
City of Victoria

Fire Hall #1

Summary of Financial Analysis

December 2017



Notice to Readers

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Our work did not constitute an audit conducted in accordance with generally accepted auditing standards, an examination of internal controls or other attestation or review services in accordance with the standards established by the Chartered Professional Accountants of Canada (CPA Canada). Accordingly, we do not express an opinion or any other form of assurance on the financial or other information, or operating and internal controls of the project.

Our work was based primarily on information supplied by the City's project team, including other external advisors. It was carried out on the basis that such information is accurate and complete. Information was not subject to checking or verification procedures, except to the extent expressly stated to form part of this scope of our work. It is our understanding the City intends to proceed with the procurement of the Project. Release of information contained within this report may cause damage to the City in any subsequent procurement process or negotiation.

Actual results may vary from those presented and the variations may be material. The outputs of our analysis are provided only for planning purposes. No assurances are provided that the results indicated in the various analyses discussed in this document will be borne in practice. These forecasts may change based on additional analysis and data.

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Glossary

| Term | Meaning |
|---------------------------------------|--|
| BCS | Burgess Cawley Sullivan & Associates Ltd. –providing land appraisal and air space parcel valuation services |
| BTY | BTY Consulting Group – providing cost estimation services |
| CCPPP | Canadian Council for Public Private Partnerships |
| Crystal Ball | The software used by PwC to run the risk simulation modelling |
| DB | Design-Build procurement model |
| Developer | Nadar Holdings Ltd. |
| FF&E | Furniture, Fixtures and Equipment |
| Benchmarked Solution | The independently developed benchmark costs for design, construction and development costs (updated by BTY on November 14 th , 2017) and combined with an independent assessment of the value of the air space parcel (valued at May 2017) for the purposes of benchmarking against the proposed pricing provided by the Developer in its Letter of Intent dated May 12 2017 and updated based on an email from the City to PwC dated October 19 th , 2017 |
| IO | Infrastructure Ontario |
| IRR | Internal rate of return |
| Letter of Intent | The draft Letter of Intent with the Developer dated May 12, 2017 |
| Monte Carlo Simulation | Statistical approach to risk analysis |
| NPC | Net present cost |
| Developer Solution | Build Fire Hall #1 with the Developer according to the Letter of Intent dated May 12 th , 2017 |
| Build a new Fire Hall on current site | The procurement model that the City would use to deliver the Fire Hall should it not be able to reach agreement with the Developer (DB option on the current site at 1234 Yates St.) |
| PPP | Public Private Partnership |
| PSC | Public Sector Comparator |
| PwC | PricewaterhouseCoopers LLP – financial advisor to the City of Victoria |
| RFQ | Request for Qualifications |

Executive Summary

Project Summary

The City of Victoria is intending to build a new Fire Hall #1 within an identified area in downtown Victoria BC. As part of this process, the City issued a Request for Qualifications (RFQ), in March 2016, seeking developer solutions. Following the evaluation of the three RFQ responses (developer solutions), the City identified a preferred Developer Solution. Subsequently the preferred Developer provided the City with a draft Letter of Intent for the Project that included proposed pricing. The draft Letter of Intent was developed as an indicative term sheet allowing the City and the Developer to commence negotiations that would lead to a legal agreement, between the two parties, for the Fire Hall project. During the Summer and Fall of 2017, the City and the Developer held additional meetings to finalize the scope and price of the Project.¹

As the preferred Developer Solution was identified in the absence of a pricing competition that would typically occur as a result of a Request for Proposals (RFP) stage, the City identified a need to carry out additional due diligence on the Developer's proposed pricing. The City appointed PricewaterhouseCoopers LLP (PwC) and its sub-contractors BTY Group (BTY) and Burgess Cawley Sullivan & Associates (BCS) under Purchase Order 488840 dated May 16th, 2017 to assist with the development of supporting financial analysis for the Project.

Analysis carried out by the Project Team

Working with the City's Project Team, it was determined that the most appropriate way to assess the reasonableness of the Developer's pricing would be to use a tailored quantitative analysis based on best practice methodology that is typically used to develop business cases for infrastructure investment. This methodology is used by provincial procurement agencies in Canada as well as the federal government through Public Services and Procurement Canada and PPP Canada and includes a risk identification and quantification exercise and a quantitative analysis.

