

# Monthly Project Report

December 2009



Areal View of the Brightwater Treatment Plant Site looking Northeast



**King County**

Department of  
Natural Resources and Parks  
**Wastewater Treatment Division**



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## Brightwater Project Performance Measures for December 2009

Measure	Target	Actual (2009)	Comments
<b>Environmental Compliance</b>			
Number of consecutive days without a notice of violation	365 <sup>a</sup>	360	A Notice was issued on January 5, 2009 by the King County Industrial Waste Program for non-compliance with discharge standard to the sanitary sewer at the East Contract Treatment Plant Portal.
<b>Safety - WTD Brightwater Staff</b>			
Number of lost time accidents King County – WTD Brightwater Staff	0	0	
<b>Safety - Construction Safety Compliance</b>			
Number of consecutive days without a notice or citation for construction safety non-compliance DLI-WISHA, OSHA, MSHA, and Fire Depts.	365	365	
<b>Safety - Contractors &amp; Consultants</b>			
Number of <u>lost time</u> accidents - December <b>Hoffman = 0</b> <b>Kiewit, TP = 0</b> <b>KST = 0</b> <b>VPFK = 0</b> <b>JCT = 0</b> <b>Kiewit, Conveyance = 0</b> <b>Jacobs Civil = 0</b>	0	7 YTD	OSHA <u>recordable</u> accidents reported for December 2009 by all contractors: Hoffman = 0 for December & 11 YTD. Kiewit, TP = 0 for December & 5 YTD. KST JV = 0 for December & 1 YTD. VPFK JV = 0 for December & 4 YTD JCT JV = 0 for December & 7 YTD. Kiewit, Convey. = 0 for December & 0 YTD. Jacobs Civil = 0 for December & 0 YTD.
<b>Financial</b>			
Annual accomplishment rate	95%	79.9%	Calculated as actual spent year to date as a percentage of total planned for the year.
<b>Customers</b>			
Complaints responded to within 24 hours of receipt during the current month.	100%	100%	There were 9 complaints about construction activities at Brightwater sites. All were responded to within 24 hours.
<b>Job Growth – Apprentice Utilization</b>			<b>Project(s) Start Date(s) through 12/31/09</b>
<b><u>Treatment Plant</u></b>			
Hours worked by apprentices/total labor hours (December 2009 – 18.91%)	15%	15.99%	Treatment Plant percentages now include Hoffman and Kiewit/Pacific.
Hours worked by women and minority apprentices/total apprenticeship hours	33%	29.14%	
<b><u>Conveyance System</u></b>			
Hours worked by apprentices/total labor hours (December 2009 – 10.60%)	15%	12.86%	Monthly apprenticeship utilization is increasing as addition scopes of work are being added.  Percentages of apprenticeship utilization are from the start dates of the projects.
Hours worked by women and minority apprentices/total apprenticeship hours	33%	44.53%	
<sup>a</sup> Starts January 1. Each time a violation occurs the "clock" restarts and begins counting again.			



# Brightwater Project Summary

## Project Description

King County is building a new wastewater system, called Brightwater, which is scheduled for completion in 2011. The Brightwater system will include a treatment plant to provide secondary treatment of wastewater, tunnels and a pump station to carry wastewater, treated effluent and reclaimed water, and a marine outfall discharging to Puget Sound. The project also includes extensive odor control facilities, habitat enhancement, and open space for the public. The Regional Wastewater Services Plan (RWSP) outlines the need for the Brightwater system to provide necessary capacity to meet wastewater demand and comply with federal and state regulations in the years ahead.

## Project Highlights

### Conveyance System

#### East Tunnel

- Grouting subcontractor MixOnSite continued to work on backfilling the tunnel. Approximately 23% of the BT-1 tunnel has been backfilled. The Contractor, Kenny/Shea/Traylor (KST), continued to place concrete in the East Thrust Restraint Zone and placed controlled-density fill (CDF) in the shaft to the springline of the 84-inch pipe.

#### Central Tunnel

- The BT-2 TBM remained under repair at Ring 1526 throughout December. The total tunnel length completed remains at just over 66%. The dewatering system at the Maywood Hills Elementary School was running all month. The Contractor, Vinci/Parsons RCI/Frontier-Kemper JV, gained access to the school property during the school's winter break to install two additional boreholes along the tunnel alignment. The drilling work was successfully completed within the agreed time frame. Cutterhead repairs continued throughout the month under approximately 1.3 bar of compressed air. The Contractor completed the installation of the main structural components under repair on December 30. A total of 108 working interventions were conducted during December.
- The BT-3 TBM insurer allowed the Contractor to proceed with moving the BT-3 TBM 330 feet to the dewatering zone at 53<sup>rd</sup> Avenue NE and NE 195<sup>th</sup>. On December 14<sup>th</sup>, the BT-3 TBM commenced mining using a test polymer slurry. The TBM encountered cobbles and small boulders as it progressed damaging 2 of the 4 ripper tools. Progress of the BT-3 TBM was halted from December 15<sup>th</sup> - 20<sup>th</sup>, to perform cutterhead interventions to replace the 2 ripper tools with disk cutters. A total of 29 rings were completed during the month, bringing the total number of rings to date to 1982. The total tunnel length completed is just over 49%. A total of 6 cutterhead interventions were carried out this month at 5.8 bar of pressure, using TRIMIX. The implementation of the dewatering plan continued during December with the installation of 5 of the 6 planned wells.

#### West Tunnel

- The Contractor made good progress during the reporting period, mining 1,345 ft. on the BT-4 tunnel; 19,286 ft. (92% of the total length) of this tunnel is complete. Fourteen barge loads (approximately 1,700 tons/each) of tunnel muck were transported in December. A total of 172 barges have been transported to the disposal facility to date. The Contractor continues to prepare for the hole-through of the BT-4 TBM at the Ballinger Way Shaft site in early 2010.

## Marine Outfall

- Triton completed the as-built drawings and O&M manuals for the outfall. In December work continued on the development of the RFP for the outfall survey and diffuser port uncapping. Both activities will occur just prior to startup of the treatment plant.

## Influent Pump Station

- During December, the Contractor (Kiewit Pacific, Inc.) continued work on forming and placement of the walls and columns between elevations 85' and 109' in the Influent Pump Station (IPS) shaft; welding and fit-up of the Raw Sewage (RS) piping in the Influent Structure (IS); and construction on the Generator Building foundation.

## **Treatment Plant**

### Solids/Odor Control Facilities

- Kiewit Pacific Company (KPC) continued with forming, rebar installation, and concrete work for the Digestion Complex, Solids Building and Odor Control Buildings. They placed the gas dome deck for Digester 1, and the Digester 2 parapet walls. Concrete, piping and electrical work continued on all three Odor Control Buildings, and underslab electrical and backfill work continued on the 590 – Aeration/Membrane Odor Control Building. Structural steel and metal deck installation continues on the Solids Building. Piping equipment and electrical installation also continues in the Solids building, the gallery, and the 790 Building. Roofing and coating work continue in several areas.

### Liquid Facilities

- Various subcontractors continued installation of equipment, cable tray, ductwork, piping, and coatings in all areas of the plant. Work on architectural finishes such as roofing, glazing, and door installation is ongoing.

## **Project Issues and Exceptions**

Completion of the BT-2 and BT-3 tunnels has been significantly delayed due to the need to conduct repairs to the machines at their current locations. To mitigate the impact of these delays on the treatment plant start up, the IPS Influent Structure was redesigned. This allows the build-out of the IS shaft and IPS/treatment plant system testing independent of BT-2 tunnel completion. A draft schedule has been incorporated into the monthly schedule updates and shows a significant recovery of time leading up to the start up of wastewater treatment. Based on discussions with the IPS Contractor, wastewater treatment is anticipated to begin no later than August 15, 2011. This compares to September 27, 2011, which was the projected start up as provided in the April 2009 report. The wastewater start up date will be more firmly established once the Contractor's final IS schedule is provided.

Based on this schedule, Brightwater construction management staff is developing alternatives for treatment plant commissioning with the objective of minimizing the schedule and cost impacts of the Central Tunnel delay. A Cost Model has been developed to facilitate prediction of operating costs based on varying flow conditions expected to occur during 2011 and 2012 prior to Central Tunnel completion. Results from the operating cost model will be used to evaluate operating costs associated with each alternative. A report on the alternatives is under development.

## **Looking Ahead**

### **Conveyance System**

- Tunnel construction and work to facilitate the hole-through of the BT-4 TBM into the Ballinger Way Shaft will continue on BT-4 (West) and backfill grouting will continue in BT-1 (East). The Central Contractor will continue to implement its TBM repair plans on both BT-2 and BT-3. The IPS Contractor will complete



the walls and columns between elevations 85' and 109' in the IPS shaft, the final liner crack repair in the Lower Pump Room, and concrete placement for the Generator Building foundation. Installation of the Raw Sewage (RS) pipe will continue in the IS. The Contractor will begin falsework for the beams and slab at elevation 109' in the IPS, and will place concrete for the Ogee Ramp in the IPS Wet Well. The Contractor also plans to test programming changes for integration of the new Brightwater flow management system at the Woodinville and Kenmore pump stations.

### Treatment Plant

- The Solids/Odor Control Facilities contractor, KPC, will continue to place concrete in the Digester building 300 level slab, and complete Digester 1 concrete work. They will continue mechanical work in the Digester and Solids galleries. Installation of structural steel and miscellaneous mechanical and electrical equipment will continue in the Solids Building. Backfilling continues around completed portions of structures on the site. Concrete work will continue on the 490 - Solids/Headworks Odor Control Building and the 590 – Aeration/Membrane Odor Control Building. Mechanical and electrical work continues on the Energy Building structures and Odor Control Buildings.
- The liquids contractor, HCC has completed tank leakage testing but continues to work on injection of cracks. Equipment installations will continue. Elcon and Valley Electric will continue placing cable in cable trays. Elcon continues to pull the main feeder cables from the Snohomish PUD Substation to the Aeration medium voltage switchgear. Concrete masonry unit (CMU) walls are being erected at the EECC building.

### Schedule

Figure 1 shows progress on the Brightwater project, by phase, for the treatment and conveyance components of the project. The projected hydraulic completion of the Brightwater system is May 18, 2011. The initial start up of wastewater treatment is projected for August 15, 2011.

**Figure 1: Phase Schedule for the Brightwater Project**

Phase	Start	Finish	2003				2004				2005				2006				2007				2008				2009				2010				2011				2012			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
<b>Planning</b>																																										
Treatment Plant	Jan-99	Jun-05	[Gantt bar spanning from 1Q 2003 to 3Q 2005]																																							
Conveyance	Jan-99	Nov-03	[Gantt bar spanning from 1Q 2003 to 4Q 2003]																																							
<b>Pre-design</b>																																										
Treatment Plant	Sep-02	Oct-04	[Gantt bar spanning from 4Q 2002 to 3Q 2004]																																							
Conveyance	Nov-02	Oct-04	[Gantt bar spanning from 4Q 2002 to 4Q 2003]																																							
<b>Final Design</b>																																										
Treatment Plant	Jul-04	Nov-06	[Gantt bar spanning from 3Q 2004 to 4Q 2006]																																							
Conveyance	Jul-04	Oct-06	[Gantt bar spanning from 3Q 2004 to 3Q 2006]																																							
<b>Implementation</b>																																										
Treatment Plant	Jun-06	Dec-11	[Gantt bar spanning from 2Q 2006 to 4Q 2011, with 'Start-up' label at Dec-11]																																							
Conveyance	Jan-06	Dec-11	[Gantt bar spanning from 1Q 2006 to 4Q 2011, with 'Start-up' label at Dec-11]																																							
<b>Closeout</b>																																										
Treatment Plant	Jun-09	Mar-12	[Gantt bar spanning from 2Q 2009 to 4Q 2011]																																							
Conveyance	Jun-08	Jul-12	[Gantt bar spanning from 2Q 2008 to 1Q 2012]																																							
<b>ROW Land Acq.</b>																																										
Treatment Plant	Jan-03	Apr-06	[Gantt bar spanning from 1Q 2003 to 1Q 2006]																																							
Conveyance	Jan-03	Dec-09	[Gantt bar spanning from 1Q 2003 to 4Q 2009]																																							

### System Wide Mitigation

- Construction continues on the Environmental Education/Community Center as scheduled.
- The Brightwater landscaping installation contractor has been planting the foreground landforms and will continue through the winter.

# Mitigation Spending

The Table 1 format has been revised to simplify presentation. The prior format included a column for Construction and one for Allied Costs with the results stated in 2005 dollars. These columns have been combined into one column entitled Lifetime Committed Nominal Dollars and all results stated in nominal dollars (including inflation). Since the majority of costs are established through agreements and construction contracts, and actual costs are measured in nominal dollars, this revision allows for a more accurate comparison.

