



To: General Purposes Committee

Date: February 28, 2005

From: Robert Gonzalez, P.Eng.
Director, Engineering

File: 06-2052-50-04/Vol 01

Re: Construction Management for the Richmond Speed Skating Oval

Staff Recommendations

1. That Council endorse the 2010 Olympic Building Committee recommendation to deliver the Oval project using a Construction Management project delivery system.
2. That Council Policy 3102 – Purchasing and Publicly Tendered Contracts be amended to add the following after Section 6:

“For the Oval project only:

- a. When an unforeseeable situation of urgency exists that prevents the issue of a public tender for the purchase of goods and services, the General Manager, Engineering & Public Works together with the Project Manager, may authorize the use of 3 or more written quotations.
- b. When there are insufficient qualified vendors, the Chief Administrative Officer upon recommendation from the General Manager, Engineering & Public Works and the Project manager, may authorize the use of less than 3 written quotations.
- c. Any significant change order that will result in a change of scope to the project will require Council approval.”

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

FOR ORIGINATING DIVISION USE ONLY					
ROUTED TO:		CONCURRENCE		CONCURRENCE OF GENERAL MANAGER	
Budgets		Y <input type="checkbox"/> N <input type="checkbox"/>		 FOR JEFF DAY	
Purchasing.....		Y <input type="checkbox"/> N <input type="checkbox"/>			
REVIEWED BY TAG		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO	
				YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

Staff Report

Origin

The Richmond speed skating oval is to be in service by April 2008. This report discusses the project delivery system and recommended policy amendment to deliver the Oval project, including the oval building, waterfront park, and roads and services within a tight timeline and fixed budget.

Analysis

Construction of the Oval project on time and within a fixed budget presents a host of challenges, including:

- having an operational speed skating oval by April 2008
- meeting International Skating Union (ISU) requirements for construction of the Oval concrete speed skating slab such as having no more than 20 mm deflection across the 180 metre speed skating oval.
- administration and management of over 30 trades and a minimum of 7 major tenders.
- constructing a very stable building foundation in soils that are subject to significant settlement
- designing and constructing state of the art ventilation and refrigeration systems that allow for a world class speed skating oval and conversion to other uses post 2010
- competing successfully for construction trades during one of the busiest construction eras in British Columbia
- building the first LEED certified Oval

In response to these challenges, staff have reviewed the merits of the two most suitable project delivery systems, design-bid-build and construction management as well as the City's current Policy 3102 – Purchasing and Publicly Tendered Contracts in order to deliver this project on time and budget.

Project Delivery System

The merits of the design-bid-build and construction management project delivery systems are discussed in the following section:

1. Design-Bid-Build

Design-bid-build is the conventional delivery system for most construction projects. This approach typically entails completing the detail design for the project, undertaking a public tender, which sometimes includes contractor pre-qualification, and finally awarding a contract to a general contractor to begin construction.

Summary of pros and cons for design-bid-build for entire Oval building project:

Pros:

- The City retains control over the design and final look of the building
- Conventional well understood industry standard approach
- Competitive process
- Risk is transferred to the Contractor

Cons:

- Longest overall process since all construction drawings must be complete
- General contractor bid on the entire project may not result in best value given large number of specialized sub-trades.
- Constructability of the design is not confirmed at early stages

2. Construction Management (Recommended)

Under a Construction Management project delivery system, which was used to successfully deliver Richmond City Hall, the City would retain a construction manager (CM) using a public selection process. The CM is typically a contractor, who works along side the owner in an advisory capacity at an early stage of the design, and continues through construction. The CM would provide input into the design, costing, constructability, schedule, contracting approach, and implementation sequencing. Once construction commenced the CM would serve like a general contractor responsible for coordination of the various sub-trades and contracts. A Guarantee Maximum Price contract could also be established when sufficient design and pricing information is available at the City's discretion. The CM would prepare the various sub-trade tenders in conjunction with the design team and project managers, and subsequently administer the sub-trade tenders in order to complete construction on time and budget.

The following are the more significant pros and cons for CM:

Pros:

- The City retains control over the design and final look of the building
- The final building design does not have to be complete prior to constructing those portions of the project that are well defined
- Construction expertise is available through the design process
- Cost estimating is continuous to ensure that the project remains on budget

- Constructability reviews and input is continuous resulting in a higher quality project, and also ensures that the project can be constructed in a timely manner
- Tender packages for sub-trades can be issued as soon as that portion of the design is complete
- Construction schedule is reduced by overlapping tasks, design and construction stages.

Cons:

- The City does not have a fixed price upon commencing construction. Prices are confirmed through sub-trade tenders as portions of the design are completed.
- Not all portions of the work will necessarily receive three competitive bids prior to award.

Due to time constraints, staff have initiated and completed the pre-qualification of a shortlist of construction management firms through a public statement of qualifications call with the following results:

- Stuart Olson Construction Ltd / Mortenson
- Dominion Fairmile Construction Company Inc.
- PCL Constructors Inc.

In addition at the March 15 Richmond 2010 Oval Building Advisory Committee meeting, the Committee unanimously endorsed delivery of the Oval project through Construction Management (Attachment 1).

Should Council approve this report's recommendations, staff will proceed with the final request for proposal, interviews and contract award.

