Making a difference...together

Ernst & Young
Quality In Everything We Do

Capital Regional District

Core Area and West Shore Sewage Treatment

Market Sounding & Stakeholder Consultation
Summary of Responses

April 23, 2008

TABLE OF CONTENTS

EXECUTIVE SUMMARY

CRD issued a 26-question "market sounding" survey on its website in October 2007 and invited industry specialists and other stakeholders to submit written responses to the questionnaire by November 16, 2007. A total of 29 parties responded to the questionnaire by the closing date. Ernst & Young Orenda Finance Corporation ("Ernst & Young") then conducted follow-up conference calls with eleven of the respondents to clarify the content of their submissions. This report summarizes all of the feedback received through both the written responses as well as the follow-up calls. A list of all respondents is included in this report (including identification of those contacted for follow-up).

The goal of the market sounding was to obtain guidance from suppliers, industry experts and other external stakeholders on the capability and capacity of such parties to meet the needs and requirements of the CRD for the Core Area and West Shore sewage treatment project. The market sounding exercise provides early stage feedback on project implementation issues as well as warnings on potential pitfalls and roadblocks to implementation. The market sounding brings a supplier and external stakeholder perspective to procurement planning.

A vast amount of valuable and insightful feedback was obtained from respondents. This information has been consolidated into the major technical categories of interest to the CRD and summarized below.

The overall Core Area and West Shore sewage treatment system being planned by the CRD can generally be grouped into four distinct physical components (the "Technical Components"):

1. Wastewater Treatment Plants ("WWTPs") generally assumed at Macaulay Point area, Clover Point area, West Shore plus Saanich East in accordance with *The Path Forward* report;
2. Biosolids Plant and Plant Management;
3. On-Shore Linear Structures (conveyance systems and associated pumping stations); and
4. Marine outfalls (generally assumed on West Shore plus Finnerty Cove).

The issues within each of these Technical Components has been reviewed in the table below. The table includes a summary of (i) procurement packaging (grouping of Technical Components during implementation), and (ii) procurement contracting (traditional procurement versus DBFO etc.). This report then summarizes some detailed procurement issues including inflation management, honoraria for bidding firms, capacity planning etc.

Subject Area of Interest to CRD	Summary of Feedback
1. WWTP Issues	• Respondents generally have a good understanding of the engineering issues and risks facing CRD for the WWTPs. • There were divergent views on the benefits/risks of having a single operator manage all plants versus having multiple operators, each running a separate plant. • Supporters of a single operator approach across all plants emphasized the benefits of economies of scale (e.g. maintenance), standardization of systems, single point accountability, and the ability to attract professional staff.

	• The rationale proposed for CRD to manage all plants included the historical precedence of public sector management, CRD's ability to maintain existing roles, and the flexibility for CRD to change plans in future to accommodate new technologies and water sustainability targets. • The rationale for using a private sector specialist firm to provide operations included the ability of the CRD to transfer risk to private sector, clear delineation of responsibilities and performance controls and regulations, perception of improved innovation, improved career growth opportunities outside CRD (thus easier to hire and retain senior staff), and greater cost certainty for CRD. • Some concerns were expressed about the availability of the Macaulay site plus the need to CRD to also consider alternate sites if Macaulay is not made available. • Standardizing treatment technologies is perceived as a better approach, however CRD should be careful to allow some flexibility during procurement. • It was noted CRD may have difficulty hiring new staff for the WWTP and Biosolids Facility due to the lack of available experienced managers.
2. Biosolids Planning	• Respondents believe biosolids management may be one of the most difficult aspects of the entire CRD plan. • Estimating capacity requirements is complicated and linked to the type of technology used in the WWTPs and the level of integrated resource management. • Flexibility is important in the biosolids management plan to allow for new technologies. • Several respondents commented that if the biosolids facilities are located at the site of the WWTPs then integration of the two operations is logical – they could be procured together and operated together. • However if biosolids handling is far offsite and centralized then it would be easier to procure and manage the biosolids facility as a stand-alone project. • There was a belief that a centralized biosolids facility would allow more flexibility for the integration of organics handling and other waste streams into the biosolids plan. • Some respondents believe incineration is a possible option for on-site sludge management, particularly in site-constrained areas like Macaulay and also in urban areas. However it was noted this can lead to a backlash by environmental groups due to energy consumption issues.

3. On-Shore Conveyance System	• Several respondents suggested the CRD should be responsible for the operation and maintenance of the linear structures, including the pumping stations. • Risk of easements and land acquisitions is a major factor for private sector; respondents prefer not to take such risks (and believe CRD is in far stronger position to manage such risks). Such work requires multiple municipal authority approvals within CRD and thus the CRD would be more effective at obtaining such approvals. • Sewers and forcemains could be separated from other packages and procured separately.
4. Marine Outfall	• The marine outfall work is generally considered to be highly specialized and requires a "*special breed*" of engineering firm that specializes in such work. • There is a belief that only a few firms are available to perform this work in the Pacific Northwest and thus if CRD runs a competitive bid procurement using work packages that include the outfall then CRD should ensure such specialist engineering firms are not "locked up" by other consortia.
5. Contract Packaging	• There was broad divergence in views on recommendations for the procurement packaging strategy. Eight (8) respondents stated that they recommended the overall Project be procured as a single system or a small number of large component packages, whereas twelve (12) respondents recommended breaking it down to a number of well-defined components. Six (6) of the respondents hedged their opinions by presenting arguments for either a single or multiple procurement packages. • Respondents that favored the consolidated large-scale approach typically assumed the new linear infrastructure to be constructed would most likely be operated and maintained by the CRD.
6. Benefits & Weaknesses of Large-Scale Packaging Procurement	• The benefits mentioned by respondents for procuring the Technical Components in a large package included lower life-cycle costs through integration efficiencies, greater risk transfer, single source accountability, and reduced procurement costs. • The weaknesses mentioned for packaging the work into a single large procurement included the need for a large contract bond by the prime contractor (thereby limiting the number of firms who could bid); there is currently insufficient due diligence information available to allow firms to bid; it is difficult for firms to lock costs over a long-term contract and procurement phasing plan; and, the nature of CRD's plan requires some flexibility and phasing which is not well suited to single package procurement.

7. Benefits & Weaknesses of Multi-Component Packaging Procurement	• The benefits mentioned in support of breaking procurement into multiple packages included it would increase the number of firms that could bid (smaller firms) and thus competition will increase; it would allow CRD more flexibility for procurement (using different procurement approaches to match each component); and it may diversify risk across multiple parties during implementation. • The weaknesses mentioned of using multiple procurement packages included it would require CRD to manage interface risk among packages; it would require CRD to manage multiple procurement contracts; it may lead to scheduling challenges and delays; it may limit innovation across overall system (but innovation within each package may be improved); and, there may be higher procurement costs.
8. Procurement Options	• Overall, there was no clear preferred procurement approach among respondents. Respondents argued convincingly in their submissions and follow-up discussions for a variety of procurement methodologies – from traditional procurement to full public-private partnership approaches. • Multiple respondents supported a DBFO for one or more components of the project as long as the CRD could address key issues related to: o supply of additional due diligence materials, o establishment of reasonable risk transfer expectations, and o confirmation of clear political-level support for the procurement. • The design-bid-build traditional procurement approach was generally acknowledged as providing CRD with the most flexibility. • Those respondents supporting a DBFO approach to contracting and procurement cited the following reasons: o Risk transfer o Lowest life-cycle cost o Greater potential for innovation o Greater cost certainty o Single point of accountability • Respondents who suggest a mixed approach to procurement for each Technical Component cited the following reasons: o CRD flexibility. o Control over procurement scheduling.

	• Respondents who preferred more traditional approaches to procurement like design-bid-build (DBB) cited the following reasons:
	  ○ Allows more public input and discussion.
	  ○ Complexity of CRD's system requires flexibility in procurement over multiple years for phasing of components, integration of new technologies and accommodation of water reuse and renewable technologies.
	  ○ Allows CRD to achieve scheduling targets.

9. Pre-Conditions for a Successful Procurement	• Many of these respondents stated the level of political commitment by the CRD in completing an alternative procurement would be a major factor in their decision as to whether or not to respond to a CRD DBFO procurement invitation. • Respondents requested additional planning and due diligence materials be made available (a list of requested materials is included in this report). • CRD will get the best response and best price if it can eliminate uncertainty from project and focus on the key aspects of risk and responsibility it wishes to transfer to the bidders. This can be achieved by clearly defining requirements, defining volumes of water, defining capacity, defining all easements in advance of proposal call, releasing construction and operating documents in advance of procurement to allow assessment of risk transfer targets etc.
10. Honoraria and Breakage Fees	• Although several respondents either did not support or require an honoraria to be provided, they were in the minority. • Respondents mentioned if no honorarium is offered by CRD then only big firms may bid. Some engineering sub-contracting firms simply will not bid a project that does not have honoraria since the BC and Alberta construction marketplace is so busy. • Respondents believe an honorarium adds legitimacy to process and attracts betters teams with better (more detailed) responses. This is particularly important for projects of this size and complexity which require a significant effort to complete due diligence. • The early pre-qualification stage is not typically expensive. The RFP stage is expensive to bid. • The cost of a bid depends upon level of design detailed required. Proposal cost estimates range from +/-$250,000 to +/-$500,000 (excluding legal and financing fees). • It was suggested that the level of honorarium should be 25% to 50% of bid costs.