In order to assess whether the Developer's proposed pricing in the Letter of Intent is reasonable, the following analyses were undertaken:

- BTY undertook benchmark costing at a Class D level for design, construction and other relevant project costs and submitted a cost report to PwC on May 30th, 2017. This cost report was then compared with the proposed pricing provided by the Developer. As the Developer had not provided the City with a detailed breakdown of its proposed pricing, the assumptions around the project scope benchmarked by BTY were shared with the Developer to obtain feedback as to any notable discrepancies.
- In addition to the benchmarks provided by BTY, the City provided certain other cost assumptions to PwC, including owner's costs and contingencies.
- Certain other cost assumptions were taken from reports prepared for the City by its other Consultants, including Advicas.
- BCS reviewed and commented on the land valuations that the City had previously obtained for the sites and provided a high-level estimate of the value of the Fire Hall air space parcel.

¹ The City provided the updated price to PwC in an email dated October 19th, 2017.

- Through a risk workshop with the City, PwC and BTY, key project risks were identified and quantified, based on the City's experience on recent capital projects and on BTY's experience on other similar projects and its knowledge of the construction market in Victoria.
- Based on the updated scope information provided by the City and the Developer in October 2017, BTY prepared a benchmark costing report at a Class C level for design, construction and other relevant project costs². This report was further refined and BTY provided final updated costs to PwC on November 14th, 2017.

Summary of financial analysis

The financial analysis summarizes the Net Present Cost of the options described in the Project Summary above.

Developer Solution compared with estimated costs of building a new Fire Hall on the current site

| <i>Discounted values (CAD millions) at 2.00% to July 1st 2017</i> | Developer Solution | Build new Fire Hall on current site |
|---|---------------------------|--|
| Total design, construction and development costs | 32.0 | 36.6 |
| Temporary accommodation construction costs | 0.0 | 2.6 |
| Owner's Costs | 4.9 | 5.6 |
| Air space parcel value | (1.9) | 0.0 |
| Estimated value of risks retained by the City ³ | 1.9 | 4.8 |
| Total | 37.6 | 49.7 |
| Estimated cost saving to the City with Developer Solution | 12.7 (25.6%) | |

Based upon the latest pricing the Developer Solution appears to offer value to the City when compared to the estimated cost of the option to build a new Fire Hall on the current site (the City's most viable alternative option).

Should the City decide to dispose of the current site, incorporating the land valuation estimate into the above analysis would give an estimated cost saving to the City of \$17.3M or 34.8%.

Developer Solution compared to independently derived benchmark design, construction and development costs

| <i>Discounted values (CAD millions) at 2.00% to July 1st 2017</i> | Developer Solution | Benchmarking of Developer Solution |
|--|---------------------------|---|
| Total design, construction and development costs | 32.0 | 30.3 |
| Development cost charges | 0.1 | 0.5 |
| Air space parcel value | 0 | 1.9 |
| Total | 32.2 | 32.7 |
| Estimated cost saving to the City of Developer Solution compared to Independently Benchmarked Solution | 0.6 (1.7%) | |

² BTY submitted an interim updated cost report to PwC on October 23rd, 2017

³ Based on the estimate of the value of the risks that the City will retain under the contractual model it anticipates agreeing with the Developer.

Based upon the latest pricing, the costs associated with the Developer Solution are not materially different from the independently benchmarked costs. The City will need to make sure it has fixed price certainty from the Developer and that the risk transferred to the Developer is consistent with the assumptions that have been made in the financial analysis contained within this report. Any increases to the Developer price or changes to the risk allocation will likely result in a solution that is not beneficial to the City

Summary of sensitivity analysis on key variables

Developer Solution compared with building a new Fire Hall on the current site

The financial analysis assumed a 20% City capital cost contingency and \$45 per buildable square foot. The table below shows the impact on the financial analysis of making changes to both the City’s capital cost contingency % and the estimated cost per buildable square foot.

