



To: Richmond City Council
From: Mayor Malcolm D. Brodie
Chair, General Purposes Committee
Re: **DISTRICT HEATING & COOLING UTILITY – THERMAL ENERGY NETWORK**

Date: July 18th, 2006
File: 03-1000-03-033/Vol
01

The General Purposes Committee, at its closed meeting held on Monday, July 17th, 2006, considered the attached report, and recommends as follows:

Committee Recommendation

- (1) *That staff enter into negotiations with Earth Source Energy / Innergex to finalize a district heating and cooling utility agreement for the City owned lands west of the Oval,*
- (2) *That staff advise potential developers of the City owned lands west of the Oval that the proposed development is to include geothermal heating and cooling,*
- (3) *That staff report back to Council with recommendations on the legal framework of the utility and agreement,*
- (4) *That up to \$20,000 be allocated from the Enterprise Fund Provision account to pay for legal costs associated with the development of the legal framework and agreement, and*
- (5) *That the above recommendation and associated report be forwarded to the next open Council meeting to be received for information as part of the Consent Agenda.*
- (6) *That staff examine the application of the geothermal system for the Richmond Oval facility.*

Mayor Malcolm D. Brodie, Chair
General Purposes Committee

Attach.

VARIANCE

Please note that Committee added Part (6) above.

Staff Report

Statutory Closed Meeting Criteria:

This report meets the following statutory closed meeting criteria:

90(1)(k) negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public

This is the first opportunity for Council to receive a report and formally review the concept of a geothermal utility for heating and cooling of the City owned lands adjacent to the Oval. This report presents the offer made via the expression of interest submission from Earth Source Energy/Innergex. Should Council support staff entering into negotiations with Earth Source Energy/Innergex to determine if a mutually acceptable agreement can be reached, the concept and information contained in the expression of interest can be made public.

Recommendation on Disclosure

It is recommended that this recommendation and associated report be forwarded to open Council for information as part of the Consent Agenda at the next open Council meeting.

Origin

Staff have been working on the concept of a geothermal utility to act as a district heating and cooling system for the City owned Oval site and the adjacent undeveloped City owned land including the City owned parcel west of the No.2 Road Bridge. Recently staff issued a public expression of interest for proponents who are interested in partnering with the City to design, build, and operate a district heating and cooling system.

The purpose of this report is to obtain Council's support for the geothermal utility in concept in order for staff to enter into negotiations with Earth Source Energy and to allow staff to discuss with developers the requirement of geothermal heating and cooling for the lands adjacent to the Oval.

Background

The concept of a geothermal utility owned by the City to provide heating and cooling for private development is a new concept that has, to our knowledge and research, not been implemented elsewhere. The public expression of interest generated two submissions, one from Terasen Energy Services, and the other from Earth Source Energy. Both firms, who have world wide expertise in geothermal heating and cooling systems and utilities, also advised that implementing a City owned utility for a large private development is a unique approach and that there are some

systems that have been implemented that provide some context and background information that will be of assistance.

Analysis

The two expressions of interest were evaluated utilizing a standard set of criteria based upon the requirements set forth in the terms of reference (copy attached), and a follow up interview with each proponent.

Earth Source Energy is the preferred proponent based upon staff's evaluation of the expressions of interest and proponent presentations. As such, the next step is to enter into negotiations with Earth Source Energy to develop the terms of the agreement and, if mutually acceptable, to prepare a finalized agreement for Council consideration.

Endorsement of this report's recommendations will also enable Earth Source Energy to obtain the necessary financial undertaking for the project.

