



Making a difference...together



# Capital Regional District

Core Area and West Shore Sewage Treatment

Procurement Strategy – Market Sounding

Background Document and Questionnaire

OCTOBER 16, 2007



# Table of Contents

- 1. INTRODUCTION..... 2
- 2. CRD PROJECT OBJECTIVES & TARGETS..... 6
- 3. PROCUREMENT OPTIONS ..... 8
- 4. MARKET SOUNDING PROCESS..... 9
- 5. MARKET SOUNDING QUESTIONNAIRE..... 10
- APPENDIX 1 – PROCUREMENT OPTIONS ..... 13



# 1. Introduction

The purpose of this document is to collect input and feedback from technical experts and interested parties in the field of wastewater treatment and biosolids management. The Capital Regional District (CRD) wishes to consider such input and feedback as it plans for procurement of new sewage treatment facilities and services for the Core and West Shore Areas (the “Project”) and is interested in receiving feedback relating to two key areas:

1. The procurement methodology used for delivering the planned project, and
2. The packaging of the components of the planned project in a manner that will enable the CRD to achieve its goals and objectives.

This Market Sounding document has been developed to aid in assessing the reaction of the market to the opportunity and to assist the CRD in the development of a procurement plan to deliver the required new wastewater treatment facilities and services. The CRD is interested in receiving responses from those parties who are interested in participating in the provision of the following services that may be required for the overall Project or components of the Project:

- Detailed Design and Engineering
- Project and Construction Management
- Construction
- Biosolids Management
- Contract Operation and Maintenance
- Financing

The primary objectives of this market sounding are to assist in:

- shaping the Project to align it with relevant markets,
- saving time and effort by bringing precise focus to later activities,
- early identification of issues and risks that will affect the Project, and
- managing expectations of what the market can and cannot contribute to the Project.

The CRD has already conducted public surveys to obtain guidance from local residents. All of this information is available on the CRD’s website:

[www.crd.bc.ca/wastewater/sewagetreatment.htm](http://www.crd.bc.ca/wastewater/sewagetreatment.htm)



## 1.1 Background

The CRD provides wastewater management to residential, commercial, industrial and institutional customers distributed throughout the Core Area and West Shore communities to an equivalent population of 330,000 persons. These communities include the Cities of Victoria, Langford and Colwood, the Districts of Oak Bay and Saanich, the Township of Esquimalt, and the Town of View Royal. Over the next sixty years the Core Area and West Shore population is projected to grow to over 600,000 persons.