| Change in buildable cost per sq. ft vs the City’s capital cost contingency (CAD millions) | 10% contingency | 20% contingency | 30% contingency |
|--|------------------------|------------------------|------------------------|
| \$30 | 9.4 | 12.1 | 14.7 |
| \$45 | 10.0 | 12.7 | 15.4 |
| \$60 | 10.7 | 13.3 | 16.0 |

Upside case

If the City’s capital cost contingency were increased from 20% to 30% and the cost per buildable square foot were increased from \$45 per buildable square foot to \$60 per buildable square foot then the Developer Solution would be \$16M cheaper than building a new Fire Hall on the current site (the City’s most viable alternative option).

Downside case

If the City’s capital cost contingency were reduced from 20% to 10% and the cost per buildable square foot were reduced from \$45 per buildable square foot to \$30 per buildable square foot then the Developer Solution would be \$9.4M cheaper than the Benchmarked Solution .building a new Fire Hall on the current site (the City’s most viable alternative option).

The sensitivity analysis shows that the changes made to these two variables does not materially affect the financial outcome.

Developer Solution compared with Benchmarked Solution

The financial analysis assumed a 20% City capital cost contingency and \$45 per buildable square foot. The table below shows the impact on the financial analysis of making changes to both the City’s capital cost contingency % and the estimated cost per buildable square foot.

| Change in buildable cost per sq. ft vs the City’s capital cost contingency (CAD millions) | 10% | 20% | 30% |
|--|------------|------------|------------|
| \$30 per buildable sq ft | (1.9) | (0.1) | 1.8 |
| \$45 per buildable sq ft | (1.3) | 0.6 | 2.4 |

| Change in buildable cost per sq. ft vs the City's capital cost contingency (CAD millions) | 10% | 20% | 30% |
|--|------------|------------|------------|
| \$60 per buildable sq ft | (0.7) | 1.2 | 3.0 |

Upside case

If the City's capital cost contingency were increased from 20% to 30% and the cost per buildable square foot were increased from \$45 per buildable square foot to \$60 per buildable square foot then the Developer Solution would be \$3M cheaper than the Benchmarked Solution.

Downside case

If the City's capital cost contingency were reduced from 20% to 10% and the cost per buildable square foot were reduced from \$45 per buildable square foot to \$30 per buildable square foot then the Developer Solution would be \$1.9M more expensive than the Benchmarked Solution.

The sensitivity analysis shows that the changes made to these two variables does not materially affect the financial outcome.

Information provided by the City on recent land values

The land value was provided by BCS to PwC in May 2017. Since this time, the City has observed increases in local land values and Victoria-based appraisers have suggested to the City that recent sales have achieved closer to \$80 per buildable square foot.

The impact of increasing the land value to \$80 per buildable square foot is to increase the cost savings estimate for the Developer Solution from \$600k to \$2M, when compared with the Benchmarked Solution.

The impact of increasing the land value to \$80 per buildable square foot is to increase the cost savings estimate of the Developer Solution from \$12.7M to \$14.2M when compared with building a new Fire Hall on the current site.

Potential advantages and disadvantages of Developer Solution

The advantages and disadvantages associated with the proposed Developer Solution are summarized in the table below.

| Advantages | Disadvantages |
|---|--|
| Leverages the negotiations and work done to date and the City will own an air parcel in a prime location | Lack of competitive tension may not result in the best value to the City |
| Shorter timeframe compared to other viable options and no requirement for temporary accommodation | Potential risk if rezoning is not achieved or is not timely |
| Proposed site is more appropriate for siting the Fire Hall as its closer to downtown core. The current site will be available for other uses. | Potential disturbances to a new neighbourhood |
| There is potential for risk and accountability to remain with the Developer | Residual risks to the City if the Developer is unable to fulfil its obligations and deliver the Fire Hall for a Guaranteed Maximum Price |

Risks and mitigation actions

The table below shows the key risks and proposed mitigation actions for the City.