**Table 1: Mitigation Spending for Brightwater Project**

Mitigation Element	Jurisdiction			Status
		Lifetime Committed Nominal Dollars	Cost To Date	
<b>Habitat</b>				
Plant Site North Mitigation Area	Snohomish County	\$ 8,639,212	\$ 8,639,212	Construction Complete.
Plant Site South Mitigation Area - Howell Creek	Snohomish County	\$ 607,226	\$ 69,277	100% design / 10% ESD/CM
Watershed Education (Fieldhouse Pavillion)	Snohomish County	\$ 107,600	\$ 106,574	Closed for now, possible re-open
Snohomish County Agreement	Snohomish County	\$ 10,800,000	\$ 10,800,000	100% Paid
<b>Subtotal</b>		<b>\$ 20,154,038</b>	<b>\$ 19,615,063</b>	
<b>Public Access</b>				
Richmond Beach Community Mitigation	City of Shoreline	\$ 750,000	\$ 750,000	100% Paid
Plant Site Boardwalks, Overlooks and Educational Signage	Snohomish County	\$ 991,458	\$ 113,114	100% design / 10% ESD/CM
Boardwalks, Overlooks and Educational Signage at North Creek Portal	City of Bothell	\$ 151,049	\$ 17,056	100% design / 10% ESD/CM
Education/Community Facility	Snohomish County	\$ 9,737,511	\$ 1,110,934	100% design / 10% ESD/CM
EECC Furniture/Management/Bid Alt	Snohomish County	\$ 546,036	\$ 54,400	100% design / 10% ESD/CM
<b>Subtotal</b>		<b>\$ 12,176,054</b>	<b>\$ 1,991,103</b>	
<b>Natural Stormwater Treatment</b>				
Plant Site Enhanced Natural Stormwater Treatment	Snohomish County	\$ 3,476,935	\$ 396,677	100% design / 10% ESD/CM
Enhanced Natural Stormwater Management	City of Kenmore	\$ 407,789	\$ 25,299	60% design / 0% ESD/CM
Enhanced Natural Stormwater Management	City of Shoreline	\$ 37,762	\$ 2,343	60% design / 0% ESD/CM
Natural Stormwater Treatment at North Creek Portal	City of Bothell	\$ 415,385	\$ 46,903	100% design / 10% ESD/CM
<b>Subtotal</b>		<b>\$ 4,337,871</b>	<b>\$ 471,222</b>	
<b>Traffic/Pedestrian Mitigation and Safety</b>				
Traffic Mitigation	City of Bothell	\$ 1,775,000	\$ 1,775,000	100% Paid
Plant Site Boulevard Entry	Snohomish County	\$ 30,173	\$ 3,153	100% design / 0% ESD/CM
City of Kenmore Agreement	City of Kenmore	\$ 500,000	\$ -	Awaiting Final Building Permit
Snohomish County Agreement	Snohomish County	\$ 25,850,000	\$ 25,850,000	100% Paid
Entry Improvements	Bothell Business Park	\$ 131,600	\$ 131,600	100% design / 100% ESD/CM
195th Street Intersection Improvements	City of Woodinville	\$ 500,000	\$ 500,000	100% Paid
Barge/rail Transport of Spoils	City of Shoreline	\$ 1,966,734	\$ 1,966,734	100% Paid
<b>Subtotal</b>		<b>\$ 30,753,507</b>	<b>\$ 30,226,487</b>	
<b>Noise/Light/Glare</b>				
Noise Mitigation	City of Bothell	\$ 188,300	\$ 188,300	Construction / 100% Complete
Noise Mitigation	City of Kenmore	\$ 204,000	\$ 204,000	Construction / 100% Complete
Noise Monitoring/Remediation	City of Shoreline	\$ 120,839	\$ 81,675	Construction / Landscape remains - 0% complete
<b>Subtotal</b>		<b>\$ 513,139</b>	<b>\$ 473,975</b>	
<b>Visual Screening</b>				
Plant Site Enhanced Landscaping	Snohomish County	\$ 11,242,730	\$ 1,177,654	100% design / 0% ESD/CM
Plant Site Architectural Finishes	Snohomish County	\$ 2,949,280	\$ 306,563	100% design / 0% ESD/CM
<b>Subtotal</b>		<b>\$ 14,192,010</b>	<b>\$ 1,484,216</b>	
<b>Community Mitigation</b>				
Job Retention	Snohomish County	\$ 1,890,000	\$ 1,749,300	
Community Mitigation; Infrastructure	City of Bothell	\$ 3,000,000	\$ 3,000,000	100% Paid
Staff Review	Multiple	\$ 130,000	\$ 41,002	
Additional Contingent Mitigation	Snohomish County			Not Required \$2.95M
<b>Subtotal</b>		<b>\$ 5,020,000</b>	<b>\$ 4,790,302</b>	
<b>Restoration and Monitoring at Outfall</b>				
Derelict Fishing Gear Mitigation	WA State DNR	\$ 25,000	\$ 25,000	100% Paid
Intertidal Monitoring	WA State DNR/UofW	\$ 80,894	\$ 30,894	
Eelgrass Replacement	WA Fish and Wildlife	\$ 700,000	\$ 258,668	Paid WDFW for loss of Crab (\$20K)
Tribal Fisheries Research and Enhancement	Muckleshoot, Squamish, and Tulalip Tribes	\$ 1,365,000	\$ 767,752	56% Paid
<b>Subtotal</b>		<b>\$ 2,170,894</b>	<b>\$ 1,082,314</b>	
<b>Groundwater</b>				
Monitoring	City of Bothell	\$ 175,000	\$ -	
Cross Valley Agreement	Cross Valley Water District	\$ 4,700,000	\$ 4,007,750	
Groundwater Supply Protection	Lake Forest Park Water District	\$ 4,122,640	\$ 3,149,024	Incl. \$300 monthly service charges through 12/09.
<b>Subtotal</b>		<b>\$ 8,997,640</b>	<b>\$ 7,156,774</b>	
<b>Active Recreation</b>				
Little Bear Creek Trail Overpass	City of Woodinville	\$ 1,400,000	\$ 1,400,000	100% Paid
Snohomish County Agreement	Snohomish County	\$ 30,400,000	\$ 30,400,000	100% Paid
<b>Subtotal</b>		<b>\$ 31,800,000</b>	<b>\$ 31,800,000</b>	
<b>Land Costs</b>				
Land Mitigation	Snohomish County	\$ 12,123,438	\$ 12,123,438	Purchase Complete
City of Kenmore Agreement	City of Kenmore	\$ 5,707,994	\$ 5,707,994	Purchase Complete
City of Shoreline Agreement	City of Shoreline	\$ 706,774	\$ 706,774	Purchase Complete
<b>Subtotal</b>		<b>\$ 18,538,206</b>	<b>\$ 18,538,206</b>	
<b>Total Committed Mitigation (Nominal \$)</b>		<b>\$ 148,653,359</b>	<b>\$ 117,629,661</b>	<b>79% Complete</b>

# Expenditure Summary

Table 2 shows a summary of annual and lifetime expenditures for the Brightwater project. This information is also depicted graphically in Figures 2 and 3 on the following page. This table reflects the inclusion of the *Brightwater Cost Update* Trend dated January 2009, and the annual cash flows submitted for the 2010 rate process.

**Table 2: Annual and Lifetime Expenditures for the Brightwater Project**

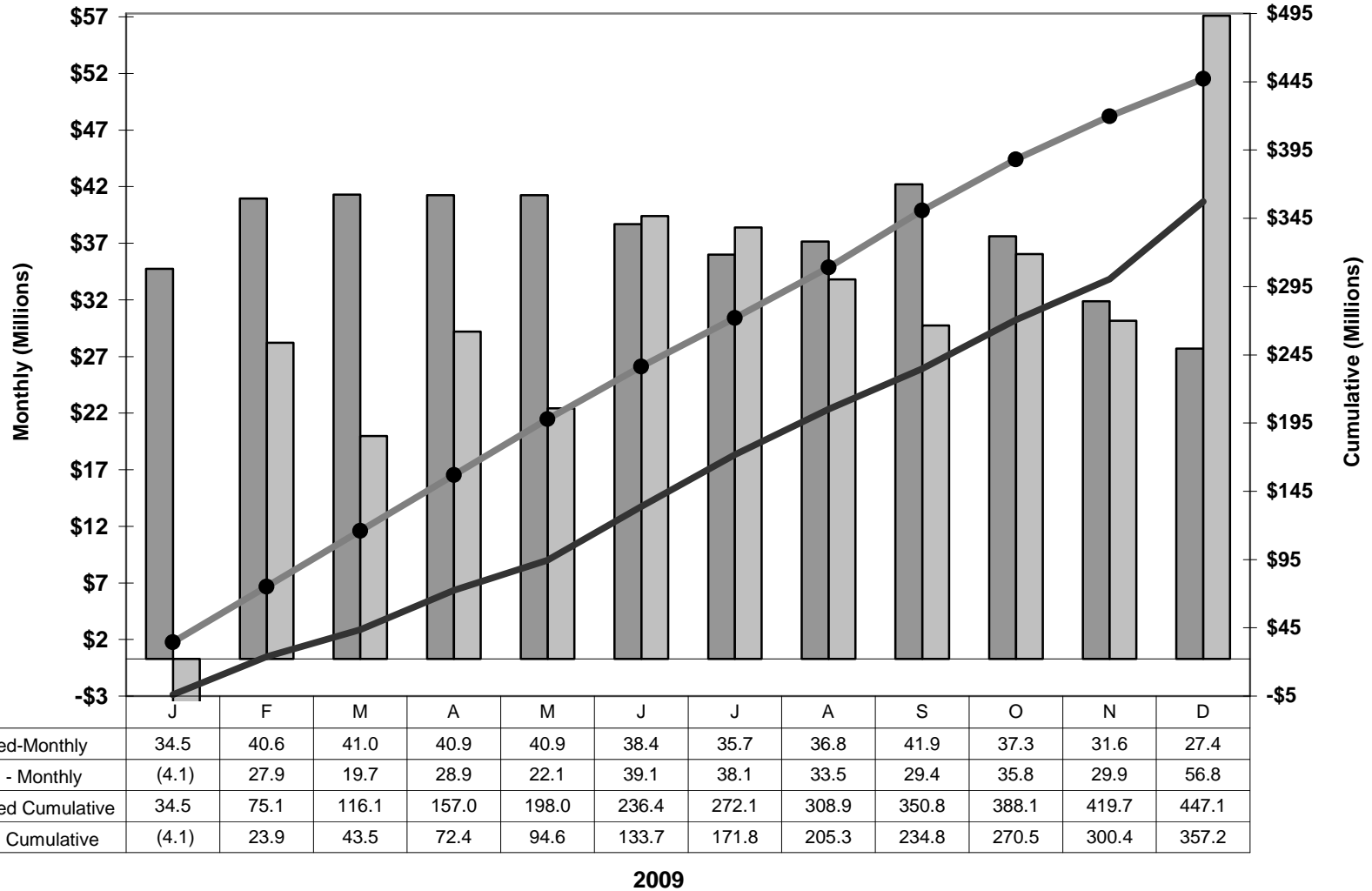
ITEM	Baseline Cost (2004\$)	Baseline Cost * (w/ 3% infl)	Baseline Cost * (w/ 5% infl)	2009 Preliminary Annual Expenditures			Lifetime Expenditures		
				YTD Actual	Planned	Percent Spent	LTD Actual	Planned ** (w/infl)	Percent Spent
<b>IMPLEMENTATION/CONSTRUCTION</b>	953,041,177	1,088,874,247	1,188,207,565	327,732,001	406,602,322	80.60%	864,945,995	1,248,115,415	69.3%
<b>NON-IMPLEMENTATION/CONSTRUCTION</b>									
Engineering Services	132,596,680	140,282,159	145,812,021	8,104,200	8,302,912	97.6%	145,102,350	154,838,688	93.7%
Planning and Management Services	79,109,585	83,906,293	87,360,836	18,665,954	19,100,255	97.7%	76,299,321	103,902,851	73.4%
Permitting and Other Agency Support	44,480,000	46,759,566	48,331,196	1,139,029	2,513,432	45.3%	6,597,473	8,688,767	75.9%
Right-of-Way	122,241,484	124,534,031	126,069,582	1,981,721	3,756,641	52.8%	208,729,593	212,657,480	98.2%
Misc. Services and Materials	9,026,685	9,518,955	9,880,163	705,090	628,168	112.2%	8,873,490	9,713,907	91.3%
Staff Labor	52,558,015	56,367,539	59,136,826	5,648,312	6,316,477	89.4%	51,066,453	61,065,718	83.6%
Total Non-Implementation /Const. Cost	440,012,449	461,368,543	476,590,623	36,244,305	40,617,885	89.2%	496,668,680	550,867,411	90.2%
Accruals and Adjustments ***				-6,791,151	0	0.0%	15,465,073	0	
Project Reserve	100,046,392	120,712,553	136,413,486	0	0	0.0%	0	4,000,000	0.0%
<b>Project Total</b>	1,493,100,019	1,670,955,344	1,801,211,674	357,185,154	447,220,207	79.9%	1,377,079,748	1,802,982,825	76.4%
Credits and Revenues	-10,000,000	-10,786,544	-11,335,009	-6,249	-121,100	0.0%	-3,112,052	-3,226,903	96.4%
<b>Project Total + Credits and Revenues</b>	1,483,100,019	1,660,168,800	1,789,876,666	357,178,905	447,099,107	79.9%	1,373,967,696	1,799,755,922	76.3%

\* These columns represent the sum of each year's project costs inflated to that year's dollars. Inflation is estimated at three percent and five percent per year.

\*\* This column represents Lifetime total costs including inflation reflected in awarded contracts and inflation on remaining forecast contracts at three percent per year through the completion of the project. The majority of construction contracts have been awarded. Mitigation payments have been moved from the Permitting category to Right-of-Way.

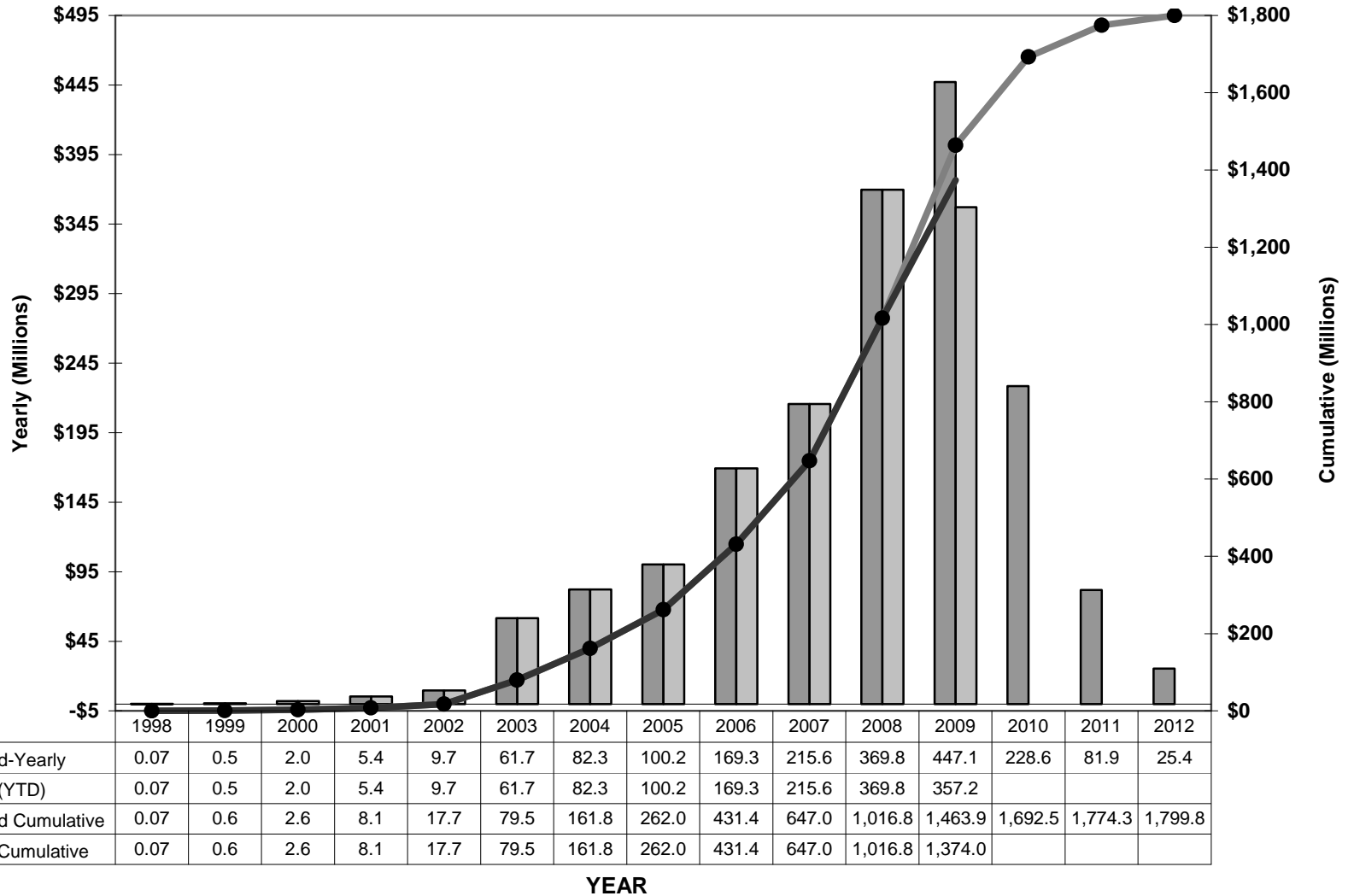
\*\*\* In December 2008 costs were accrued to reflect the dollars spent during 2008 but not paid. The accounting convention is to reverse those amounts, which were actually paid in early 2009.

**Figure 2: Brightwater Annual Expenditures: Current Planned vs. Actual**



Note: In December 2008 costs were accrued to reflect the dollars spent during 2008 but not paid. The accounting convention is to reverse those amounts, which are actually paid in early 2009. Thus, for accounting purposes, the expenditures show a negative amount in January 2009. Planned costs are the current forecast (January 2009 Trend) of total project costs including prior year actual (1998-2008) and future years forecast costs.

