CITY OF **VANCOUVER**

ADMINISTRATIVE REPORT

Report Date: July 2, 2005
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TO: Vancouver City Council

FROM: General Manager, Engineering Services

SUBJECT: Replacement of Existing City Precast Plant

RECOMMENDATION

A. *THAT, subject to the conditions set out in Recommendations C, D and E, Council authorize the General Manager of Engineering Services to execute a contract with Scott Designbuild Ltd. for the construction of the new Precast and Ready Mix Concrete Plant at a price not to exceed $2,644,000, not including GST, with funding to be derived from the sources as described in this report,*

B. *THAT Council approve additional funding of $750,000 for the project as detailed in this report with financing to be provided from the Capital Financing Fund on terms acceptable to the Director of Finance,*

C. *THAT all legal documentation be in a form which is satisfactory to the Director of Legal Services and the General Manager of Engineering Services,*

D. *THAT no legal rights or obligations shall arise hereby, and none shall arise or be granted hereafter unless and until all contemplated legal documentation has been executed and delivered by all parties, and*

E. *THAT Council exercise its option to reject all tenders submitted in response to Invitation to Tender Precast and Ready Mix Concrete Plant – 900 East Kent Avenue South, and that the General Manager of Engineering Services be authorized to formally notify each of the bidders that their*

respective bids have been rejected, as of right and as being in excess of the approved budget for the project (and as being non-compliant, if applicable).

CONSIDERATION

F. THAT, if Council does not approve Recommendation A, B, C and D, that Recommendation E be approved, and that staff be instructed to report back on a source of funds for repayment of approximately $400,000 already advanced to this project by the Capital Financing Fund.

GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services recommends approval of Recommendation A, B, C, D and E.

COUNCIL POLICY

It is Council policy to utilize internal financing for capital projects that demonstrate a viable business case. Financing terms are generally consistent with the current market conditions (terms and rates) as established by the Director of Finance. The use of internal financing for projects and program initiatives is subject to Council approval.

Construction contracts more than $300,000 are to be awarded by Council.

SUMMARY

In June 2002, after receiving a staff recommendation based upon a business case analysis, Council approved a loan of $1,705,000 from the Capital Financing Fund to relocate the existing Precast Plant, located at Cambie Yard, to the Kent Avenue Yard facility. In April 2003, Council approved both a scope change and a budget increase, resulting in a revised project budget of $3,013,000.

Subsequent to the approval of this funding, the project has moved through the detailed design stage and a tender has been issued for the construction of the new Precast and Ready Mix Concrete Facility. When the bids were received in April 2005, it became apparent that construction cost increases subsequent to budget approval resulted in a budget shortfall of approximately $1,184,000.

Negotiations have subsequently been held with the lowest compliant bidder in an effort to reduce total project costs. An irrevocable offer has since been secured for the construction from this bidder. Cost reductions have been achieved through these negotiations without significantly reducing the functionality of the Precast facility or the sustainability features which were originally planned for the building. However, even with these savings, additional funding of $750,000 is still required for the project to proceed.

A revised business case analysis has been performed, which includes updated capital and operating costs for the Precast and Ready-Mix Concrete Facility, current estimates of

production needs, and current prices of private market alternatives. This analysis shows that the Precast and Ready-Mix Concrete Facility remains a superior alternative to private market supply because it would save the City approximately $212,700 per year. Although the cost of the Precast and Ready-Mix Concrete Facility has been affected by escalating construction costs, the cost of having this facility's products supplied by private market alternatives has also been escalating. As a result, the case for proceeding with a City-owned Precast and Ready-Mix Concrete Facility remains positive.