| Risk | Allocation | Mitigation Actions |
|---|--------------------------|--|
| Insufficient diligence undertaken by the City | Transferred to Developer | The City will only be paying a deposit of ~\$4M that will be held in Trust and proceeds will only be paid to the Developer on completion. |
| City fails to achieve competitive pricing | Shared with Developer | Mitigate through independent benchmarking |
| Scope changes initiated by the City | City retained risk | Review of the functional design and outline specifications by Johnston Davidson Architecture to assess whether the design is workable from a fire operations perspective |
| Ambiguities in the legal agreement | Shared with Developer | 3rd party legal advice and diligence on the key commercial terms within the final commercial agreement |
| The design is not optimized for the life of the project as the Developer has no long-term lifecycle or maintenance obligation | City retained risk | Review of the functional design and outline specifications being carried out by Johnston Davidson Architecture to assess whether key aspects of the building such as mechanical and finishes meet commercial industry standards |
| Schedule delays | Transferred to Developer | The Fire Hall construction will be in the first phase. Other than a 10% refundable deposit the payment to the Developer will be made on completion and if not completed by a certain date the City may cancel which should provide the Developer with an incentive to keep to the schedule. ⁴ |
| Resource Availability (labour, materials etc.) | Transferred to Developer | The City will carry out a critical review of the proposed schedule and confirm appropriate performance security is in place. ⁵ |
| It may be difficult for the City to recover full value if it disposes of the air parcel at a later date given that the Developer Component will sit above the Fire Hall air space parcel. | City retained risk | Consider other options such as conversion of the Fire Hall to other municipal or commercial uses. |
| Undesirable uses or activities in the Developer space | TBD in final contract | The City could consider including a provision in the contractual agreement with the Developer that will allow the |

⁴ The City should carry out diligence on whether there are risks associated with the Developer building above an operational Fire Hall if the Developer adds the additional floors at a later date.

⁵ A further mitigation for this risk is that the deal structure now incorporates a provision that will allow the City to cancel the project, at no cost to the City, if the Developer doesn't meet the agreed completion date.

| Risk | Allocation | Mitigation Actions |
|---|-----------------------|--|
| | | City to impose restrictions on the types of activities or tenants in the building for the floors of the building that are the responsibility of the Developer. |
| Defects following Occupation | TBD in final contract | The City may wish to consider how it would address the implications of a defect in the Fire Hall building after the warranty period given there is no long-term financing at risk and therefore there's no incentive for the Developer to remedy such a defect. |
| Maintenance of the Developer Component | TBD in final contract | As the City will have limited control over the Developer Component, it would be prudent to make sure the final contractual arrangement includes obligations for the Developer to provide adequate day-to-day cleaning and maintenance and long-term lifecycle for its components of the building structure that it retains ownership of. |
| Change in market conditions – the financial analysis assumes that the construction market in Victoria will continue to be resource constrained into the foreseeable future. If there is a downturn in the local market then the City will be paying a premium to the Developer, as it will be committed to paying the guaranteed maximum price. | TBD in final contract | The City should determine in advance what market scenarios would lead it to terminate the contract if the guaranteed maximum price would no longer offer value. |

Conclusions

Based on the financial analysis described above, the Developer's proposed pricing appears reasonable compared with the estimated costs of the City's most viable alternative option to rebuild the Fire Hall on the current site. This conclusion is based on:

- the draft Letter of Intent dated May 12, 2017
- the updated Developer price provided by the City to PwC in an email dated October 19th, 2017; and
- the updated benchmark pricing provided by BTY to PwC in an email dated November 14th 2017.

The financial analysis also shows that the price of the Developer's solution is very similar to the independently derived benchmarks.

At the time of concluding this report, the contractual documentation with the Developer was not available. There are a number of risks (described above) that could materialize and potentially impact on these conclusions. We would recommend that the City revisit this analysis when the City has final contractual documentation to confirm that the final risk positions in the contract are as assumed in the financial analysis.

It is important to note that there will still be residual risks to the City if the Developer is ultimately unable to fulfil its obligations to source a contractor and deliver the Fire Hall for a guaranteed maximum price. The City should

look to mitigate these risks in the contractual documentation through performance security and penalties for non-performance.

We would also recommend that the City continue to review and update the risk analysis and potential mitigation actions up to substantial completion and handover of the new Fire Hall.