**Figure 3: Brightwater Lifetime Expenditures: Current Planned vs. Actual**



Planned costs are the current forecast (January 2009 Trend) of total project costs including prior year actual (1998-2008) and future years forecast costs. Actual Cumulative for year 2009 includes only YTD costs through the current month.

# Staff Labor and Miscellaneous Service Expenditures

Table 3 shows annual and lifetime expenditures for staff labor and miscellaneous services and materials for the Brightwater project. The staff labor expenditures are depicted graphically in Figure 4 on the following page. The cost centers have been changed to reflect the revised WTD organization structure, effective January 1, 2008.

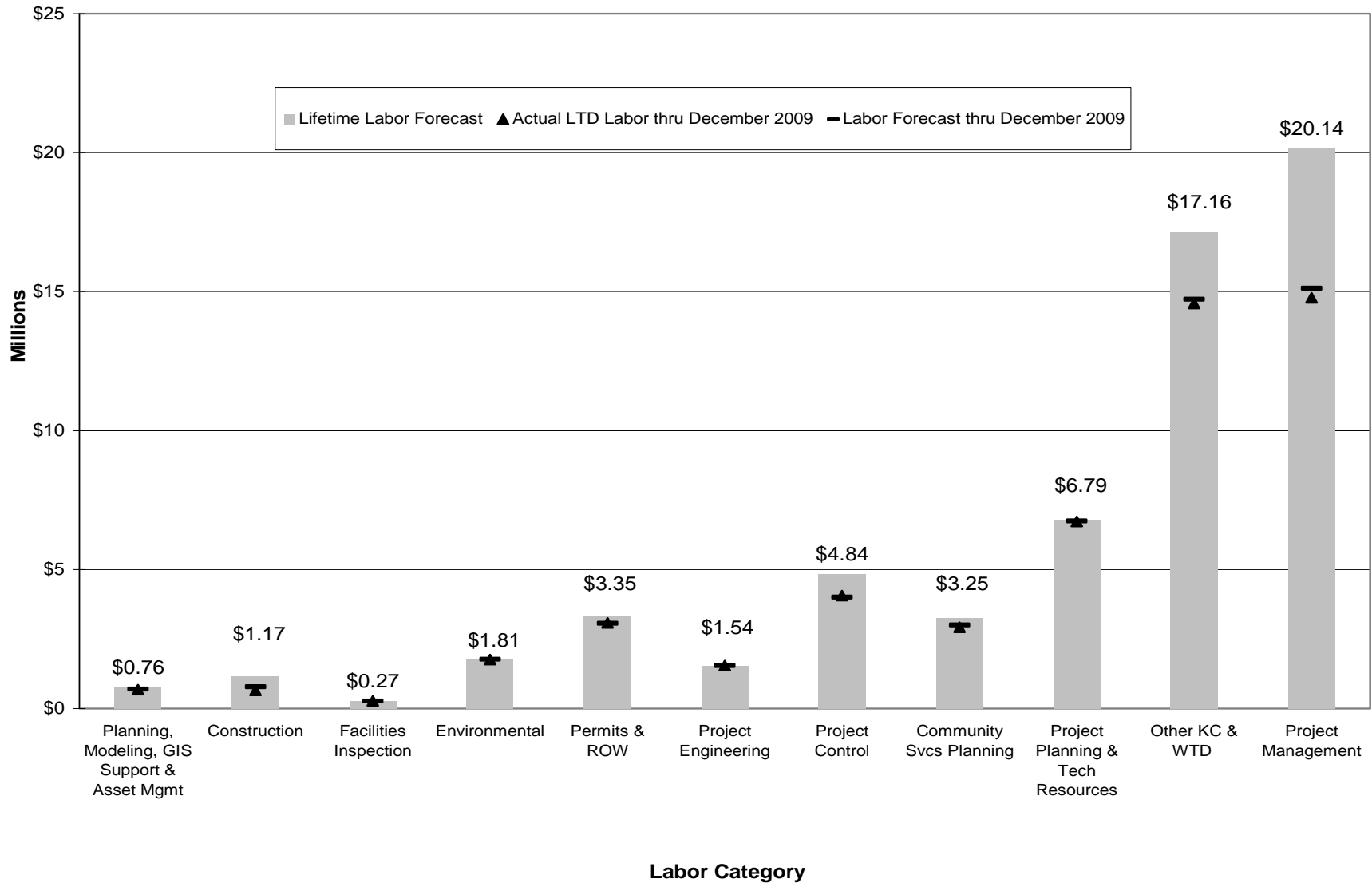
**Table 3: Expenditures: Staff Labor and Miscellaneous Services and Materials**

ITEM	Baseline Cost (2004\$)	Baseline Cost * (w/ 3% infl)	Baseline Cost * (w/ 5% infl)	2009 Preliminary Annual Expenditures				LTD Actual	Planned ** (w/infl)	Percent Spent
				Monthly IBIS	YTD	Planned	Percent Spent			
				Dec-09	Actual					
<u>Misc. Services &amp; Materials</u>										
Office and Transportation Costs	2,000,000	2,167,603	2,290,961	11,191	231,740	133,526	173.6%	2,072,663	2,149,738	96.4%
Equipment	183,873	202,994	217,068	80	2,446	36,087	6.8%	56,413	144,185	39.1%
Supplies and Safety	673,832	731,196	773,418	4,552	80,296	104,781	76.6%	724,370	906,026	80.0%
Professional Development/Travel	299,827	325,322	344,087	-7,963	13,775	39,002	35.3%	274,019	357,749	76.6%
Printing, Courier and Media Services	2,000,000	2,076,088	2,130,979	1,233	13,247	48,584	27.3%	1,865,005	1,973,304	94.5%
Miscellaneous Services	3,761,406	3,895,256	3,993,772	4,213	63,546	155,296	40.9%	2,922,410	3,247,104	90.0%
Other	107,747	120,495	129,877	21,194	300,042	110,893	270.6%	958,610	935,801	102.4%
Subtotal Misc. Services & Materials	9,026,685	9,518,955	9,880,163	34,499	705,090	628,168	112.2%	8,873,490	9,713,907	91.3%
<u>Staff Labor</u>										
<u>Non-WTD Support</u>										
Central Services	1,585,589	1,623,946	1,649,848	82,488	657,253	847,051	77.6%	4,837,476	6,297,851	76.8%
Legal Services	1,041,989	1,109,985	1,159,432	146,023	253,472	215,756	117.5%	2,362,448	2,646,668	89.3%
Surface Water Management	344,639	350,160	354,156	4,922	22,107	0	0.0%	561,785	539,678	
WLRD	2,882,537	2,978,134	3,047,526	9,558	85,344	110,653	77.1%	3,056,754	3,248,043	94.1%
DNRP	614,629	636,711	652,696	2,162	9,535	33,112	28.8%	596,181	669,426	89.1%
Other	1,243,561	1,278,391	1,303,758	24,122	222,227	223,004	99.7%	1,427,553	1,788,332	79.8%
Subtotal Non-WTD Labor	7,712,944	7,977,326	8,167,416	269,276	1,249,938	1,429,576	87.4%	12,842,197	15,190,000	84.5%
<u>Wastewater Treatment Division</u>										
4100 WTD Manager	150,076	161,117	169,110	4,113	48,287	29,000	166.5%	202,446	222,991	90.8%
4200 Finance & Administrative Services	767,224	878,846	962,363	10,290	131,624	116,886	112.6%	854,290	1,029,262	
4400 East Operations	301,599	312,801	320,647	1,116	19,162	15,000	127.7%	499,324	517,662	96.5%
4500 West Operations	212,359	221,288	227,594	0	2,001	10,000	20.0%	174,263	196,262	88.8%
4600 Planning & Compliance	191,510	205,311	215,301	0	1,826	15,000	12.2%	117,559	159,201	73.8%
4700 Environmental & Community Svcs										
4751 Community Svcs Planning	5,222,822	5,691,298	6,036,104	9,765	127,316	210,913	60.4%	2,920,442	3,250,537	89.8%
4752/4701 Environmental Planning & Mgmt	2,163,083	2,224,664	2,267,698	652	18,450	25,272	73.0%	1,761,800	1,809,203	97.4%
4761/62 Permitting, Right of Way & Monitoring	3,403,928	3,621,992	3,779,261	18,575	245,483	226,181	108.5%	3,083,679	3,347,218	92.1%
4770 Industrial Waste	1,733	1,733	1,733	0	0	0	0.0%	1,733	1,733	100.0%
4800 Project Planning & Delivery										
4803 Project Planning & Delivery Mgmt	8,749,557	9,299,597	9,698,113	0	1,049	13,842	7.6%	6,666,937	6,708,672	99.4%
4805 Technical Resources Mgmt	44,412	47,173	49,171	0	0	5,000	0.0%	61,400	79,144	77.6%
4806 Modeling & GIS Support	568,903	590,445	605,738	0	3,609	15,000	24.1%	489,602	528,413	92.7%
4808/09/16 Planning, Asset Mgmt & Mgmt	62,610	62,610	62,610	1,098	4,171	0	0.0%	73,173	69,002	106.0%
4830 Constuction	1,259,946	1,420,980	1,538,282	16,384	162,358	291,387	55.7%	653,729	1,168,666	55.9%
4840 Facilities Inspection	1,858,818	2,105,371	2,287,134	793	8,067	0	0.0%	278,845	270,779	103.0%
4850 Project Engineering	3,475,388	3,785,297	4,008,973	1,992	33,293	32,969	101.0%	1,544,261	1,543,937	100.0%
4880 Project Management	11,986,544	12,920,343	13,597,078	0	1,124	15,577	7.2%	8,844,634	8,890,039	99.5%
4990 Project Controls	4,424,558	4,839,346	5,142,500	54,716	589,339	531,345	110.9%	4,062,749	4,835,697	84.0%
4900 Brightwater										
4921 Brightwater Mgmt	0	0	0	338,518	3,001,216	3,333,529	90.0%	5,933,389	11,247,301	52.8%
Subtotal WTD Labor	44,845,071	48,390,213	50,969,410	458,013	4,398,373	4,886,901	90.0%	38,224,256	45,875,718	83.3%
Staff Labor Total	52,558,015	56,367,539	59,136,826	727,289	5,648,312	6,316,477	89.4%	51,066,453	61,065,718	83.6%

\* These columns represent the sum of each year's project costs inflated to that year's dollars. Inflation is estimated at three percent and five percent per year.

\*\* This column represents Lifetime total costs including actual costs through 2009 plus inflation on remaining forecast costs at three percent per year through project completion.

**Figure 4: Brightwater Staff Labor Expenditures: Planned vs. Actual**



Labor categories reflect January 2008 reorganization within WTD. New Brightwater cost center shown in Project Management reflects the transfer of some personnel primarily from Project Engineering and Project Planning.

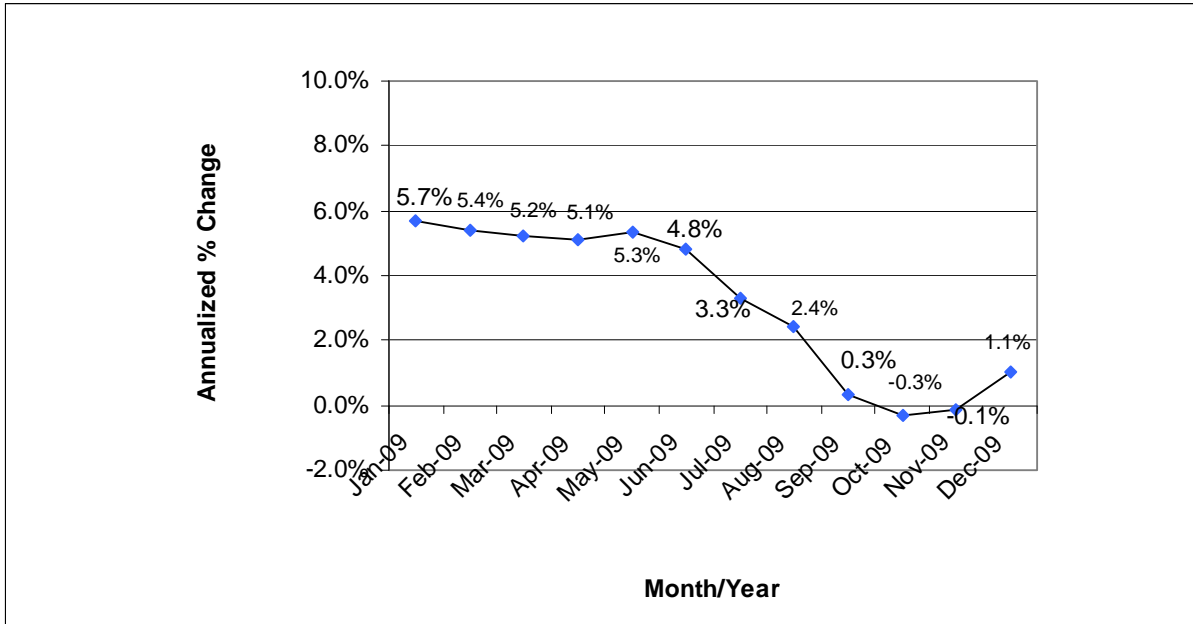




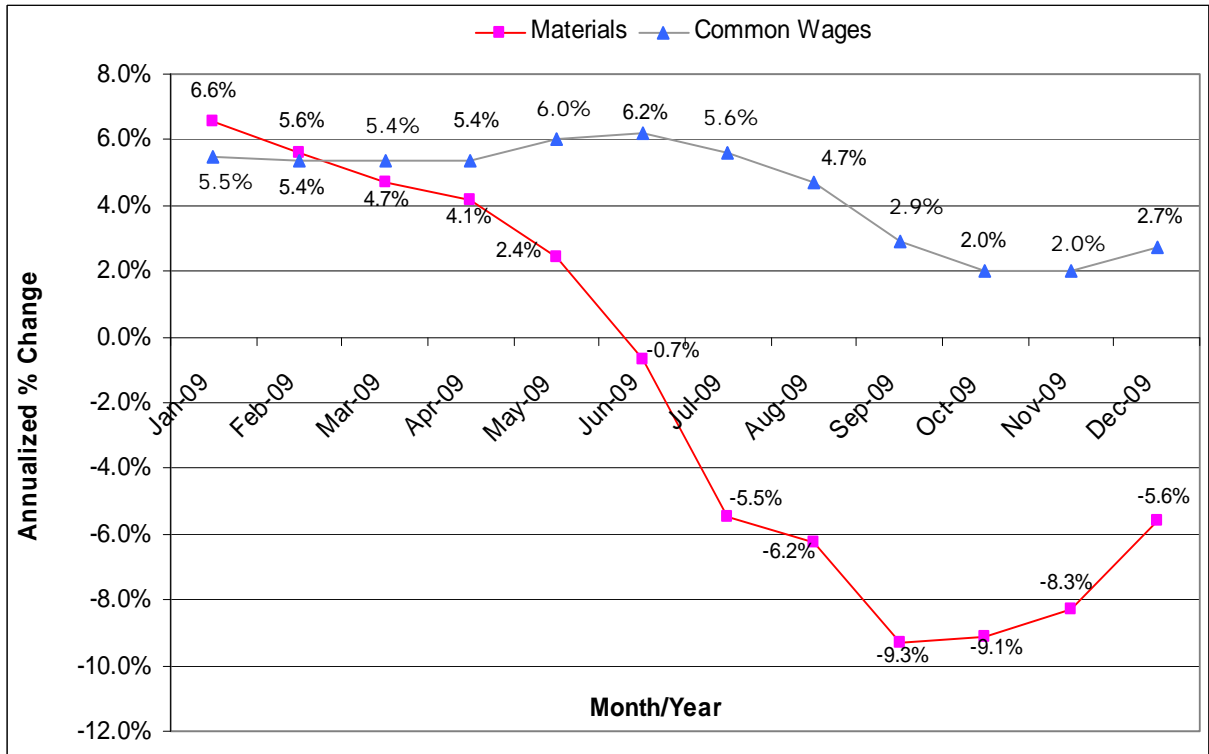
# Inflation Trends

Figures 5 and 6 reflect the national Construction Cost Index (CCI) and the materials and common labor cost trends as published in *Engineering News Record*. Percentage changes represent the change from the same period in the prior year. The Brightwater baseline cost assumed an annualized inflation rate for total project costs of three percent per year for 2005–2011.