Key Negotiation Terms for Geothermal Utility

The following Key Terms include the City's requirements outlined in the public request for expressions of interest as well as other terms offered in the Earth Source Energy expression of interest:

- The geothermal utility will utilize waste heat from the Richmond Speed Skating Oval. This will have the potential to reduce the capital cost for the Oval cooling system as well as reduce on-going operating costs.
- The geothermal utility will include a series of vertical wells, located within City property, to meet the geothermal heating and cooling needs for the adjacent private development.
- The geothermal utility must include adequate redundancy to meet the heating and cooling requirements of the residential development at all times.
- The design, construction, operations, maintenance, and meter reading for the geothermal utility will be the responsibility of Earth Source Energy. The City, as the Owner of the geothermal utility, will invoice end users based upon the supplied meter information. This will reduce the LEED point obligations of the residential development thereby enhancing the value of the City owned property.
- Earth Source Energy must demonstrate the financial capacity to enter into negotiations to design, build, operate, and maintain the utility over an extended period at no capital cost to the City, and without risk or liability to the City.
- Earth Source Energy must retain their local Richmond office for the duration of the operating agreement.

- Earth Source Energy will pre-commit to and/or identify energy savings for the estimated 2,000 to 2,500 future residential unit end users.
- The City will realize an on-going annual net financial contribution of over \$500,000 towards City operations or programs for the duration of the operating agreement.

Corporate Structure

Staff have obtained preliminary advice from Bull, Housser, & Tupper (BHT) on some of the issues surrounding the potential corporate structure. The suggestion at this time is that the City should consider establishing a wholly owned corporation to own and operate the geothermal utility. Some of the advantages of this approach include:

- The City is protected from debts and liabilities resulting from this initiative.
- Fees and charges for the geothermal utility would continue to be established by Council thereby ensuring accountability and transparency.
- The City would be able to exercise control over the municipal corporation given that the City would be the sole shareholder.
- The municipal corporation's board that would be responsible for the daily decisions and operations would be appointed by Council.

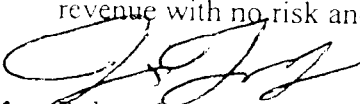
Financial Impact

Up to \$20,000 is required for legal expenses related to development of the legal framework and utility.

Funding is available in the Enterprise Fund account. This account is used to encourage and develop an entrepreneurial spirit within the organization. It provides the investment capital required to fund new revenue generating programs in the form of a loan. The funds borrowed from this account are to be repaid from future revenue streams with interest.

Conclusion

Establishing a geothermal utility to provide heating and cooling for the development adjacent to the Oval has the potential to reduce the capital costs for the Oval and adjacent development thereby enhancing the value of the City owned land, provide a sustainable low impact heating and cooling system, reduce heating and cooling costs for end users and generate revenue for the City. Earth Source Energy has submitted an expression of interest that meets these goals and, in addition, offers on-going revenue. This significant and innovative opportunity demonstrates Richmond's commitment to sustainability and, in addition, has the potential to generate new revenue with no risk and at no capital cost to the City.


For Robert Gonzalez, P.Eng.
Director, Engineering
(4150)

RG:rg



City of Richmond
Engineering Division

**Contract 2856P
Request for Proposal**

Richmond Geothermal Energy Utility

A. GENERAL INSTRUCTIONS

A.1 Invitation

- 1.1 This is a public invitation for proposals from qualified proponents to submit a proposal for a Geothermal Energy Utility in the City of Richmond, British Columbia.

A.2 Overview

- 2.1 The preferred Proponent will be invited to negotiate the terms and, when acceptable to the City of Richmond, enter into a contract (the "GEU Contract") with the City of Richmond to provide the Services as described in more detail in Part C of this RFP - Required Services, which includes in general includes feasibility, design, construction, and operation of a geothermal energy utility.
- 2.2 If an acceptable agreement cannot be reached with the preferred Proponent, the City may, at its sole discretion, enter into negotiations with other Proponents, or terminate this RFP and proceed with the Project in some other manner.