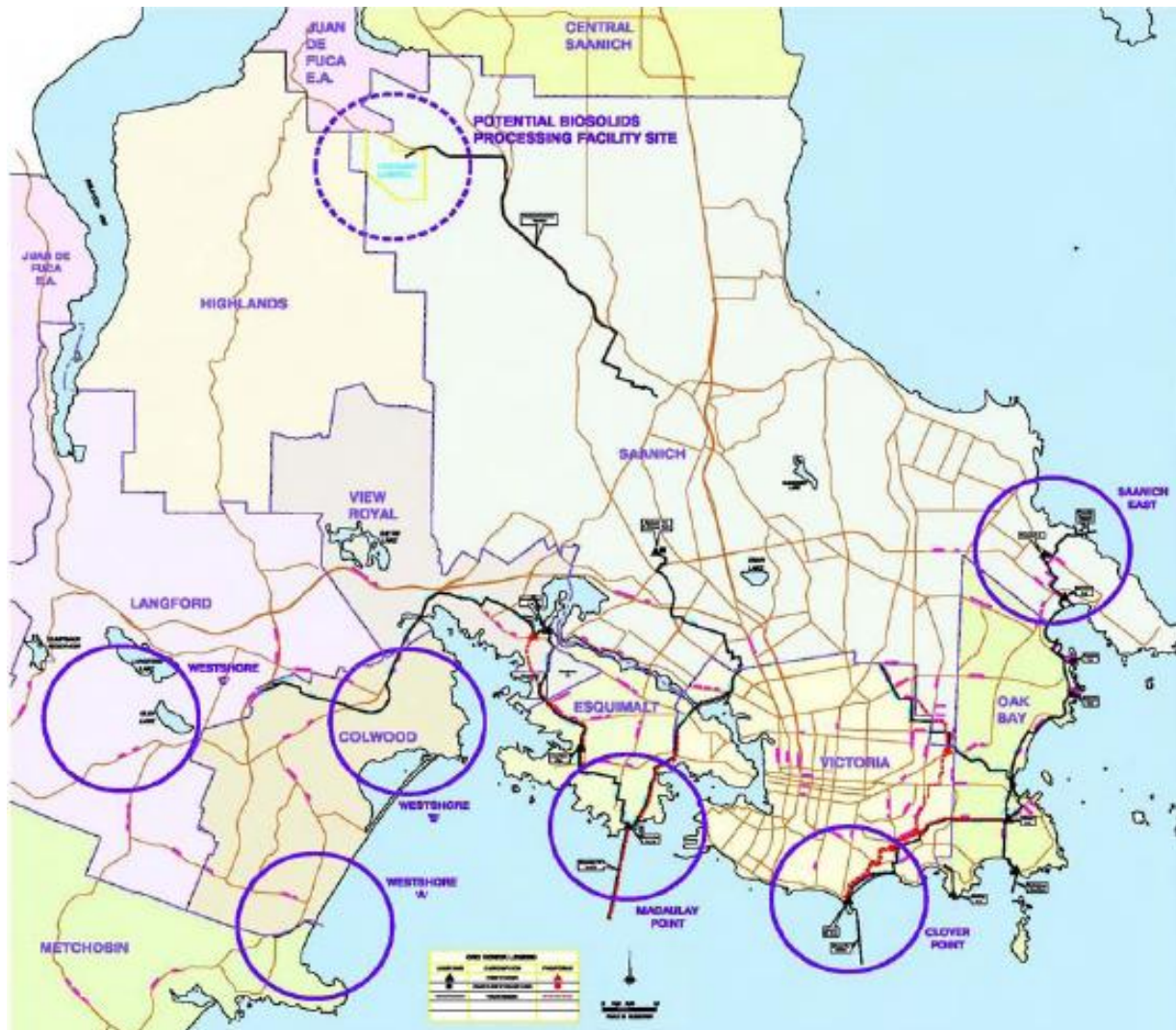
The wastewater system is operated under a Province of British Columbia Liquid Waste Management Plan (LWMP). The LWMP, originally approved in March 2003, authorizes the CRD to manage the wastewater collection, treatment and disposal system within a set of operating parameters and future environmental goals. Key features of the LWMP include a source control program to control waste products entering the collection system, an inflow and infiltration (I/I) reduction program, primary wastewater treatment using 6 mm diameter fine screening, effluent disposal to the marine environment through two major outfalls, and a marine monitoring program.

In a letter dated July 21, 2006, the BC Minister of Environment requested that the CRD provide an amendment to the Core Area LWMP, detailing a fixed schedule for the provision of wastewater treatment. In the Ministry of Environment's letter, the Minister encouraged the CRD to consider new technologies and alternative financing and delivery options in order to ensure value for the taxpayers.

"The Path Forward" document, which is posted on the CRD's website, was prepared to satisfy this MoE request and was submitted by June 30, 2007. This requested amendment to the LWMP outlines options relating to the type, number and location of facilities, preliminary costs of treatment, and a proposed implementation schedule.