1. Introduction

Project Background

The City of Victoria's Fire Hall #1 is currently located at 1234 Yates Street, Victoria, and serves as the City's Fire Department headquarters. Fire Hall #1 was constructed in 1958 and has since undergone numerous renovations. Based on analyses performed by, and for, the City, the current Fire Hall does not provide suitable accommodation for the fire department and is not earthquake resistant. Given that Victoria has been identified as at a significant risk of earthquake either a major upgrade of the existing building, or a new building, is a key priority for the City. Initial financial analyses conducted by the City (the Advicaps report), and concluded in January 2016, identified that the new build option will provide the best value for taxpayers.

The City carried out an initial market sounding to gauge the level of interest in the Project from construction companies. Following the positive outcome of the market sounding exercise, a formal Request for Qualifications (RFQ) was issued on March 29, 2016 with a closing date of May 4, 2016. The City's overall vision for the Project was the provision of a new Fire Hall in a cost effective manner and, where feasible, the provision of other amenities within the City, either at the current site or at a new site identified by the respondents to the RFQ.

The City received three responses to the RFQ. One respondent proposed building a Fire Hall at the current location without any additional development. The second respondent proposed building a Fire Hall at the current site, together with an additional housing component but stated it was not interested in participating in a competitive Request for Proposals stage. The third respondent proposed to build the Fire Hall on its own site at 1050 Yates Street, together with further multi-use development on the site.

After reviewing the RFQ responses, the City determined that the preferred option was the solution offered by the third respondent, Nadar Holdings Ltd (the Developer) because it offers the potential for additional benefits to the City as compared to other responses. The City then entered into direct negotiations with the Developer resulting in a Letter of Intent dated May 12th, 2017 which specifies the terms and conditions of the Project including a new Fire Hall, to be located at 1050 Yates Street. During the Summer and Fall of 2017, the City and the Developer held additional meetings to finalize the scope and price of the Project.⁶

Key contractual terms in the Letter of Intent

The Fire Hall will be developed, designed and constructed by the Developer in accordance with the plans, specifications and all applicable laws.⁷ Materials which are not specified in the plans and specifications will be at the Developer's discretion, provided that such materials are of a quality generally consistent with similar materials specified.

Section 7 of the Letter of Intent dated May 12, 2017 states that the Developer will sell and the City will purchase the air space parcel for the guaranteed maximum price on the closing date which will occur fifteen days following the later of the substantial completion of the Fire Hall and the title to the air space parcel being issued by the land title

⁶ The City provided the updated price to PwC in an email dated October 19th, 2017.

⁷ Provided the requirements specified in the RFQ 2.4.2 (b) are reflected in the final contractual agreement, the final design will be required to comply with the Statement of Requirements that will be provided (by the City) in the Development Agreement, and all applicable laws, including City's bylaws and Design Guidelines. The design should also have regard for the City's policies and initiatives.

office. The Developer will deliver the air space parcel to the City free and clear of registered charges, save and except for permitted encumbrances.⁸

The guaranteed maximum price includes the Developer's design, development and construction costs, the land value for the air space parcel, survey costs, legal fees and disbursements related to the Project and all fees, charges, works, services and landscaping required as a condition of rezoning, subdivision, air space parcel subdivision approval or issuance of the development permit and offsite servicing and transportation works which will be paid for and, if applicable, undertaken, by the City in accordance with the terms of the purchase agreement. If changes to City bylaws result in additional requirements to the Fire Hall component, then any increased costs of satisfying those additional requirements will be borne by the City and the guaranteed maximum price will be increased accordingly. Except as set out above, the Developer will not be entitled to claim any costs outside the guaranteed maximum price unless the City has requested and the Developer has agreed to changes to the scope of work for the Fire Hall. During the negotiations over the Summer and Fall of 2017, the City asked the Developer to include permit fees and development cost charges in the fixed price and the Developer has indicated that approximately \$400k is now included.

The Developer is proposing that the Fire Hall will be part of a larger building, potentially including additional floors of office space and underground parking for leasing to third parties. The Developer will be responsible for the costs associated with the additional floors, for sourcing tenants and will retain the revenues.⁹ Therefore, the financial analysis only includes the costs related to the Fire Hall and not for the office building.

