans to provide council with potential schedule and cost impacts of delayed Central Tunnel construction in advance of the 2010 Trend Report.

On November 23, 2009, council passed Ordinance 16717, adopting the 2010 annual county budget. This included appropriation of \$28,044,005 for the Brightwater Program, bringing the total appropriation to date to \$1,787,933,709. The Wastewater Treatment Capital Improvement Program attached to the ordinance shows the anticipated appropriation needs in future years for a total of \$1,800,338,539 to complete the Brightwater Program, which is approximately equal to the 2009 Trend Report low end of the estimate range. A summary of the appropriations and expenditures on the Brightwater Program to date is shown as Attachment A.

Issues and Risks

The current risks for the project are listed on the cover page of this transmittal and discussed in greater detail in the attached OMC report. Concern over the significant schedule delay and the potential cost impacts resulting from these risks remains. Oversight has shifted focus to these main risk areas, including how WTD is managing and mitigating these risks and preparing to protect the county's interests in the potential disagreement over payment of Central Tunnel cost increases.

Since our last report, we have experienced improved communication with WTD and have evidence of their increased responsiveness to past oversight recommendations. WTD has assembled a team of legal and technical experts and their work program is more clearly showing a significant effort underway to protect the county's interests regarding the costs and other impacts of the Central Tunnel delay. We commend WTD for the work accomplished to date in these preparations and encourage planning to sustain this effort.

In addition to our actions reported last quarter, we have done the following to promote effective oversight:

- Met with Department of Natural Resources and Parks (DNRP) outgoing director and interim director to communicate our concerns;
- Met with WTD to review their current risk management activities and directed the OMC to review backup information on select risk items;
- Identified the need to continue, within the limitations of our scope and available expertise, to provide a comprehensive and independent assessment of these questions on the Central Tunnel delay and contract issues:
 - Is WTD's project management of the Brightwater Program reasonable given the current and potential risks on the project?
 - Is WTD employing construction management best practices to adequately protect the county's interests?
 - Are the county's preparations comprehensive, adequately resourced, and coordinated to defend the county's interest in a potential disagreement with the Central Tunnel contractor?
 - What opportunities may exist for the county to more proactively ensure this project is successful including transparency for decisions and actions taken to mitigate risks?
- Worked with the OMC and the Prosecuting Attorney's Office to explore ways to obtain additional expertise to more effectively oversee the county's efforts on the project; and
- Met with the County Executive office staff to communicate our concerns and discuss two new recommendations to enhance executive oversight on the project.

RECOMMENDATIONS

Based on current project circumstances and the OMC's and our office's observations, we offer four recommendations to further promote effective oversight of this high-risk project by county decision-makers.

The OMC makes two new recommendations in their report:

- In the transmittal of its Monthly Project Reports to council, OMC recommends that WTD acknowledge the approximately six-week interval between the date covered by the report and the date the report is presented, and include current information related to major project milestones and developments.
- In its communication to the County Council and the OMC, WTD should more comprehensively and quantitatively assess the level of contingencies. This assessment should be more rigorous than what has been previously provided.

Drawing upon the expertise and recommendations of OMC and others involved in oversight, legislative intent for CPO, and public management and governance best practices, we make two additional recommendations:

- The County Executive should evaluate, and modify as deemed appropriate, the organizational and communication framework to assure effective executive level oversight and an integrated strategy for the legal, contractual, technical, operational, and fiscal decisions made to complete the construction of Brightwater.
- The County Executive and the DNRP Director should each designate a representative to participate in the monthly Brightwater oversight work group meetings and related activities.

ACKNOWLEDGEMENTS

We appreciate the collaborative efforts of WTD and OMB in providing for effective oversight of the Brightwater Treatment System consistent with council intent. Given the increased demands on the Brightwater project team to respond to the project challenges, their responsiveness and willingness to devote additional attention to provide improved access to information for the OMC is commendable. Oversight is being conducted, and this report was prepared by a team from the King County Auditor's Office, including Tina Rogers, Susan Baugh, and Cheryle Broom. The attached report was prepared by R.W. Beck who is under contract with the auditor's office to provide oversight monitoring consulting services.

We are available to give a presentation of this quarterly report to the Government Accountability and Oversight Committee upon request. Should you have questions or comments on the report, please contact Tina Rogers, the Capital Projects Oversight Manager, or Cheryle Broom, County Auditor.

DISTRIBUTION

Government Accountability and Oversight Committee

cc: Metropolitan King County Councilmembers

Dow Constantine, County Executive

Dan Satterberg, Prosecuting Attorney

Fred Jarrett, Deputy County Executive

Bob Burns, Interim Director, Department of Natural Resources and Parks (DNRP)

Christie True, Division Director, Wastewater Treatment Division, DNRP

Toni Rezab, Deputy Director, Office of Management and Budget

David Jochim, Vice President, R.W. Beck, Inc.

Tom Jacobs, Senior Management Consultant, R.W. Beck, Inc.

Tom Bristow, Chief of Staff, King County Council

Marilyn Cope, Principal Legislative Analyst, King County Council, Government Accountability and Oversight Committee

Mark Melroy, Senior Principal Legislative Analyst, King County Council, Budget and Fiscal Management Committee

Beth Mountsier, Senior Principal Legislative Analyst, King County Council, Regional Water Quality Committee

ATTACHMENTS

Attachment A - Brightwater Budget Summary Through November 2009

Brightwater Project Construction Phase Oversight Monitoring Consultant Report (Quarter Ending September 30, 2009), R.W. Beck

ATTACHMENT A

BRIGHTWATER BUDGET SUMMARY THROUGH NOVEMBER, 2009*

BRIGHTWATER APPROPRIATION / EXPENDITURE HISTORY					
Year	Appropriation	Expenditures			Cumulative Balance
		Conveyance System	Treatment Plant	Total	
1998	195,842	122,611	73,231	195,842	-
1999	1,521,938	996,094	525,844	1,521,938	-
2000	3,672,816	1,657,382	2,015,434	3,672,816	-
2001	8,422,017	2,739,756	5,440,754	8,180,510	241,507
2002	38,266,455	1,762,691	9,674,916	11,437,608	27,070,354
2003	80,834,249	15,928,950	46,818,655	62,747,605	45,156,998
2004	178,569,564	40,922,914	33,118,446	74,041,360	149,685,202
2005	432,633,315	36,971,596	63,257,313	100,228,909	482,089,608
2006	298,704,845	74,651,114	94,683,302	169,334,416	611,460,037
2007	528,410,201	153,321,358	62,339,610	215,660,969	924,209,269
2008	117,988,737	204,232,705	165,534,653	369,767,358	672,430,648
2009	70,669,725	132,648,134	167,735,060	300,383,194	442,717,179
2010	28,044,005				470,761,184
Life-To-Date	\$ 1,787,933,709	\$ 664,836,601	\$ 650,618,145	\$ 1,315,454,745	\$ 470,761,184
2011-2015	12,404,830				
Anticipated Total	\$ 1,800,338,539				

Notes:

Includes appropriations by year based on ordinances adopted through December, 2009.