**Figure 5: CCI Annualized Changes over Prior Year**



**Figure 6: Material and Labor Annualized Changes over Prior Year**



*Engineering News Record*, internet database updated with current indices from December 2009.

**Table 4: Annual Construction Cost Index Changes 2001-2008**

	2001	2002	2003	2004	2005	2006	2007	2008
CCI	1.7%	2.7%	3.3%	7.8%	4.6%	3.2%	2.6%	5.7%

Note: The above table has been adjusted to reflect changes between calendar year-ends rather than changes between annual averages. This coincides with the method used to calculate changes in Figures 5 and 6.

The annual inflation series from the Bureau of Labor Statistics pertinent to construction are shown below for the period 2002-2008. Although price increases have slowed for many series during 2008, there are still a number which are above the WTD long term average of 3 percent per year particularly fuel related, concrete, steel pipe, and copper. These have affected the price of the final Brightwater construction over the initial baseline costs presented to the Council in 2004.

**Percentage Changes in Producer Price Indexes (PPIs) for Construction Materials and Components, 2002-2008**

12 months through December--

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
<b>Table 1: Changes in Consumer, Producer &amp; Construction Prices</b>							
Consumer price index (CPI-U)	2.4	1.9	3.3	3.4	2.5	4.1	0.1
Producer price index (PPI) for finished goods	1.2	4.0	4.2	5.4	1.1	6.2	-0.9
Materials and components for construction	0.8	3.0	10.1	6.1	4.3	2.0	7.3
<b>Table 2: Changes in PPIs Weighted by Construction Types</b>							
Highway and street construction	1.0	2.6	10.8	14.1	6.2	10.1	-0.8
Other heavy construction	1.0	2.6	13.4	8.8	5.5	6.9	1.4
<b>Table 3: Changes in PPIs for Specific Construction Inputs</b>							
Concrete products	-0.3	1.5	7.6	10.1	8.1	3.8	4.2
Hot-rolled bars, plates, & structural shapes	2.1	11.3	53.8	-1.0	7.5	8.1	4.3
Steel pipe and tube	9.1	3.3	66.0	1.2	5.5	-1.3	28.6
Copper and brass mill shapes	-1.6	11.6	29.6	31.0	44.4	-3.0	-24.3
Aluminum mill shapes	-0.9	-0.5	9.9	5.0	12.7	-1.7	-5.9
Construction machinery	1.9	1.3	6.0	4.9	3.6	2.3	5.3
<b>Table 4: Changes in PPIs for Basic Inputs Important to Construction</b>							
Crude petroleum (domestic production)	60.6	14.3	30.5	49.6	0.1	51.7	-57.9
Industrial natural gas	12.2	20.3	20.1	31.5	-13.2	-2.8	4.3
Plastic resins and materials	9.2	6.4	28.6	10.8	-7.8	9.7	-5.6
Construction sand/gravel/crushed stone	2.5	2.4	4.3	7.7	9.3	8.4	6.6
Cement	1.3	-1.1	7.9	12.2	10.5	4.4	-0.6
Iron ore	-1.3	1.6	6.7	15.5	7.5	1.3	12.1
Iron and steel scrap	27.8	64.9	50.8	-10.8	2.9	29.4	-40.7
Copper ores	3.6	37.4	65.1	39.3	53.1	-1.7	n.a.
Copper base scrap	11.2	30.7	34.5	51.9	50.0	3.1	-52.7

Updated 2/23/09 Source: Bureau of Labor Statistics (BLS): [www.bls.gov/cpi](http://www.bls.gov/cpi) for CPI, [www.bls.gov/ppi](http://www.bls.gov/ppi) for PPIs  
Compiled by Ken Simonson ([simonsonk@agc.org](mailto:simonsonk@agc.org)), Chief Economist, Associated General Contractors of America, [www.agc.org](http://www.agc.org)

# Conveyance System

## Project Description

The Brightwater conveyance system is comprised of four major tunnels and related facilities needed to convey wastewater to the Brightwater treatment plant and discharge treated effluent to Puget Sound. These facilities include large diameter tunnels from the Brightwater Treatment Plant in Woodinville to Point Wells, a marine outfall in Puget Sound, diversion structures to collect or divert flow from existing sewers into the new system, a reclaimed water pipeline, and odor control facilities.

## Current Activities

### Conveyance Design

#### Ancillary Facilities

- Design work continues on the Odor Control Facilities at North Kenmore and Ballinger to support advertising for bids in the spring of 2010.
- Scarsella is working on the variable frequency drive (VFD) modifications at York Pump Station and on the bubbler panel and electrical work at the Kenmore Pump Station.

### Conveyance Construction

#### East Tunnel

- Throughout December, grouting subcontractor MixOnSite continued to work on backfilling the tunnel. With more than 15,000 cubic yards of the total 70,000 cubic yards of grout installed to date, approximately 23% of the BT-1 tunnel has been backfilled. KST continued to place concrete in the East Thrust Restraint Zone. The Contractor placed controlled-density fill (CDF) in the shaft to the springline of the 84-inch pipe, and installed and welded the 27-inch pipe.

#### Central Tunnel

- The BT-2 TBM remained under repair at Ring 1526 throughout December. The total tunnel length completed remains at just over 66%. The dewatering system at the Maywood Hills Elementary School was running all month. Groundwater levels had stabilized, and the volume of pumped groundwater continued to decrease. The Contractor stopped its weekend maintenance work on the wells. The 10 drains inside the tunnel continued to yield an average of 80-90 gallons per minute. The drains were monitored continuously and flushed on a regular basis to maintain their efficiency. The Contractor gained access to the school property during the school's winter break and successfully installed two additional boreholes along the tunnel alignment.
- BT-2 TBM cutterhead repairs continued throughout the month under approximately 1.3 bar of compressed air. The low-pressure working environment enabled the Contractor to address the repairs without significant crew time lost to the decompression cycle. The Contractor completed the repair and installation of the main structural components on December 30. The on-site delivery of the infill pieces that will fill the worn section of the rim bar was delayed, prompting the Contractor to re-sequence the work and begin changing the cutter tools. A total of 108 working interventions were conducted during December. Short inspection dives were also carried out by the Contractor's management and supervision throughout the month.
- After reviewing the Contractor's procedures for the operation, the BT-3TBM insurer allowed the Contractor to proceed with moving the BT-3 TBM 330 feet from Ring No. 1953 to the dewatering zone at 53rd Avenue NE. On December 14th, the BT-3 TBM commenced mining using the test polymer slurry. During the mining operation on December 15th, the TBM encountered cobbles and small boulders which damaged 2 of the 4 ripper tools. Progress of the BT-3 TBM was halted from December 15th - 20th, to perform cutterhead interventions to repair/replace the 2 ripper tools. The stoppage of the BT-3 TBM unfortunately coincided with the scheduled visit of the slurry expert from

the UK, and prevented him from witnessing the TBM mining with the polymer slurry, as planned. The slurry expert is scheduled to return next month. A total of 29 rings were completed during the month, bringing the total number of rings to date to 1982. The total tunnel length completed is just over 49%. A total of 6 cutterhead interventions were carried out this month at 5.8 bar of pressure, using TRIMIX. The implementation of the dewatering plan in 53rd Ave. NE continued during December with the installation of 5 of the 6 planned wells.

#### West Tunnel

- The Contractor made good progress during the reporting period, mining 1,345 ft. on the BT-4 tunnel; 19,286 ft. (92% of the total length) of this tunnel is complete.
- Fourteen barge loads (approximately 1,700 tons/each) of tunnel muck were transported in December. A total of 172 barges have been transported to the disposal facility to date.
- The Contractor is preparing for the hole-through of the BT-4 TBM at the Ballinger Way Shaft site, currently anticipated in early 2010. The Contractor has elected to implement ground freezing around the last 50 feet of BT-4 to facilitate its hole-through into the shaft. To accomplish this, drilling subcontractor, NW Cascade, Inc., drilled 23 evenly-spaced 50-foot long 7-inch diameter bore holes, and installed 3 ½-inch HDPE freeze pipes within the holes. A 1 ½-inch HDPE pipe was then installed inside each 3 ½-inch pipe to convey the freezing agent. Ground-freezing subcontractor, Soilfreeze, mobilized to the Ballinger site, completed the setup and testing of its ground freezing plant, and initiated the freezing operation. The Central Contractor completed removal of the BT-3 segments it had stockpiled at the Ballinger site.

#### Influent Pump Station

- During December, the Contractor continued work on forming and placement of the walls and columns between elevations 85' and 109' in the Influent Pump Station (IPS) shaft; welding and fit-up of the Raw Sewage (RS) piping in the Influent Structure (IS); and construction on the Generator Building foundation.

#### North Creek Facilities

- The final paperwork is in process for contract closeout.

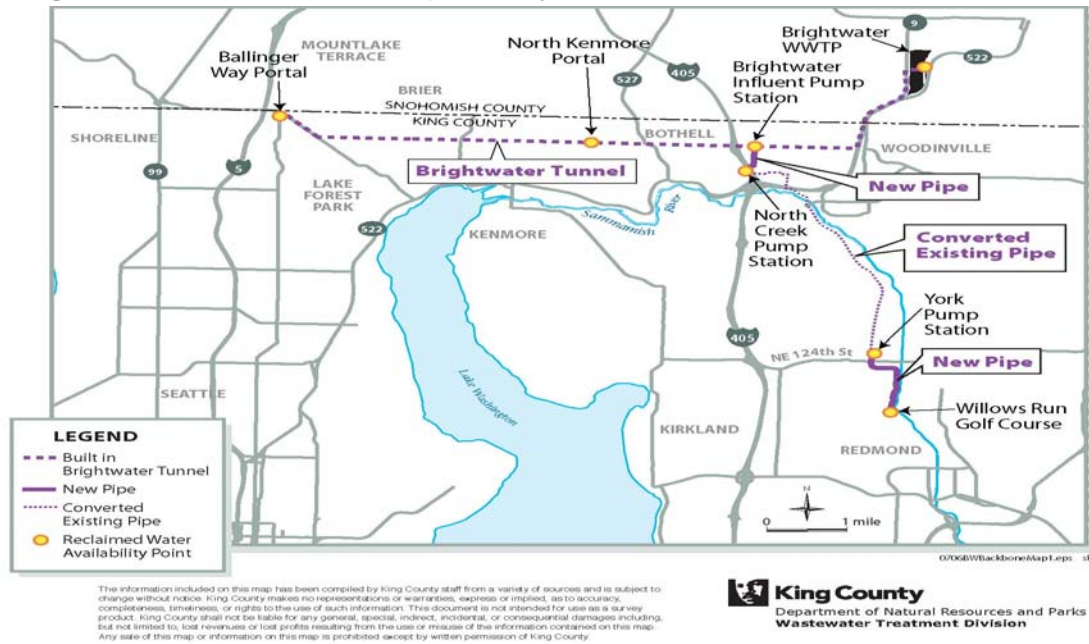
#### Marine Outfall Contract

- Triton Marine construction and their designer, Dayton & Knight completed revisions of the as-builts and O&M manuals.
- Triton continued to collect the forms and paperwork necessary to closeout the project.
- Work continued on the development of the RFP for the final outfall survey and diffuser port uncapping which will occur prior to treatment plant startup.

#### **Reclaimed Water**

- All Sammamish River landscape mitigation installation is complete; the contract's one year maintenance period began June 1, 2009.

**Figure 7: Reclaimed Water Pipeline System**



## Permitting

- During the month of December conveyance sites were in compliance with permits.
- All permits are up to date for conveyance tunnel construction

## Easements/Land Acquisition

- In January, staff will have completed the Paramount Petroleum acquisition with the payment of the outstanding amount due for the Point Wells property. This reflects the last acquisition for the project outside of temporary construction areas.

## Project Issues

- Tunneling work on the BT-2 and BT-3 tunnels has been halted to complete repairs to the two TBMs. The completion of repair work on BT-2 and restart of mining is likely to occur in the first quarter of 2010.

## Looking Ahead

### Conveyance Design

#### Ancillary Facilities

- Design of the Odor Control facilities at North Kenmore and Ballinger will continue to support advertising for bids in late 2010.
- The variable frequency drive (VFD) modifications will continue at York Pump Station.

## **Conveyance Construction**

### East Tunnel

- In January, MixOnSite will continue west placing backfill grout. KST will backfill the shaft and initial shaft piping with Type S crushed rock where needed, and will place concrete in the East Thrust Restraint Zone. The 27-inch pipe will be encased in CDF as it extends into the Treatment Plant Portal. The encasement will form a solid “block” which will serve as a work deck for KST/MixOnSite to access the 48- and 66-inch pipes, remove the stalling inside the 48 and 66 inch pipes, and monitor the heights of the backfill grout lifts within the 66-inch pipe. Once this initial pipe placement and backfill in the shaft is finished, the remainder of the pipe work in the shaft will remain on hold until backfill grouting in the tunnel is complete.

### Central Tunnel

- In January, the Contractor will continue rim bar repairs at low pressure compressed air (1.3 bar); install 2 additional coreholes along the BT-2 alignment near I-405; and continue the installation of dewatering wells at the next planned inspection/maintenance stop.
- In January, the BT-3 TBM will mine forward to the 53<sup>rd</sup> Ave. NE dewatering site and rim bar repairs will commence. The Contractor will continue the development and pump testing of the surface dewatering wells, and will also install an exploratory borehole.

### West Tunnel

- The Contractor will continue mining the BT-4 tunnel and work to facilitate the hole-through of the BT-4 TBM into the Ballinger Way Shaft.

### North Creek Facilities

- Emphasis continues on completing the final paperwork for contract closeout.

### Influent Pump Station

- In January, the Contractor will complete the walls and columns between elevations 85’ and 109’ in the IPS shaft, the final liner crack repair in the Lower Pump Room, and concrete placement for the Generator Building foundation. Installation of the RS pipe will continue in the IS. The Contractor will begin falsework for the beams and slab at elevation 109’ in the IPS, and will place concrete for the Ogee Ramp in the IPS Wet Well. The Contractor also plans to perform test programming changes for integration of the Brightwater system at the Woodinville and Kenmore pump stations.

### Marine Outfall

- Work on the RFP for outfall survey and diffuser uncapping prior to startup will continue throughout 2010.