11. Bonding Issues	• It is difficult for US and foreign firms to set up bonding requirements in Canada unless they've worked here before. This may reduce their appetite to bid. • If bid security is required then it would be 10% for small projects, 5% for large projects (of capital value). • Bonding will limit ability of smaller teams to bid prime contract, thus will limit number of firms bidding.
12. Validity Period on RFP Submissions	• There is a consensus among respondents that it is very difficult to hold bids in current market conditions. The reasonable length of time between proposal submission and financial close (the "validity period") ranges from 90 to 120 days.
13. Project Financing	• Seventeen (17) firms expressed an interest in participating in the project if financing was also required (however several respondents qualified their responses by stating that the quantum of the required project specific funding may constrain their interest). • Respondents favouring traditional approaches to procurement (including Alliance Partnering) assumed the public sector would be responsible for providing 100% of financing for the project.
14. Optimal Contract Term	• Respondents preferring a DBFO approach to procurement advocated a minimum contract term of between 20 to 30 years to match the approximate life-cycle of major equipment required for the facilities. • The rationale presented for contracts greater than five years was consistent across respondents and was based on enabling lower life-cycle costs through asset management and capital upgrades over time. Additional benefits mentioned include greater risk transfer and price stability. • One respondent noted that very long-term contracts (beyond 30 years) have not been tested in North America. The same respondent suggested a contract length below 10 years would not give enough time for risk transfer on maintenance of WWTP equipment.
15. Additional Future Capacity Planning	• Most respondents expect CRD to specify the level of plant capacity and conveyance capacity over time. • Expansion of plant facilities is anticipated to be managed in future through a competitive process.

16. Managing Construction Cost Inflation in Long-Term Large-Scale Projects	• No satisfactory long-term solution to managing construction cost inflation was identified by respondents. Long-term multi-year inflation risk is extremely difficult to predict in the current construction environment. • A majority of respondents suggested using construction price indices for inflation estimates, including (i) the StatsCan BC consumer price index, and (ii) a relevant BC Construction Association industry index (likely based upon Reed Construction Data).
17. Water Flow Demand Forecasting	• As one respondent noted: Planning for design capacity and management of peak flows is critical for the overall success of CRD's plan. CRD should focus on ensuring capacity and peak flows are correctly planned/managed and not be distracted by the single operator versus multiple operator decision etc. • Respondents generally believe further due diligence and engineering support is required on CRD water flows. • Respondents do not want the risk of estimating where future regional growth will occur (particularly on the West Shore). This is perceived as being very risky. They prefer CRD to specify growth expectations and thus specify capacity in each region.
18. Inflow & Infiltration Management	• I&I is known in the market place to be a major issue for CRD. • Overall flow rate risk, including I&I, is real and requires special attention and planning. • The key to success with I&I is to manage flow peaking.`
19. Technical Information and Due Diligence Deliverables	• Respondents provided extensive feedback on additional due diligence materials that CRD could provide to increase the quality of bids. The list is included in this report and includes data requirements, risk transfer suggestions and other critical information.

INTRODUCTION

A. Background

As described in the recently published document *The Path Forward*[1]*:*

> "*the Capital Regional District (CRD) provides wastewater management to residential, commercial, industrial and institutional customers, current LWMP utilizes a "target based" approach equivalent to a population of approximately 330,000 persons, distributed throughout the Core Area and West Shore communities. 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 anticipated 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 Plan include a source control program to control waste products entering the collection system, an inflow and infiltration (I/I) reduction program, preliminary 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. The Path Forward document was aimed to satisfy this MoE request and was submitted by June 30, 2007. This amendment outlines options relating to the type, number and location of facilities, preliminary costs of treatment, and a proposed implementation schedule*."

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 money is achieved for taxpayers. In June 2007, following a competitive proposal call, Ernst & Young Orenda Corporate Finance Inc. ("Ernst & Young") was retained by the CRD as the Business Advisory Team to prepare a business plan for the project. The business plan will include a review of procurement options and make recommendations for the overall procurement strategy to the CRD.

[1] *The Path Forward*, Draft Report June 13, 2007, Associated Engineering (BC) Ltd., CH2M HILL et al.

As part of this procurement review, CRD required Ernst & Young to complete a consultation process with industry and other project stakeholders (including CRD's main employee union, CUPE) to review certain technical issues and risks associated with procurement[2]. The primary objective of this review was to give executives and technical specialists in industry plus other various stakeholders, including labour leaders, an opportunity to provide feedback and guidance to CRD before CRD completes the full scope definition and implementation plan. CRD wanted to ensure the preliminary strategic plan (as described in *The Path Forward* document) did not pose potential issues that would undermine procurement implementation and the long-term success of the project.

To assist in the consultation process, a Market Sounding Questionnaire was developed and posted on the CRD's website in October 2007. Interested respondents were given four weeks in which to submit responses. During January and February 2008, Ernst & Young initiated conference calls with some of the respondents to obtain clarification on the responses submitted. This report presents an analysis of the responses received and discusses some of the findings.

B. Objectives of the Market Sounding

The objective of this exercise was to obtain direct feedback from suppliers, industry experts and other external stakeholders on the capability and capacity of such parties to meet the needs and requirements of CRD for the Core Area and West Shore sewage treatment project. At the current stage of CRD's due diligence process, broad guidance and feedback can be very helpful to allow customization of the implementation plan well before CRD is locked into any specific dimension of the program. It was also important for CRD to obtain updates from the market place on current trends that influence procurement issues (for example current trends in construction inflation, contract terms and validity periods, identification of due diligence requirements for a successful procurement, and views on the packaging of components of the planned treatment system etc.).

Importantly, this document simply summarizes the vast amount of feedback provided by a wide variety of respondents. It does not recommend any specific type of procurement methodology. Significant further review of these comments will be performed by CRD and its advisors in coming months as due diligences progresses.

[2] CRD conducted separate consultations for the general public. The results of such consultations are available on the CRD's website at www.crd.bc.ca/wastewater/sewagetreatment.htm

C. Responses Received to the Market Sounding Questionnaire

A total of twenty-nine (29) written responses were received. This table summarizes the nature of the primary business/organization of respondents:

Nature of Primary Business/Organization	Number of Responses Received
Private Individuals	2
Consulting Engineering*	8
Construction	2
Operations & Maintenance*	6
Project Financing*	4
Project/Construction Management	2
Corporate Law	1
Process Technology*	2
Construction Association	1
Labor Union	1
Total	**29**

* It should be noted that several of the respondents have multiple lines of business, which cover more than one of the identified primary categories. For example larger companies can simultaneously undertake project development, utility operations and maintenance services.

The Market Sounding Questionnaire comprised twenty-six questions, which were broken down into the following categories:

- Contract Packaging
- Procurement Options
- Technical Information
- Project Financing
- Risk Management
- Cost of Procurement and Flexibility Considerations

Respondents could submit comments to any or all of the questions. A copy of the Market Sounding Questionnaire can be found on the CRD website.

As determined from the table below, three of the submissions provide only high-level feedback that did not provide sufficient detail for analysis. Consequently the resulting analysis is undertaken using twenty-six submissions. Within these submissions, respondents either elected not to submit a response to certain questions or the response received is considered to be too general to enable detailed analysis.

The following matrix summarizes which respondents provided specific replies to specific questionnaire questions. Note some of the responses were general in nature and did not specifically address the exact questions as posed.

	Respondent #																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Question #																													
1		•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
2		•			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•		•	•
3					•	•		•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•		•	•
4		•			•	•		•	•	•	•	•			•	•	•			•	•	•	•		•	•		•	•
5			•	•	•	•			•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
6		•				•		•		•		•				•		•	•	•	•	•		•				•	•
7			•		•				•	•		•	•		•	•	•				•	•	•		•	•			
8		•	•	•	•	•		•	•	•		•			•	•	•	•	•	•	•	•	•		•	•		•	•
9					•						•				•	•	•						•		•				
10		•	•		•	•		•	•	•	•	•	•		•			•	•	•		•	•	•	•	•		•	•
11			•		•	•		•		•		•	•	•	•	•	•			•	•	•	•		•			•	•
12			•	•	•	•		•	•	•		•	•	•	•	•	•	•		•	•		•	•	•	•		•	•
13		•	•	•	•	•		•	•	•	•	•	•		•	•	•	•		•	•	•	•	•	•	•		•	•
14		•	•	•	•	•		•		•	•	•		•	•	•	•	•	•	•	•		•	•		•		•	•
15		•		•	•	•		•	•	•	•	•		•	•	•	•			•	•	•	•	•	•	•		•	•
16		•		•	•	•		•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•		•	•
17		•	•	•	•	•		•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•		•	•
18			•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•		•	•
19		•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•		•	•
20			•		•	•				•		•			•	•	•	•	•		•	•	•	•		•			•
21		•		•	•	•		•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•		•	•
22		•		•	•	•		•		•	•	•		•	•	•	•			•	•	•	•	•	•	•		•	•
23		•	•		•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
24		•	•		•					•		•	•		•		•	•		•	•	•	•	•		•		•	•
25		•			•	•		•	•	•		•			•	•	•	•			•	•	•	•	•	•		•	
26		•		•	•	•		•	•	•		•	•		•	•	•	•	•		•	•	•	•	•	•		•	•

D. Supplementary Interviews

In the Market Sounding Questionnaire, the CRD requested the option to conduct follow up discussions with one or more of the respondents with the intent of obtaining a better understanding of the responses to certain questions. After a preliminary analysis of the responses to the Market Sounding Questionnaire, Ernst & Young initiated dialogue with eleven respondents. Such respondents were selected based upon the content of their written response – particularly if it was believed they would provide good guidance to CRD on the key issues of interest facing CRD on engineering and construction risks. The firms that participated in the dialogue fell into the following categories and have been chosen to ensure the responses are collected from a broad cross-section of organizations with different lines of business.