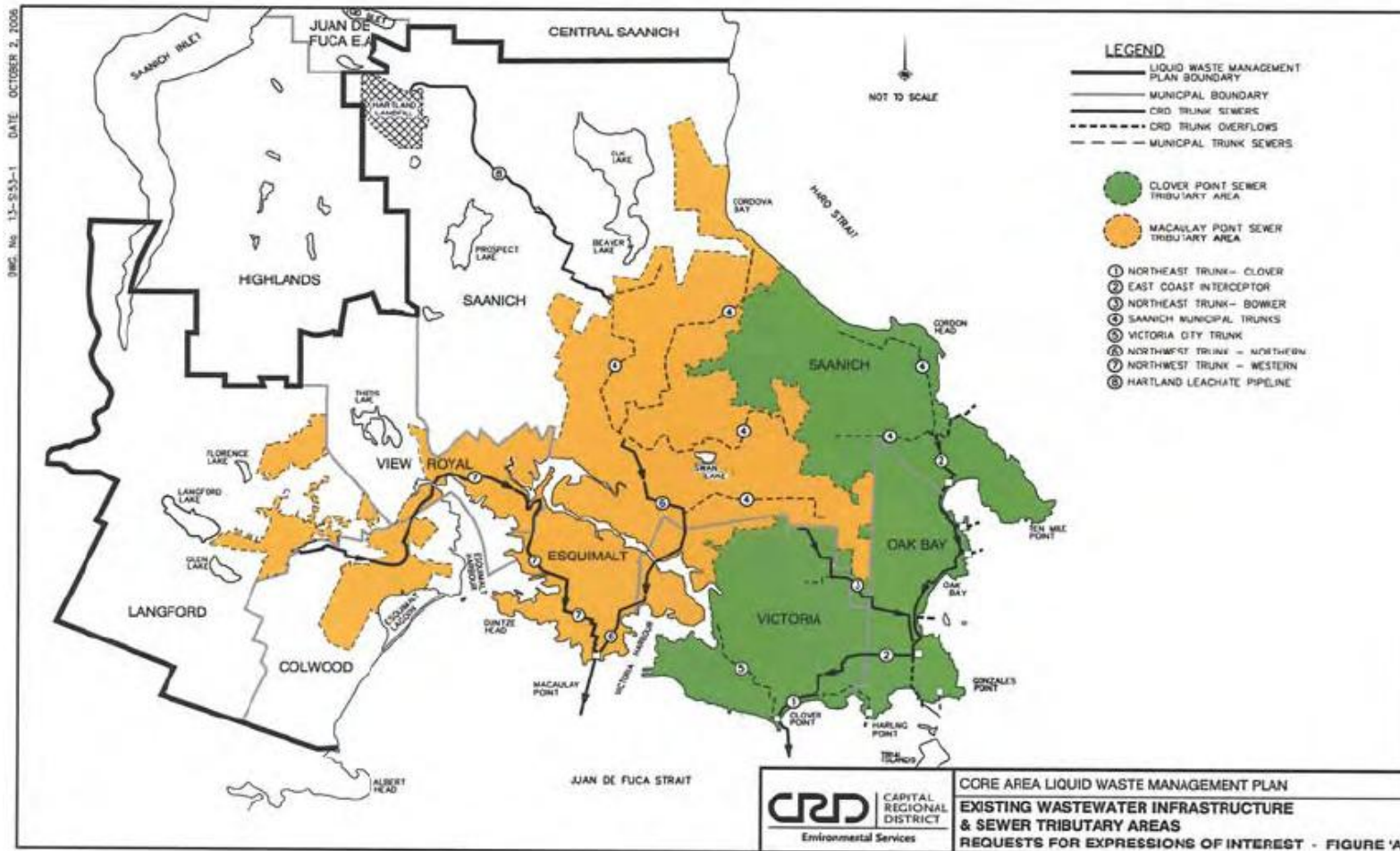


This map illustrates expected the locations of wastewater treatment facilities (as described in more detail in “The Path Forward”).





## Existing Wastewater Infrastructure and Sewer Tributary Areas





## 2. CRD Project Objectives & Targets

For the purposes of this Procurement Strategy - Market Sounding, the “Project” is defined as the overall solution for the provision of wastewater management in the Core Area and West Shore as described and envisioned in Section 4 of “The Path Forward”.

### CRD High Level Project Objectives

- Provide wastewater treatment and transmission facilities that incorporate community needs, including good value for money over the life-cycle of the project, environmental sustainability, risk management, and other social issues.
- Comply with Ministry of Environment requirements.
- Involve the community in treatment and siting decisions.
- Incorporate a significant level of resource recovery, where practical, in order to minimize energy use and production of greenhouse gases.
- Develop solutions that minimize impacts on neighbours during both the construction and operational phases of the project.
- Develop accountability protocols to ensure that facility management is responsive to concerns of the public, and in particular, to neighbours of facilities.
- Ensure that facility designs provide a safe and healthy working environment for staff.
- Continuation of CRD’s successful source control programs.
- Manage and accommodate CRD’s wet weather flow challenges.