Includes annual expenditures (less revenues) per IBIS Accounting System for project numbers 423457, 423484, and 423575.

2009 expenditures shown are through November.

Brightwater Project Construction Phase
Oversight Monitoring Consultant Report
(Quarter Ending September 30, 2009)

King County
Brightwater Project Oversight Services
Contract No. P43024

Final as of January 26, 2010



In association with:



Brightwater Project Construction Phase
Oversight Monitoring Consultant Report
(Quarter Ending September 30, 2009)

King County
Brightwater Project Oversight Services
Contract No. P43024

Final as of January 26, 2010



In association with:



Hatch Mott
MacDonald

Brightwater Project Construction Phase Oversight Monitoring Consultant Report Quarter Ending September 30, 2009

Final as of January 26, 2010

Table of Contents

Executive Summary	ES-1
Key Findings	ES-1
Conclusions and follow-up on previous OMC Recommendations	ES-2
Brightwater Quarterly Report	1
Background	1
Analysis and Findings	6
Major Risk Issues	14
Progress on Previous OMC Recommendations	15
Conclusions and New OMC Recommendations	17

List of Tables

Table ES-1: Estimated Project Costs (nominal \$million)	ES-1
Table 1: Summary of Marine Outfall Activities Since June 30, 2009	1
Table 2: Summary of West Tunnel Activities Since June 30, 2009	2
Table 3: Central Tunnel Activities Since June 30, 2009	3
Table 4: East Tunnel Activities Since June 30, 2009	3
Table 5: Influent Pump Station Activities Since June 30, 2009	4
Table 6: Liquids Contract Activities Since June 30, 2009	4
Table 7: Solids/Odor Control Contract Activities Since June 30, 2009	5
Table 8: Estimated Project Costs (nominal \$million)	7
Table 9: Construction Progress and Change Order Summary by Contract	9
Table 10: Summary of Ranges of Projected BT-2 Mining Completion Dates	12
Table 11: Progress on Previous OMC Recommendations	15
Table 12: Follow-up on Additional Issues	17

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.

Copyright 2010 R. W. Beck, Inc.
All rights reserved.

Brightwater Project Construction Phase
Oversight Monitoring Consultant Report
Quarter Ending September 30, 2009

Final as of January 26, 2010

Executive Summary

This Executive Summary presents highlights of the Oversight Monitoring Consultant's (OMC's) quarterly briefing on the Brightwater Project. This report covers the period through September 30, 2009, but is supplemented by more current information where available.

KEY FINDINGS

Cost

Estimated costs are shown in Table ES-1. This table, unchanged from our previous Quarterly Report¹, shows previous baseline estimates, the Wastewater Treatment Division's (WTD's) 2009 Trend Report Estimate, and OMC's estimate based on the OMC's review of WTD's 2009 Trend Report

Table ES-1: Estimated Project Costs (nominal \$million)

	WTD 2004 Baseline		WTD 2009 Trend	OMC Estimate Based on Review of 2009 Trend
	3% Infl.	5% Infl.		
Conveyance	\$1,021	\$1,106	\$921 - \$955	\$929 - \$967
Treatment Plant	\$640	\$684	\$879 - \$890	\$892 - \$907
Total	\$1,660	\$1,790	\$1,800 - \$1,844	\$1,821 - \$1,874

Note: Totals may not add up due to rounding to nearest \$1 million. Table prepared for Quarterly Report published on May 15, 2009.

As reported earlier, the range reported by WTD in its 2009 Trend Report (published in May 2009) is primarily due to uncertainty regarding receipt of a \$41 million sales tax exemption. WTD stated at that time that the low end of this range represents the most probable outcome based on current assumptions and known uncertainties.

OMC's most recent update, from our Quarterly Report dated May 15, 2009, is a range of \$1,821 million to \$1,874 million. Given project developments since May, OMC believes its most recent cost estimate range remains appropriate.

¹ Oversight Monitoring Consultant Report for the Quarter Ending June 30, 2009, published September 17, 2009.

Schedule

WTD currently estimates initiation of wastewater treatment in August 2011, with discharge of treated effluent to the existing collection system. The exact schedule for this has not yet been determined. It depends on WTD's approval of the IPS contractor's revised schedule, which WTD and the IPS contractor are currently negotiating.

The two Central Tunnel boring machines remain stopped for extensive maintenance involving repairs to the cutterhead structural rim. As a result, there is no definitive estimate for when wastewater discharge through the Marine Outfall will commence. The only available estimate shows the earliest possible Conveyance completion as mid-2011. This date could slip for a number of reasons, including longer than anticipated repair duration, the need for significant additional maintenance stops, and receipt of schedule information from the IPS contractor.

Risks

OMC's continues to believe that the biggest risks to cost and schedule are that:

- After BT-2 and BT-3 mining resumes, additional BT-2 and BT-3 TBM repairs may be required that could result in additional extensive down time.
- There is a substantial risk of a disagreement between the Central Tunnel contractor and WTD over responsibility for the significantly higher costs on the Central Tunnel.

CONCLUSIONS AND FOLLOW-UP ON PREVIOUS OMC RECOMMENDATIONS

Many Project Components Continue To Go Well

With the exception of the Central Tunnel, the construction schedule has not significantly changed in the past quarter and cumulative anticipated end-of-job change orders are within reasonable industry levels. The Treatment Plant schedule is virtually unchanged from the previous quarter and schedule risk is, in the OMC's opinion, lower than it was as of June 30, 2009. East Tunnel pipe installation is complete and concrete backfill is underway. West Tunnel mining was approximately 93 percent complete as of January 9, 2010.

Treatment Plant Remains On Schedule for August 2011 Startup

Construction on the liquids and solids phases has remained on schedule for August 2011 startup of the treatment plant with discharge to the existing King County conveyance system and subsequent treatment at the West Point and/or South wastewater treatment plants.

Conveyance Schedule is Not Knowable

In the past quarter, there has been only limited progress in completing the cutterhead rim maintenance on the two Central Tunnel TBMs. Even so, there is sufficient uncertainty regarding the rate of future mining that prevents OMC from providing comments on likely dates when Central Tunnel will be complete and Brightwater effluent will be able to discharge through the Marine Outfall. Progress in the next quarter may be sufficient to estimate this date, but it is not certain.

WTD's Next Cost Estimate Will Likely Be in April or May 2010

In our previous Quarterly Report, we recommended that WTD provide an updated cost estimate to the County Council after revised schedule information is available from the IPS contractor. WTD believes that additional information will be available in early 2010 regarding potential schedule and cost impacts of delayed Central Tunnel construction. This information will be provided to Council in advance of the 2010 Trend Report. OMC believes that the information reported to Council should include the magnitude of the budget risks for the Brightwater Program, even if the information provided is qualitative.