A.3 Closing

- 3.1 Proposals must be received by **4:00PM, local time, on Thursday, May 18, 2006** (the "Closing Time").
- 3.2 Proposals must be received at the Information Counter, Main Floor, Richmond City Hall and are to be addressed to:
- Office of the Manager, Purchasing and Risk**
City of Richmond, British Columbia
6911 No.3 Road
Richmond, BC V6Y 2C1
purchasing@richmond.ca (to be used for inquiries only)
- 3.3 Proponents should submit a Proposal in the prescribed format. Proposals should be submitted in a sealed package marked "Proposal for Richmond Geothermal Energy Utility"
- 3.4 Proposals may be amended by Proponents only in writing. All amendments must be received at the place for delivery of Proposals set out in section 3.8 prior to the Closing Time set out in section 3.2.
- 3.5 Proposals will be opened in the Office of the Manager, Purchasing and Risk.
- 3.6 Proponents shall submit one (1) signed original and five (5) copies of their proposal.
- 3.7 Proposals or amendments to Proposals delivered by facsimile or email will not be considered.

A.4 Terminology

4.1 The following terms used in the RFP have the following meaning:

GEU	Geothermal Energy Utility
GEU Contract	The contract entered into by the City with the successful Proponent pursuant to this RFP
Key Personnel	Key staff of the Proponent proposed to be assigned to this Project.
Oval	The Richmond Speed Skating Oval
Owner	The City of Richmond.
Project	The Richmond Geothermal Energy Utility and Related works, City of Richmond, British Columbia.
Project Site	6080 River Road on a municipally owned 11.7 hectare property in Richmond, B.C.
Proponent Proposal	The entity which submits a Proposal in response to this RFP. The proposal (Technical and Fee) as submitted by the Proponent in response to the RFP, including amendments or modifications, if any, agreed to by the Owner through negotiations pursuant to the RFP.
RFP Services	This “Request for Proposals”. The services provided by the Proponent under the GEU Contract
Sub Consultants	Members of the Proponent submission that are in a third party contractual relationship with the Proponent.
VANOC	Vancouver Organizing Committee for the 2010 Winter Olympics and Paralympic Games.
Work	All the construction work necessary for delivery of the Project.

A.5 Proposal Document

5.1 Sections D and E - Proposal and Evaluation – identify specific requirements respecting the content of a Proposal, including page limitations for each of the sections therein. Any material exceeding these specific limitations will not be considered.

5.2 All documentation must be submitted in hard copy in the English language. Electronic material in any format will not be accepted or considered.

A.6 Conditions Pertaining to this Request for Proposal

6.1 All Proposals will become the property of the Owner and will not be returned to the Proponent.

6.2 The Owner reserves the right, to request clarifications and additional information on any Proposal, and to consider such information in the evaluation of Proposals. The requested information can include information as described in Section E2 “Contract Negotiations”.

6.3 The Owner reserves the right to waive minor irregularities in Proposals.

- 6.4 Following selection of the Preferred Proponent's Proposal, the Owner reserves the right to negotiate modifications to that Proposal as part of the settlement of a final GEU Contract.
- 6.5 This RFP is not a tender and does not constitute an offer, and a Proposal does not constitute a tender or a bid.
- 6.6 The Owner will not be under any obligation to enter into the GEU Contract or any other agreements with any entity, including the preferred Proponent, in connection with this RFP and Proposals received.
- 6.7. The Owner reserves the complete right at any time and for any reason whatsoever, to reject any or all Proposals and cancel this RFP, and in such event to re-advertise for new Proposals on the same or different basis, or to proceed with the Project in some other manner, or to terminate this Project.
- 6.8. The Owner and its representatives, agents, consultants and advisors will not be liable to any Proponent for any claims, whether for costs, expenses, losses or damages, or loss of anticipated profits, or for any other matter whatsoever, incurred by the Proponent in preparing and submitting a Proposal, or participating in negotiations for a Contract, or other activity related to or arising out of this RFP. In no circumstances whatsoever with the Owner will be under any obligation to pay for any costs incurred in the preparation of Proposals submitted in response to this RFP, or incurred in the discussions or negotiations with the Owner, or incurred for any reason related to this RFP. **By submitting a Proposal a Proponent expressly affirms that waives any and all right to make any claim against the City for any of the above.**
- A.7 Inquiries and Addenda**
- 7.1 Proponents must satisfy themselves in all respects as to the risks and obligations to be undertaken in providing the services that will be covered under the GEU Contract.
- 7.2 Any inconsistency, discrepancy, ambiguity, or omission in the RFP document shall be immediately submitted in writing to the attention of the Manager, Purchasing and Risk listed in 3.7 above.
- 7.3 Any inquiry related to this RFP should be directed in writing (by letter, fax, or e-mail) to Glenn McLaughlin, the Manager, Purchasing and Risk listed in 3.2 above.
- 7.4 The Owner may, on its own initiative or in response to an enquiry from a Proponent, provide additional information, clarification or modification by way of written addendum that will be published on the Owner's Web Site at www.richmond.ca and BC Bid. All such addenda will be incorporated into and become part of this RFP. The Owner will not be bound by oral or other informal explanations or clarifications not contained in such addenda, and a Proponent will not be entitled to rely on any oral information or information received other than by way of written addenda.