Nature of Primary Business/Organization	Number of Follow-On Interviews
Consulting Engineering*	5
Construction	1
Operations & Maintenance*	3
Project/Construction Management	2
Project Finance	0
Total	**11**

The interview process proved to be informative and provided further clarity to some the key procurement issues, which have been taken into account in this report.

E. Representative Responses and Comments

A vast amount of feedback was included in respondent submissions. The purpose of this document is to capture the key issues and concerns raised by respondents. Most respondents held strong views on several issues including the preferred contracting approach (Design-Build-Operate-Finance "DBFO" versus more traditional approaches to contracting). Ernst & Young endeavoured to cut through possible bias in responses received and focus on key issues that emerged in submissions as well as in follow-up discussions with respondents. While the procurement contracting structure often receives disproportionate attention in exercises such as this, Ernst & Young believes the other issues raised are critical and should be thoroughly reviewed by all interested parties. In particular, as noted below several industry participants and other stakeholders identified major risks and outstanding engineering due diligence materials that CRD should develop prior to commencing any type of procurement. Ernst & Young notes that subsequent to the market sounding exercise CRD retained Associated Engineering and CH2M HILL to prepare such work.

F. Confidentiality of Responses

The following table lists the firms who responded to the Market Sounding Questionnaire (names of private citizens have been kept confidential), and the 11 firms who participated in follow-up calls for clarification of certain issues. The actual specific responses from each party have been kept confidential. It was hoped this confidentiality would encourage respondents to provide CRD with more direct and detailed feedback, with the knowledge that such information was not going to be disclosed to competitors, or other interested parties, prior to the completion of the procurement process. It was important for CRD to obtain insightful feedback from key stakeholders who were willing to share their years of experience and technical expertise for the benefit of the project at this early stage. It was believed that protecting such feedback would encourage more thoughtful and detailed responses. Ernst & Young understands that all written submissions from each respondent may be made available to the public by CRD after completion of the procurement process for the project.

G. List of Respondents

The following table provides a high-level overview of the parties who chose to submit a response the CRD's questionnaire.

Parties Who Responded to the Questionnaire Within Allowed Time Frame	Respondents Contacted for Clarification	Primary Business Function	Significant Involvement in "P3" Type of Procurement	Significant Involvement in "Traditional" Type of Procurement	Notes
Clark Wilson LLP Barristers & Solicitors	No	Law Firm	X	X	Law firm.
N-Viro Systems Canada Inc.	No	Process Technology	X	n/a	Company provides bio-organic waste management solutions.
Meridiam Infrastructure	No	Project Finance	X		Private equity investment fund.
Associated Engineering Group Ltd.	No	Consulting Engineering	X	X	Consulting engineering firm.
Paradigm Environmental Technologies Inc.	No	Process Technology	n/a	n/a	Company has a patented technology to enhance anaerobic digestion process of WWTPs.
Earth Tech Inc.	Yes	Consulting Engineering	X	X	Consulting engineering and construction firm, and water infrastructure provider.
Suez Environment	No	Operations and Maintenance	X	X	Diversified water, sanitation, and waste services.
HDR One Company	Yes	Consulting Engineering	X	X	Diversified architectural, engineering and consulting firm
RBC Capital Markets	No	Project Finance	X	X	Major banking firm with experience in both traditional and alternative financing structures.
Kenaidan Contracting Ltd.	Yes	Project / Construction Management		X	General contracting, design/build and construction management firm.

United Utilities	No	Operations and Maintenance	X	X	Large-scale water, wastewater and telecommunications management and operations
Corix Utilities Inc.	Yes	Operations and Maintenance	X	X	Designer, build and operator of water Infrastructure. Formerly Terasen Water & Utilities Services.
Southern Vancouver Island Construction Association	No	Construction Association			Organization represents construction firms located on Vancouver Island.
Maple Reinders Group Ltd.	Yes	Construction Services		X	Construction contractor with specialization in design/build of wastewater facilities.
CH2M Hill	Yes	Consulting Engineering	X	X	Consulting engineering and operations firm.
UMA Engineering Ltd.	No	Consulting Engineering	X	X	Focus on community infrastructure – earth, water, energy and facilities.
Brown & Caldwell	No	Consulting Engineering	X	X	Environmental engineering and consulting
CUPE BC Division	No	Trade Union		X	Trade union for BC public sector employees.
Private individual on academic letterhead	No	Individual			
Babcock & Brown Canada ULC	No	Project Finance	X		Investment fund as well as developer and owner of P3 infrastructure facilities.
Veolia Water	Yes	Operations and Maintenance	X	X	Specializes in outsourced management of water services for municipal or industrial clients.
Pacific Liaicon & Associates Inc.	Yes	Project / Construction Management		X	Works exclusively on traditional approaches to procurement (P3 projects handled by parent company, SNC Lavalin)

EPCOR Utilities Inc.	Yes	Operations and Maintenance	X	X	Builds, owns and operates a variety of infrastructure facilities including wastewater.
Black & Veatch Corporation	Yes	Consulting Engineering	X	X	Diversified engineering / construction company.
Plenary Group (Canada) Ltd.	No	Operations and Maintenance	X		Investor, developer and operator of P3 projects.
Stantec Consulting Ltd.	Yes	Consulting Engineering	X	X	Planning, engineering, architecture, surveying and project management of infrastructure projects.
Private individual	No	Individual			
Macquarie North America Ltd.	No	Project Finance	X		Investment fund for P3 infrastructure facilities.
Bilfinger Berger (Canada) Inc.	No	Construction Services	X	X	Focus on real estate construction, infrastructure and industrial services.

SUMMARY AND ANALYSIS OF RESPONSES

Overall, Ernst & Young was satisfied by the quality and variety of responses received during the consultation process. Responses were generally both comprehensive, insightful, covered a broad range of issues, and provided the CRD with valuable feedback that will assist in the development of the business plan for the overall project.

The following represents the key findings of the Market Sounding process. Extracts from respondent's submissions have been included ***in italics*** to both highlight the divergence of views as well as to provide the reader with some of their rationale.

The market sounding and consultation comments collected have been grouped into specific topics in this report for ease of review and analysis. Each of the following sections reviews a specific topic area.

The overall Core Area and West Shore system being planned by CRD can generally be grouped into four distinct physical components (the "Technical Components"):

1. Wastewater Treatment Plants ("WWTPs") generally assumed at Macaulay Point area, Clover Point area, West Shore plus Saanich East in accordance with *The Path Forward* report;
2. Biosolids Plant and Plant Management;
3. On-Shore Linear Structures (conveyance systems and associated pumping stations); and
4. Marine outfalls (generally assumed on West Shore plus Finnerty Cove).

Comments below review comments on the Technical Components. Subsequent sections of this report review other more specific aspects of the procurement plan.

1. Major Component Comments: Wastewater Treatment Plants

Generally speaking, respondents had a good understanding of the issues facing CRD for the procurement of the WWTPs. Comments from respondents included[3]:

- It may be difficult for existing Canadian firms to handle the scale of planned WWTPs under a design/build or similar contracting approach if procured as a single large project. Thus international firms will likely be attracted as prime contractor and Canadian firms will sub-contract to such firms in specific technical areas (the international firms are anticipated to focus on project management and outsource construction and engineering to local companies).
- If CRD chooses to retain an external operator for the WWTPs then it may be easier for CRD to manage a single operator for all plants than trying to manage multiple operators in multiple plants. A single point of contact will be important for ease of management by CRD.
- Planning for design capacity and management of peak flows is critical for the overall success of the plan. CRD should focus on ensuring capacity and peak flows are correctly planned/managed and not be distracted by other less important implementation issues which often distract management (for example capacity planning is perceived as being far more important to the success of the project than the decision regarding whether CRD should use a single operator or multiple operators for the WWTPs – such operations decisions can consume significant CRD management time but the consequences of such issues are not as important as ensuring the overall capacity plan for the project is appropriate).
- WWTPs for urban areas tend to be so large that they require their own dedicated maintenance staff. Thus economies of scale are achieved at specific sites, but such savings in maintenance costs are not necessarily transferable across WWTPs if they do not share staffing. A large number of small WWTPs would require more centralized/shared maintenance staff since individual plants would not be large enough to support their own dedicated maintenance team. As a rough guide, if plant has less than +/-40,000 m3 average daily flow rates then sharing maintenance across plants makes sense; if larger then plant will require its own maintenance team.
- Different technologies may be used in different plants depending upon discharge criteria of each WWTP (e.g. discharging to marine environment versus fresh watercourse). However it was noted that use of multiple technologies in multiple plants is typically more difficult to manage than using homogeneous technologies across all WWTPs. Respondents were not aware that the CRD currently managed multiple technologies within its WWTP system.
- WWTP development should generally follow other components in schedule (WWTPs require actual inflows for commissioning and testing – without actual inflow volumes and chemistry it is difficult to finalize commissioning of the WWTPs and CRD to approve substantial completion of the WWTPs).
- If the Macaulay site cannot be secured or proves to have inadequate land area for required operations then moving the large plant to the West Shore (and pumping from Core Area to West Shore) is believed to be a reasonable solution.