OMC Continues to Believe WTD has been too Optimistic in its Approach to Resource Planning and Deployment

In our previous Quarterly Report, we recommended that WTD base its staffing resource planning on the assumption that some significant construction problems will arise. This recommendation was made because we felt that at times, WTD's delayed deployment of resources to manage potential major construction contract deviations appears to be based on overly optimistic assumptions of favorable outcomes for items such as WTD staff needs and contingency usage. WTD has stated that this recommendation is under consideration. OMC is not aware of any significant WTD staffing changes.

New Recommendation

OMC offers two new recommendations this quarter. Our new recommendations do not directly address WTD's management of the Brightwater project, but rather its communication of project status to the County Council. Their intention is to ensure timely and complete information is provided to policymakers.

- In the transmittal of its Monthly Project Reports to Council, OMC recommends that WTD acknowledge the approximately six-week interval between the date covered by the report and the date the report is presented, and include current information related to major project milestones and developments.
- In its communication to the County Council and the OMC, WTD should more comprehensively and quantitatively assess the level of contingencies. This assessment should be more rigorous than what has been previously provided.

Brightwater Quarterly Report

BACKGROUND

This report is a briefing on the Brightwater Project provided by the Project's Oversight Monitoring Consultant (OMC). This report is based on the most current information available as of early January 2009, which includes: construction cost information through November 30, 2009; non-construction cost information through September 30, 2009; tunnel mining progress through December 19, 2009; schedule information through September 30, 2009; and certain other cost, schedule, and construction progress data through December 2009 that was obtained from meetings with WTD staff.

The OMC's previous Quarterly Report was dated September 17, 2009, and covered the period through June 30, 2009.

The following tables illustrate construction activity for the various major construction contracts. They are not intended to be an exhaustive list of construction activity, but instead are intended to illustrate the many types of construction activities that are ongoing.

Conveyance

Marine Outfall activities since June 30, 2009 are shown in Table 1.

Table 1: Summary of Marine Outfall Activities Since June 30, 2009

Month	Partial List of Construction Activity
July	Continued review of as-builts and O&M manuals. Began to develop the RFP for outfall survey and diffuser port uncapping.
August	Finished review of as-builts and O&M manuals. Continued to develop the RFP for outfall survey and diffuser port uncapping.
September	Revisions to as-builts and O&M manuals underway based on WTD review. Continued to develop RFP.
October-December	Hard copy of the as-builts and O&M manuals received; final Contractor progress payment request being reviewed in preparation for project close out. No additional information provided.

In October, WTD was notified by Engineering News Record (ENR) that the Marine Outfall was selected as an ENR's 2009 Best of the Best Project in the Civil and Public Works Division.

West Tunnel construction activities since June 30, 2009 are shown in Table 2 and west tunnel mining actual through December 19, 2009 are shown in Figure 1.

Table 2: Summary of West Tunnel Activities Since June 30, 2009

Month	Partial List of Construction Activity	Construction Percent Complete (1)
July	Mined 1,609 feet. 63 percent of mining complete by end of July.	72%
August	Mined 314 feet; approximately 4 week maintenance stop. 65 percent of mining complete by end of August.	73%
September	Mined 1,045 LF; 69 percent of mining complete by end of September.	76%
October	Mined 1,860 LF; 78 percent of mining complete by end of October.	79%
November	Mining continues; 85 percent of mining completed by end of November.	81%
Dec/Jan	Mining continues. 93 percent complete as of 1/9/10. Resumed ground freezing at Ballinger Way Portal in anticipation of TBM retrieval.	Not Yet Available

(1) Measured by milestone-based payments to contractors at the end of the month.

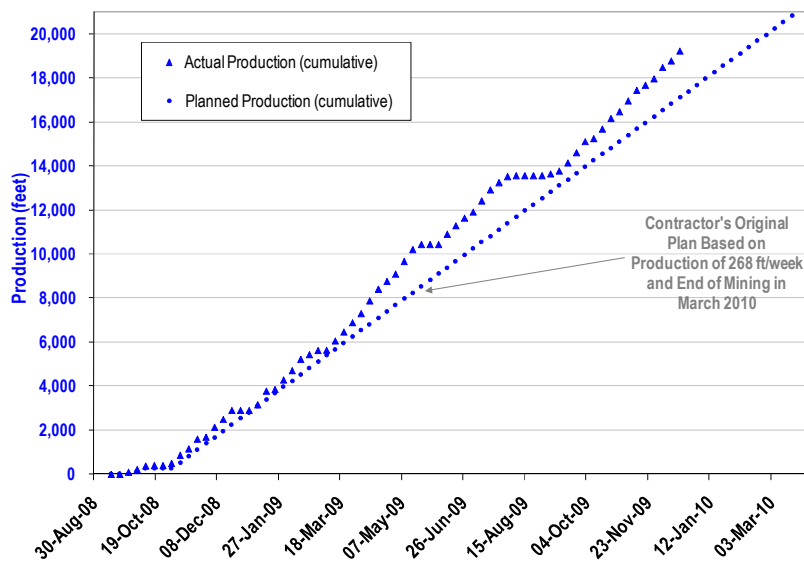


Figure 1. West Tunnel Mining Through December 19, 2009

Central Tunnel construction activities since June 30, 2009 are shown in Table 3.

Table 3: Central Tunnel Activities Since June 30, 2009

Month	BT-2 (Partial List)	BT-3 (Partial List)	Construction Percent Complete (1)
July	Completed 4 of 5 dewatering wells; developed design to repair cutterhead rim.	Continued development of TBM repair plan; general TBM maintenance.	68%
August	Completed dewatering wells; initiated dewatering which reduced TBM face pressure from 5.4 to 1.8 bar; made adjustments to wells to improve performance as much as possible.	TBM repair plan submitted. Began permitting process to implement TBM repair plan. Continued general TBM maintenance.	70%
September	Continued dewatering efforts to attempt to reduce pressure at TBM face. Drilling tunnel drains through the tunnel lining behind and above TBM to reduce pressure.	Submitted permit applications to the City of Lake Forest Park and the Northshore Utility District.	72%
October	Continued dewatering efforts. Developed plans to conduct TBM repairs under pressure.	Continued planning for upcoming maintenance.	73%
November	Initiated TBM repairs. Developing plans for future "Safe Haven", where additional TBM maintenance could be preformed if needed.	Continued preparation for upcoming maintenance, including delivery of polymer for the upcoming polymer test.	74%
December	Continuing TBM Repairs. Drilled exploratory boreholes at next "Safe Haven".	Initiated polymer test.	Not Yet Available

(1) Measured by milestone-based payments to contractors at the end of the month. Excludes payment considerations related to conditional change order (see below for further discussion of the conditional change order).