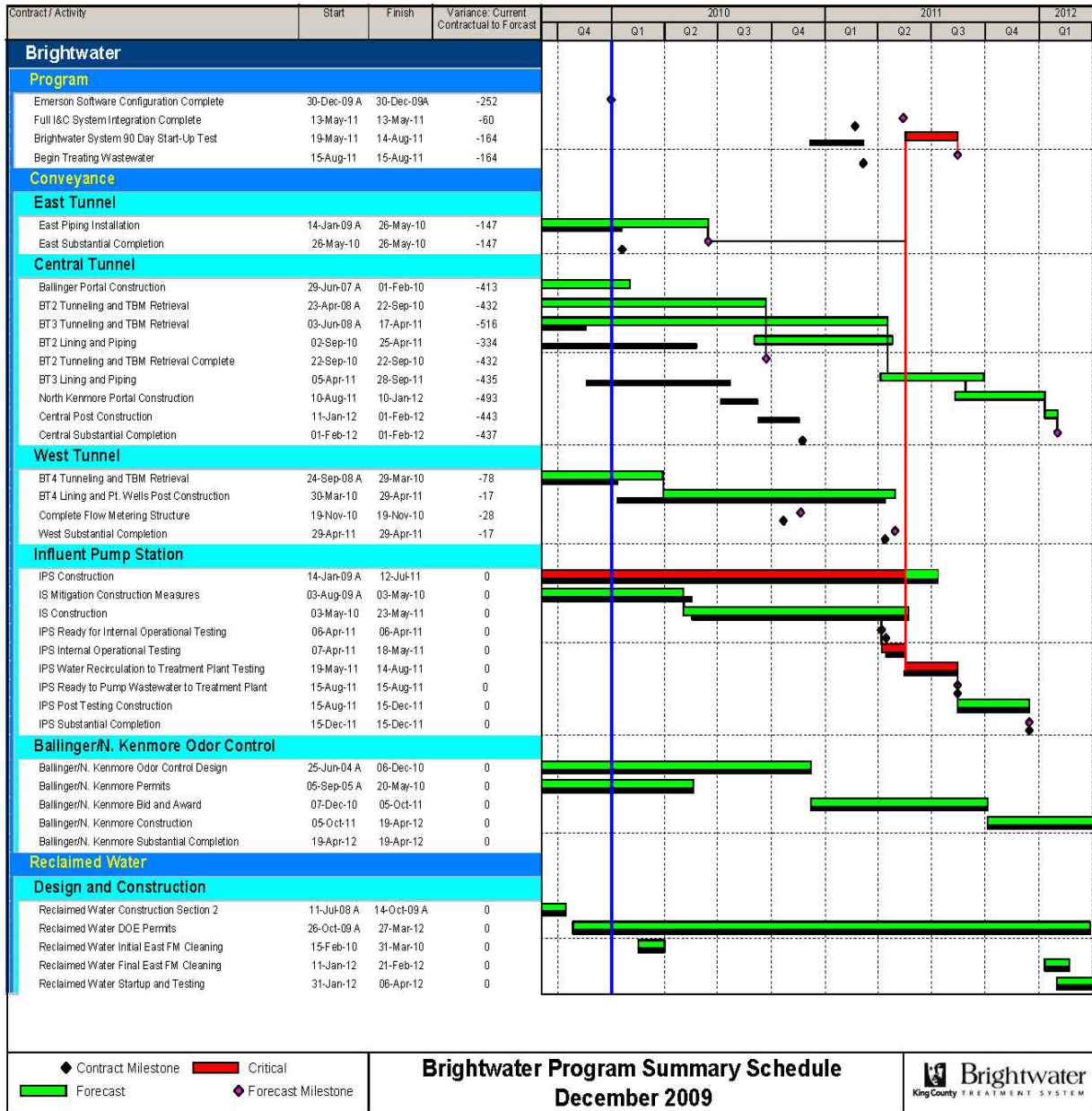
## **Reclaimed Water**

- Scarsella, the Section 2 RW pipeline contractor is completing final contract documentation before issuance of final acceptance at the beginning of 2010.
- The team developed a draft Brightwater Reclaimed Water Permit application for internal review and comment.

# Schedule

Figure 8 provides a summary of scheduled activities for the Brightwater conveyance system.

**Figure 8: Summary of Brightwater Conveyance**



## Schedule Adjustments/Issues

The projected initiation of wastewater treatment is August 15, 2011, which is a result of the proposed revised sequence of IS construction to bypass the BT-2 tunneling delay.

# Contract Status

Table 6 summarizes the current contract status for the Brightwater conveyance system.

**Table 6: Summary of Brightwater Conveyance Contract Status**

Contract	Original Contract Amount	Planned Phased Amendments	Baseline Cost = (original + planned Am.)	Other Am. or Change Orders	Other Am. or Change Order % of Baseline	No. of Am. or CO's to Date	Current Contract Amount	Amount Paid	Through Payment No.	% Complete
E23007E CDM - Geotechnical	\$11,474,386	\$10,386,010	\$21,860,396	\$368,876	2%	6	\$22,229,272	\$17,747,050	81-3	80%
E33015E MWH Jacobs - Final Design	\$24,013,721	\$5,107,164	\$29,120,885	\$0	0%	1	\$29,120,885	\$26,585,017	64	91%
P43020P Jacobs Civil - Construction Mgt. Services	\$13,327,255	\$32,789,992	\$46,117,248	\$2,295,318	5%	5	\$48,412,565	\$32,234,311	56	67%
P43024 R.W. Beck - Project Mgt. Oversight	\$475,916	\$337,636	\$813,552	\$72,737	9%	5	\$886,289	\$739,431	39	83%
P53017P Vanir - Construction Mgt, Marine Outfall	\$933,568	\$1,159,916	\$2,093,484	\$0	0%	3	\$2,093,484	\$1,499,349	41	72%
P53018 Krazan - Testing & Inspection	\$250,000	\$0	\$250,000	\$0	0%	3	\$250,000	\$150,273	73	60%
C53060C Kenny/Shea/Traylor, JV - East Tunnel Contract	\$130,848,750	\$1,000,000	\$131,848,750	\$5,180,461	3.9%	22	\$137,029,211	\$125,796,195	54	92%
C00005C06 Vinci/Parsons-RCI/Frontier JV, Central Tunnel	\$211,076,058	\$0	\$211,076,058	\$21,197,118	10.0%	15	\$232,273,176	\$156,098,376	55	67%
C00007C06 Jay Dee/Coluccio/Taisei JV, West Tunnel Contract	\$102,453,000	\$0	\$102,453,000	\$6,282,029	6%	10	\$108,735,029	\$85,380,966	30	79%
C00002C06 Kiewit Construction, IPS Contract	\$91,860,000	\$0	\$91,860,000	\$5,154,854	6%	18	\$97,014,854	\$20,380,407	29	21%
C00105C06 McClure and Sons, Inc., Hollywood Facilities Impr.	\$1,156,330	\$0	\$1,156,330	\$56,159	5%	3	\$1,212,489	\$1,212,489	10	100%
C00063C06, James W. Fowler, North Creek Facilities	\$10,180,000	\$0	\$10,180,000	\$315,381	3%	5	\$10,495,381	\$10,495,381	17	100%
E58016E Triton - Marine Outfall Design Build	\$27,599,800	\$1,500,000	\$29,099,800	\$693,893	2.4%	12	\$29,793,693	\$29,618,959	17	99%

- Planned Phased Amendments are planned amendments that were part of the initial project plan, and contribute to the contract baseline cost (baseline equals Original Contract Amount plus Planned Phased Amendments). The *Other Am. Or Change Order %* column is the percentage of unplanned amendments compared to the contract baseline. Amendments to contract P43020P Jacobs: 1. Clarification of tasks outlined in the original scope of work to reflect responsibilities of the consultant as a result of the development of the Construction Management Plan, which includes budget for cost estimating for ancillary facilities, OCIP coordination, constructability reviews for ancillary facilities, partnering workshops, and additional project control support, 2. Added inspection and resident engineering services for IPS and ancillary contracts – consultants responsibilities were not defined at time of development of original contract, 3. Increased budget for design & implementation of a new document management system, 4. The RW Beck Project Mgt. Oversight contract was transferred to KC Council Auditor's office on July 1, 2008.



## Expenditures Summary

Table 7 shows annual and lifetime expenditures for the Brightwater Conveyance project (excluding miscellaneous/staff costs which are shown combined with Treatment Plant costs on Table 3). Monthly and Annual costs are depicted graphically in Figures 9 and 10 on the following pages. This table reflects the inclusion of the *Brightwater Cost Update* Trend dated January 2009, and the related annual cash flows submitted for the 2010 rate process and approved by the Council in June 2009

**Table 7: Annual and Lifetime Conveyance Expenditures**

ITEM	Baseline Cost (2004\$)	Baseline Cost * (w/ 3% infl)	Baseline Cost * (w/ 5% infl)	2009 Preliminary Annual Expenditures			Lifetime Expenditures		
				YTD Actual	Planned	Percent Spent	LTD Actual	Planned ** (w/infl)	Percent Spent
<b>IMPLEMENTATION/CONSTRUCTION</b>	617,243,534	704,756,695	768,745,113	136,065,978	179,757,914	75.69%	492,687,720	698,161,489	70.6%
<b>NON-IMPLEMENTATION/CONSTRUCTION</b>									
Engineering Services	81,685,247	87,262,878	91,288,908	4,054,793	3,108,266	130.5%	75,922,048	78,405,000	96.8%
Planning and Management Services	56,600,007	60,464,767	63,254,418	12,932,243	13,988,384	92.4%	52,199,138	73,632,789	70.9%
Permitting and Other Agency Support	21,110,000	22,090,795	22,757,972	84,830	140,376	60.4%	1,105,525	1,221,447	90.5%
Right-of-Way	20,803,727	21,243,876	21,537,309	1,861,272	3,159,897	58.9%	27,801,188	30,797,761	90.3%
Total Non-Implementation /Const. Cost	180,198,981	191,062,316	198,838,607	18,933,137	20,396,923	92.8%	157,027,899	184,056,996	85.3%
Accruals and Adjustments ***				-2,545,049			7,709,732	0	
Project Reserve	74,165,992	89,486,148	101,125,501	0	0	0.0%	0	2,000,000	0.0%
<b>Project Total</b>	871,608,507	985,305,159	1,068,709,221	152,454,066	200,154,837	76.2%	657,425,352	884,218,486	74.4%
Credits and Revenues	0	0	0	801	0	0.0%	-3,865	-4,666	82.8%
<b>Project Total + Credits and Revenues</b>	871,608,507	985,305,159	1,068,709,221	152,454,867	200,154,837	76.2%	657,421,487	884,213,820	74.4%

\* These columns represent the sum of each year's project costs inflated to that year's dollars. Inflation is estimated at three percent and five percent per year.

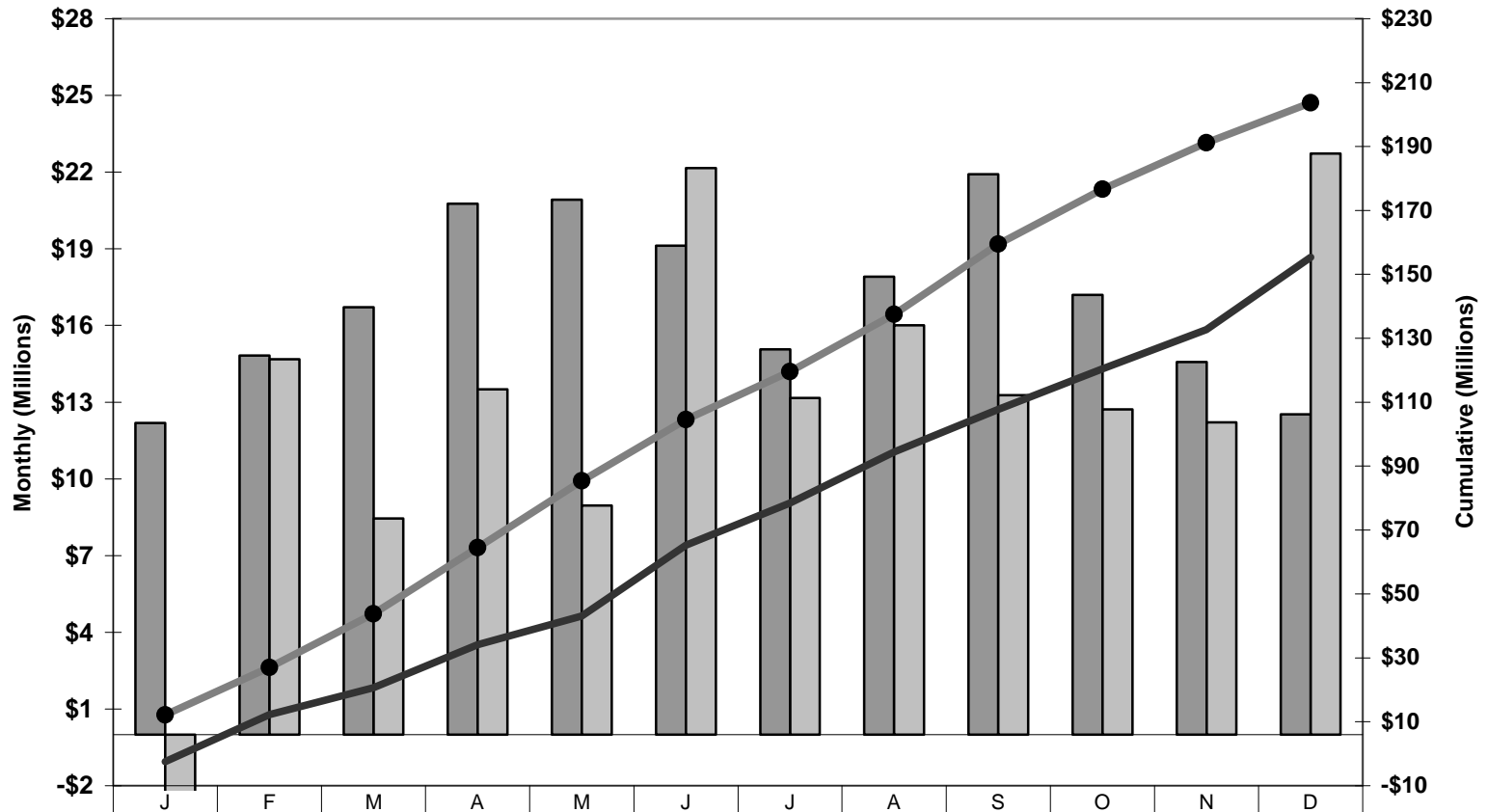
\*\*This column represents Lifetime total cost including inflation reflected in awarded contracts and inflation on remaining forecast contracts at three percent per year through the completion of the project. The majority of construction contracts have been awarded. Mitigation payments have been moved from the Permitting category to Right-of-Way.

\*\*\* In December 2008 costs were accrued to reflect the dollars spent during 2008 but not paid. The accounting convention is to reverse those amounts, which were actually paid in early 2009.

## Cost/Budget Adjustments

- Planned costs reflect the January 2009 Brightwater Cost Trend Update. YTD and LTD Actual Right-of-Way includes payment of Lake Forest Park Water District mitigation not included in January 2009 Trend, but budgeted in other categories.