[3] It should be noted that CRD is reviewing the extent of water reuse and overall integrated resource management in a separate evaluation from this market sounding and industry consultation. Such issues are beyond the scope of this report.

Operations and Maintenance

There was no consensus of opinion amongst respondents with regard to whether responsibility for operation and maintenance of WWTPs and the Biosolids Facility should be with the CRD or private sector.

In the written submissions, sixteen (16) respondents recommended that the operations and maintenance be undertaken by a single entity. Of those sixteen responses six (6) recommended the CRD while eight (8) supported the private sector. Two respondents stated that they had no preference.

One respondent favouring public operations suggested CRD review other publicly operated projects including the St. John, N.B. harbour clean-up, City of Montreal water and wastewater (City of Westmount return of its water system to public operation), Regional District of Nanaimo pollution control centres for rural water services, Saanich Peninsula wastewater treatment plant, Fort McMurray wastewater treatment plant, Metro Vancouver's Annacis and Lulu secondary sewage treatment, Kamloops Centre for Drinking Water Quality.

There was a perception that a significant investment in training of new CRD staff would be required if CRD were to take responsibility for operations of the large-scale WWTP. While the same also applies to private sector operators, there was a perception such activity may be easier for the private sector since they may be able to transfer existing staff from other locations to Victoria.

Many respondents do not foresee problems in having different operators manage the Technical Components individually. If CRD elects to adopt a multi-package procurement strategy that includes responsibility for the operations and maintenance of the treatment plants by the private sector and this results in awards being made to more that one operating company, respondents do not believe this is a major concern to either CRD or the private sector.

The following comments were mentioned by respondents as being relevant to each type of operations management.

The rationale presented for the operations and maintenance of WWTPs being undertaken by a single operator included:

- Economies of scale and no duplication of services,
- Standardization of systems and practices,
- Single point of accountability, and
- Will attract larger professional operating firms to bid project.

The rationale for CRD assuming responsibility for operations and maintenance of all WWTPs included:

- Several respondents mentioned the historically positive Canadian experience with public sector responsibility for operations and maintenance,
- Will allow continuation of existing CRD responsibilities of maintaining resources and current operations and maintenance, and
- One respondent mentioned public operation allows flexibility to accommodate future advances in treatment technology, water reuse and sustainability targets (as noted "*One of the disadvantages of multi-decade [*DBFO contracts*] is that changes in technology or requirements are not easily accommodated*…").

The rationale for the private sector assuming responsibility for operations and maintenance of WWTPs included:

- Ability of CRD to transfer risk to private sector,
- A perception that the private sector may be able to provide better career opportunities for personnel (thus easier to hire and retain senior, qualified staff),
- Perception of improved innovation,
- Clear delineation of responsibilities for performance and control/regulation, and
- CRD realizes greater cost certainty.

2. Major Component Comments: Biosolids Management

Respondents believe biosolids management may be one of the most difficult aspects of the entire CRD plan. It was commented that a special phasing plan and contract term for the biosolids facility may be required. Estimating capacity requirements is complicated and linked to the type of technology used in the WWTPs and the level of integrated resource management. Flexibility is important in the biosolids management plan.

In the written responses, nine (9) respondents supported integrating the responsibility for biosolids management with the contract(s) for the treatment facilities. Twelve (12) respondents recommended that biosolids management be awarded as a separate contract(s). One (1) respondent stated that the biosolids management facility should not be operated and maintained by the private sector.

Several key decisions for CRD were identified as being required for the biosolids facility:

- Will the design and operation of the biosolids facility be packaged with the design and operation of the WWTPs?
- What scope of services will be included in the biosolids plant (how much reuse and sustainability content)?
- Where will the facility be located? On-site with the WWTPs or centralized offsite?

2.1 Integration Issues

The rationale for integrating the biosolids management with the treatment facilities was due to efficiency and risks related to the design and operational interdependencies. As described by one respondent:

> *"The biosolids management component of the Program is the one that is the least defined at this time. Considerable additional planning work is required looking at the integration of other waste management opportunities, technology decisions, integration with wastewater treatment plants and siting of facilities. While in the end, it may make sense to deliver some type of biosolids processing facility as a single contract, it is far too early in the planning to make any decision on this issue."*
>
> *"In separate contracts the wastewater treatment plant and biosolids construction or operation will not have totally aligned incentives. Each facility will try to minimize its own treatment costs in relation to the volumes of biosolids produced or received, not incorporating the constraints and impact on the other facility. There is a risk that by separating the contracts, this may lead to:*

- *Increased cost through the loss of economies of scale and duplication of certain costs*
- *Loss of standardization of procedures, procurement, methods, and technical standards*
- *Interface management and risk transferred to CRD between the wastewater treatment plants and the biosolids facility*
- *Lesser ability of biosolids operator to anticipate and adapt the biosolids treatment facility to fluctuation of the wastewater treatment plant operation, especially during wet weather flows*
- *Added complexity and loss of efficiency in the management and operation of the whole system*
- *Non consistent decisions of arbitrage on volume produced versus treatment costs"*

Several respondents commented that if the biosolids facilities are located at the site of the WWTPs then integration of the two operations is logical.

If the biosolids facility is procured separately from the WWTPs then a very clear definition of what biosolid material will be delivered is required in the scope and performance requirements of the WWTPs. For example, if a high chemical usage strategy is employed in the WWTP for biochemical oxygen demand and total suspended solids ("BOD/TSS") targets then a significant amount of sludge will be generated for biosolids plant treatment. This must be included in the design specification of the biosolids plant.

If multiple WWTPs are developed of varying sizes and using different technologies then there is a good chance biosolid material with different characteristics will be produced and delivered to the biosolids treatment facility. This potential for variability in WWTP output must be considered in the design of both the WWTPs and the biosolids plant. The timing, quality (amount of dewatering and digestion of solids), and quantity must be defined in advance in the performance specifications of the WWTPs

Tipping fees will likely be required at the biosolids facility. This would allow operator to differentiate delivered product by quality (and charge a different fee for differing qualities).

Not all respondents believe the biosolids management plan will be a major challenge. One respondent suggests that since most users in the region are residential (and not industrial) then there is a relatively homogeneous and predictable inflow and outflow. Some believe the CRD can simply specify the timing, quantity and quality of the plant output for each WWTP. The comment: "*It isn't rocket science*".

2.2 Separation of Biosolids from WWTPs

The rationale for separating the design, development and/or operations of the biosolids facilities included:

- Creates an opportunity for the CRD to establish a centralized, regional approach to resource recovery to meet regional sustainability goals.
- Provides a greater opportunity for technical and economic innovation by independent specialist firms.
- Allows flexibility for integration of organics and other waste streams into the biosolids plan and may help offset the variability in the quantity of the WWTP output. The integration of other organics is easier if the biosolids facility is centralized.

Furthermore, if the biosolids facility is located some distance away from the WWTPs (and not on-site with direct access to WWTPs) then it will be easier for CRD to procure an independent biosolids facility as an independent package.

2.3 Scope of Biosolids Plant Operations and Level of Sustainability

One process technology supplier stated that as biosolids management covered several specialist process technologies e.g. composting and biogas utilization, separate contracts should be awarded for each selected management process.

Some respondents believe incineration is a possible option for on-site sludge management, particularly in site-constrained areas like Macaulay and also in urban areas (for example it was commented that Seattle successfully incinerates). However it was noted this can lead to a backlash by environmental groups due to energy consumption issues.

One respondent noted that if extensive reuse is planned then CRD should include a significant advertising budget in its plans to promote the availability of usable biosolids for the community (otherwise users simply will not be aware of the existence of available product).

It was commented that in Canada most sustainable technologies tend to be developed by small independent power producers with minimal financial resources and backing. Transferring risk to a Biosolids developer may not be feasible. This could be an argument for packaging the Biosolids facility with the WWTP.

As noted by one respondent:

> "*… the CRD should build on the experience of the many other biosolids facilities across Canada which are operated publicly, including Toronto, Kelowna, Prince Albert and Kingston. In particular, the CRD could emulate the example of Kelowna, which for several years has successfully marketed a fertilizer called "Ogogrow" that is produced at its publicly operated biosolids facility.*"

2.4 Location of Biosolids Facility

Other comments included:

- If on-site biosolids management is not possible then CRD should attempt to locate the biosolids plant close to the WWTPs to ease of integration and minimize transportation costs (pumped transport is cheaper and less risky than trucking solids long distances). CRD should also consider palletizing sludge to reduce odour.
- It may be feasible to process solids on-site (digestion and stabilizations) however this is challenging – especially in residential areas.
- A small footprint is possible for sludge management by using vertical dryers or centrifuges. How much dewatering and digestion of solids will occur on-site versus at a centralized biosolids facility? This impacts design decision and operations at both the WWTPs and the biosolids plant.
- One respondent mentioned Spokane is currently dewatering to 25% solids and then transporting to biosolids facility successfully. Targeting a class B solid cake on-site may be a feasible goal.