East Tunnel construction activities since June 30, 2009 are shown in Table 4.

Table 4: East Tunnel Activities Since June 30, 2009

Month	Partial List of Construction Activity	Construction Percent Complete (1)
July	Finished installing 27-inch pipe and fiber optic cables. Completed mock-up joint test for the 84-inch pipe.	86%
August	Removed rail line, Began installation of 84-inch pipe	88%
September	Continued installation of 84-inch pipe. Begin preparing for grout installation.	90%
October	Completed installation of 84-inch pipe. Continued preparing for grout installation.	92%
November	Began grout installation.	93%
December	Continued grout installation.	Not Yet Available

(1) Measured by milestone-based payments to contractors at the end of the month.

Influent Pump Station construction activities since June 30, 2009 are shown in Table 5.

Table 5: Influent Pump Station Activities Since June 30, 2009

Month	Partial List of Construction Activity	Construction Percent Complete (1)
July	Completed excavations for the Generator Building and the Underground Storage Tank foundations. Concrete placement in the Lower Pump Room of the IPS.	17%
August	Continued Underground Storage Tank installation; placed concrete for the Wet Well invert and Lower Pump Room of the IPS. Installed embedded conduit for the Generator Building.	18%
September	Formed footings for Generator Building; placed concrete in the Lower Pump Room; Continued installation of 108-inch pipe connecting the Wet Well and Influent Structure.	19%
October	Began construction of Influent Structure, reflecting revised design. Completed footing installation of Generator Building. Completed supply and foul air pipe from IS to the IPS.	21%
November	Continued concrete placement in IPS, IS, and Generator Building.	23%
December	Continued concrete placement in IPS, IS, and Generator Building. Flow splitter constructed in IS.	Not Yet Available

(1) Measured by milestone-based payments to contractors at the end of the month.

Earlier this year, WTD asked the IPS contractor to prepare a change order related to the revised Influent Structure (IS) design. The contractor presented this change order, along with a revised construction schedule, to WTD on November 2. WTD and the IPS contractor are currently negotiating the change order and schedule. These negotiations are intended to result in an executed change order and approved revised schedule and the negotiations are likely to take a few months.

Treatment Plant

A partial list of liquids construction activities since June 30, 2009 is shown in Table 6.

Table 6: Liquids Contract Activities Since June 30, 2009

Month	Partial List of Construction Activity	Construction Percent Complete (1)
July	Concrete placement for Membrane Bioreactor Tanks. Continued installation of cable tray, ductwork, piping, and coatings in the main gallery. Continued installing site-cast concrete panels. Continued installation of membrane effluent piping.	63%
August	Concrete placement for the Membrane Building. Continued installation of cable tray, ductwork, piping, and coatings in the main gallery. Completed installing site-cast concrete panels. Continued installation of membrane effluent piping.	65%

Month	Partial List of Construction Activity	Construction Percent Complete (1)
September	Continued headworks piping and equipment installation. Continued water testing of primary clarifiers and membrane tanks. Continued concrete placement and site-cast concrete panels for the Membrane Building. Continued installation of facilities in the main gallery. Formwork and excavation began for the EECC building.	67%
October	Completed water testing of primary clarifiers and grit tanks. Electrical room Motor Control Center installation continues. Process piping installation continues. Instrumentation cable installation begins. Structural steel, canopy steel, and metal decking installation.	69%
November	Water testing of headworks channels, grit tanks, and primary clarifiers. Continued pipe and equipment installation in the pipe galleries. Motor Control Center installation continues. Additional mechanical and electrical installation in the aeration building. Metal roof deck installed in the membrane building. Concrete pouring on the EECC building.	71%
Dec/Jan	Continued installation of mechanical equipment and electrical cable. Installing architectural finishes such as glazing, doors, and hardware. Primary clarifier effluent launders are being shipped. Ongoing roofing activities.	Not Yet Available

(1) Measured by milestone-based payments to contractors at the end of the month.

A partial list of Solids/Odor Control construction activities since June 30, 2009 is shown in Table 7.

Table 7: Solids/Odor Control Contract Activities Since June 30, 2009

Month	Partial List of Construction Activity	Construction Percent Complete (1)
July	Forming, rebar installation and concrete placement for various buildings. Completed post-tensioning Digester 1.	37%
August	Concrete placement for Digester 2 roof slab; formed Digester 1 roof slab; Continued concrete, piping, and electrical work for all three Odor Control Buildings; Continued Solids Building structural steel, metal deck, and CMU masonry construction. Continued equipment installation in the Solids gallery and Chemical Building.	41%
September	Continuation of work described above. Equipment deliveries included centrifuges, firetube boilers, chemical tanks and classifying conveyors.	47%
October	Continued construction of elevated walls, structural steel and masonry walls in solids building; Continued electrical and pipe installation. Installation of classifying conveyors, mixers, centrifuges, and some chemical storage tanks. Continued concrete, mechanical and electrical work in the primary and secondary odor control facilities.	52%
November	Concrete placement in Digester 1. Gas dome liner placed in Digester 2. Hydrottested Digester 3. Solids building structural steel placement, HVAC equipment and duct installation. Equipment installation, including centrifuges. HVAC ducts in Energy Building.	57%

Month	Partial List of Construction Activity	Construction Percent Complete (1)
Dec/Jan	Headworks/primary odor control building underground pipe installation and site work. Continued concrete placement: digester building, solids building; Mechanical work in solids building, energy building, and the main gallery. Pulling electrical cable.	Not Yet Available

(1) Measured by milestone-based payments to contractors at the end of the month.

Startup Planning

WTD reports the following status of startup planning activities:

- WTD is analyzing treatment plant startup alternatives in light of the revised Influent Structure redesign and conveyance system delays. Part of this work is related to the Council's budget proviso regarding evaluations of operating costs. OMC and the Auditor's Office are working with WTD to complete the evaluations required by the budget proviso.
- A revised startup plan is due in February 2010.
- Ongoing progress on obtaining O&M staffing is on schedule and training is underway.
- Work on the Brightwater Electronic Operations Manual continues to be on schedule and is over 60 percent complete.
- Continued progress on receipt of contractor submittals.
- WTD is building a master instrumentation and control schedule for each process control component. This schedule can only be developed after contractor submittals are received and approved. These submittals are ongoing.

WTD reports that the amount of O&M staff participation in startup planning is increasing. OMC remains of the opinion that WTD's startup planning activities are proactive and continue to progress well.

ANALYSIS AND FINDINGS

Cost

WTD's most recent cost estimate was included in its *2009 Trend Report*, and the most recent Quarterly Report contains our review and cost estimate. Table 8, unchanged from our previous Quarterly Report, shows previous baseline estimates, WTD's *2009 Trend Report* Estimate, and OMC's estimate based on the OMC review of WTD's *2009 Trend Report*.