It is the sole responsibility of Proponents to check the City of Richmond Web Site, BC Bid and/or with the City of Richmond Purchasing Section prior to submitting a Proposal to ensure that it has received of addenda issued prior to the Closing Time.

B. PROJECT INFORMATION

B.1 Background

- 1.1 The City of Richmond is soliciting proposals for a Geothermal Energy Utility (GEU) to provide heating and cooling for a new riverfront community located at 6080 River Road. It is anticipated that the GEU will rely upon waste heat from building and waste water systems in the Richmond Speed Skating Oval (“the Oval”) building as well as solar heat absorption panels and operate through a closed loop system. Appendix A includes Addendum 4 of the “Request for Proposals for the Acquisition and Development of Riverfront Lands in Richmond, BC”, which serves as notice to potential developers that the City is contemplating the GEU.
- 1.2 The City of Richmond has been chosen by VANOC to host the long track speed skating competition for the 2010 Olympic and Paralympic Winter Games. In order to host this event, the City will build the Oval, which will be located on the eastern portion of 6080 River Road.
- 1.3 The Oval will be a multi-purpose facility, which will not only host the long track speed skating competition but will also be a world class multi-use, multi-season facility for sports, recreation, culture, business, and environment. Prior to the 2010 Games and following the anticipated 2008 completion of the facility, the Oval will be available for a variety of training and competition sports uses including hockey, figure skating, and speed skating, as well as summer sports on the activity area within the speed skating track. During the 2010 Games, the Oval will be hosting the long track speed skating events with seating for 8,000 spectators.
- 1.4 After the 2010 Games, the multi-use facility will continue to host local and international sport, culture, and special events. The legacy facility will be able to accommodate multiple-sport and support functions through a series of differing configurations of the main activity area and have the capacity to host both summer and winter sports activities at one time. It is currently anticipated that two Olympic size ice sheets will form part of the post Games multi use facility.
- 1.5 The City has issued a call for proposals for a new riverfront residential community to the west of the Oval called the Olympic Gateway. The purpose of the call for proposals was for the sale and development of the portion of the City owned lands that have been designated for residential and commercial use. A copy of a portion of the RFP for the “Acquisition and Development of Riverfront Residential and Commercial Lands in Richmond, BC” is included in Appendix B.