**Figure 9: Annual Conveyance Expenditures: Current Planned vs. Actual**

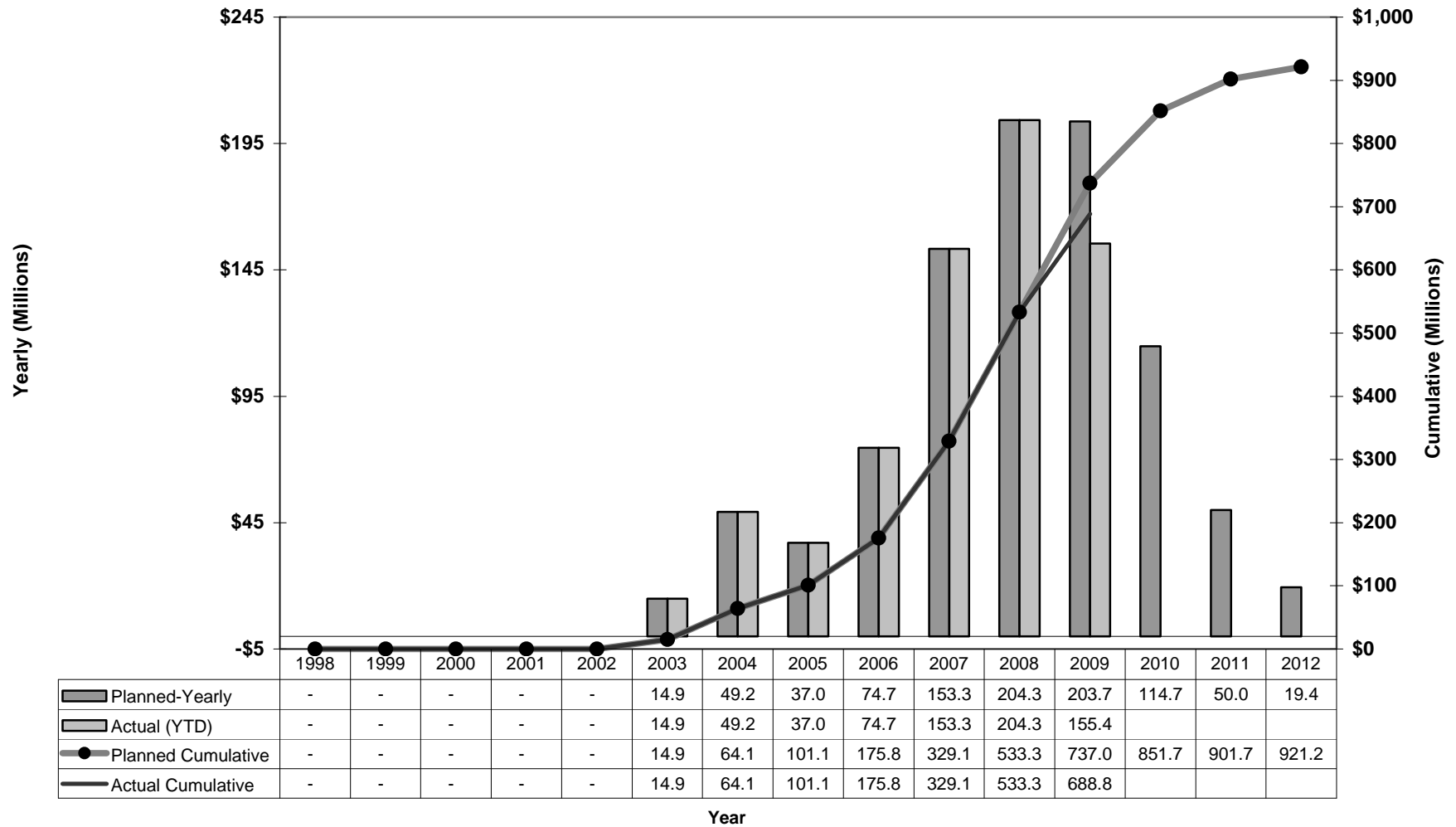


	J	F	M	A	M	J	J	A	S	O	N	D
Planned-Monthly	12.2	14.8	16.7	20.8	20.9	19.1	15.1	17.9	21.9	17.2	14.6	12.5
Actual - Monthly	(2.5)	14.7	8.5	13.5	9.0	22.2	13.2	16.0	13.3	12.7	12.2	22.7
Planned Cumulative	12.2	27.0	43.7	64.5	85.4	104.5	119.6	137.5	159.4	176.6	191.2	203.7
Actual Cumulative	(2.5)	12.2	20.7	34.2	43.1	65.3	78.4	94.4	107.7	120.4	132.6	155.4

**2009**

Note: In December 2008 costs were accrued to reflect the dollars spent during 2008 but not paid. The accounting convention is to reverse those amounts, which are actually paid in early 2009. Thus, for accounting purposes, the expenditures show a negative amount in January 2009. Planned costs are the current forecast (January 2009 Trend) of total project costs including prior year actual (1998-2008) and future years forecast costs. Costs include Miscellaneous and Staff Labor.

Figure 10: Lifetime Conveyance Expenditures: Current Planned vs. Actual



Costs include Miscellaneous and Staff Labor. Planned costs are the current forecast of total project costs including prior year actual (1998-2008) and future years forecast costs. Actual Cumulative for year 2009 includes only YTD costs through the current month.

# Detailed Expenditures

**Table 8: Detailed Annual and Lifetime Conveyance Expenditures**

ITEM	Baseline Cost (2004\$)	Baseline Cost * (w/ 3% infl)	Baseline Cost * (w/ 5% infl)	2009 Preliminary Annual Expenditures				LTD Actual	Planned ** (w/infl)	Percent Spent
				Monthly IBIS Dec-09	YTD Actual	Planned	Percent Spent			
<b>IMPLEMENTATION/CONSTRUCTION</b>										
<u>Implementation/Construction Contracts</u>										
Construction Contracts	511,495,630	580,442,505	630,516,822	9,670,195	120,629,110	159,991,355	75.4%	429,877,097	580,897,957	74.0%
Construction Mitigation	4,163,169	4,754,609	5,186,082	29,049	166,638	520,403	32.0%	2,051,261	2,802,861	73.2%
Judgements/Claims	0	0	0	0	742,563	200,000	371.3%	1,108,527	865,963	128.0%
OCIP - Owner Controlled Insurance	Incl in Contract	Incl in Contract	Incl in Contract	3,133	2,723,225	2,796,186	97.4%	16,865,612	17,054,576	98.9%
Contingency	51,115,982	61,948,399	70,208,539	0	0	4,132,381	0.0%	0	63,999,299	0.0%
Sales Tax	50,398,733	57,541,162	62,763,650	1,556,386	11,145,224	11,617,626	95.9%	38,682,451	26,076,306	148.3%
Subtotal KC Construction Contracts	617,173,514	704,686,675	768,675,093	11,258,764	135,406,760	179,257,951	75.5%	488,584,947	691,696,962	70.6%
<u>Owner Furnished Equipment and Materials</u>										
Procurement Contracts	66,419	66,419	66,419	0	491,131	499,962	98.2%	880,461	1,059,492	83.1%
Subtotal Owner Furnished Equipment	66,419	66,419	66,419	0	491,131	499,962	98.2%	880,461	1,059,492	83.1%
<u>Outside Agency Implementation/Construction</u>										
Utility Relocations, etc.	0	0	0	17,312	149,390	0	0.0%	2,971,287	5,172,706	57.4%
Subtotal Outside Agency Costs	0	0	0	17,312	149,390	0	0.0%	2,971,287	5,172,706	57.4%
<u>Other Capital Charges</u>										
Subtotal Other Capital Charges	3,601	3,601	3,601	1,081	18,697	0	0.0%	251,026	232,328	108.0%
Implementation/Construction Total	617,243,534	704,756,695	768,745,113	11,277,157	136,065,978	179,757,914	75.7%	492,687,720	698,161,489	70.6%
<b>NON-IMPLEMENTATION/CONSTRUCTION</b>										
<u>Engineering Services</u>										
Subtotal Engineering Services	81,685,247	87,262,878	91,288,908	704,630	4,054,793	3,108,266	130.5%	75,922,048	78,405,000	96.8%
<u>Planning and Management Services</u>										
Subtotal Planning and Management Services	56,600,007	60,464,767	63,254,418	1,146,891	12,932,243	13,988,384	92.4%	52,199,138	73,632,789	70.9%
<u>Permitting and Other Agency Support</u>										
Permits and Licenses	3,000,000	3,157,224	3,264,257	240	11,097	40,376	27.5%	527,763	617,419	85.5%
Local Agency Project Costs	18,010,000	18,824,298	19,377,952	12,092	73,733	0	0.0%	577,761	504,028	114.6%
1% for Art Payment	100,000	109,273	115,763	0	0	100,000	0.0%	0	100,000	0.0%
Subtotal Permitting and Other Agency Support	21,110,000	22,090,795	22,757,972	12,332	84,830	140,376	60.4%	1,105,525	1,221,447	90.5%
<u>Right-of-Way (not incl. in allied cost calcs.)</u>										
Land Purchases/Easements	16,770,394	17,089,543	17,302,309	1,541,455	1,581,849	1,000,000	158.2%	13,256,152	12,674,303	104.6%
Land Purchases/Easements-Mitigation	4,033,333	4,154,333	4,235,000	0	0	0	0.0%	6,414,768	6,414,768	100.0%
Local Agency Mitigation (Moved from Local Agency Project Costs above)				1,550	279,423	2,159,897	12.9%	8,130,269	11,708,691	69.4%
Subtotal Right-of-Way	20,803,727	21,243,876	21,537,309	1,543,005	1,861,272	3,159,897	58.9%	27,801,188	30,797,761	90.3%
Total Non-Implementation /Const. Cost	180,198,981	191,062,316	198,838,607	3,406,859	18,933,137	20,396,923	92.8%	157,027,899	184,056,996	85.3%
Accrual Adjustment				7,709,732	-2,545,049	0	0.0%	7,709,732	0	
Project Reserve	74,165,992	89,486,148	101,125,501	0	0	0	0.0%	0	2,000,000	0.0%
<b>PROJECT TOTAL</b>	871,608,507	985,305,159	1,068,709,221	22,393,748	152,454,066	200,154,837	76.2%	657,425,352	884,218,486	74.4%
Credits and Revenues	0	0	0	0	801	0	0.0%	-3,865	-4,666	82.8%
<b>Project Total + Credits and Revenues</b>	871,608,507	985,305,159	1,068,709,221	22,393,748	152,454,867	200,154,837	76.2%	657,421,487	884,213,820	74.4%

\* These columns represent the sum of each year's project costs inflated to that year's dollars. Inflation is estimated at three percent and five percent per year.

\*\*This column represents Lifetime total cost including inflation reflected in awarded contracts and inflation on remaining forecast contracts at three percent per year through the completion of the project.

# Treatment Plant

## Project Description

The Brightwater Treatment Plant is a new wastewater treatment facility to be located just east of State Route 9 and north of State Route 522 and Woodinville. The Brightwater plant will provide 36 million gallons per day (mgd) of treatment capacity (average wet weather flow) beginning in 2011 and 54 mgd of capacity by 2040. The Brightwater Treatment Plant includes membrane bioreactor (MBR) secondary treatment systems, Class B biosolids and reclaimed water production, odor control systems, and disinfection.

## Current Activities

- The Electronic O&M manuals (EOM) for the Brightwater system continue to be developed. The manuals are now at 60% completion.
- Following Functional Acceptance Testing of the Emerson Instrumentation and Control equipment which occurred during May, 2009, Emerson continues to work on punch list items with final inspection and acceptance due in February 2010.
- Start-up and component test plans continue to be submitted by Kiewit and Hoffman for review by County staff.

## Treatment Plant Construction

- The landscaping subcontractor continued placing plants, erosion control and mulch on the landforms south of 228<sup>th</sup> St. Valley is installing HSQ control panels for the Liquids Contract. Electrical, mechanical, and HVAC work continues in all areas of the plant.
- Kiewit continues forming and concrete placement for remaining walls and slabs in the Digester, Solids, and the three Odor Control Buildings, and site cast panels for the Solids building. They are preparing for concrete placement on the Digester 1 parapet walls. Kiewit's subcontractors continued with concrete, electrical and piping installation on all three Odor Control Buildings, and are continuing mechanical and electrical work in the 262 and 284 level of the Solids and Digestion Buildings and the Energy Building. Kiewit's painting subcontractor continued coating of piping and structural steel in all areas. Roofing work continued on the 490, 590 and Energy Buildings. Doors and architectural systems continue to be installed in all buildings.

## Local Permits

- All permits have been issued for the Treatment Plant.
- Construction remained in compliance with permit conditions.

## State and Federal Permits

- During the month of December, construction at the Treatment Plant was in compliance with State and Federal permits.

## Project Issues

- There were no new issues in December.

# Looking Ahead

## Solids Contract

- Kiewit will continue placing rebar, concrete (including site cast panels), structural steel and miscellaneous metals for the Solids Building and will continue work on the Energy Building mechanical and electrical equipment. Concrete, mechanical and electrical work will continue on the 490, 590 and 790 Odor Control Buildings. They will continue installing piping, HVAC, equipment and electrical cable trays in the Galleries, Digestion and Solids Building. Roofing and coating work will continue on the 490 and 590 buildings. Electrical cable installation will begin between the Energy building and the Liquids medium voltage switchgear.
- Kiewit will continue mechanical and electrical work on the Chemical Storage Building, including piping, conduit and panels. Concrete placements on the Digestion Building roof level slab will be completed, and the last tower crane will be demobilized.

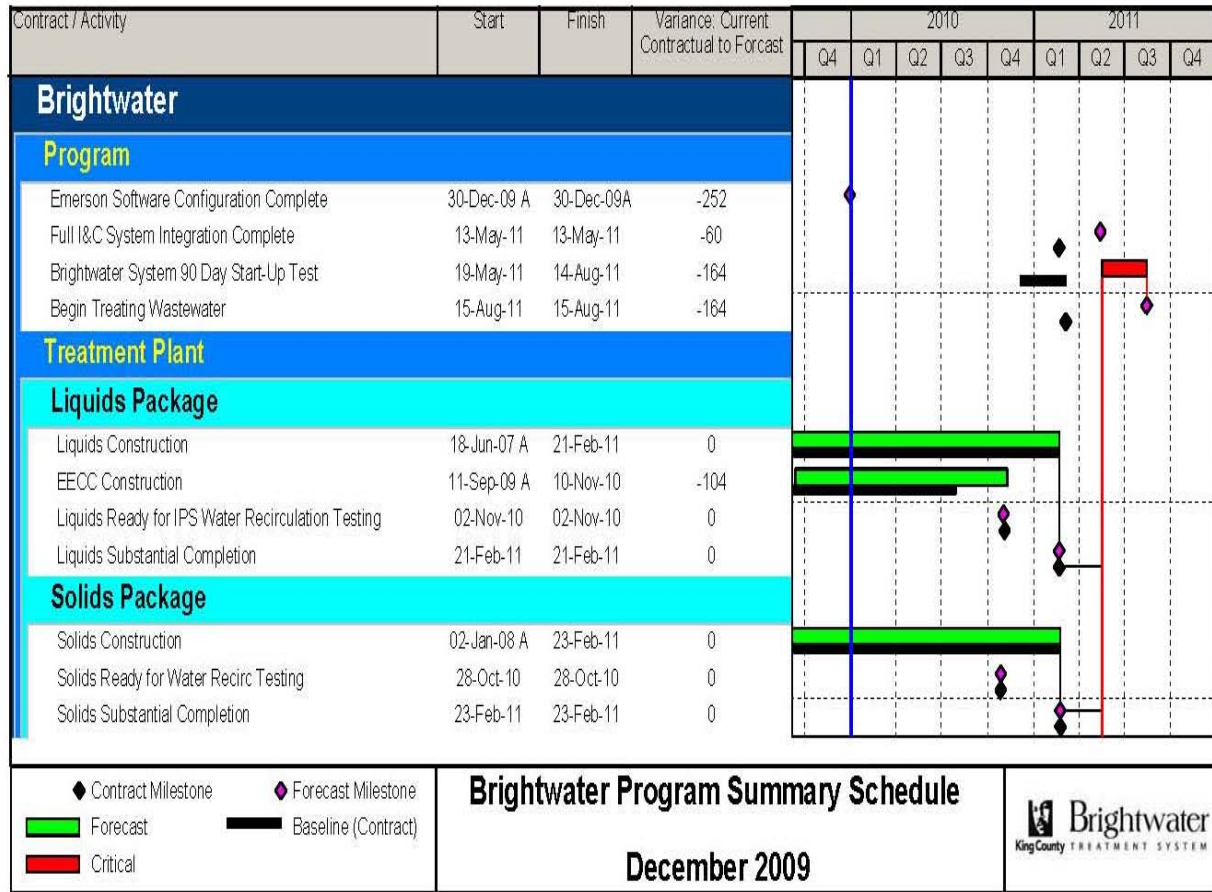
## Liquids Contract

- Application of the coating system in the membrane tanks will begin in January provided acceptable application conditions can be achieved.
- Installation of yard piping will also continue including storm drain piping and foul air duct.
- Hoffman Structures continues preparation of above-grade walls for coatings.
- Landscaping work will continue in the areas south of Echo Mound near the West Wetscape.
- The CMU walls for the community center wing of the EECC will be placed.
- Hoffman's subcontractors will continue working on installation of glazing, louvers, flashing, and roofing to get buildings "dried in".
- Elcon will complete testing of cable from the Snohomish County substation to the medium voltage switchgear in preparation for energizing the medium voltage switch gear.

