



Michael S. Kuenzi, P.E.  
Director

## MEMORANDUM

TO: Mike Kuenzi, Director  
FROM: Ted Kyle, Capacity Program Manager  
DATE: September 18, 2008  
SUBJECT: Capacity Management Program Status Report

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This report presents the status of the near-term capacity projects. For overall background on the program, please visit [www.riverhealth.org](http://www.riverhealth.org).

### Phase 1 Program Overview

Phase 1 of the Capacity Management Program (CMP) focuses almost exclusively on solving the near-term needs of Clackamas County Service District No. 1 (CCSD #1), which sends about 15 percent of its flow to the Tri-City Plant for treatment because its own Kellogg Creek Plant can't keep up with demand.

The Phase 1 improvements include those major capital replacement projects needed to keep Kellogg running for the next 8 to 10 years. The Board of County Commissioners authorized the sale of revenue obligations on July 7 to finance improvements such as:

- **Kellogg Plant:** These improvements will improve plant reliability and hydraulic capacity so treatment can be provided during severe storm events. The plant has in the past passed raw sewage to the Willamette River because it didn't have the capacity to carry high flow rates caused by rainstorms.
- **Tri-City Plant:** The expansion project allows the plant to handle an additional 20,000 EDUs (equivalent dwelling units). The increase will relieve Kellogg, replace the capacity currently being rented from the Tri-City Service District, and provide for growth through 2015.
- **Interconnecting pipelines:** Construct new wastewater transmission system pipes to transfer flow from the CCSD #1 sewer system to Tri-City.

## **Program Status**

The program's first construction contract was completed last month. The pipeline that runs from Camp Withycombe to the Clackamas Pump Station at the intersection of Jennifer and Evelyn Streets was completed with the final cost coming in below the bid price. Construction has started on the Tri-City Plant Phase 1 Expansion and the Intertie No. 1 pump station at Camp Withycombe. Design continues on the Tri-City Plant Phase 1 Expansion and the Kellogg Plant improvements. The routing study for the second major intertie has also started.

## **Kellogg Plant**

Design work continues by adding details needed for bidding and construction to the drawings. Since high-efficiency blower technology was selected, a supplier pre-qualification will be conducted so that the efficiency goals can be met while maintaining competition on equipment prices.

The land use permit pre-application conference was held September 4. Milwaukie staff is still considering if these improvements constitutes a "major" or "minor" modification. Their decision is expected this week. The plant is within the "Willamette Greenway" which requires a full planning commission review of any improvements that would affect the view from or to the river. The proposed air pipe replacement plan triggered this review.

### What's Next

The 90% drawings and specifications are expected in early November. Equipment and blower pre-qualifications will be publicly advertised in October. The land use process could result in delaying all or part of the Kellogg Improvement construction.

Call for Bids for the Kellogg upgrades may be delayed beyond the planned October 31, 2008 advertisement date due to land use review.

## **Phase 1 Treatment Plant Expansion**

A Groundbreaking ceremony was held on September 11, 2008 and Slayden Construction started mobilizing. The contract covers early work construction activities that are scheduled during the next 3 months. The early work includes mobilization, excavation, yard piping, foundations and piling construction. Excavation starts on September 15. Slayden has competitively bid 8 subcontractors or material supply packages so far. The larger packages are for concrete material, rebar subcontractor, excavation, and auger cast piles. These bids lock the cost and insulate the project from future inflation for these items. Slayden delivered their first detailed cost estimate, based on the 70% design. The cost estimate will be adjusted as the design is completed and as materials and subcontract bid results are accepted.

Design work continues. Details needed for construction will be added to the plans over the next two months. The process equipment specifications are due in early October.

What's Next:

Major subcontract, material and process equipment bids will be received during the next 3 months. As process equipment is purchased, shop drawings and installation details will be integrated into the design. The design will be finalized by mid November. The contractor will also prepare a detailed schedule and cost estimate to be used to control the project. After design completion, the Guaranteed Maximum Price for the project will be set by modifying the construction agreement in late November or early December.

**Conveyance**

Construction is underway on the first segment of the Transmission System projects, which include the Clackamas Interceptor Connection and the Clackamas River/High Rocks Bridge projects. The pipeline construction between Camp Withycombe and the Clackamas Pump Station is complete and the final cost was \$24,000 under the bid price.

The bridge construction proceeds on schedule and is expected to be completed in November 2008. Bridge foundations and support columns have been poured with concrete. Column caps are next, with bridge beams and deck to follow.

Construction of the Pump Station modifications was authorized to start in mid-August, with completion in January 2009. The pump equipment and materials are being procured. Field work will be starting in late September. The project will upgrade the existing diversion to a constant flow rate of up to 2.5 Million Gallons per Day (MGD).

The Intertie No. 2 routing study started with brainstorming on alignments and rating criteria. Over 30 possible alignments were identified. These will be grouped into 8 to 10 corridors for rating and selection purposes.

What's next:

When the Pump Station upgrades are complete, the new system will be able to move up to 2.5 MGD from the CCSD No. 1 system to Tri-City on a continuous basis. This will help download the Kellogg Plant. Today the existing diversion is transferring about 0.5 MGD in high strength wastewater to the Tri-City Plant.

Information on the corridors for Intertie No. 2 will be gathered so that a pair-wise comparison can be made using the criteria. Route options and evaluation results will be ready for public review by the end of October.

### Cost Forecast

The following table lists each major project, the original estimate, an inflation-corrected budget used for funding, and the current cost forecast. The cost forecast takes into account the current state of design, bidding results, and any updated cost estimates. This cost forecast is intended to gauge the amount of scope drift or change that normally occurs during design.

The forecast overall is holding near 2.5% of the original estimate when adjusted for inflation. The cost forecast remains unchanged this month because there is no new or significant information is available on which to base a change. The treatment plant cost estimate will be reviewed and incorporated into next month's forecast.

Project	Original Estimate 2007 dollars	Budget	Current Forecast	Variance (Budget less Forecast)
Kellogg Critical Improvements	6.9	7.2	6.6	0.6
Clackamas Interceptor Connection	10.3	10.7	3.9	6.8
Intertie No. 2 Transmission Improvements	33.2	35.9	35.9	0.0
Treatment Plant Expansion (CCSD Share)	59.5	62.9	69.5	(6.6)
<b>Total CCSD Share</b>	<b>109.9</b>	<b>116.7</b>	<b>115.9</b>	<b>0.8</b>
Treatment Plant Upgrades (TCSD Share)	4.6	4.8	5.6	(0.8)
Landfill Remediation	4.9	5.1	4.5	0.6
<b>Total TCSD</b>	<b>9.5</b>	<b>9.9</b>	<b>10.1</b>	
<b>Total Program</b>	<b>119.4</b>	<b>126.6</b>	<b>126.0</b>	<b>0.6</b>

The original estimate was made in July 2007 dollars when the Engineering New Record Construction Cost Index stood at 7959.

## Schedule

The following table shows the current milestone dates scheduled in 2008.

Item	Milestone Date	Status
Contract Signed for Plant CM/GC	Aug. 8, 2008	Complete
Selection, Intertie No. 2 Engineering	Aug. 1, 2008	Complete
Agreement to BCC, Intertie No. 2 Engineering	Aug 20, 2008	Complete
Call for Bids, Kellogg Critical Improvements	October 2008	Planned
Routing Study Recommendation to Board	December 2008	Planned
Guaranteed Maximum Price set CM/GC	November 2008	Planned



Diversion Project 1A Force Main