B.2 Project Location

- 2.1 The proposed Richmond GEU will be located on what is currently 6080 River Road, (Project Site”) a municipally owned 11.7 hectares property in Richmond, B.C. This property will be subdivided and sold for development. The City anticipates that the GEU will be located within the remaining lands owned by the City such as the Oval property, road dedications, and public rights of way across the development parcels.
- 2.2 The Project Site is bounded to the north by River Road, the dike with trails and park area, and the middle arm of the Fraser River; and to the east by an open storm water drainage channel and Hollybridge Road. The Project Site is bounded to the south, by a former CN railroad right-of-way, which terminates at No. 2 Road; and to the west by No. 2 Road and off-ramp to River Road. Construction of the Oval on the east end of the site has already commenced as well as construction of the new River Road to the south on the former CN right of way. The Oval is expected to be functional by the fall of 2008.
- 2.3 Further north and northwest of the Project Site are the Vancouver International Airport (YVR) South Terminal, residential, and some commercial development. The area to the east of the Project Site is largely occupied by commercial and big-box development, while the area to the south is occupied by commercial development plus single family residential development further south. West of the Project Site and beyond No. 2 Road the area is largely occupied by single family and multiple family residential development, plus one commercial/light industrial park.

B.3 Schedule

The preliminary milestone schedule for the Project is as follows:

<u>Activity</u>	<u>Target Date</u>
Proposals for Development of Lands Received	May 11, 2006
Design of Oval Mechanical Systems	September 2006
Proposals for Geothermal Utility Received	May 18, 2006
Completion of Oval Construction	Fall 2008

B.4 Budget

Design, construction, on going operating costs, including GEU meter reading and maintenance will be the responsibility of the successful Proponent. The City will be responsible for billing, based upon meter information provided by the successful Proponent.

C. SCOPE OF WORK

1.1 General Infrastructure

The successful Proponent will be responsible for the design of the GEU.

It is anticipated that the GEU will consist of a closed loop system relying upon the Oval and potentially other commercial facilities located within the Project Site for waste heat. In addition it is anticipated that a series of vertical wells, located within City property, will be required to meet the geothermal heating and cooling needs for the adjacent private development. Proponents may propose other supplemental energy systems to meet anticipated demand.

As the GEU will not be able to continuously rely upon waste heat from the Oval's ice rink's cooling plant, due to periodic shut downs or unforeseen interruptions, the geothermal system must include adequate redundancy to meet the heating and cooling requirements of the residential development at all times.

Although not part of this, RFP, the GEU should be designed to permit future expansion of the GEU to the south to meet the potential for redevelopment from existing commercial/light industrial to higher density residential.

1.2 Coordination with Oval Design

The design team for the Oval is led by Cannon Design. MHPM is the Project Manager and Dominion Fairmile is the Construction Manager on the design and construction of the Oval. The successful Proponent will be responsible for working with these and any other firms involved in the delivery of the Oval as it pertains to the GEU. The Services will include reviewing the necessary modifications and provide input as necessary to ensure that the Oval and GEU are designed as required to meet their respective objectives.

1.3 Governance of the GEU

The design, construction, operations, maintenance, and meter reading for the GEU will be the responsibility of the proponent. The City, as the Owner of the GEU, will invoice GEU users based upon the supplied meter information.

1.4 Financial and Socioeconomic Benefits

To the greatest extent possible, in the GEU Contract Proponents will commit to and/or identify energy savings for the estimated 2,500 future residential unit end users and potential financial commitments towards operations and maintenance costs for energy consumption at the Oval and any other potential benefits.

Proponents should outline in their Proposals the estimated environmental and social benefits resulting their design of the GEU.

1.5 Financial Capacity

Proponents must demonstrate the financial capacity to enter into negotiations to design, build, operate, and maintain the utility over an extended period.

D. PROPOSAL AND EVALUATION

D.1 Technical Proposal

The Proponent's Technical Proposal submitted in response to this RFP should consist of the following components, titled as indicated. Any pages in excess of the indicated page limits will be disregarded.

1.1 Cover Sheet

An introductory cover sheet shall set out the Proponent's:

- a. legal name;
- b. office address;
- c. phone number;
- d. fax number;
- e. prime contact for communications during this RFP process.

The Cover Sheet shall be signed by an authorized signatory of the Proponent.
(maximum 1 – 8 ½ x 11 page).