Table 8: Estimated Project Costs (nominal \$million)

	WTD 2004 Baseline		WTD 2009 Trend	OMC Estimate Based on
	3% Infl.	5% Infl.		Review of 2009 Trend
Conveyance	\$1,021	\$1,106	\$921 - \$955	\$929 - \$967
Treatment Plant	\$640	\$684	\$879 - \$890	\$892 - \$907
Total	\$1,660	\$1,790	\$1,800 - \$1,844	\$1,821 - \$1,874

Note: Totals may not add up due to rounding to nearest \$1 million. Table prepared for Quarterly Report published on May 15, 2009.

The range reported by WTD in its *2009 Trend Report* is primarily due to uncertainty regarding receipt of a \$41 million sales tax exemption related to materials & equipment associated with the manufacturing of reclaimed water and biosolids (M&E exemption). WTD states that the low end of this range represents the most probable outcome based on current assumptions and known uncertainties.

OMC's most recent update, based on May 2009 review of WTD's *2009 Trend Report*, is a range of \$1,821 million to \$1,874 million. The primary reasons for this difference were that (1) the OMC believed it is appropriate, for budgeting purposes, to consider the possibility that the M&E exemption will not be approved (or will be available but at some amount less than WTD's estimate), and (2) the OMC believed that WTD's project contingencies are low. Given project developments since May 2009, OMC believes its most recent cost estimate range remains appropriate.

WTD, along with its legal counsel are preparing for discussions with the State Department of Revenue. WTD anticipates resolution of the M&E exemption in late 2010.

Remaining Buyout Savings Total \$5.9 Million

As of December 31, 2009, the remaining buyout savings were approximately \$5.9 million. Of this amount, approximately \$3.8 million is associated with the Environmental Education and Community Center (EECC) and the site Landscaping buyout that occurred between January and July 2009. The EECC and Landscaping are mitigation projects, and the mitigation budget for the entire Brightwater Treatment System is fixed. As a result, any reduced cost of the EECC and Landscaping resulting from favorable buyout will be offset by an increase in mitigation spending for additional mitigation facilities.

Therefore, while the amount of buyout savings (and therefore the amount returned to the county) may be as high as \$5.9 million, the amount of savings to the project is considerably less (up to approximately \$2.1 million²). The maximum amount of Buyout Savings that can be returned to the county (net of the cost of increased mitigation scope) is approximately \$23.0 million (\$20.9 that has been returned plus a potential for up to

² \$2.1 million equals buyout savings as of 12/31/09 of \$5.9M less \$3.8M associated with mitigation.

\$2.1 million more). Future use of buyout savings would lower this amount. WTD, in its *2009 Trend Report*, assumed that approximately \$24.9 million would be returned. This difference would need to be covered by WTD's contingencies and should be reflected in any updated cost estimates that WTD prepares.

Change Order Status

The most recent claim and change order data is from WTD's November 30, 2009, construction reports, and is as follows:

- Conveyance construction is approximately 73 percent complete, measured as percent of contract value earned by construction contractors, while excluding the Conditional Change Order on the Central Tunnel (described below), executed Conveyance change orders are approximately 28 percent of WTD's conveyance construction contingency. Including pending (costs negotiated but not executed) and current projections of known potential (costs not yet negotiated) change orders could increase this to a maximum of about 107 percent.
- In July, WTD and the Central Tunnel contractor executed a conditional change order for approximately \$17.8 million. In the third quarter, the date of this Change Order was extended from September 30, 2009 to December 31, 2009, but the maximum amount of the change order was not changed. The ultimate responsibility for payment will be decided later. If it is determined that the contractor is entitled to recover less than what is paid under the Conditional Change Order, the contract price will be adjusted by a deductive change order. As of mid-November, WTD reports that the Central Tunnel contractor has submitted requests for approximately \$10 million of the conditional change order amount.
- Treatment Plant construction progress is approximately 64 percent complete, measured as percent of contract value earned by construction contractors, while executed Treatment Plant change orders are approximately 20 percent of WTD's construction contingency. Including pending and estimates of potential change orders could increase this up to a maximum of about 26 percent.

Table 9 summarizes, for each of the major construction contracts, construction progress described by payments to contractors, the amount of executed change orders, and change orders as a percent of amount paid to the contractor. Table 9 excludes the Central Tunnel Conditional change order because ultimate payment responsibility has not yet been determined.

Table 9: Construction Progress and Change Order Summary by Contract

Major Construction Contract	Original Contract Value, \$M (1)	Amount Paid to Contractor \$M, (2,3)	Percent Construction Complete (2,3)	Executed Change Orders (3, 4)		Executed, Pending, And Requested Change Orders (3, 4)	
				\$M	% of Paid	\$M	% of Paid
Marine Outfall	\$27.6	\$29.6	99%	\$2.2	7%	\$2.2	7%
West Tunnel	\$102.5	\$88.2	81%	\$6.3	7%	\$10.4	12%
Central Tunnel	\$211.1	\$159.3	74%	\$3.5	2%	\$44.7	28%
East Tunnel	\$130.8	\$125.8	92%	\$5.2	4%	\$11.5	9%
IPS	\$91.9	\$22.4	23%	\$4.3	19%	\$13.5	60%
Liquids Stream	\$299.6	\$215.5	71%	\$3.9	2%	\$5.0	2%
Solids Stream	\$166.5	\$96.7	57%	\$2.0	2%	\$2.6	3%

(1) Includes comparatively small amounts of non-Brightwater facilities in the Central and West Tunnels and therefore will differ slightly from costs in WTD's 2009 Trend Report. For the Liquids Stream, it represents the the Guaranteed Construction cost including North Mitigation Area, Site Work, Liquids, EECC, and Landscaping, less buyout savings returned to the County.

(2) Measured by Milestone-Based Payments to Contractors. Amount paid divided by sum of original contract value plus executed change orders. Central Tunnel paid to date includes amounts paid under the Conditional Change Order 13, and the ultimate payment responsibility has yet to be determined.

(3) As of November 30, 2009.

(4) Excludes \$17,732,000 conditional change order with Central Tunnel contractor.

Table 9 indicates that executed change orders, as a percent of the amount paid to contractors, are generally within industry norms. An exception is the IPS, where there have been comparatively high amounts of change order activity given the progress to date. The IPS project has a high percentage of executed, pending and requested change orders due in part to impacts from the East Tunnel and Central Tunnel contracts.

As compared with the last Quarterly Report, the amount of executed change orders as a percent of the amount paid to contractors is relatively unchanged, but the estimated dollar amount in pending and requested change orders has increased. The Central Tunnel conditional change order is not included in the total amount of executed, pending, or requested change orders. This increase is most pronounced for the IPS.