In May 2017, PwC and its sub-contractors BTY Group (BTY) as cost consulting advisor and Burgess Cawley Sullivan & Associates (BCS) as appraisal/air space parcel valuation advisor were appointed to assist the City with developing an approach and analysis to assess the reasonableness of the Developer's offer in the Letter of Intent.

The financial analysis and independent cost benchmarking exercise compares the following scenarios:

- Developer Solution – Build Fire Hall #1 with the Developer according to the Letter of Intent dated May 12th, 2017 and using the costs proposed by the Developer as updated based on an email from the City to PwC dated October 19th, 2017.
- An independently developed benchmark costing based on the Developer's proposed solution.
- An option to build the new Fire Hall on the current site (1234 Yates St) using a Design-Build (DB) procurement methods (the most viable alternative option should the City not be able to reach a final agreement with the Developer).

⁸ The final contractual agreement should specify how the City will pay the Developer and be determined in a manner that secures performance.

⁹ The City will need to satisfy itself that it is not paying additional costs that might be associated with the Developer's Component e.g. if more foundations are needed because the building will have more floors this cost should be the Developer's responsibility.

2. Overview of the Delivery Model

Based on its Fire Hall procurement strategy developed in 2015, the City has determined that a DB delivery model offers the most potential to add value to the City. A general summary of the features and characteristics of this model is shown below and is followed by a high-level qualitative analysis of the potential advantages and disadvantages being considered in the overall analysis of the Project.

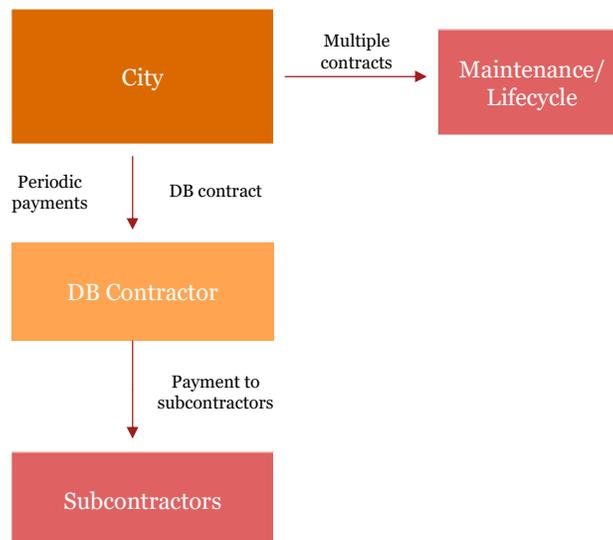
Design-Build (DB) Delivery Model

Overview of DB Delivery Model

Following the award of the DB contract, the selected bidder proceeds with the design and construction of the asset. Once the DB contract has been entered into, the City's role in the project is project oversight, including review and approvals. After commissioning, the City assumes operation and maintenance/lifecycle responsibilities for the asset.

There can be lower direct management costs to support site management with the DB model compared to traditional procurement models which can lead to savings under the DB route. The integrated design and construction package under a DB can also reduce the integration risk associated with coordinating separate contracts for the project owner as these risks are transferred to the developer. As a result this model provides greater incentive for process and design innovation in comparison to other traditional procurement approaches. Furthermore, since a single contractor is responsible for design as well as construction, there can be an overlap of design and construction activities and synergies that can result in a reduced overall project timeline. However, a very detailed DB contract must be defined to allow for the success of both parties involved including comprehensive and objectively measurable requirements, definition of a design review process and definition of a control process for change orders. Contract preparation can take 9 to 18 months depending on the complexity of the project.