3. Major Component Comments: On-Shore Conveyance System and Linear Structures

Several respondents suggested the CRD should be responsible for the operation and maintenance of the linear structures, including the pumping stations. Since CRD has stated it will continue to operate and maintain the existing conveyance systems, for which they have in-house experience and resources, many respondents acknowledged that to extend CRD's responsibility to include the new linear structures had merit.

Other comments included:

- On-shore linear components could easily be procured using either traditional design-bid-build or design-build procurement effectively.
- Sewers and forcemains could be separated from other packages and procured separately.
- Risk of securing easements and land acquisitions are major risk factors for the private sector; (and respondents believe CRD is in far stronger position to manage these risks). This work requires multiple municipal authority approvals within CRD and thus the CRD would be more effective at obtaining such approvals.
- There is no compelling reason to require operations of the linear structures to be combined with operations of the WWTPs.
- It was noted CRD may have difficulty hiring new staff for the WWTP and Biosolids Facility due to the lack of available experienced managers.

4. Major Component Comments: Marine Outfall

The marine outfall work is generally considered to be highly specialized and requires a "*special breed*" of engineering firm that specializes in such work.

Comments included:

- Only three (3) engineering firms in the Pacific Northwest have a strong reputation for providing this type of marine engineering installation work. Thus, CRD should ensure during procurement that firms who are short-listed in Request for Proposal stage are able to team with outfall engineering organizations who were previously teamed with losing proponents from the prior stage (ensure there are no exclusivity clauses for outfall engineering firms at the pre-qualification stage and thus firms will be released to bid with others if their consortium is not short-listed for the RFP). Alternatively, CRD could require non-exclusive teaming for the outfall component and allow the leading outfall engineering firms to team with multiple bidders during the procurement process (to ensure all the best outfall firms are not tied up).
- The type of WWTP treatment and level of treatment determines the design capacity of the marine outfall (i.e. size, length, depth, location and diffuser design). Thus WWTP details must be known to define the exact requirements of outfall. CRD must therefore manage the interface between WWTPs and outfalls and use proper delimiters in contracts to define responsibilities among various parties or use a single contract and make the outfall provider a sub-contractor to WWTP builder.
- This component can be procured either through sub-contract with the WWTP procurement, or through a separate design-build contract arranged by CRD.
- Complexity of outfall is important for the packaging decision. If outfall is +/-10 Km and +/-2Km offshore in total length then separate package should be used. If WWTP is close to shore and requires a short marine outfall then it can be packaged with WWTP.

If water reuse and high levels of treatment are applied to wastewater then the outfall becomes less important since water is already at a high standard when it leaves treatment plant. Thus a short outfall is deemed technically sufficient (however public support would be required for such a plan). It is anticipated CRD would establish such requirements (it will not be left to bidding teams).

5. Contract Packaging

Key Issue: Should the Project be procured as a single consolidated system or broken down into multiple packages for each major component or even sub-components?

There was broad divergence in views on recommendations for the procurement packaging strategy. Many respondents tended to recommend a strategy that generally coincided with their organization's capabilities in written submissions, however follow-up calls were more frank and open. Feasible arguments were presented to support multiple approaches to procurement and therefore it is concluded that CRD has significant flexibility in the type of procurement approach it chooses to implement. There were no technical "show stoppers" raised by respondents in packaging the project as a single consolidated system, into a series of large or medium-sized packages or even breaking it down into smaller elements. Responses indicate that any of the approaches would likely attract bids and competition from the private sector.

Eight (8) respondents stated that they recommended the overall Project be procured as a single system or a small number of large component packages, whereas twelve (12) respondents recommended breaking it down to a number of well-defined components. Six (6) of the respondents hedged their opinions by presenting arguments for either a single or multiple procurement packages.

5.1 Consolidated Large-Scale Procurement Approach

The consolidated procurement approach would bundle virtually all components of CRD's planned project into a single procurement plan and offer it through a single major prime contractor (who would likely retain sub-contractors to complete aspects of the work).

In the responses, one respondent went so far as to suggest CRD create a separate wastewater utility structure for the Core Area and West Shore and establish a regulatory framework within which the utility would operate. CRD would then establish minimum standards of service and leave the supply and management of services to the utility (similar to the way gas service is delivered in many regions). This approach is clearly beyond the scope of work being contemplated by CRD however it indicates the variety of responses received during this market sounding process.

Respondents that favored the consolidated large-scale approach typically assumed the new linear infrastructure[4] to be constructed would most likely be operated and maintained by the CRD (and furthermore, in some cases this was the one construction component of the project they did not wish to manage for reasons described later). Alternatively, an alliance partnering approach was suggested whereby CRD would retain an advisory firm to program manage each piece of the project and bid each component on behalf of CRD (and working for CRD on an open book basis). This approach has worked well in Australia when projects were required to commence under very tight time constraints prior to finalization of plans and where delivery timing was firm.

[4] Linear infrastructure refers to the on-shore conveyance systems with associated pumping stations (and not the actual wastewater treatment plants).

Strengths Identified by Respondents	Weaknesses Identified by Respondents
• Overall lower life-cycle costs resulting from proponents planning the entire system and managing to minimize overall long-term costs, equipment standardization and integrated program management of whole system. • Greater risk transfer to the private sector. • Reduces interface risk among components (CRD will not have to manage the interface risk between wastewater treatment plants ("WWTPs") and Biosolids plant, or capacity peaking issues between linear components and WWTPs). • Single source of accountability. • Attractive to large multi-national organizations who specialize in wastewater management. • Configuration of the system and outfall is easier if packages are offered together. • Local firms would likely participate as sub-contractors. • Integrated planning allows innovation across the system e.g. WWTPs and biosolids processing). The rationale for issuing a single procurement package (or a small number of large component packages) can be summarized by the following response: *"A large, single system procurement will:* o *reduce procurement costs for both the public and private sectors;* o *allow the private sector to take and manage a greater spectrum of risks. A broader, more integrated scope allows for greater risk transfer from the public sector to the private sector;* o *reduce interface issues;* o *increase the private sector's ability to create innovative system wide solutions; and* o *increase the competitive landscape. A larger Project will attract the leading international players in the waste water construction/management sector."*	• Single large contract would require large bonding by prime and major sub-contractors. This reduces competition due to the scale of bonding required. Thus it limits competition for procurement process since only large global players would have the capacity and resources to bid such a large scale project. • Since no single party could provide all services, there is a need for the prime contractor to sub-contract certain packages. Multiple layers of sub-contracting may lead to each sub-contractor adding a contingency margin factor to the pricing. • There is currently insufficient technical information available on the project scope and risk transfer expectations at CRD to allow potential proponents to assess the overall project. • If CRD were to request proposals with a long-term build-out plan then special attention and arrangements will be required to manage how the capital cost of future WWTPs is to be controlled and paid by CRD. • No company can lock in fixed price contracts that are years away. Instead, a system of inflation indices would be required (administered under contract). • Two main construction cost indicators were suggested: StatsCan CPI or the data used by the regional Construction Association (discussed below). • CRD has a complex system, including phasing of multiple components plus technology choices – all require flexibility to implement successfully and such flexibility may not be possible in large-scale single package program (since CRD would be required to define key requirements in procurement documents now).

5.2 Multiple Component System Approach

Of those respondents who recommended the overall Project be broken down into multiple procurement packages (instead of a single large-scale procurement), most were consistent in recommending the procurement packages be reviewed based upon the Technical Components. Many respondents proposed to combine the WWTPs and the Biosolids Plant into a single procurement package while others were of the opinion that each marine outfall should be included as part of the Treatment Plant procurement package. The following summarizes comments for/against breaking procuring the system in multiple work packages.

Strengths Identified by Respondents	Weaknesses Identified by Respondents
• Multiple smaller packages will increase the number of firms who have bonding capacity to bid and act as prime contractor. Thus the level of competition seen by CRD could increase. • Increases the potential number of local and Canadian companies who could participate in the overall project, thereby increasing competition. • Different procurement strategies are better suited to the various elements of the overall project. Hence CRD can adopt procurement methodologies for each procurement package separately without being bound to s single procurement approach for the entire system. • Planning and phasing requirements will enable CRD to proceed with some elements of the overall project and provides increased flexibility to change and schedule management. • Diversifies risks across multiple parties. Arguments in support of breaking the procurement into multiple components include: "The Program will be implemented in a number of steps, which will be developed as part of the next phase of planning. Various elements may be best delivered and operated through different delivery methods – not all of which will be defined in the early stages. It would be exceedingly difficult to develop a single competitive process that could accommodate the scale and duration of this Program. Breaking it down into components will give the CRD the degree of program control that will be essential in dealing with the decisions that need to be made over time and the changes that will undoubtedly occur as the Program is implemented."	• CRD would have to assume the risks associated with integration and coordination if the conveyance system and associated outfall were not included with the treatment plant package. • Respondents believe the administration of multiple contract packages and multiple components would require a Program Management Office which would be required to coordinate overall integration and planning. • Multiple packages may also lead to scheduling delays due to integration challenges. • Multiple packages limit innovation on the overall system design and operation. • Higher transaction costs for procurement if multiple proposal calls and evaluations. Transaction costs are also higher for proponents who bid on multiple contracts. • If WWTP packages are further broken down into individual treatment plant procurements then this may result in less commonality of equipment between plants and hence increased spares inventories and lower O&M efficiencies. • It was suggested that small contract packages may increase innovation – staggered packages allow for adoption of new technologies as they emerge.