# Schedule

Figure 11 provides a summary of scheduled activities for the Brightwater Treatment Plant.

**Figure 11: Summary of Brightwater Treatment Plant**



## Schedule Adjustments/Issues

The projected initiation of wastewater treatment is August 15, 2011.

# Contract Status

Table 9 summarizes the current contract status for the Brightwater Treatment Plant.

**Table 9: Summary of Brightwater Treatment Plant Contract Status**

Contract	Original Contract Amount	Planned Phased Amendments	Baseline Cost = (original + planned Am.)	Other Am. or Change Orders	Other Am. or Change Order % of Baseline	No. of Am. or CO's to Date	Current Contract Amount	Amount Paid	Through Payment No.	% Complete
E13035E CH2M Hill - Design	\$9,719,364	\$51,086,355	\$60,805,719	\$17,396,653	29%	42	\$78,202,372	\$69,788,877	PH4-35	89%
P53007P CDM Construction Mgt. Services	\$1,497,206	\$12,730,519.58	\$14,227,726	\$298,711	2%	6	\$14,526,437	\$10,106,125	33	70%
P0001P06 - BW Testing and Inspection	\$100,000	\$900,000	\$1,000,000	\$0	0%	6	\$1,000,000	\$995,663	34	100%
P00048P08 - BW Testing and Inspection	\$1,500,000	\$0	\$1,500,000	\$0	0%	0	\$1,500,000	\$829,559	10	55%
C38138C GCCM Contract Preconstruction	\$1,424,428	\$0	\$1,424,428	\$666,028	47%	3	\$2,090,456	\$1,943,703	33	93%
C38138C-515 North Mitigation Area *	\$7,740,356	\$0	\$7,740,356	\$114,822	1%	15	\$7,855,178	\$6,781,936	18	86%
C38138C-525 Site Preparation *	\$23,797,389	\$0	\$23,797,389	\$2,063,751	9%	12	\$25,861,140	\$21,984,418	18	85%
C38138C-535 Earthworks/BOC/Liquids *	\$41,783,191	\$247,184,021	\$288,967,212	-\$18,793,100	-7%	28	\$270,174,112	\$186,746,576	32	69%
C00168C07 Solids/Odor Control Facilities	\$166,459,000	\$0	\$166,459,000	\$2,103,744	1%	15	\$168,562,744	\$96,730,643	23	57%
C00168C07-01 DRB - Richard A. Lewis	\$125,000	\$0	\$125,000	\$0	0%	0	\$125,000	\$13,004	7	10%
C00168C07-02 DRB - Quadrant II, Inc.	\$125,000	\$0	\$125,000	\$0	0%	0	\$125,000	\$4,806	3	4%
C00168C07-03 DRB - R. Brown Consulting Group, LLC	\$125,000	\$0	\$125,000	\$0	0%	0	\$125,000	\$6,007	6	5%
Legal - Foster Pepper	\$1,150,000	\$2,150,000	\$3,300,000	\$0	0%	6	\$3,300,000	\$2,930,867	63	89%
Legal - Stoel Rives	\$3,500,000	\$0	\$3,500,000	\$0	0%	0	\$3,500,000	\$479,929	30	14%
Legal - Preston Gates	\$1,150,000	\$3,364,700	\$4,514,700	\$0	0%	10	\$4,387,056	\$4,337,116	85	99%
PO 299593 SnoPUD Engineering & Design Services	\$150,000	\$396,200	\$546,200	\$0	0%	5	\$546,200	\$530,204	21	97%
PO 373403 SnoPUD Procurement & Construction	\$7,389,000	\$0	\$7,389,000	\$0	0%	0	\$7,389,000	\$5,095,274	10	69%
PO 387375 Emerson Process Management	\$6,114,678	\$0	\$6,114,678	\$0	0%	0	\$6,114,678	\$5,075,183	6	83%
PO 309175 Zenon	\$23,714,638	\$0	\$23,714,638	-\$2,991,349	-13%	3	\$20,723,290	\$7,959,935	12	38%

- Planned Phased Amendments are planned amendments that were part of the initial project plan, and contribute to the contract baseline cost (baseline equals Original Contract Amount plus Planned Phased Amendments). The *Other Am. Or Change Order %* column is the percentage of unplanned amendments compared to the contract baseline. Unplanned amendments to Contract P93012P adjusted the contract from a simple planned programmatic EIS to a complex project level EIS to advance the project schedule, reduce risk and overall siting costs. Several amendments and change orders were needed to other contracts to respond to the 60 percent construction cost estimate which was over the project budget amount. Amendments were needed for the CH2M Hill Contract E13035E and EarthTech Contract P56016P to participate in value engineering exercises used to investigate over 300 cost savings ideas, and to provide redesign services of over 150 of the selected ideas which resulted in approximately \$50 million in savings. A change order was needed in Hoffman's GCCM preconstruction contract to also participate in the VE exercises and to provide cost estimating for the cost savings ideas.

\* Sales Tax was included in the original contract amounts for NMA, Site Prep and Earthwork/BOC/Liquids. Amendment 5, effective 9/18/07, removed the unspent balance of sales tax from Earthwork/BOC/Liquids phase of the project for all work performed after July 1, 2007. Amount paid includes sales taxes of \$2,367,113 through June 30, 2007.



## Expenditures Summary

Table 10 shows the annual and lifetime expenditures for the Brightwater Treatment Plant (excluding miscellaneous/staff costs which are shown combined with Conveyance costs on Table 3). Monthly and Annual costs are depicted graphically in Figures 12 and 13 on the following pages. This table reflects the inclusion of the *Brightwater Cost Update* Trend dated January 2009, and the related annual cash flows submitted for the 2010 rate process and approved by the Council in June 2009

**Table 10: Annual and Lifetime Treatment Plant Expenditures**

ITEM	Baseline Cost (2004\$)	Baseline Cost * (w/ 3% infl)	Baseline Cost * (w/ 5% infl)	2009 Preliminary Annual Expenditures			Lifetime Expenditures		
				YTD Actual	Planned	Percent Spent	LTD Actual	Planned ** (w/infl)	Percent Spent
<b>IMPLEMENTATION/CONSTRUCTION</b>	335,797,643	384,117,552	419,462,452	191,666,023	226,844,408	84.5%	372,258,274	549,953,926	67.7%
<b>NON-IMPLEMENTATION/CONSTRUCTION</b>									
Engineering Services	50,911,433	53,019,281	54,523,113	4,049,407	5,194,646	78.0%	69,180,302	76,433,688	90.5%
Planning and Management Services	22,509,579	23,441,526	24,106,418	5,733,711	5,111,871	112.2%	24,100,183	30,270,062	79.6%
Permitting and Other Agency Support	23,370,000	24,668,771	25,573,223	1,054,199	2,373,056	44.4%	5,491,948	7,467,320	73.5%
Right-of-Way	101,437,757	103,290,154	104,532,273	120,449	596,744	20.2%	180,928,405	181,859,718	99.5%
Total Non-Implementation /Const. Cost	198,228,768	204,419,733	208,735,027	10,957,766	13,276,317	82.5%	279,700,838	296,030,789	94.5%
Accruals and Adjustments ***				-4,246,102	0	0.0%	7,755,341	0	
Project Reserve	25,880,400	31,226,405	35,287,985	0	0	0.0%	0	2,000,000	0.0%
<b>Project Total</b>	<b>559,906,811</b>	<b>619,763,690</b>	<b>663,485,464</b>	<b>198,377,687</b>	<b>240,120,725</b>	<b>82.6%</b>	<b>659,714,453</b>	<b>847,984,714</b>	<b>77.8%</b>
Credits and Revenues	-10,000,000	-10,786,544	-11,335,009	-7,050	-121,100	0.0%	-3,108,187	-3,222,237	96.5%
<b>Project Total + Credits and Revenues</b>	<b>549,906,811</b>	<b>608,977,146</b>	<b>652,150,456</b>	<b>198,370,637</b>	<b>239,999,625</b>	<b>82.7%</b>	<b>656,606,265</b>	<b>844,762,477</b>	<b>77.7%</b>

\* These columns represent the sum of each year's project costs inflated to that year's dollars. Inflation is estimated at three percent and five percent per year.

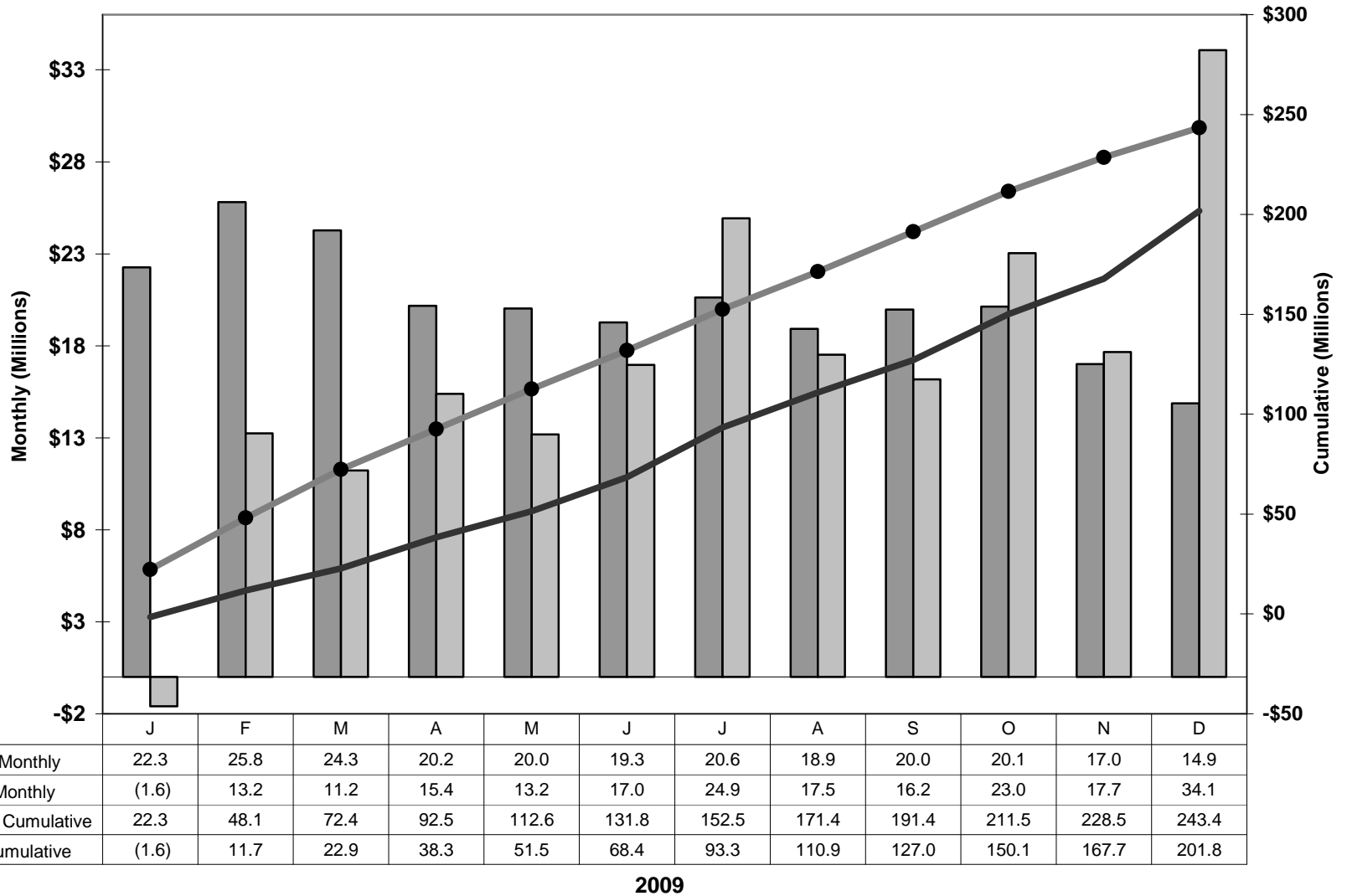
\*\* This column represents Lifetime total cost including inflation reflected in awarded contracts and inflation on remaining forecast contracts at three percent per year through the completion of the project. The majority of construction contracts have been awarded. Mitigation payments have been moved from the Permitting category to Right-of-Way.

\*\*\* In December 2008 costs were accrued to reflect the dollars spent during 2008 but not paid. The accounting convention is to reverse those amounts, which were actually paid in early 2009.