1.2 Table of Contents

The Table of Contents will outline the contents of the submission.
(maximum 1 – 8 ½ x 11 page)

The Table of Contents must identify the following contents of the submission:

- a. Cover Sheet
- b. Table of Contents
- c. Understanding of the Project
- d. Services
- e. Management / Consortium Team

1.3 Understanding of the Project

Provide a written commentary evidencing the Proponent's understanding of the Project, including, but not limited to:

- the technical and managerial scope of this Project;
- the Owner's objectives and requirements;
- key issues, constraints, challenges and opportunities; and
- the Project operating and management environment.

(maximum 1 – 8 ½ x 11 pages).

1.4 Services

Provide a written commentary documenting the Proponent's plan for the delivery of the GEU, including but not limited to:

- System planning and concept development
- Coordination with Oval design and with the development of lands adjacent to the Oval
- System design
- Construction management and implementation
- Operations and maintenance
- Financial management

1.5 Management / Consortium Team

1.5.1 The City will consider a team of companies having no formal links who wish to establish a new firm or joint venture ("Consortium Team") in order to provide the services described herein. The Proposal must disclose all members of the proposed Consortium Team.

1.5.2 Provide a plan for the deployment of a team of individuals to deliver the required services, including:

- team composition and task assignments;
- managerial framework;
- specific role definition including provision for leadership, technical control, teamwork, partnering, coordination and communication;
- explicit identification of the Project Leader and confirmation that these individuals will not be replaced without the prior written approval of the Owner; and
- availability of back-up resources for designated personnel.

The successful Proponent will be required to provide the Services from its local office. If a local office is not currently available, Proponents should outline in their Proposal an undertaking to establish a local office as part of the final GEU Contract.

E.1 Evaluation Framework

- 1.1 An Evaluation Committee will be appointed by the Owner. The Evaluation Committee will have complete authority to evaluate the Proposals and, applying the evaluation criteria set out in this RFP, reach a decision on the selection of the preferred Proponent. The Evaluation Committee will make decisions by consensus.
- 1.2 The Evaluation Committee will compare and evaluate Proposals to determine the Proposal which it decides will be most advantageous to the City, using the following evaluation criteria:
- Demonstrated Project understanding;
 - Services;
 - Proposed methodology; and approach to providing the Services
 - Management Team expertise and experience;
 - Financial and socioeconomic benefits of the Proponent's proposed design;
 - References;
 - Total cost implications, including total annual costs that will be charged to the City for recovery of Capital costs, interest and annual operations and maintenance costs;
 - Proponents must provide or demonstrate the ability to provide appropriate security, performance bonding or letter of credit over the term of the GEU Contract.

The Evaluation Committee may apply the evaluation criteria on a comparative basis, to determine the preferred Proponent evaluating the Proposals by comparing one Proponent's Proposal to another Proponent's Proposal.

E.2 Contract Negotiations

- 2.1 Based upon the evaluation criteria, the preferred Proponent will be selected to meet with the Owner to review the proposed design, scope and details as well as level of Services to be provided.
- 2.2 The Owner reserves the right at its discretion, to enter into negotiations with the Preferred Proponent to reach an understanding and agreement with the Preferred Proponent on a scope of Services. If these terms are settled then the Owner may invite the Preferred Proponent to enter into negotiations to settle and finalize the terms of the GEU Contract.
- 2.3 Any agreement is subject to approval by the City of Richmond.
- 2.4 Prior to entering into the GEU Contract with the Owner, the Preferred Proponent will be required to provide corporate bank references. The Owner will be entitled to reject the Proposal from the Preferred Proponent that fails to provide evidence of financial stability satisfactory to the Owner.
- 2.5 Prior to entering into the GEU Contract with the Owner, the Preferred Proponent will be required to provide proof of insurance in accordance with the terms and conditions of the negotiated Contract. The Preferred Proponent will also be required to share its claims record and litigation information with the Owner. The Owner may and will be entitled to reject a Proposal from the Preferred Proponent if the Preferred Proponent fails to provide