6. Procurement Options

Overall, there was no clear preferred procurement approach among respondents. Respondents argued convincingly in their submissions and follow-up discussions for a variety of procurement methodologies – from traditional procurement to full public-private partnership approaches. Obviously, firms specializing in each type of procurement held strong views of why CRD should select their preferred approach. However there were some common themes and issues raised during follow-on discussions with respondents related to packaging of the Technical Components, management of CRD risk transfer expectations, political support, and the desire for flexibility in scheduling.

6.1 Key Issues

- Is there a single procurement approach that will work for all components of the project?
- Which components of the overall Project, if any, is the private sector interested in assuming risk and responsibility for operation and maintenance?
- Does the CRD wish to consider private sector financing?

6.2 Single Capital Procurement Approach?

Multiple respondents supported a DBFO for one or more components of the project as long as the CRD could address key issues related to:

- supply of additional due diligence materials,
- establishment of reasonable risk transfer expectations, and
- confirmation of clear political-level support for the procurement.

Excluding those respondents who advocated a single DBFO contract package methodology, or alliance partnering, virtually all other respondents recommended a multiple package procurement strategy with CRD adopting different procurement approaches for each of the Technical Components (or combined components) dependent on risk transfer requirements of CRD.

Multiple respondents supported a traditional design-bid-build procurement methodology with CRD assuming responsibility for financing, operations and maintenance. The design-bid-build traditional procurement approach was generally acknowledged as providing CRD with the most flexibility (but respondents were less certain it would provide the best risk transfer or best value for money on life-cycle costs for CRD).

Of the respondents who preferred the CRD package the project as a single system using a single contract (typically the large firms responding to the questionnaire), the preferred procurement approach was as follows:

- three (3) respondents recommended Design-Build, two of whom stated that operations should be the responsibility of the CRD,
- five (5) respondents recommended a DBFO procurement,
- three (3) respondents recommended a Design-Build-Operate-Maintain procurement option with the possibility for private sector financing, and
- one (1) respondent recommended alliance partnering.

For those respondents who supported breaking the packaging into multiple sub-packages or components, the majority favoured a break-down based upon the Technical Components identified above. There was no consensus on how each Technical Component should be procured among respondents. The majority of respondents stated that with more than one package there is a not a "single procurement solution" that suits all packages (that is, each package may be suited to each type of procurement approach depending upon its risk profile and other factors). Thus, CRD could use DBFO for some packages (e.g. the biosolids facility or the WWTP) while using more traditional forms of procurement for others (e.g. the on-shore conveyance system).

Those respondents supporting a DBFO approach to contracting and procurement cited the following reasons:

- Risk transfer
- Lowest life-cycle cost
- Greater potential for innovation
- Greater cost certainty
- Single point of accountability

Respondents who did not advocate a DBFO procurement approach provided the following reasons:

- Nature and scope of linear structure component is not suited to a DBFO approach
- Canadian wastewater industry firms are more familiar and comfortable with traditional and design-build approaches to procurement
- Provides CRD with flexibility

As noted by one respondent "*P3 options such as design/build/operate/maintain which feature multi-decade contracts for private operation of public services are expensive, unaccountable and secretive.*"

Respondents who suggest a mixed approach to procurement for each component cited the following reasons:

- Provides CRD with flexibility to manage planning and engineering activities to secure necessary land, easements, risk mitigation and technical data required for each procurement package.
- Provide CRD with greater control over procurement scheduling enabling procurement packages to be staggered and issued to suit overall project schedule.
- High degree of flexibility in selecting the most suitable procurement option for each contract package e.g. conveyance system package undertaken through Design-Bid-Build and treatment plant package undertaken as DBFO.

Respondents who preferred more traditional approaches to procurement like design-bid-build (DBB) cited the following reasons:

- Allows more public input and discussion.
- Complexity of CRD's system requires flexibility in procurement over multiple years for phasing of components, integration of new technologies and accommodation of water reuse and renewable technologies.

- Allows CRD to achieve scheduling targets. However lifecycle costing of each component of system can be evaluated as part of the engineering advisory scope of work.

When asked if any specific procurement options would not be acceptable to the marketplace, ten (10) respondents of the twenty-six analyzed stated that all procurement options would be acceptable to the market place. Some respondents stated that one or more components of the project may face challenges in implementation as a result of the procurement option chosen.

Reasons provided for anticipated lack of market interest included:

- Limited Canadian experience with specific options including Alliance partnering
- Nature and scope of some project components not suited to a DBFO approach
- Requirement for financing
- Capital value of each procurement package
- Lack of capacity and/or large development budget

7. Pre-Conditions for a Successful Procurement

Respondents generally acknowledged the costs required to prepare a bid and respond to a DBFO procurement are considerably higher than other forms of procurement. Many of these respondents stated the level of political commitment by the CRD in completing a DBFO procurement would be a major factor in their decision as to whether or not to respond to a CRD DBFO procurement invitation.

The recent examples of both Metro Vancouver (GVRD) and the Municipality of Whistler aborting their respective alternative procurement initiatives were cited by respondents of the public sector not demonstrating its commitment to their selected approach.

Respondents were often highly opinionated on the topic of how CRD could achieve a successful procurement of such a high-profile project. Comments included the following:

- Respondents want to see more than financial commitments from various levels of government. They need to see public commitments from key government ministers (Province, Feds and CRD). This was believed to be missing in other recent BC water project procurement failures. This will allow assessment of political risk of project.
- There is a perception that more planning is required and current analysis to date has not included enough detailed due diligence to allow an effective procurement. Respondents understand CRD has commenced a new phase of due diligence to address this issue.
- The BC and Alberta construction markets remain tight and there are lots of alternative projects for firms to bid (Port Mann, Lions Gate filtration, Gateway, oil sands etc.). If CRD wants a serious response then CRD must pull together a very thorough plan for how the entire process is going to be managed and rolled out (including governance structure).
- Virtually all respondents recognize there is significant political risk at CRD with this high-profile project. CRD must manage multiple municipalities with differing views on the project plus multiple levels of government (municipal, Provincial and Federal). Care must be taken to ensure CRD communicates its plans well to the market to ensure a credible process is maintained.
- Key issue: ensure a good bid contract is in place at RFP (instead of negotiating the contract after RFP bids received).
- It is extremely helpful to see procurement contracts in advance of RFP being issued. This allows bidders to have input and flexibility in contract terms.
- It would be attractive to most bidders for CRD to attach a draft risk transfer plan to RFP so proponents can understand what risks they are expected to assume in the Project.
- CRD will get the best response and best price if it can eliminate uncertainty from project and focus on the key aspects of risk and responsibility it wishes to transfer to the bidders. This can be achieved by clearly defining requirements, defining flows, defining capacity, defining all easements in advance of proposal call etc. The following documentation and actions will significantly improve the likelihood of success of the project:
    - Public demonstration of political will (CRD must convince the community to proceed with the plan)
    - Financing in place (Feds and Province)
    - Regulatory environment certainty (including discharge permits)
    - Preliminary design understood
    - Environmental reports and requirements
    - Environmental Assessment

    - Secure sites
    - Perform extensive geotech on sites and outfall
    - First Nations artifacts and studies
    - Topographical reports for sites and linear components
    - Clear understanding of approvals process (local, site plans, building permits).
    - WWTP phasing and capacity should be defined by CRD
    - CRD should retain permitting cost risk and use a lump-sun allowance (this is difficult for bidders to estimate)
    - Definition of clear performance criteria (e.g. quality of sludge)
    - Reasonable contract terms and risk transfer expectations (publish draft contract and take feedback). Consider listing "contract principles" in agreement which outlines basic terms.
    - Publish draft services required, draft RFP, draft technical requirements (program, technical, details).
    - All of the above take significant time for the private sector partner to arrange and thus CRD can make the project significantly easier to bid if such items/risks are eliminated at start of process
- Most respondents believe draft contract agreement should be released in advance of the RFP stage.
- Milwaukee and San Francisco WWTP process were mentioned as examples of procurement processes that successfully released draft contract documents to enable a successful procurement.
- Proponents require a good understanding of the sites and where buildings will go.
- Proponent will likely develop 30% drawings to allow final binding contract bid and understand key constraints. The private sector must believe this is a genuine procurement opportunity before they take RFP process seriously. Hiring experienced people is difficult in current market. All good, experienced people are busy on other projects. As a result consulting rates are increasing and firms will only pursue projects that have a high probability of moving forward.
- CRD should focus on ensuring there is a good overall economic solution provided by bidders (and not simply a bid package that is easy to evaluate).
- Increasing the amount of CRD money at risk for a failed procurement (breakage fees) will also build confidence in process.
- One respondent suggested CRD allow proponents to respond directly to complaints/accusations by opposing stakeholders to a DBFO process. Metro Vancouver did not allow such dissenting views during its procurement and thus firms were unable to respond to inaccurate information distributed during public discussions. Politicians did not have the information necessary to prepare a thorough response to complaints.

- Identify the sensitive areas of the RFP documents (risk transfer etc.) and communicate constraints to bidders so they understand issues. Respondents expressed an interest in reviewing the following contract provisions in advance to ensure they understand the risk transfer expectations of CRD:
    - warranty
    - conditions
    - sub-surface risk conditions
    - limits of liability
    - performance guarantee requirements
    - schedule targets
    - permitting requirements and limits
    - hazardous
    - waste issues

CRD should give proponents an opportunity to provide feedback on terms of contract and identify deal breakers or items that simply increase CRD costs without adding much value.