The revised business case analysis also considered risks in relation to the ability of the Precast and Ready-Mix Concrete Facility to generate positive benefits. The largest risks arise from the possibility that demand for products of a City-owned facility may at some time decrease due to the development of new alternative technologies and products. It is also possible that the positive benefits of this project might be impacted by new sources of cheaper private-market supply. Offsetting these are risks associated with private market supply: that prices may continue to escalate rapidly if the City eliminates its own production facility, that wait times for City crews which require small loads of ready-mix concrete may continue to increase as in recent months. Generally, the financial impacts of the risks associated with building a City-operated facility are greater than those of the potential risks associated with choosing private market supply. However, if the facility is built and subsequently changes in practices or technology render a significant portion of the products of the facility obsolete, then the financial consequences of these changes may be mitigated, subject to Council approval, by transferring some of the outstanding debt of the facility to the users of the new technologies.

The increased budget of $750,000, if approved, will be funded through a Capital Financing Fund loan with repayment from operating revenues from the Asphalt Plant, the Aggregate Handling Facility, the Materials Transfer Facility and the proposed Precast and Ready-Mix Concrete Facility.

PURPOSE

The purpose of this report is to recommend:

- the General Manager of Engineering Services, subject to the conditions set out in Recommendations C, D and E, be authorized to execute a contract with Scott Designbuild Ltd. for the construction of the new Precast and Ready Mix Concrete Facility at a price not to exceed $2,644,000, not including GST, with funding to be derived from the sources as described in this report,
- the approval of additional project funds in the amount of $750,000 in order to continue with the Precast and Ready Mix Concrete Facility construction,
- the authorization of the General Manager of Engineering Services to formally notify each bidder that their respective bids are rejected, as of right and as being in excess of the approved budget for the project (and as being non-compliant, if applicable), or
- the approval of Recommendation E and the authorization of staff to be instructed to report back on a source of funds for repayment of approximately $400,000 already advanced to this project by the Capital Financing Fund should Council reject Recommendations A, B, C, and D.

BACKGROUND

The City's Kent Avenue Yard currently houses the City's Asphalt Plant, Aggregate Handling Facility and Materials Transfer Facility. These business activities were established based on individual business case analyses which showed that a City-owned operation generated better value to the City than private market alternatives.

In June 2002, Council approved construction of a small ready mix concrete facility at the Kent Avenue yard based on a positive business case. The new facility would replace a similar facility located at the Cambie Yard, and would produce small batches of ready mix concrete and precast concrete products for use by City crews (Sewer, Water and Streets). A total of $1,705,000 was approved as a Capital Financing Fund loan with $399,000 for land and $1,306,000 for development of the facility.

In January 2003, Council authorized the hiring of Westmar Consultants Inc. to provide design and construction management services for the new Precast and Ready-Mix Concrete Facility at a total estimated cost of $397,000, with funding provided from the previously-approved budget.

In April 2003, Council approved an increased budget for the project based on recommended changes to the scope of the project, including improvements in the area of plant equipment, refinements to the foundation design, construction of office space to consolidate management resources at Kent Yard and the incorporation of several sustainability initiatives, including sustainable building design practices (sufficient for LEED™ certification, however certification was not proposed at that time) and the development of a water re-circulation system for the whole site. The total approved budget increase was $1,308,000, bringing the revised budget to $3,013,000. Source of funds for the additional $1,308,000 was a loan from the Capital Financing Fund, with repayment from revenues from yard operations (asphalt plant, aggregate handling facility, rubble handling facility and the new Precast and Ready-Mix Concrete Facility).

Tenders for construction of the Precast and Ready Mix Facility at 900 East Kent Avenue Works Yard were let in early 2005 and included:

- seismic upgrades through ground densification;
- the design and installation of a complete pre-engineered building;
- procurement, installation and commissioning of the concrete batch plant equipment;
- compiling of all project documentation; and
- final commissioning of the facility.