### Specific CRD Targets

For all wastewater of the Core Area and West Shore catchment areas over the period from implementation to 2065:

- Comply with all relevant permitting requirements and the LWMP and Ministry of Environment for marine discharge (and requirements for other water course discharges if/when used).
- Provide secondary treatment for up to two times the ultimate (2065) average dry weather flow (ADWF).
- During major wet weather events, for the Clover Point catchment area, flows over two times ADWF and up to four times ADWF will be discharged after receiving high-rate enhanced primary treatment. Under the currently contemplated plan, flows up to two times ADWF will be pumped to Macaulay Point for secondary treatment.
- Additional peak wet weather flows (PWWF) greater than four times ADWF will receive preliminary (screening) treatment.



- One or more plants operating by early 2013 or sooner, and full secondary treatment of up to two-times ADWF by the end of 2016 or sooner (including a biosolids management facility).
- Ensure continuous successful operation of the entire existing wastewater treatment system throughout installation of these new treatment facilities.
- Ensure treatment plant noise levels are below regulatory ranges, and odour levels are below normal industry practices for urban areas.
- Ensure the solution provides CRD residents with good value for money over the lifecycle of the Project (including design, construction, financing, operations and maintenance costs).
- Elimination of all sanitary sewer overflow events.
- Continue existing inflow and infiltration programs to reduce storm water and wastewater ingress (such I/I programs are expected to continue to be managed by CRD's individual client municipalities and districts).
- Identify and implement water reuse opportunities and other sustainable practices.
- Identify and implement biosolids reuse, energy generation and other sustainable practices.



### 3. Procurement Options

The CRD wishes to understand the markets' preferences and rationale for the procurement of the required engineering, construction and operation services of the new facilities and is presently open to a variety of procurement options. The basic procurement options currently under consideration are:

1. Design, Bid, Build (also known as "Traditional Procurement")
2. Alliance Partnering,
3. Construction Management,
4. Design-Build,
5. Design-Build- Operate-Maintain,
6. Franchise Biosolids Management, and
7. Contract Operations and Maintenance.

Appendix 1 includes a brief description of each procurement option under consideration by the CRD together with a related discussion on private sector financing and franchising of the biosolids management component.



## 4. Market Sounding Process

The CRD is conducting this Market Sounding to gauge and confirm both public and private sector interest and to seek input and feedback on procurement issues and options.

Participation in this market sounding exercise is not mandatory in order to participate in the CRD's procurement process for the Project. Participation in the Market Sounding and information received will be used to develop a Procurement Strategy Discussion Paper. Respondents are encouraged to provide responses to each of the questions. However responses submitted to only selected questions will also be taken into account.

### Confidentiality

The resultant Procurement Strategy Discussion Paper will reflect a consolidation of feedback received. To respect confidentiality, comments will not be attributed to specific respondents in the final report. However respondents should note that CRD is subject to the *Freedom of Information and Protection of Privacy Act*, which will likely mean that all emailed responses may enter the public domain upon such a request.

### Schedule and Delivery of Responses

Responses to this Market Sounding document are to be submitted by email as described below. Emails should be submitted no later than midnight Pacific Daylight Time on **November 16, 2007**.

Email responses are to be addressed to: **[wastewater\\_market\\_sounding@crd.bc.ca](mailto:wastewater_market_sounding@crd.bc.ca)**

A follow up telephone and/or face-to-face consultations may be arranged to clarify responses, Respondents are requested to provide the following information in their email response:

**Name or Firm/Organization:**  
**Contact Person:**  
**Title:**  
**Office Tel:**  
**Cell:**  
**Email:**

### Contact Information

Any questions regarding this Market Sounding document are to be addressed to:

**Brian Simons, P. Eng.**  
C/o Ernst & Young Orenda Corporate Finance Inc.  
CRD Business Advisory Services Team  
Project Manager – Procurement Strategy  
Tel: 604 271 4461      Email: [brian.simons@telus.net](mailto:brian.simons@telus.net)