8. Honoraria and Breakage Fee Summary

Although several respondents either did not support or require an honorarium to be provided DBO or DBFO procurement packages, they were in the minority. Respondents had the following comments:

- If CRD is serious and wishes to attract "A-team" professionals in bidding organizations then CRD should include reasonable honoraria and large break fees.
- Risk allocation and commercial conditions also drive interest in project.
- If CRD requires bid bond or penalty for not making bona fide bid, then CRD should also provide realistic honoraria. If no honorarium then only big firms may bid.
- Some engineering sub-contracting firms simply will not bid a project that does not have an honorarium. There are too many other good assignments available to tie up engineering resources chasing bids with risk of not winning.
- CRD should consider two-stage honorarium: $50,000 to each losing bidder if successful award; $150,000 to each bidder if CRD chooses not to proceed with award. This gives CRD to cancel process (at a price). In light of the recent experiences with Whistler and Metro Vancouver, a breakage fee is generally deemed expected in this project in case CRD chooses not to proceed with a DBFO-style procurement after early pushback from stakeholders.
- If bidder's breakage penalty is only $100,000 for not submitting a realistic bid then it is easy to walk away (they will save more by not bidding and simply allocating resources elsewhere).
- The cost of a bid depends upon level of design detailed required. Proposal cost estimates range from +/-$250,000 to +/-$500,000 (excluding legal and financing fees). Some respondents linked the cost of preparing a detailed proposal to the capital cost of the proposal itself.
- The RFP stage is expensive to bid. The early pre-qualification stage is not typically expensive.
- Level of honorarium should be 25% to 50% of bid costs.
- $50,000 honorarium to each losing bidder is not a reasonable level for a project of this complexity (especially if assignment rights on intellectual property are included in submissions).
- The amount of honorarium indicates level of CRD seriousness in completing this project.
- Internal costs are typically absorbed by bidder, but they want to recoup external costs (legal, sub-contractor engineers).
- CRD should not put onerous terms and conditions into the contract documents in this market – there are too many other attractive projects for firms to pursue.
- Key to success: CRD should be upfront with proponents and clearly define what CRD wants and what risks are to be transferred to proponents.
- Some bidders perceive their development funds to be highly risky is spent prior to the May 2009 Provincial election. They believe if there is a change in government then CRD's project may be re-evaluated and/or delayed.
- Honorarium adds legitimacy to process and attracts betters teams with better (more detailed) responses. This is particularly important for projects of this size and complexity which require a significant effort to complete due diligence.
- Be careful that large international firms walk away during the RFP process if they do not like the risk transfer terms (they will easily pre-qualify and wont take process seriously until RFP stage). Thus use a two-way payment which requires firms who do not follow-through with a competitive bid during RFP phase to incur a significant cost.

- CRD should consider maintaining a “next in line” bid in case one of the RFP short-listed bidders drops out in the RFP stage. This may require an automatic extension of the RFP phase (that all respondents agree to in advance).
- Short-list three teams at most to improve bid quality.
- Availability of construction contracts will limit ability to pursue this project.
- Only expect 4-5 large teams to bid in current market.

9. Bonding Issues Comments

Bonding companies are currently very cautious in British Columbia due to the high levels of construction inflation since 2004 and the level of activity in most firms (many are becoming over-stretched). Thus bonding requirements should be structured so as they are not too onerous for potential bidders (for example do not require a corporate guarantee as well as bonding). Despite bonding pressures, most large firms would prefer to provide a bid bond over providing a corporate guarantee.

Other comments included:

- It is difficult for US and foreign firms to set up bonding requirements in Canada unless they've worked here before. This may reduce their appetite to bid.
- Typical ways to secure a bid bond include: certified cheque, letter of credit, cheque.
- If bid security is required then it would be 10% for small projects, 5% for large projects (of capital value).
- The longer the validity period of proposal then the higher the price to bidders (and therefore CRD).
- If extension required then bidder typically has opportunity to retract their bid. The reaction to extension requests depends upon what is happening in the local marketplace and ability of bidder to extend sub-contracts (if costs are increasing then cost increases will be directly passed on to CRD).
- Bonding will limit ability of smaller teams to bid prime contract, thus will limit number of firms bidding.
- In Spokane, the requirement of a corporate parent guarantee "spooked" many firms and undermined the bid process (some firms chose not to participate).
- When financing involved in project then bonding should be given to bank (not CRD)

10. Validity Period for Fixed Price Bids

There is a consensus among respondents that it is very difficult to hold bids in current market conditions. The reasonable length of time between proposal submission and financial close (the "validity period") ranges from 90 to 120 days (180 days was given as a maximum). The main drivers for bidders being unable to hold prices are the current levels of construction inflation in BC and the aggregate financial market and the difficulties observed in arranging financing. Responses varied from an absolute number of days for the validity period, to a not-to-exceed period or to a range.

Multiple respondents expressed concern over the ability for Federal, Provincial and CRD levels of government to achieve financial close within the validity period after submission of proposals.

Locking in financing rates is particularly difficult at the moment given current financial market conditions.

It was noted that BC Hydro is currently requesting bidders to include break-out of key equipment in their bid and BC Hydro will link pricing of such major items to a construction price index (for example CRD could link membrane equipment pricing to an index if this is a specified technology).

CRD could also use a Limited Notice to Proceed ("LNP") to extend the contract period in certain circumstances.

Duration of Validity Period

Number of Months	Number of Respondents
3-6	1
4	2
6 or less	3
6 - 12	1
12	2

Duration from Bid Submission to Financial Close

Number of Months	Number of Respondents
30-90 days (for DBB)	2
4	2
6	2
6-10	5
12	1
15-36	1
18	1
18-24	1
24	1

11. Project Financing

Seventeen (17) firms expressed an interest in participating in the project if financing was also required (however several respondents qualified their responses by stating that the quantum of the required project specific funding may constrain their interest). Three (3) stated they would not be interested in the project if financing was required. One firm requested the opportunity to make a proposal on the CRD's portion of funding that is planned to be obtained through the Municipal Finance Authority ("MFA") because the firm believes it can achieve more attractive terms than those offered by the MFA and extend the amortization period, better matching financing to the asset life while reducing the CRD's annual payment.

Respondents favouring traditional approaches to procurement (including Alliance Partnering) assumed the public sector would be responsible for providing 100% of financing for the project.

12. Optimal Operating Contract Term

A significant majority of respondents who advocated an alternative procurement strategy either through a Design-Build-Operate or Design-Build-Finance-Operate contract advocated for a minimum contract term of between twenty to thirty (20-30) years.

The rationale presented for contracts greater than five years was consistent across respondents and was based on enabling lower life-cycle costs through asset management and capital upgrades over time. Additional benefits mentioned include greater risk and price stability.

When given the choice of linking contract term to (i) typical financing terms, or (ii) the life-cycle term of WWTP equipment, all respondents selected linking the operating contract length to the life-cycle of major equipment. The financing term was a secondary consideration. Typical WWTP major equipment was estimated to operate for 20-25 years before requiring a major overhaul and this was deemed an appropriate contract term for respondents.

One respondent noted that very long-term contracts (beyond 30 years) have not been tested in North America. The same respondent suggested a contract length below 10 years would not give enough time for risk transfer on maintenance of WWTP equipment (that is, failures typically occur after 10 years thus the quality of the operator's decisions to balance life-cycle costs will not be truly tested until later in the contract term).

Linear components of the system are expected to have a life-expectancy of 50-100 years.

13. Additional Future Capacity

Most respondents either advocated or assumed that long-term planning would be completed by CRD such that at the time the initial construction contracts were agreed, regardless of the selected procurement approach, future increases to capacity resulting from growth had been taken into account in the procurement plan.

Those respondents who supported a traditional design-bid-build or a design-build procurement approach favored the CRD undertaking a managed competition at the time the design and/or construction work to accommodate future capacity, as required. Thus additional capacity would be added upon request by the CRD (on the basis of cost-plus or similar construction contract).

Respondents who supported alternative procurement strategies suggested a similar approach to adding additional capacity if facilities had to be expanded. However the terms of such agreement would be included in the current agreement to address responsibilities and risks. Several suggestions were made with regard to managing inflation issues and future capital costs for expansion, including:

- "Open book" pricing with a guaranteed not to exceed price
- Construction management at risk methodology
- Use of established government and industry indices as appropriate.

14. Managing Inflation in Large-Scale Procurement Packages

Proponents were asked how they would manage construction cost inflation if awarded a long-term contract for the project which required phasing of components over multiple years. No satisfactory solution to this problem was identified by respondents. Respondents had difficulty assuming construction cost inflation risk for long-term phased components of the project. Proponents would be forced to assume aggressive inflation contingency assumptions and thus add significant cost to proposals if CRD does not use a methodology to mitigate such risks.

A significant majority of respondents recommended that for any long-term contracts construction cost inflation should be managed by a combination of a fixed contract price with a cost sharing formula tied to established government or industry indices to address identified key sectors subject to inflationary pressures. Two common indices mentioned by respondents were (i) the StatsCan BC consumer price index, and (ii) a relevant BC Construction Association industry index (likely based upon Reed Construction Data).