Policy 3102 – Purchasing and Publicly Tendered Contracts

Sections 5 and 6 of Policy 3102 state that the purchase of goods and services between \$10,000 and \$250,000 shall require formal written quotations and purchases of goods and services over \$250,000 shall require a publicly tendered contract.

The City's current Policy effectively supports the conventional design-bid-build project delivery system. Although this standard approach is feasible for the more standard construction projects, it does not allow for construction to occur expeditiously nor would it necessarily provide best value for money on a large complex project such as the Oval. The City's past practice of adapting the policy surrounding the award of contracts for complex projects was key to their success. Similarly Council Policy 3102 – Purchasing and Publicly Tendered Contracts must be adapted to be in alignment with the proposed project delivery system for the Oval project in order for the project to proceed in an efficient manner.

For the Oval project, the current policy will be adhered to where possible, however, there will likely be situations where it will not be favourable for the CM to choose the low bid because the bid may not meet quality standards or the timelines required in the project schedule. Therefore staff recommend that Council Policy 3102 – Purchasing and Publicly Tendered Contracts be amended as per the staff recommendation.

As standard practice with all construction contracts, staff will continue to post tender results on the City's web site, the BC Bid web site, Journal of Commerce, and keep Council apprised via regular information memoranda.

Financial Impact

None.

Conclusion

The challenges and opportunities facing Richmond with the Oval project are unprecedented. Clearly the standard municipal construction delivery procedures and policies are not the best and most effective procedures and policies in delivering this unique and significant project within the tight timeline and fixed budget. In response to this exciting opportunity staff recommend that a construction management project delivery system together with the supporting policy amendments in order to successfully deliver this project and further Richmond in achieving its vision of being the most appealing, livable, well managed community in Canada.



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



**RICHMOND 2010 OVAL
PROJECT BUILDING COMMITTEE
Tuesday, March 15th, 2005
Meeting Room 2.002
Richmond City Hall**

Present: Nelson Chan
Robert Gonzalez
Derek Hodgkinson
Councillor Rob Howard
Rick Ilich
Tim Loo
Peter Lutzmann
John Peddle
David Thom
Richard Yoneda

Franklin Holtforster, MHPM Project Managers Inc.
Guillaume Savard, MHPM Project Managers Inc.
Larry Podhora, Cannon Design
Marion LaRue, Cannon Design

George Duncan, Chief Administrative Officer
Jeff Day, General Manager, Engineering & Public Works
Robert Gonzalez, Director of Engineering

Absent: Councillor Evelina Halsey-Brandt
Kathleen Beaumont, Chair
Bob Cowan

Recorder: Debra Berg, Executive Assistant to the General Manager,
Engineering & Public Works

Call to Order: Jeff Day called the meeting to order at 6:00 p.m. in the absence of the Chair,
Kathleen Beaumont.

ITEM

1. **Best Practices Trip to Torino, Italy May 24th - June 3rd, 2005 (exact date and details to be finalized).**

George Duncan provided an introduction and invited members from the Building Committee to join Richmond staff representatives on a best practices trip to tour the

Torino Oval and talk to their staff and contractors. (Representatives from MHPM and Cannon Design will also be on this tour).

Committee Members were asked to email Jeff Day (jday@richmond.ca) as soon as possible regarding their interest/availability for this Best Practices Tour.

2. MHPM and Cannon Design Overview

Trades issues are going to be a big problem. A lot of competition for skilled labour from other major projects.

In order to build the right facility and leave a legacy with life past the games, the appropriate programming and business case scenarios must be decided by the end of March to allow building design to begin April.

Building must be finished by April 2008. Right now they are on schedule.

Four companies were approached regarding different options for obtaining preloading materials.

Cannon Design has been in contact with sporting groups and the IOC regarding design issues. These groups however are not too interested in this until they can see something "in the flesh".

The building must be completed by April 2008 to ensure ice quality and building operating systems. Technical methods for hardening/softening ice need to be looked at. The most critical item is the slab. Being at sea level is something we can't change, we can however learn from others (ie: Heerenveen, Holland's Olympic Oval).

HVAC (mechanicals) design is key to ensure that the planned legacy uses will accommodate both the sport and the athlete's comfort (temperature) when participating in the sport as well as during practices and resting.

Some potential legacy uses for the building:

- *Field houses*
- *Badminton*
- *Hockey*
- *Basketball*

3. Construction Management for the Richmond Speed Skating Oval Report

A report going to the General Purposes Committee March 21, 2005 was distributed to members for their review and comment. Members were asked to email Robert Gonzalez (Director of Engineering) their comments by noon March 16th. rgonzalez@richmond.ca

It was moved and seconded

That the report recommending the use of the construction management procurement process be endorsed by the Building Committee members.

CARRIED UNANIMOUSLY

4. Next Meeting

The next meeting has been set for Tuesday, April 12, 2005 6:00 p.m., Meeting Room 2.002 the agenda will be sent prior to the meeting. Additional items to be added to the agenda are to be emailed to dberg@richmond.ca at that time.

ADJOURNMENT

It was moved and seconded

That the meeting be adjourned (7:45.p.m.).

Jeff Day, P.Eng., General Manager
Engineering & Public Works
Acting Chair