## Cost/Budget Adjustments

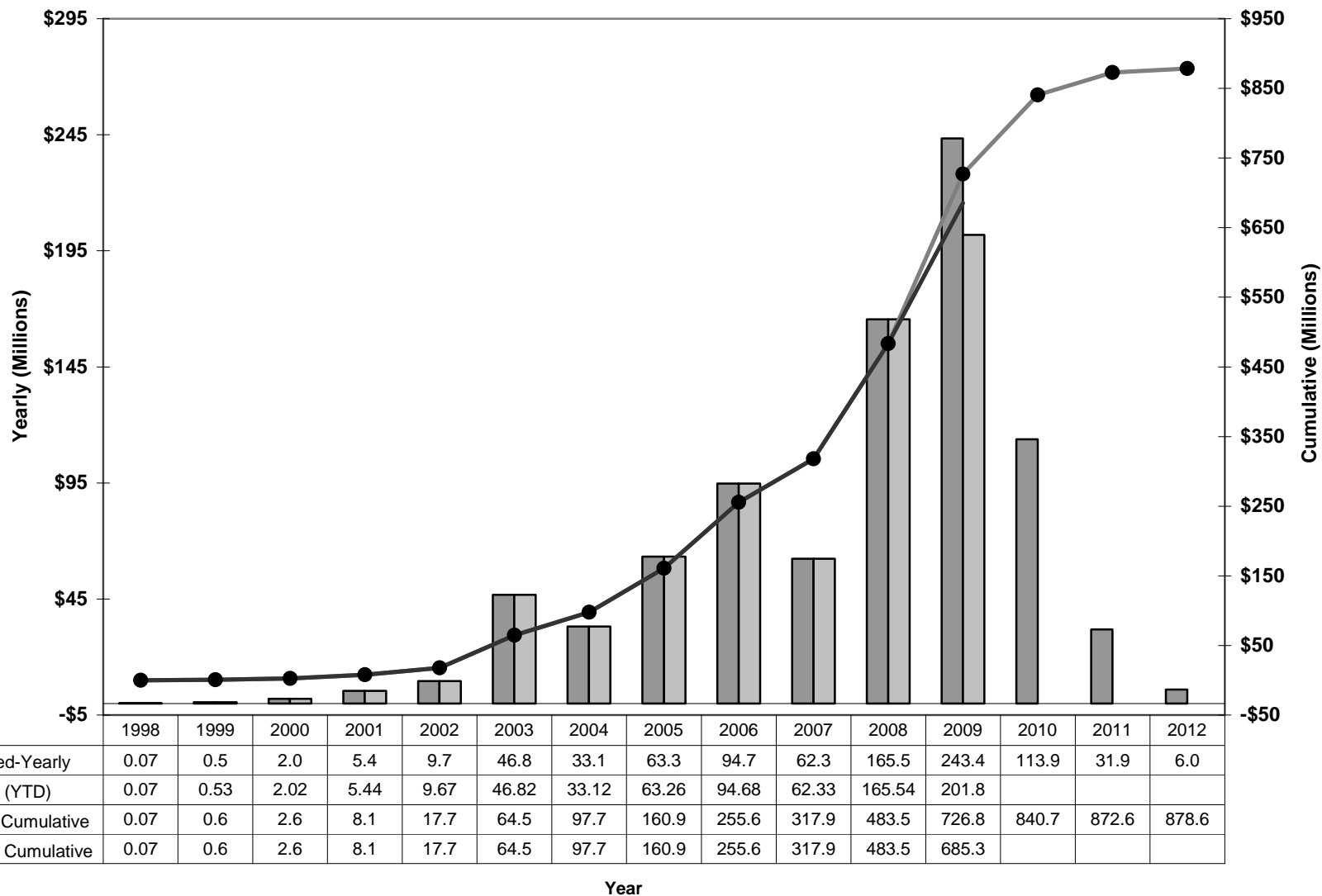
- Planned costs reflect the January 2009 Brightwater Cost Trend Update. Mitigation payments were transferred from the Permitting category to Right-of-Way.

Figure 12: Annual Treatment Plant Expenditures: Current Planned vs. Actual



Note: In December 2008 costs were accrued to reflect the dollars spent during 2008 but not paid. The accounting convention is to reverse those amounts, which are actually paid in early 2009. Thus, for accounting purposes, the expenditures show a very small amount in January 2009. Planned costs are the current forecast (January 2009 Trend) of total project costs including prior year actual (1998-2008) and future years forecast costs. Costs include Miscellaneous and Staff Labor.

Figure 13: Lifetime Treatment Plant Expenditures: Current Planned vs. Actual



Costs include Miscellaneous and Staff Labor. Planned costs are the current forecast of total project costs including prior year actual (1998-2008) and future years forecast costs. Actual Cumulative for year 2009 includes only YTD costs through the current month.

# Detailed Expenditures

**Table 11: Detailed Annual and Lifetime Treatment Plant Expenditures**

ITEM	Baseline Cost (2004\$)	Baseline Cost * (w/ 3% infl)	Baseline Cost * (w/ 5% infl)	2009 Preliminary Annual Expenditures				Lifetime Expenditures		
				Monthly IBIS Dec-09	YTD Actual	Planned	Percent Spent	LTD Actual	Planned ** (w/infl)	Percent Spent
<b>IMPLEMENTATION/CONSTRUCTION</b>										
<u>Implementation/Construction Contracts</u>										
Construction Contracts	259,500,014	296,472,713	323,421,114	20,234,030	162,269,227	184,146,186	88.1%	308,565,839	418,411,492	73.7%
Construction Mitigation	28,388,610	31,071,321	32,957,559	1,393,431	2,085,800	4,828,539	43.2%	10,456,791	26,463,569	39.5%
Judgments/Claims	0	0	0	0	0	50,000	0.0%	0	150,000	0.0%
OCIP - Owner Controlled Insurance	Incl in Contract	Incl in Contract	0	1,704	1,481,229	1,520,915	97.4%	9,185,256	9,288,038	98.9%
Contingency	26,054,532	31,553,814	35,747,231	0	0	5,430,945	0.0%	9,515	26,584,577	0.0%
Sales Tax	21,765,086	24,930,302	27,247,146	1,851,696	13,479,202	15,099,686	89.3%	25,477,494	29,611,298	86.0%
Subtotal KC Construction Contracts	335,708,241	384,028,150	419,373,050	23,480,862	179,315,457	211,076,270	85.0%	353,694,895	510,508,973	69.3%
<u>Owner Furnished Equipment and Materials</u>										
Procurement Contracts	39,575	39,575	39,575	383,167	9,760,726	11,775,251	82.9%	11,632,909	28,894,065	40.3%
Subtotal Owner Furnished Equipment	39,575	39,575	39,575	383,167	9,760,726	11,775,251	82.9%	11,632,909	28,894,065	40.3%
<u>Outside Agency Implementation/Construction</u>										
Utility Relocations, etc.	0	0	0	10,355	2,191,747	3,359,414	65.2%	5,815,166	8,038,833	72.3%
Subtotal Outside Agency Costs	0	0	0	10,355	2,191,747	3,359,414	65.2%	5,815,166	8,038,833	72.3%
<u>Other Capital Charges</u>										
Subtotal Other Capital Charges	49,827	49,827	49,827	52,098	398,093	633,474	62.8%	1,115,305	2,512,054	44.4%
Total Implementation/Construction	335,797,643	384,117,552	419,462,452	23,926,482	191,666,023	226,844,408	84.5%	372,258,274	549,953,926	67.7%
<b>NON-IMPLEMENTATION/CONSTRUCTION</b>										
<u>Engineering Services</u>										
Subtotal Engineering Services	50,911,433	53,019,281	54,523,113	517,692	4,049,407	5,194,646	78.0%	69,180,302	76,433,688	90.5%
<u>Planning and Management Services</u>										
Subtotal Planning and Management Services	22,509,579	23,441,526	24,106,418	1,432,968	5,733,711	5,111,871	112.2%	24,100,183	30,270,062	79.6%
<u>Permitting and Other Agency Support</u>										
Permits and Licenses	3,000,000	3,087,863	3,146,439	3,727	45,449	80,700	56.3%	880,364	939,631	93.7%
Local Agency Project Costs	16,070,000	16,774,121	17,254,983	2,500	8,750	355,000	2.5%	1,348,940	2,227,690	60.6%
1% for Art Payment	4,300,000	4,806,787	5,171,801	0	1,000,000	1,937,356	51.6%	3,262,644	4,300,000	75.9%
Subtotal Permitting and Other Agency Support	23,370,000	24,668,771	25,573,223	6,227	1,054,199	2,373,056	44.4%	5,491,948	7,467,320	73.5%
<u>Right-of-Way (not incl. in allied cost calcs.)</u>										
Land Purchases/Easements	93,371,090	94,981,488	96,062,273	0	109,995	0	0.0%	93,605,121	93,484,170	100.1%
Land Purchases/Easements-Mitigation	8,066,667	8,308,667	8,470,000	0	0	0	0.0%	12,112,482	12,123,438	99.9%
Local Agency Mitigation (Moved from Local Agency Project Costs above)				1,466	10,454	596,744	1.8%	75,210,801	76,252,110	98.6%
Subtotal Right-of-Way	101,437,757	103,290,154	104,532,273	1,466	120,449	596,744	20.2%	180,928,405	181,859,718	99.5%
Total Non-Implementation /Const. Cost	198,228,768	204,419,733	208,735,027	1,958,353	10,957,766	13,276,317	82.5%	279,700,838	296,030,789	94.5%
Accrual Adjustment Project Reserve	25,880,400	31,226,405	35,287,985	7,755,341	-4,246,102	0	0.0%	7,755,341	0	0.0%
				0	0	0	0.0%	0	2,000,000	0.0%
<b>Project Total</b>	559,906,811	619,763,690	663,485,464	33,640,176	198,377,687	240,120,725	82.6%	659,714,453	847,984,714	77.8%
Credits and Revenues	-10,000,000	-10,786,544	-11,335,009	0	-7,050	-121,100	0.0%	-3,108,187	-3,222,237	96.5%
<b>Project Total + Credits and Revenues</b>	549,906,811	608,977,146	652,150,456	33,640,176	198,370,637	239,999,625	82.7%	656,606,265	844,762,477	77.7%

\* These columns represent the sum of each year's project costs inflated to that year's dollars. Inflation is estimated at three percent and five percent per year.

\*\* This column represents Lifetime total cost including inflation reflected in awarded contracts and inflation on remaining forecast contracts at three percent per year through the completion of the project.

\*\*\* Due to review and corrective adjustments, costs were transferred between Construction Contracts and Construction Mitigation.

# Appendix A. Acronyms and Abbreviations

<b>B&amp;C</b>	Brown and Caldwell (IPS design consultants)
<b>BINI</b>	Brightwater Influent Network Improvements Project
<b>BNSF</b>	Burlington Northern Santa Fe Railway Company
<b>BOC</b>	Brightwater Operations Center
<b>Carollo</b>	Carollo Engineers – Reclaimed Water Consulting Engineers
<b>CCI</b>	construction cost index
<b>CDM</b>	Camp Dresser McKee (geotechnical consultant for conveyance, and the treatment plant construction management consultant)
<b>CEPC</b>	chemically enhanced primary clarification
<b>CH2M Hill</b>	treatment plant design consultant
<b>COE</b>	United States Army Corps of Engineers
<b>CUP</b>	conditional use permit
<b>CWA</b>	Clean Water Act
<b>CZM</b>	Coastal Zone Management
<b>DOE</b>	Washington State Department of Ecology also referred to as Ecology
<b>DOH</b>	Washington State Department of Health
<b>DOT</b>	Washington State Department of Transportation
<b>EECC</b>	Environment Education and Community Center
<b>EIS</b>	environmental impact statement
<b>FM</b>	Force Main
<b>GBR</b>	geotechnical baseline report
<b>GCC</b>	general contract cost
<b>GCCM</b>	general contractor construction management
<b>GDR</b>	geotechnical data report
<b>GMA</b>	Growth Management Act
<b>HCC</b>	Hoffman Construction Company (treatment plant GCCM)
<b>HDPE</b>	High density polyethylene – a type of transmission pipe material
<b>HPA</b>	hydraulic project approval
<b>HSI</b>	Hoffman Structures, Inc.

<b>IBC</b>	International Building Code
<b>I/C</b>	instrumentation and control
<b>IPS</b>	influent pump station
<b>IS</b>	Influent Structure
<b>KST</b>	Kenny/Shea/Traylor Joint Venture (East Tunnel contractor)
<b>LPWTF</b>	Local Public Works Trust Fund
<b>MACC</b>	maximum allowable construction cost
<b>MARSEC</b>	Marine Security
<b>MBR</b>	membrane bioreactor
<b>ME</b>	Membrane Effluent
<b>MOA</b>	memorandum of agreement
<b>MWH/JA</b>	Montgomery Watson Harza/Jacobs (conveyance design consultant)
<b>MWPAAC</b>	Metropolitan Water Pollution Abatement Advisory Committee
<b>NCF</b>	North Creek Facilities
<b>NCFM</b>	North Creek Force Main
<b>NCPS</b>	North Creek Pump Station
<b>NMA</b>	North Mitigation Area
<b>NOC</b>	Notice of Construction
<b>NPDES</b>	National Pollution Discharge Elimination System
<b>NTP</b>	notice to proceed
<b>OCIP</b>	owner controlled insurance program
<b>OMC</b>	oversight management consultant
<b>PAUE</b>	public agency and utility exception
<b>PCSS</b>	King County's Procurement and Contract Services Section
<b>PLA</b>	project labor agreement
<b>PSE</b>	Puget Sound Energy
<b>QA/QC</b>	quality assurance/quality control
<b>RAS</b>	Return Activated Sludge
<b>RBAFO</b>	request for best and final offer
<b>RFP</b>	request for proposal

<b>RFQ/P</b>	Request of Quotation & Proposal
<b>ROW</b>	right-of-way
<b>RW</b>	reclaimed water
<b>RWSP</b>	Regional Wastewater Services Plan
<b>SDC</b>	services during construction
<b>SEPA</b>	State Environmental Policy Act
<b>SI</b>	System Integration
<b>SnoPUD</b>	Snohomish County Public Utilities District
<b>SOQ</b>	Statement of Qualifications
<b>SRF</b>	State Revolving Fund
<b>TBM</b>	tunnel boring machine
<b>Vinci</b>	Vinci/Parsons RCI/Frontier-Kemper Joint Venture – (Central Tunnel contractor)
<b>WTD</b>	Wastewater Treatment Division
<b>WDFW</b>	Washington State Department of Fish and Wildlife





# Appendix B. Table Definitions

## Expenditure Tables

The column headings defined below apply to all the tables in this report that present information on expenditures.

<b>Column Heading</b>	<b>Definition</b>
Baseline Cost (2004\$)	This column shows the total project cost for the Brightwater project without inflation. It is stated in 2004 dollars as determined in the October 2004 Brightwater predesign estimates.
Baseline Cost (w/infl)	This column shows the sum of each year's project costs inflated to that year's dollars. In other words, each year's costs in 2004 dollars are inflated at a rate that increments by three percent each year. The inflated costs for each year are then added together to yield the figures in this column.
<b>2008 Annual Expenditures</b>	
YTD Actual	<u>Year-to-date Actual.</u> This column shows what has been spent to date in the current year (2008), i.e., the year-to-date expenditures.
Planned	This column shows the planned expenditure for the current year (2008).
Percent Spent	This column shows the percent of the planned annual expenditure for the current year (2008) that has been spent as of the current reporting period (YTD Actual/Current Planned).
<b>Lifetime Expenditures</b>	
LTD Actual	<u>Life-to-date Actual.</u> This column shows what has been spent to date since the project began, i.e., the life-to-date expenditures.
Planned	This column shows the planned expenditure for the project's lifetime.
Percent Spent	This column shows the percent of the planned lifetime expenditure that has been spent to date as of the current reporting period (LTD Actual/Current Planned).

## Contract Status Table

<b>Column Heading</b>	<b>Definition</b>
Contract	This column gives the contract number, the contract vendor, and the contract type.
Original Contract Amount	This column shows the cost of the original contract.
Amendments or Change Orders	This column shows the cumulative cost increase over the original contract amount due to amendments or change orders.
Am. or Change Order %	<u>Amendment or Change Order Percent.</u> This column shows by what percent the total contract amount has increased due to amendments or change orders
No. of Am. Or COs to Date	<u>Number of Amendments or Change Orders to Date.</u> This column shows how many amendments or change orders have been made to the original contract.
Current Contract Amount	This column shows the current amount of the contract after adding the cost of amendments or change orders.
Amount Paid	This column shows how much has been paid to date on the contract.
Thru PP No.	<u>Through Process Payment Number.</u> This column shows the progress payment number through which the amount paid has been made. A lower number indicates that very few payments have been made.
% Complete	<u>Percent Complete.</u> This column shows the percent of the contract current contract amount that has been spent to date.