## 5. Market Sounding Questionnaire

### 5.1 Contract Packaging

- Q1. Should the overall Project be procured as a single system or through breaking it down into a number of components? If you favour a breakdown, advise which components, if any, would you combine into separate “procurement packages”. Explain your rationale.
- Q2. If you prefer to have the Project is packaged into a single large offering (or a small number of large packages) and thus delivery is phased over multiple years, how will you manage the risk of construction cost inflation throughout the construction period? How do you propose such risks be shared with CRD?
- Q3. If under a long-term contract certain capacity is to be added at a future date, how would you propose to manage inflation issues and integrate the cost of such capacity expansion in future?
- Q4. What is the optimal contract/planning term from your perspective? Explain your rationale.
- Q5. Should the Biosolids Management component be treated as a single contract package? Explain your rationale.

### 5.2 Procurement Options

- Q6. If your response to Q1 is to procure the overall Project as a single system advise which of the identified procurement options is preferred and explain your rationale.
- Q7. If your response to Q1 is to breakdown the overall Project into a number of components, for EACH of the components or EACH separate “procurement package” you have identified, advise your preferred procurement option and explain your rationale.
- Q8. Should the responsibility for operations and maintenance of all components of the overall Project be undertaken by one entity? If your response is “Yes”, do you consider that the operations and maintenance should be undertaken by the CRD or the private sector and explain your rationale?
- Q9. If your response to Q8 is “No”, which components do you consider should be operated and maintained by the CRD and which by the private sector? Explain your rationale?
- Q10. Advise which of the potential procurement options would be most attractive to the market. Provide reasons for your preference as well as any suggestions for improvements.



- Q11. Advise which, if any, of the identified procurement options would not be acceptable to the market and provide reasons.
- Q12. What constraints should the CRD place on the procurement process and provide reasons?
- Q13. What impact, if any, does the capital value/size of the overall Project have on your preferred procurement option?

### **5.3 Technical Information**

To minimize bidders' costs and ensure that all bidders have access to the same technical information, the CRD intends to provide bidders with the following technical information:

- Projected population and demand growth
- Preliminary geotechnical information on each site/routing
- Available data on any site contaminants
- Site boundaries
- Influent flows and characteristics
- Available I&I data
- Treated effluent criteria
- Noise and odour criteria
- Performance criteria

- Q14. What additional technical information would the market wish to be included with each RFP?

### **5.4 Project Financing**

It is envisioned that financing for the project will be provided through a combination of funds from the Federal and Provincial governments (2/3 of total, with 1/3 from each) plus the other 1/3 funds provided by the CRD. The funds to be provided by the CRD would be obtained through the BC Municipal Finance Authority (BCMFA). The funding from senior levels of government may be a combination of construction period grants and/or periodic payments throughout the term of the operating contract. If periodic payments are made throughout the operating phase by senior levels of government then it is expected that the proponent would be responsible for arranging its own private funding of up to 2/3 of capital costs during the construction phase, and this funding would be repaid from such periodic payments.

- Q15. If up to 2/3 capital costs are to be provided through private sector sources of funding as part of the scope of the Project, would this be of interest to your organization?
- Q16. If private financing is included in the scope of the Project, would it inhibit you from participating in the Project?



## **5.5 Risk Management**

- Q17. What barriers to entry (i.e. prevent your organization from participating in the procurement process) do you perceive may exist?
- Q18. Assuming that each of the project components are designed and constructed in phases over time until their respective ultimate design capacities are achieved, for each project component, should the design capacity for the first phase of construction be pre-determined by the CRD and stipulated in the RFP document or left to the pre-qualified bidders to determine?
- Q19. For each project component, should the in-service date be pre-determined by the CRD and stipulated in the RFP document or left to the pre-qualified bidders to determine?
- Q20. Recognizing that the CRD does not have responsibility for repairs or upgrades to the collection systems, what suggestions do you have for optimizing capital expenditures between reducing I&I (inflow and infiltration) and sizing and phasing of the treatment plants?
- Q21. For the CRD to receive a firm price proposal for construction, what is the maximum time period from issuance of the RFP to contract signing and financial close that is acceptable to the market?
- Q22. Would a firm price (no allowance for price increases for labour, materials, energy or chemicals) Operations and Maintenance contract be acceptable to the market and what would be considered the maximum duration for such a contract?
- Q23. How can design flexibility be integrated into the procurement strategy in order to ensure advances in treatment technology, water reuse and sustainability practices are encouraged?
- Q24. What other significant risks to either the CRD or private sector do you perceive with the determination of the procurement strategy and how might these risks be managed?