There continues to be a comparatively high dollar amount of change order requests that have been submitted by contractors and these requests are at various points in WTD's evaluation and negotiation process.

The more significant of these potential change orders are briefly described as follows:

- West Tunnel - related to the late delivery of the TBM;
- Central Tunnel - related to slower than anticipated mining progress;
- East Tunnel - several items related to tunnel construction; and
- Influent Pump Station - related to the slower than anticipated Central Tunnel mining progress and its impact on the IPS construction schedule.

Figure 2 summarizes, for the entire project, the current dollar amount of executed change orders, pending change orders, change orders awaiting the contractor's

proposal, client requested change orders, contractor requested change orders, and claims and appeals.

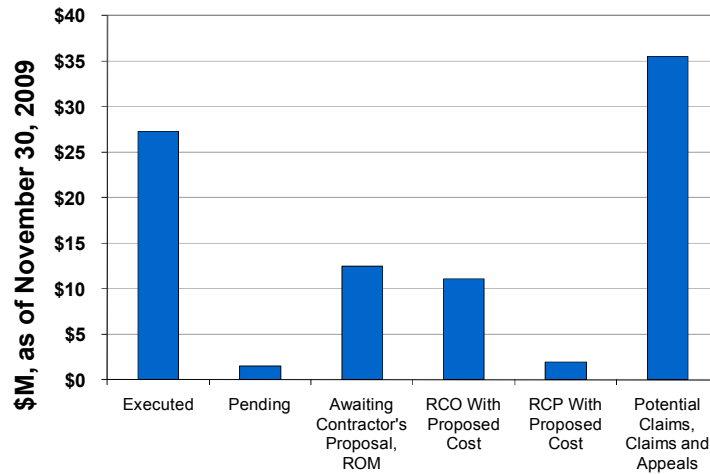


Figure 2: Total Executed, Pending, and Other Potential Change Orders

Figure 3 shows the number of unresolved change items³ on a quarterly basis from July 2008 through September 2009. A previously observed decrease between April and July 2009 corresponds to WTD’s report of added resources. The number of unresolved change items has increased since July 2009 primarily due to new RCOs and RCPs for the IPS and Solids contracts.

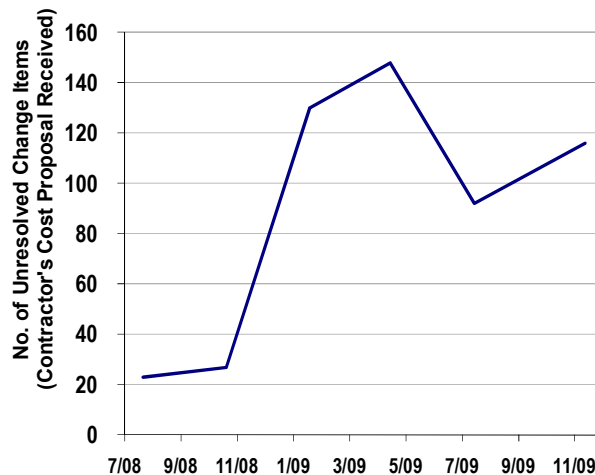


Figure 3. Number of Unresolved Change Items

³ Change item refers to contractor-initiated requests for change orders and owner-initiated requested cost proposals that have yet not been negotiated into a change order.

Contingency Review

In its *2009 Trend Report*, WTD reported total construction and project contingencies, combined of approximately \$94.6 million. OMC's *2009 Trend Report* review stated that construction contingencies were generally thought to be reasonable, but the project contingencies⁴ were thought to be low. WTD's project contingencies for the Conveyance system and the Treatment Plant, combined, were \$4 million, and OMC recommended a range of \$20 to \$32 million.

Between December 31, 2008 and November 30, 2009, approximately \$13.0 million of WTD's contingencies has been used for executed and pending change orders and use of the MACC contingency on the treatment plant liquids contract. This total excludes the \$17.7 million Central Tunnel Conditional Change Order 13 because ultimate payment responsibility has not yet been determined. As of November 30, 2009, the total remaining contingency, excluding the Central Tunnel Conditional Change Order, is approximately \$81.3 million. Any payments from WTD to the Central Tunnel contractor under this change order, if ultimate payment responsibility is WTD's, would reduce this number.

OMC continues to believe that its conclusions regarding contingencies made during its review of the *2009 Trend Report* review are still appropriate.

Schedule

Treatment Plant Remains on Schedule

The schedule for hydraulic completion of the Treatment Plant has not changed substantially within the last six months. As of September 30, 2009 substantial completion is projected to be February 21, 2011 and February 23, 2011 for the liquids and solids contracts, respectively. The liquids date is unchanged from the previous quarter and the solids date is two days later.

BT-2 Completion Schedule is Not Knowable at This Time

Although developments in the past quarter have provided some clarity regarding the BT-2 schedule, it is not possible to reliably predict when BT-2 will be completed.

Looking ahead, WTD is projecting based on the Contractor's schedule that the TBM repairs would be complete and mining would resume by January 2010. Beyond that, the completion of mining would depend on how fast mining proceeds, and whether additional maintenance stops are required.

The Central Tunnel contractor is working to develop a "Safe Haven" – a location where additional TBM repairs could take place if needed. WTD is not involved with the permitting or planning for this Safe Haven. A Safe Haven would allow the contractor to drill additional dewatering wells to reduce the TBM face pressure, thereby reducing the required time to complete TBM maintenance. The Contractor would be responsible for

⁴ Project contingencies are intended to cover non-construction risks, including engineering and construction management.

obtaining any necessary easements and permits. The need for any maintenance at this Save Haven would be determined after mining resumes.

Table 10 illustrates ranges of projected BT-2 mining completion dates. These ranges are developed for illustrative purposes and do not reflect projections made by WTD, the Contractor, or OMC. OMC believes that it is not reasonable to assume mining would end before May 2010. Finishing mining by May 2010 would require mining to resume in February 2010, mining production for the duration of mining at the rate equal to the original planned production rate, and no additional extended maintenance stops.

If, after mining resumes, mining were to proceed at half the original planned production rate, mining would be completed in September 2010. If the current TBM repairs take longer than currently shown in the Contractor's schedule, future mining is slower than originally planned, and an additional three-month maintenance stop is required, then mining would be complete in January 2011.

