



**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, 23 APRIL 2008**

**SUBJECT CORE AREA AND WEST SHORE WASTEWATER TREATMENT PROGRAM –
BUSINESS CASE MARKET SOUNDING**

PURPOSE

To present the results of the business case market sounding and consultation work completed by Ernst & Young Orenda Corporate Finance Inc. (Ernst & Young) as part of its contract for the provision of business advisory services for the Core Area and West Shore Wastewater Treatment program.

BACKGROUND

In his letter dated 21 July 2006, the minister of environment stated "to ensure value for taxpayers, I encourage the CRD to consider new technologies and alternative financing and delivery options, including the potential for private sector involvement". In June 2007, following a competitive proposal call, Ernst & Young was retained by the Capital Regional District (CRD) to prepare a business case for the project. This work will include a review of procurement options and make recommendations to the CRD for the overall procurement strategy.

As part of this procurement review, Ernst & Young completed a market sounding and consultation process with industry and other project stakeholders to review opportunities and risks associated with procurement. The primary objective of this consultative process was to give service providers in the industry an opportunity to provide feedback and guidance to the CRD regarding preferred procurement processes.

A market sounding questionnaire was developed to assist in the consultation process and it was posted on the CRD website in October 2007. Interested respondents were given four weeks 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.

Attachment A provides an executive summary of Ernst & Young's analysis of the market sounding responses and this will be presented to the committee by Gary Morrison, vice president, Ernst & Young Orenda Corporate Finance Inc.

Copies of the full market sounding report will be available on request.

NEXT STEPS AND WORKSHOPS

With the completion of the market sounding process, Ernst & Young will be proceeding with the next steps in the preparation of the overall business case. These will include the following series of workshops, which will be presented to the committee during 2008, with the completion of the business case scheduled for February 2009.

- overview of procurement options
- risk review and mitigation planning
- multi-criteria analysis of procurement options
- value for money review and impact on ratepayers

FINANCIAL IMPLICATIONS

This work is funded by the Core Area Liquid Waste Management Plan annual budget and by Borrowing Bylaw No. 3461.

RECOMMENDATION

That the Core Area Liquid Waste Management committee receive this report for information.

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Concurrence

COMMENTS

DT:dv:
Attachment: 1

Capital Regional District
Core Area & West Shore Sewage Treatment

**Market Sounding
& Stakeholder Consultation
Executive Summary**

April 11, 2008



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 like inflation management, honoraria issues for bidding firms, capacity planning etc.

Subject Area of Interest to CRD	Summary of Feedback
1. WWTP Issues	<ul style="list-style-type: none"> • 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.

	<ul style="list-style-type: none"> • 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.
<p>2. Biosolids Planning</p>	<ul style="list-style-type: none"> • 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.
<p>3. On-Shore Conveyance System</p>	<ul style="list-style-type: none"> • 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 <u>not</u> to take such risks (and believe CRD is in

	<p>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.</p> <ul style="list-style-type: none"> • Sewers and forcemains could be separated from other packages and procured separately.
4. Marine Outfall	<ul style="list-style-type: none"> • The marine outfall work is generally considered to be highly specialized and requires a "<i>special breed</i>" 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

	<p>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.</p>
<p>8. Procurement Options</p>	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ○ supply of additional due diligence materials, ○ establishment of reasonable risk transfer expectations, and ○ 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: <ul style="list-style-type: none"> ○ Risk transfer ○ Lowest life-cycle cost ○ Greater potential for innovation ○ Greater cost certainty ○ Single point of accountability • Respondents who suggest a mixed approach to procurement for each Technical Component cited the following reasons: <ul style="list-style-type: none"> ○ CRD flexibility. ○ Control over procurement scheduling. • Respondents who preferred more traditional approaches to procurement like design-bid-build (DBB) cited the following reasons: <ul style="list-style-type: none"> ○ 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.

<p>9. Pre-Conditions for a Successful Procurement</p>	<ul style="list-style-type: none"> • 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.
<p>10. Honoraria and Breakage Fees</p>	<ul style="list-style-type: none"> • Although several respondents either did not support or require an honoraria to be provided, they were in the minority. • Respondents mentioned that 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 better 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.
<p>11. Bonding Issues</p>	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.