As one respondent noted *"The CRD is currently projecting that it will not complete full build-out of a new regional sewage treatment system until 2016, which is nine years from now. This seems to be an unnecessarily long schedule. The longer the schedule for construction of a new system, the more likely construction inflation will increase. One option for reducing construction costs is to compress the current schedule."*

For operating costs, respondents acknowledged the private sector is prepared to assume some pricing risk associated with inflation for materials, labor, energy and commodity prices as well as currency exchange. Some operating companies suggested pushing efficiency of operations risk to the operator, while commodity price risk remains with CRD.

15. Flow Demand Forecast Comments

Respondents generally believe further analysis and data is required on flows. They had the following comments:

- If multiple plants used in system then detailed forecast on flow and demand required to allow capacity planning.
- Respondents do not want the risk of estimating where future regional growth will occur (particularly on the West Shore). This is perceived as being very risky. They prefer CRD to specify growth expectations and thus specify capacity in each region.
- Flexibility in design can be integrated into plans even if CRD defines population growth and phasing requirements.
- CRD is a dynamic region that is going to change significantly in coming years due to population growth and shifts in density.
- How is CRD going to design the system to accommodate projects like Dockside Green?
- Flow rates are a major risk in this project (including I&I issues).

16. Inflow & Infiltration Management Comments

Respondents made the following comments regarding I&I issues:

- I&I is known in the market place to be a major issue for CRD.
- Flow rate risk is real and requires special attention and planning.
- The impact of peak flows on plant chemistry will be a problem. Hydraulic capacity must be closely managed to ensure optimal WWTP operations. When a major wet weather flow event occurs that has significantly different chemistry than normal flows (i.e. dilute flow, low BOD/TSS) then this "washes out" the treatment system and causes significant problems for operator.
- Many other municipalities have handled this problem:
    - City of Edmonton has major 6-7 ADWF problem during snow melt period, and
    - City of Winnipeg (South End) has 4-5 ADWF
    - Everett, WA is also grappling with I&I and capacity planning
- The I&I issue evolves and changes over time and also impacts conveyance planning.
- One solution: enhanced primary treatment of peak flows (separate stream) so core system is not washed out, then place stream in bio flow.
- Challenge for CRD: How much should be spent on fixing collection system versus WWTP capacity management? It is not practical to keep adding capacity to WWTP and increasing operating costs (sooner or later more effort is made to fix I&I).
- I&I risk and costs should not be pushed to private sector since the cost of repairing system is so large and unpredictable (any firm responsible would be required to add huge risk contingencies to plans which would be expensive for CRD). Thus CRD should retain responsibility for repairs for I&I.
- CRD may wish to consider providing a financial incentive to proponents to manage peaking factors and reduce peaking. A contracting framework could be established that allows CRD to have penalties and benchmarks for I&I repair and overall performance of system.
- Pricing mechanism should be linked to level of rainfall in area and estimated I&I (this approach is used in Scotland). CRD then specifies minimum capacity requirements.
- BOD/TSS are key drivers of operating costs and thus CRD should focus payment mechanism on these parameters.
- If CRD not careful then they will end up paying a substantial amount of money to simply treat (clean) rainwater. I&I also results in much higher pumping costs to push water around system.
- Wet weather flows are difficult to control and also complicate the payment mechanism in a DBFO procurement.
- The key to success with I&I is to manage flow peaking
- CRD should consider diversion approach to managing peak flows (particularly in Core Area)
- Repair work on linear structures should use polyurethane instead of concrete piping since it has better life-cycle costs.
- If bids are allowed that vary flow assumptions then it will make comparison of proposals very difficult. CRD would then specify minimum capacity amounts and flow amounts.

17. Technical Information and Due Diligence Deliverables

As noted by a respondent: *"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"*

Respondents recognized the project was currently in the planning stage and that the CRD has embarked on a comprehensive series of activities to advance the Project to meet the stated schedule and develop or obtain the above data and technical information

Respondents identified the following list of significant technical information that they wish to receive as part of any procurement request. Without this information, proponents may deem that the CRD has initiated a procurement request prematurely and/or that the risk is too high and hence will refrain from responding. The CRD needs to balance the amount of effort expended in the planning stage to address all the identified technical information without constraining technical innovation.

- Source control bylaws and standards
- Water reuse and biosolids management standards
- Architectural requirements
- Neighborhood and community requirements
- Clear definition of project boundaries and points of interface
- Results of any pilot tests
- Technical and performance data on existing facilities including as-builts
- Condition assessment of existing underground assets
- Projection of heavy metals levels in dewatered sludge
- BC Biosolids Regulations
- Transportation access and constraints to each site
- Digital plan and topography of each site
- Location of existing services for each site
- Traffic studies pertinent to each site
- Environmental permit conditions/constraints/mitigation requirements
- Permits and Approvals requirements including First Nations and DND
- Site specific restrictions on traffic/hours of work etc.
- Performance requirements for SCADA
- Specific sustainability targets for energy, resource recovery, carbon emissions

18. Other Critical Information

In addition to the significant risks and associated management strategies identified in the response to *Question 24*, the following critical information and decisions to be made by the CRD were identified by one or more respondents:

- Undertake necessary engineering planning as well as to establish and provide reliable and accurate technical data pertaining to flows, loads and other parameters which impact design capacity
- Determine performance objectives
- Ensure government funding is in place and an associated financing plan
- Establish overriding goals to be achieved including sustainability levels, energy efficiency, GHG emissions, local/regional/Canadian content
- Establish required quality requirements for the physical assets at termination of O&M contract
- Adopt a fair risk allocation strategy
- Develop and issue draft contract as part of the RFP package
- Offer reasonable amount for honorariums
- Establish selection criteria based on local resources, financial strength, technical capabilities and innovation, relevant experience, leadership in resource recovery and sustainability
- Establish a procurement governance structure and decision making authority
- Identify and complete all community and stakeholder consultations

19. Risk Management

The following is a list of potential barriers to participation that were identified by one or more of the respondents.

- Unbalanced allocation of risks.
- Lengthy, overly bureaucratic and expensive procurement process.
- Unreasonable technical and/or financial guarantees and bonding requirements.
- Non-bankable and unreasonably onerous contract terms and conditions.
- Capital value of each procurement package.
- Constraints on ability to provide innovative technology.
- Nature of the selected procurement option for each procurement package.
- Requirement for provision of financing.
- Uncertainty of site availability and environmental permitting.
- Number of pre-qualified competitors.
- Unrealistic implementation schedule.
- Assessment of probability that a contract will be awarded as envisaged by the RFP.
- No provision for “commercial in-confidence” meetings with CRD during RFP phase.
- Biased pre-qualification criteria e.g. favouring large multi-national companies.
- Quantum of honorarium paid to unsuccessful bidders.
- If multiple packages are used then integration and interface risk becomes problem for CRD – integration risk remains with CRD.
- WWTP designers often know little about outfall design.
- Running sewers through people’s property thus private sector does not have statutory power to acquire land rights which makes this risky and has scheduling implications
- Clover Point will be a challenge during procurement if extensive work required at that site thus extensive public backlash expected (may be better if procured as DBB since private DBFO proponents will have difficulty dealing with public).
- Clover Point has other problems/challenges, including:
    - Large potential for rock excavation
    - Construction risks
    - Potential for public backlash risks

The following significant risks and associated management strategies were identified by one or more respondents:

- Political – provide a high level of assurance to the private sector that an award will be made based on the procurement option identified in each RFP. Establish a governance structure and program management process.
- Stakeholder – obtain acceptance from all key stakeholders including governments, First Nations, the public and labor unions to the selected procurement option for each procurement package before the RFP is issued.

- Private Sector Participation – Adopt a procurement strategy for each procurement package that will strongly encourage the private sector to participate in each competition. Limit pre-qualified bidders to no more than four. Provide a fair and transparent proposal rating system.
- Permits and Approvals – ensure permits and approvals are secured before an RFP is issued for any DBFO procurement option. Establish a Permitting/Approvals Plan with clearly defined responsibilities.
- Site Acquisition – ensue that the site(s) is secured before an RFP is issued for any DBFO procurement option.
- Planning and Schedule – Ensure effective planning and develop a realistic procurement schedule and avoid extensive delays.
- Risk Transfer – If a DBFO procurement option is selected then ensure that the contract provides for effective and appropriate risk transfer to the private sector.

The underlying concern of those private sector respondents who are interested in responding to procurement opportunities is whether or not, at the time the CRD issues a request, should they invest their development budget on the opportunity.

The Seymour-Capilano Water Filtration Plant and Whistler Wastewater Treatment Plant Expansion were examples cited where the public sector had abandoned an alternative procurement methodology in progress, in which those parties who responded lost their invested development funds. This also has created a concern throughout the industry particularly with regards to contracting out long-term operations and maintenance.

Additionally, respondents advised that there were a significant number of capital project opportunities "in the pipeline" that will likely coincide with the CRD's Project and be competing for their development budgets.

> "*The most significant risk is if there is a lack of a commitment (by all levels of Governments) to move ahead to achieve the Program goals. The Program, no matter what delivery decisions are made, will face political, legal, social, technical and environmental challenges. The CRD needs a governance structure and a management process to tackle these challenges and move the Program ahead during times of adversity to achieve their goals in a timely manner.*"

The private sector respondents are looking to the CRD to deliver a very strong signal that if they elect to initiate an alternative procurement process, all parties are committed and it will not be abandoned.