Table 10: Summary of Ranges of Projected BT-2 Mining Completion Dates

Future Progress for Purposes of Illustrating Schedule Impacts (1)	Projected End of Mining	Notes
September 2009 Schedule Report: <ul style="list-style-type: none"> • BT2 mining resumes Dec 2009 • BT2 mining finishes 4/30/10 • Mining progress of 210 LF/week is implied • Does not appear that future maintenance stop at Safe Haven is built into schedule 	April 30, 2010	WTD's schedule report incorporates schedule information provided by Contractor and is not intended to represent WTD's prediction of the most likely outcome. WTD has since acknowledged that they don't expect mining to resume until February 2010
Mining resumes in February 2010 and proceeds at original planned rate of ~258 LF/week; no extended maintenance stop at Safe Haven	Late May 2010	May represent the soonest expectation of mining completion, though not likely.
Mining resumes in February 2010 and proceeds at half the original planned rate; no extended maintenance stop at Safe Haven	Early September 2010	
Mining resumes in March 2010 and proceeds at half the original planned rate; 3 month extended maintenance stop at Safe Haven	Early January 2011	

(1) For illustrative purposes only. Does not represent an OMC prediction that any of these tasks and durations are considered likely.

The September 2009 construction report, which is based on a schedule submitted by the Contractor, projects BT-2 mining to be complete on April 30, 2010. OMC believes that meeting this deadline is possible, but represents the soonest reasonable date of completion. There is a strong possibility that this schedule may slip. However, it is not expected that the BT-2 construction will be the critical path for discharge of treated wastewater through the Marine Outfall.

Subsequent tasks after mining is complete include TBM retrieval and piping installation in BT-2. These tasks are anticipated to require approximately 16 months.

BT-3 Completion Schedule is Not Knowable at This Time

The BT-3 completion schedule is also not knowable at this time, and the BT-3 schedule uncertainty timetable is greater than that associated with BT-2. The contractor is preparing to initiate the 300 lineal feet of mining that will bring the TBM to the maintenance location. Factors that will determine the mining completion date include:

- Duration of TBM repairs.
- Mining production rate after mining resumes.
- The number, if any, of future maintenance stops.
- The contractor's strategy for reducing TBM face pressure during any subsequent maintenance stops.
- Associated with any subsequent maintenance stops, the ability to obtain any necessary permits and construct any necessary facilities (should the contractor decide they are necessary) in advance of the TBM reaching the maintenance stop location.

The September 2009 schedule assumes mining will resume in early May 2010 and be complete in early November 2010. Subsequent activities include TBM retrieval, BT-3 pipe installation and tunnel lining, North Kenmore Portal construction, and post construction activities. Combined, these activities (as projected in the September 2009 construction report) are projected to take approximately 16 months, and the Central Tunnel substantial completion would occur in December 2011.

With approximately 10,000 LF left to mine, a mining duration of 6 months (as indicated in the September 2009 schedule) implies a production rate of nearly 400 LF per week. OMC believes that it is possible that the mining completion date of November 2010 will slip because past mining production has been significantly less than the approximate 400 LF/week required to meet the schedule.

Other Notes Regarding Key Construction Contracts

WTD maintains a master schedule that is based in large part on schedule information received from the various construction contractors. This schedule is summarized in WTD's monthly schedule reports.

The contract milestone for substantial completion of the liquids contract is February 21, 2011. As of September 30, 2009, the contractor projects 26 days of float in this schedule. The critical path in the liquids contract is certain aspects of the membrane bio-reactor building.

The contract milestone for substantial completion of the solids contract is February 23, 2011. As of September 31, 2009, the solids contractor projects 8 days of float in this schedule. The critical path in the solids contract is through the construction of the solids handling building and odor control final operational testing and training.

The IPS Contractor's October 30, 2009 submittal of a Requested Change Order (RCO) associated with the IS redesign contained a proposed schedule. WTD and the contractor are currently negotiating this RCO submittal and additional schedule information will be available once negotiations are complete.

MAJOR RISK ISSUES

Looking forward, major conveyance cost and schedule risk issues include:

- After BT-2 and BT-3 mining resumes, additional BT-2 and BT-3 TBM repairs may be required that could result in additional extensive down time.
- BT-3 TBM repairs are not yet initiated. The ability to successfully dewater at the proposed maintenance stop location has not been confirmed.
- After it resumes, BT-3 mining enters what WTD considers the most challenging soil conditions of the entire project, with high water pressures and 900 lineal feet of squeezing soils.
- BT-2 TBM repairs could take longer than anticipated to complete.
- BT-4 is mining through the areas of high water pressure, which is considered a more difficult mining environment. BT-4's continued good progress is making this risk less likely.
- Other unforeseen tunneling conditions and delay risks remain possible.
- There continues to be a substantial risk of a disagreement between the Central Tunnel contractor and WTD over responsibility for the significantly higher costs on the Central Tunnel.

Major treatment plant cost and schedule risk issues include:

- Coordination and integration of work under three different prime contractors at the Treatment Plant site. This ongoing issue to date has not resulted in schedule slippage or increased cost to WTD.
- Delivery of equipment, completion of instrumentation and control (I&C) activities, and treatment plant startup. These risks are common to all wastewater treatment plant projects and WTD has been proactive in addressing any potential issues that have arisen to date.

Last quarter, OMC reported an emerging risk related to delays in receiving instrumentation and control (I&C) submittals for the liquids and solids contracts. This issue is being resolved, and the risk of schedule slippage resulting from delayed I&C submittals has decreased.

PROGRESS ON PREVIOUS OMC RECOMMENDATIONS

Table 11: Progress on Previous OMC Recommendations

OMC Recommendations ⁵	WTD Follow-up	Additional OMC Follow-up
<i>From Previous OMC Quarterly Reports</i>		
<p>WTD should make additional change order documentation available to the OMC per existing communication protocols. Documentation should show how change orders and issues likely to become change orders are categorized and should compare the contractor's original requested change order amount versus negotiated amount once change orders are executed [4/8/09 Report on Quarter ending December 31, 2008]</p> <p>In order to continue to be aggressive in controlling project costs, WTD should make strategic investments to enhance efforts to address cost and schedule risks. These investments should include earlier use of available staff and consultant resources, to ensure WTD's risk assessments are more comprehensive, more quantitative, and completed earlier. [5/15/09 Report on Quarter ending March 31, 2009]</p>	<ul style="list-style-type: none"> • WTD has provided description of how change items are currently evaluated and processed. • WTD has provided change order records broken out into categories such as contractor initiated changes, design changes, differing site conditions, and owner requested changes. <ul style="list-style-type: none"> ▪ OMC and WTD met in August 2009 to discuss specific items related to this recommendation. WTD has compiled and provided documentation for many of the items discussed in August 2009. The information provided by WTD helped OMC formulate its recommendations in the quarterly report published on September 17, 2009. Earlier in 2009, WTD began providing weekly treatment plant and conveyance risk register updates to the OMC in response to the earlier recommendations. 	<ul style="list-style-type: none"> ▪ Underway. This item seen by OMC as lower priority than recommendations made in subsequent quarterly reports. OMC met with WTD in November 2009 and all requested documentation of WTD procedures was provided. OMC maintains comparison of original amount vs. negotiated amount. ▪ Actions have provided improved access for OMC to assess WTD's resource use and risk assessments. On-going monitoring of new risk reporting efforts completed by risk, including project-specific risk registers. OMC will monitor future risk assessments and requests advance knowledge of issue-specific risk assessments currently under development by WTD. ▪ OMC continues to believe that WTD's risk assessments should be more comprehensive, more quantitative, and completed earlier; although, OMC also recognizes that WTD's risk assessments are ongoing efforts that are not easily packaged for the purposes of oversight review.

