

Status Report #4 from the Technical Oversight Panel to the CALWMC

October 28, 2015

Summary statement

The consultant team that ToP is overseeing is currently completing **Task #2**. : At the conclusion of this task, the consultants will present the CRD with the following:

- **Technical Memo #2 (TM#2)**, detailing the finalized option sets that will form the basis for the costing and financial analysis, to be completed in Task 3. TM#2 will include general site and system characterizations, operational strategies descriptions of treatment processes including influent/effluent water quality and quantity, residuals treatment/management, flow scenarios and growth phasing, performance targets, and approvals requirements.
- **Presentation Materials** from the CALWMC/CRD Meeting

ToP has reviewed the **final TM#1** and it will be submitted by the consultants to the November 4, CALWMC meeting for approval.

ToP worked with the consultants to oversee the development of TM#2, and will review **draft TM#2** now and provide comments to the consultant team for November 6, 2015. The consultant team will provide the CALWMC with the **final TM#2** November 18.

Phase 2 activities for TM#1-4 have been coordinated and the **detailed critical path schedule** is now complete and available to the CALWMC

Teleconference meetings October 13, 20 and private vendor presentations October 23 in this period have been open to the public.

There is an issue with the USA work visa for the Florida advisor. CRD is working on resolving the paperwork issues. Payment issues have been resolved.

Recommended action for this period

1. Updated Detailed Critical Path Project Schedule

The detailed critical path schedule is now complete and indicates the critical path between all deliverables, reviews, meetings and approvals required for this planning phase two of the work. The critical path schedule is available to the CALWMC for information.

ToP advises the CALWMC to hire a full time experienced scheduler to support the finance and implementation phases.

2. Organization chart

A final organization chart will be issued to the team for November 23, 2015. This chart will keep all team members on track with reporting, communication and delivery requirements. This chart indicates roles, reporting and contractual relationships between: CALWMC members, CRD staff, Eastside and Westside Group member, TOP members, all consultant key individuals, and others.

3. Technical Memo #1

Issues around the cost estimator and the presentation of cost have been addressed by the consultant team to the satisfaction of ToP.

To ensure the accuracy of the assumptions of the ongoing engineering work, ToP recommended that CRD provide water supply projections. CRD does not have these and expects to begin this work next year.

ToP advises the CALWMC to accept the final TM#1 as submitted.

4. Technical Memo #2

ToP and the consultant team met to discuss the assumptions and direction of TM#2. ToP and the consultants toured the proposed sites for distributed options. ToP and the consultants met with eastside and westside representatives to better understand their priorities for WWT.

The consultant team, overseen by ToP, identified four viable options to be put forward to the public. At this time all options include a significant site at Rock Bay with upgrades at Clover Point. The four options are:

One Plant: Rock Bay secondary treatment with new lines in and out to upgraded facility at Clover Point outfall

Two Plants: Rock Bay as above, with one additional water reuse tertiary treatment at Colwood with no outfall

Four Plants: Rock Bay and Colwood as above with additional secondary treatment at Esquimalt with new lines in and out to Macaulay point upgraded outfall and one additional water reuse tertiary treatment at Saanich with no outfall

Six plants: Rock Bay, Colwood, Langford, View Royal, Esquimalt and Saanich (Core and East) All but Rock Bay would be tertiary treatment water reuse WWTPs. The westside includes a new outfall

Each option will be costed against the one plant baseline.

To maintain the schedule, ToP advises the CALWMC to instruct the consultants to proceed with developing draft Technical Memo #3 while completing the final TM#2

In recognition of the direction of the work, and to support the funding application, ToP advises the CRD to secure a WWTP site at Rock Bay and confirm Clover Point as upgradable

To reduce costs, ToP advises the CRD to pursue an environmental impact study comparing the environmental impacts of the Rock Bay secondary treatment as proposed (with infrastructure cost of about \$100M for the lines to and from Clover Point) with an option for a Rock Bay tertiary treatment plant outfalling at Rock Bay along seabed to deeper water, but not as deep as Clover point (eliminating infrastructure cost and disruption). Effluent will be cleaner than the stormwater that already drains into the harbour.

5. Final Deliverable, Technical Memo #4 Table of Contents

The consultants and TOP will work together to determine the Final Technical Memo #4 content to support the eventual funding and rezoning requirements of the project. The draft outline of the content will be provided to the CALWMC for comment.

Outstanding - To get ahead of the content requirements for the final report, ToP advises the CRD to provide any metrics, cost base timelines or other formatting information that will be required by funding agencies or zoning authorities that can reasonably be incorporated into TM#4 (under the original terms of reference) to ensure that the format of the information in TM#4 is the most useful format for the CRD

6. Private Sector Vendor Canvas

A preliminary meeting with interested vendors and project delivery agents was held October 23, 2015 with TOP and the consultant team. CRD is organized a webex style meeting and receiving technical information packages from eleven interested parties. Active solicitation of proposals will occur later during the implementation phase. Delivery included DBFOM (Design-Build-Finance-Operate-Maintain) and DBOT (Design-Build-Operate-Transfer). There were four generic categories of provider offerings:

- **DBFOM/DBOT Off shore WWTP – EnviroNor, Shawla**
ToP has concerns with end of life tanker, tsunami risk, no history of municipal WWTP, risk of plant failure with no option for effluent flow. ToP recognizes that because these use the existing outfalls, there will be cost savings. There is no ToP support at this time for these options.
- **DBFOM/DBOT Biosolid - Nefco, SRS, Enervoxa, ARK**
ToP generally supports the thermal drying and other pelletizing options as generic solutions and will wait to see how these fit into the option sets as they develop. The Enervoxa technology would need to be investigated and properly vetted as the presentation and materials do not explain the technology. ARK reformer technology has no municipal applications and the team would require a better understanding of the actual technology.
- **DBFOM/DBOT WWTP+Biosolid – Hydra, EcoTek**
ToP advises that these ‘one stop shop’ options will require a significant performance bond. Hydra has no built history and requires a pre-commitment before proceeding with a feasibility study. Eco-Tek is likely too small for the main WWTP and has had problems in the past. Identifying who holds the risk in the event of a plant or company failure is an issue with all of these options.
- **Tertiary Treatment – GE, Xylem, Fibracast**
ToP is aware of and supports these and other innovative approaches to increased effluent quality. GE has proven technology and many installations, as does Xylem. Fibracast is appropriate as an innovation demonstration install.

ToP will hear Shewla again as there were technical difficulties with the presentation

The consultant team will incorporate opportunities for these and other generic technology options into their options sets as appropriate

ToP will hold a meeting with the consultant team next week to discuss biosolid treatment options