## **5.6 Cost of Procurement and Flexibility Considerations**

- Q25. What measures, other than an honorarium or break fees, should the CRD consider to manage pre-qualified bidders procurement process costs?
- Q26. Identify what critical information and decisions the CRD should make before proceeding to market.



# Appendix 1 – Procurement Options

## Design-Bid-Build

Sometimes referred to as a “traditional” approach whereby one or more contracts are awarded to an Engineering Consultant(s) to develop the detailed design of facilities, the preparation and issuance of specifications and tenders leading to the award of one or more contracts for construction and the supply and installation of process equipment.

Associated project and construction management services are either included in the scope of the Engineering Consultant responsible for the design or awarded as a separate contract(s).

Operation and maintenance of the completed facilities is either the responsibility of the CRD or a private sector operator(s).

## Alliance Partnering

Through a competitive process a private sector consortium is selected to partner with the CRD and its stakeholders who would work together to develop and deliver the Project, including determination of implementation phasing. In order to ensure adequate levels of competition exist during the process there would be a series of gateway reviews to ensure competitive tension is maintained and value for money is achieved.

## Construction Management

The Construction Management approach would involve the CRD engaging an Engineering Consultant to refine the concept design. A Construction Manager would then be selected through a competitive process to work with the CRD and their chosen Engineering Consultant to develop the detailed design, comprehensive project budget and schedule. For a Construction Management approach, the CRD would provide the Construction Manager with design information for each phase of the construction in turn. The Construction Manager tenders each package on behalf of the CRD. The Construction Manager then commences the construction while the Engineer works on the completion of design of the next phase.

## Design-Build

- The CRD selects a Construction Contractor/Engineer team to design and build the Project for a guaranteed maximum price to performance specifications through a competitive process.

## Design-Build-Operate-Maintain

- Using a competitive procurement process a “team” comprising an Operator, Engineering Consultant and General Construction Contractor together with specialist service



providers is selected through a competitive process to design and construct the new facilities and then assume responsibility for their operation and maintenance.

- The operation and maintenance of the completed new facilities is usually for a period of time not less than five years and sometimes up to twenty years and beyond, depending on the specific requirements of the project.

### **Contract Operations**

Under this approach, the operation and maintenance of the completed new facilities is contracted separately from their design and development. The term of Contract Operations is usually for a period of time not less than one year and sometimes up to twenty years and beyond, depending on the specific requirements of the project. For example, the project may be built using a design-build contract, and then operations and maintenance of the new facilities may be competitively bid separately from such a design-build contract.

### **Franchise - Biosolids Management**

The CRD is interested in exploring alternate solutions for biosolids management including any utilization of any proven and established technology as well as co-composting (mixing of the biosolids with organics). The CRD also wishes to assess the interest in the awarding, through a competitive process, of a franchise for biosolids management.

Under a franchise model, the CRD would provide the successful franchisee with a long-term contract, which would include access to the necessary lands (Hartland landfill). The CRD would provide a guarantee of both a minimum annual volume and specification of dewatered sludge. The CRD would pay a “tipping fee” to the franchisee, who would be responsible for hauling the dewatered sludge to the site. The franchisee would be responsible for all aspects of the operation and maintenance of the site facilities including meeting permitting and quality requirements as well as for the disposal of any resultant products.

### **Financing**

It is envisioned that financing for the project will be provided through a combination of funds from the Federal and Provincial governments (2/3 of total, with 1/3 from each) plus the other 1/3 funds provided by the CRD. The funds to be provided by the CRD would be obtained through the BC Municipal Finance Authority (BCMFA). The funding from senior levels of government may be a combination of construction period grants and/or periodic payments throughout the term of the operating contract. If periodic payments are made throughout the operating phase by senior levels of government then it is expected that the proponent would be responsible for arranging its own private funding of up to 2/3 of capital costs during the construction phase, and this funding would be repaid from such periodic payments. Thus private sector financing could be a component of any of the above procurement options.