⁵ Certain recommendations from previous OMC Quarterly Reports have been deleted from this table if the recommendation has been fully implemented, if the issue fully addressed, or if the recommendation closely matches a recommendation in a subsequent OMC Quarterly Report.

OMC Recommendations ⁵

WTD Follow-up

Additional OMC Follow-up

From OMC Quarterly Report for Period Ending June 30, 2009 [Publish date 9/17/09]

We recommended that WTD base its staffing resource planning on the assumption that some significant construction problems will arise.

With respect to the Central Tunnel, WTD should “plan for the worst” and its planning should be more aggressive. This should include (1) dedicating a minimum of one full time staff person from WTD to work directly with the Prosecutor’s Office on this issue well in advance of 11/30/09 deadline for receipt of the Contractor’s conditional change order documentation; (2) immediately develop a succession plan to backfill this staff person’s regular project responsibilities.

WTD should provide an opinion to the Council regarding the current most probable outcome and whether it differs from the \$1.800 billion estimate in the 2009 *Trend Report*. This should be done after receipt of updated schedule information from the IPS contractor and should be provided to Council within 30 days thereafter.

WTD should continue its efforts to reduce its unresolved change order backlog.

- WTD has the ability to re-assign senior staff coming off of East Tunnel and West Tunnel projects to Central Tunnel project. This action is under consideration.
- Two attorneys from the Prosecutor’s have been assigned to work on Brightwater, though they are not dedicated full time to support preparation for a Central Tunnel dispute. Outside legal resources support the Prosecutors Office.
- WTD reports that a highly skilled, practiced and experienced senior project manager has been added to the team to replace departed staff, to assist the project to further limit risks associated with the ongoing issues, and to manage potentially new project complications. Additional experts have been hired to provide technical support.
- No dedicated staff from WTD have been added or are planned to be added.
- A succession plan has been provided to OMC.
- WTD believes that additional information will available in early 2010 regarding potential schedule and cost impacts of delayed Central Tunnel construction. This information will be provided to Council in advance of the 2010 Trend Report.
- WTD’s change order administration processes are well defined and WTD reports they are based on industry best practices. WTD has provided explanation of apparent reasons for ongoing unresolved change orders at IPS and West Tunnel.

- OMC still believes WTD has been too optimistic in its approach to resource planning and deployment. OMC is not aware of any significant WTD staffing changes.
- OMC still believes that dedicated full-time WTD staff resources should be made available to the Prosecutor’s Office and that planning should be more aggressive.
- No follow-up needed on succession plan issues.
- OMC still believes WTD should report to Council regarding the magnitude of the budget risks for the Brightwater Program well in advance of the 2010 Trend Report. We believe that additional communication to Council prior to issuance of the 2010 Trend Report would be beneficial even if the information provided is qualitative.
- OMC to await receipt of updated information and provide review comments.
- OMC will continue to monitor progress on change order administration. OMC met with WTD staff in November 2009 and obtained more detailed documentation of WTD’s established construction and contract management procedures.

Table 12: Follow-up on Additional Issues

Additional Issues	WTD Follow-up	Additional OMC Follow-up
Systems Integration, startup/commissioning planning	<ul style="list-style-type: none"> ▪ Draft startup plan issued March 2009. Startup planning is ongoing, including revisions in response to IS redesign. 	<ul style="list-style-type: none"> ▪ Continue monitoring; await incorporation of IS redesign into startup planning activities.
Key Performance Indicators: Safety	<ul style="list-style-type: none"> ▪ WTD reports ongoing discussions with contractors regarding safety and worker training. 	<ul style="list-style-type: none"> ▪ Continue monitoring

CONCLUSIONS AND NEW OMC RECOMMENDATIONS

Many Project Components Continue To Go Well

Construction of schedule and anticipated end-of-job change order amounts are within reasonable industry levels. The Treatment Plant schedule is virtually unchanged from the previous quarter and schedule risk is, in the OMC’s opinion, lower than it was as of June 30, 2009. East Tunnel pipe installation is complete and concrete backfill is underway. West Tunnel mining continues to progress well.

Treatment Plant Remains On Schedule for August 2011 Startup

Construction on the liquids and solids phases has remained on schedule for August 2011 startup of the treatment plant with discharge to the existing King County conveyance system and subsequent treatment at the West Point and/or South wastewater treatment plants.

Conveyance Schedule is Not Knowable

In the past quarter, there has been progress in completing the cutterhead rim maintenance on the two Central Tunnel TBMs. Even so, there is sufficient uncertainty regarding the rate of future mining that prevents OMC from estimating the date at which the Central Tunnel will be complete and Brightwater effluent will be able to discharge through the Marine Outfall. Progress in the next quarter may be sufficient to estimate this date, but it is not certain.

WTD’s Next Cost Estimate Will Likely Be in April or May 2010

In our previous Quarterly Report, we recommended that WTD provide an updated cost estimate to the County Council after revised schedule information is available from the IPS contractor. WTD believes that additional information will be available in early 2010 regarding potential schedule and cost impacts of delayed Central Tunnel construction. This information will be provided to Council in advance of the 2010 Trend Report. OMC believes that the information reported to Council should include the magnitude of the budget risks for the Brightwater Program, even if the information provided is qualitative.

OMC Continues to Believe WTD has been too Optimistic in its Approach to Resource Planning and Deployment

In our previous Quarterly Report, we recommended that WTD base its staffing resource planning on the assumption that some significant construction problems will arise. This recommendation was made because we felt that at times, WTD's delayed deployment of resources to manage potential major construction contract deviations appears to be based on overly optimistic assumptions of favorable outcomes for items such as WTD staff needs and contingency usage. WTD has stated that this recommendation is under consideration. OMC is not aware of any significant WTD staffing changes.

New Recommendation

OMC offers two new recommendations this quarter. Our new recommendations do not directly address WTD's management of the Brightwater project, but rather its communication of project status to the County Council. Their intent is to ensure timely and complete project information is provided to policymakers.

- In the transmittal of its Monthly Project Reports to council, OMC recommends that WTD acknowledge the approximately six-week interval between the date covered by the report and the date the report is presented, and include current information related to major project milestones and developments.
- In its communication to the County Council and the OMC, WTD should more comprehensively and quantitatively assess the level of contingencies. This assessment should be more rigorous than what has been previously provided.