The tender was by invitation to a list of pre-qualified bidders, which had been determined early in the process by way of advertising on BC Bid via the internet. Seven tender packages were distributed and three tenders were submitted in late April 2005. Of these three submissions, only two of the tenders met all the specifications but were substantially over budget:

1.	Scott Designbuild Ltd.	$3,076,000
2.	Westpro Constructors Group Ltd.	$3,269,000

The third bidder did not meet all the specifications based on the exclusion of a fixed price for the concrete batch equipment installation as well as the exclusion of building roof over hangs. This bid was also substantially over budget. The non-compliant bid was:

3.	Smith Brothers & Wilson (BC) Ltd.	$2,961,278

Upon assessing the tender submissions, it became apparent that all bids received exceeded the original engineering estimates due to the escalating costs of labour, materials and construction. The lowest conforming bid was $1,184,000 over the allowable budget amount for the project (see Table 1 below).

Table 1: Current Project Budget Status

Total Construction Budget	
Land	$399,000
Construction	$2,614,000
Total	$3,013,000
Anticipated Project Expenditures	
Land	$399,000
Scott Designbuild Ltd. (Bid)	$3,076,000
Construction work already complete (Site Preparation, Preload & Westmar Fees)	$402,430
Balance of Westmar Contract	$86,910
Additional Engineering & Geotechnical Fees	$117,305
Landscaping costs	$15,000
Contingencies	$100,000
Total	$4,196,645
Budget Shortfall	($1,183,645)

As the lowest compliant bidder, Scott Designbuild Ltd. was given the opportunity to discuss the potential for cost savings within the defined scope of the project. During this process, various cost saving measures were explored which resulted in the formulation of an irrevocable offer not exceeding $2,644,000 (excluding GST). These cost savings were achieved by deleting or altering the following items:

- mezzanine floor deleted (offices to be located on main floor of building);
- site development to all areas outside of the building footprint;
- deleted Night Watchman/Security;
- masonry deleted from perimeter of the building and replaced by Butlerrib II cladding System;
- RCABC Roof System deleted and replaced with MR24 Butler System;
- Rigid Insulation to walls and roof deleted and replaced with Vinyl-Faced Batt;
- deleted 50% of the window area;

- deleted re-circulated water system, including precast lift station and settlement tank (to be done by others);
- deleted CO_2 treatment unit;
- reduced building height by 1 meter;
- revised all mechanical, plumbing, sprinkler, and electrical to design build subcontracts (this includes changes to the existing design to achieve the reduction in the costs considered above);
- deleted City of Vancouver shop floor equipment connection, moving, setup or purchase; and
- all separate price items were also excluded, and they include:
    - supply and install fence and gates;
    - landscaping;
    - construction of re-enforced concrete wash bay; and
    - fabrication and erection of building canopies.

Revising the scope of the project in this manner will lower total anticipated project expenditures to $3,763,000, and thereby reduce the current budget shortfall to $750,000, without significant changes to the plant's ability to produce necessary products or to the sustainable design features of the facility.

Further discussions with the lowest compliant bidder revealed that additional budget savings in the range of $163,300 were possible if the City were to abandon its objectives of incorporating LEED™ concepts into the facility.

DISCUSSION

The escalation of construction costs of the Precast and Ready-Mix Concrete Facility, resulting in a budget shortfall for the project, required the re-examination of the entire business case for the facility. Staff have updated the original business case for the facility to recognize:

- increased construction costs as determined through the tendering process;
- current prices for the supply of products of the facility by private market suppliers;
- current volumes of product demanded by customers of the facility; and
- savings, previously not quantified, related to reductions in customer wait time and transportation costs.

Two options were evaluated: proceeding with the construction of a City-Owned facility in accordance with the concept outlined above, or cancelling the project and relying entirely on the private market supply of the products of the precast plant.

The revised business case analysis revealed that proceeding with the Precast and Ready Mix Concrete Facility, with the revised budget increase of $750,000, would still result in a $212,700 savings to the City over relying totally on the private sector suppliers.

FINANCIAL IMPLICATIONS

Table 2 summarizes the results of the revised business case analysis.