- through negotiations evidence of the availability of insurance on terms and with an insurer satisfactory to the Owner.
- 2.6 If at any time the Owner acting reasonably reaches the conclusion that it is unlikely that the Owner and the preferred Proponent will be able to reach agreement on any of the above then the Owner or Proponent may, on 5 calendar days' written notice, terminate the discussions with the Preferred Proponent. In that event the Owner may, at the Owner's sole discretion:
- a. terminate this RFP and proceed with the Project in some other manner, including entering into discussions and awarding a contract to any of the entities that submitted a Proposal under this RFP or that otherwise participated in the RFP process; or
 - b. Invite the Proponent with the second highest ranking to participate in the negotiation process, in which event the process outlined above will be followed again by the Owner. This process may be further repeated if necessary.
- 2.7 Upon award of a Contract, or the termination of this RFP process, the Owner will advise all Proponents of the outcome.

Appendix A

Addendum 4 of the Request for Proposals for the Acquisition and Development of Riverfront Lands in Richmond, BC

Addendum 4

Possible District Energy System for Oval Precinct

Draft 2

Request for Proposals for the Acquisition and Development of Riverfront Lands in Richmond, BC

1.0 Introduction

The purpose of this Addendum is to advise Proponents of the possibility that a district-wide energy system may be in place to provide heating and cooling energy to the Lands that are the subject of the RFP.

The City of Richmond is actively exploring the potential to own and operate a district system that will obtain energy from a centralized facility on the Skating Oval site. At this time, the City cannot make a commitment to Proponents that it will create and operate the system, but initial work indicates that the system is feasible and could be financially attractive to Developers, unit purchasers, and the City.

2.0 Overview of the System

The district-wide energy system would make use of these main energy sources:

- Heat recovery from building systems and waste water systems in the Skating Oval building
- Geothermal heat absorption and dissipation.
- Solar heat absorption.

A central facility on the Oval site will pump heating and cooling energy through a closed pipe loop carrying water at approximately 13 degrees Centigrade. For heating, buildings served by the system will use heat pumps to extract heat from the water. For cooling, buildings will use heat pumps to “dump” heat into the water.

The closed loop provides heating and cooling energy simultaneously at all points in the system. The central facility manages the net cooling or heating loads on the system.

3.0 Ownership and Operation

The current thinking is that the district energy system will be designed, funded, built, and operated by a private company. A separate company owned by the City of Richmond will own this system and will manage the use of this system by subscribers.

3.1 Energy Costs

Subscribers to the system will pay for their energy use in two components. One component is payment for use of the thermal energy delivered by the district energy system. The second component is the cost of the electrical energy used by building heat pumps to move heat into or out of the system. The aggregate of these two components is the user’s total heating and cooling energy cost.

Thermal energy use by each building will be metered, just as BC Hydro will have an electric meter at each building.

The target rate structure for the district-wide system will be to deliver heating and cooling energy at a total cost at least 5% below the cost of heating and cooling with conventional electric or fossil fuel technology.

3.2 Implementation Schedule

The intent is to have the system operational at the time the first of the Parcels is developed and then extend the system incrementally as the remaining Parcels are developed.

4.0 Potential Advantages

Construction costs for individual buildings served by the system should be lower, as individual buildings can replace self-contained boiler systems with heat pumps.

Operating costs for building occupants will be lower because the cost of energy is reduced.

The use of district energy will also help projects obtain LEED points.

5.0 Implications for the RFP

The purpose of this Addendum is simply to alert Proponents to the possible creation of a district-wide energy system for the Lands. Because the City is not in a position to commit to the creation of the system at this time, Proponents are not being asked to predicate their Proposals on this system being in place. The City intends to make a firm decision on whether or not to proceed with the system before the selection of successful Proponent(s), such that if the system proceeds it will be an element in the negotiation of purchase and sale agreements and leases for each of the Parcels.

Appendix B

Section 1 to 4 of the Acquisition and Development of Riverfront Residential and Commercial Lands in Richmond, BC