Table 2: Business Case Summary

Cost of City-Owned Facility	
Annual Operating Costs	$809,700
Precast Project Capital Cost Annuity ($3,763,000 for 20 Years @ 6%) ($263,600 precast share, $64,400 previously approved yard share)	$263,600
Sub-total	$1,073,300
Cost of Supply from Private Sector	$1,243,000
Cost of extra wait/travel for City Crews	$43,000
Sub-total	$1,286,000
Annual financial benefit of a City-owned facility	$212,700

The issue of risk needs to be considered as part of this decision. If the City proceeds with construction of its own facility, it will be accepting some risk that the business will not proceed as planned. The most likely sources of deviation from this plan are:

- the possibility that demand for products of a City-owned facility may at some time decrease due to the development of new alternative technologies and products, and
- possible new sources of private-market supply which are cheaper than currently available sources.

Offsetting these are risks associated with private market supply, such as:

- the possibility that prices may escalate rapidly if the City eliminates its own production facility;
- the possibility that wait times for City crews which require small loads of ready-mix concrete may continue to increase as in recent months. Currently, the private sector suppliers are requiring orders to be placed by no later than 2:00 pm the day prior to delivery. This is steadily becoming more challenging as the suppliers are now looking to increase the minimum to 24 hours notice for order placement. There have been a number of cases where the City has been told that they would not receive any orders the following day due to alternate delivery commitments.

Generally, the financial impacts of the risks associated with building a City-operated facility are greater than those of the potential risks associated with private market supply. On the other hand, the likelihood that the risks associated with private market supply might actually happen, in staff's judgment, is much higher than the likelihood that the risks associated with the City-owned facility might actually happen.

In the event that the facility is built and subsequent changes in City practices or available technology render a significant portion of the products of the facility obsolete, then the financial consequences of these changes may be mitigated, subject to Council approval, by transferring some of the outstanding debt of the facility to the users of the new technologies. Essentially, the risk can be shared between the Precast Plant and its customers.

The financial risk of the project could also be mitigated at this time by eliminating the sustainability features which are currently planned to be incorporated into the facility. This measure would reduce construction costs by approximately $163,300 (approximately 4% of the budget). However this option is not being recommended because such a step would not materially change the business case for the facility.

A further financial implication arises from the fact that approximately $400,000 has already been spent on consulting and site preparation in relation to this project. If the project does not proceed then this advance from the Capital Financing Fund will need to be dealt with. It is proposed that this matter be the subject of a further report back from staff, if needed.

PERSONNEL IMPLICATIONS

The existing City Precast Plant employs five staff. It is anticipated that, if built, the new Precast and Ready-Mix Concrete Facility will employ four staff. If Council does not approve sufficient funding for construction of the facility, then the project will not be able to proceed and the existing positions will need to be eliminated. In such an eventuality, Engineering Services will attempt to deal with this situation without the need for layoffs.

ENVIRONMENTAL IMPLICATIONS

With the above considerations put into place as originally planned, the Kent Avenue Yard operations will be more sustainable, benefiting the workers, the environment and moving Vancouver closer to being a sustainable City.

The plant equipment proposed will provide the following benefits:

- reduce trucking for aggregate supply by mixing the required blend from our own stock of aggregates which are transported to the site by barge;
- reduce use of cement resulting in a reduction in greenhouse gas emissions by replacing a portion of the cement content with fly ash; and
- allow more efficient concrete mixing and production, reducing truck queuing and idling times.

The office space will be developed as was planned to incorporate LEED™ sustainability initiatives resulting in improved building energy efficiency, with more attention to material selection and the indoor environment of the workers.

Site and environmental improvements will provide a reduction in potable water use by recirculating site water while at the same time reducing storm water discharge to the environment.

CONCLUSION

Development of the Precast and Ready Mix Facility with the approval of the noted additional funding and the execution of a contract with Scott Designbuild Ltd. will provide positive economic and environmental benefits to the City. Furthermore, developing office space at the yard will provide better reporting, functioning and combined management of the entire yard facility. Based on operational projections, the cost of the additional funding is affordable with repayment of all loans paid by the Kent Yard operations through an annual cost savings to the City of $212,700.

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