Sample DB contract structure



DB Roles and Responsibilities

The table below describes the various roles and responsibilities of City and the Developer in the DB delivery model.

| Element | City | Developer |
|--------------|--|---|
| Design-Build | <ul style="list-style-type: none"> Single fixed fee contract with third party provider for design and construction provided under Design-Build contract | <ul style="list-style-type: none"> Develops detailed designs in accordance with specifications Constructs the asset |
| Finance | <ul style="list-style-type: none"> Payments made as per contract terms and works completed. Anticipated to be monthly progress payments | <ul style="list-style-type: none"> None |
| Maintain | <ul style="list-style-type: none"> City is responsible for maintenance and lifecycle. | <ul style="list-style-type: none"> None |

DB risk transfer

| Element | Risk Transfer | Rationale |
|--------------|---------------|--|
| Design-Build | | <ul style="list-style-type: none"> The City holds a contract for the design and construction of the new assets and will typically have some recourse to the developer (warranties). The developer will not have equity at risk in the project and the City is at risk of not fully benefitting from a "whole life" approach to design since the developer has no long-term obligations with respect to asset quality. |
| Finance | | <ul style="list-style-type: none"> The construction contract will be based on progress payments made as construction advances. |
| Maintain | | <ul style="list-style-type: none"> The City will be responsible for maintaining the assets. |

Retained
 Limited Transfer
 Shared
 Transferred

DB advantages and disadvantages

Potential advantages of DB

- Reduced completion time and reduced design/construction cost in comparison to other traditional models;
- Efficiencies through single entity responsible for design and construction activities;
- Opportunity for higher degree of design innovation and cost savings over traditional models;
- Potential for risk to be transferred to the DB contractor (including design and construction risk, implementation risk, materials selection and co-ordination of activities);
- Fixed fee price for design and construction package provided the contract is robust and has adequate performance security in place;
- Reduces the delivery schedule by overlapping the design phase and construction phase of a project;
- Lower tendering and preparation cost to the City;
- Cost may be established in bids prior to award and commitment to construction; and

- The involvement of designers and constructors through a single design-construction contract can increase team expertise and innovation.

Potential Disadvantages of DB

- The City still retains significant risks such as long-term lifecycle risk (although more risks are transferred to the DB contractor than under traditional models);
- Private sector developer has minimal interest in long-term performance of the facility (i.e., it has no long-term performance obligations);
- Post contract award changes can be costly;
- The design is not fully developed at the time of establishing cost estimates for funding approval; and
- The project requirements (scope) must be clearly and fully defined prior to soliciting bids.

Procurement Options

Developer Solution –Build Fire Hall #1 with a Developer according to the Letter of Intent dated May 12th, 2017

The proposed procurement option is a Design-Build (DB) agreement under the terms and conditions of the Letter of Intent dated May 12th, 2017.

- The City will enter into a single contract with the Developer under which the Developer will develop (and the City will own the air space parcel) a Fire Hall for a guaranteed maximum price that will include design, development and construction costs, permitting fees, development cost charges, the land value for the Fire Hall air space parcel, survey costs, legal fees and disbursements related to the Fire Hall development and all fees, charges, works, services and landscaping required as a condition of Rezoning, Subdivision, Air Space Parcel Subdivision approval or issuance of the Development Permit.
- The City will own the Fire Hall air space parcel. The land and the rest of the air space parcel above the Fire Hall will be owned by the Developer.
- The guaranteed maximum price does not include, offsite servicing and transportation works.
- The Developer has indicated that it plans to use subcontractors known to the City including HCMA Architecture + Design, Jawl Residential and Campbell construction.¹⁰

Potential advantages of this option

- Leverages the negotiations and work done to date.
- Can provide a shorter timeframe for a development of a new Fire Hall compared to any other viable options. There will be time savings because the City will not have to run a full procurement process and in addition, the City will not need to identify suitable temporary accommodation to relocate the existing Fire Hall while it is being rebuilt on the current site (the City's most viable alternative option).
- The proposed new site is appropriate for siting the Fire Hall, has better road access than the current site and is in closer proximity to the denser parts of the downtown core.
- There's no requirement for temporary accommodation that would be necessary if the new Fire Hall was rebuilt on the current site, which provides potential time and cost savings to the City.

¹⁰ The City satisfied itself of the financial capacity and experience of the parties as part of the RFQ evaluation.

- Improves the alignment of fire services to the neighboring commercial and higher density properties located closer to the downtown core.
- The City will own an air space parcel in a prime city location.
- The current site will be available to the City for other uses, or for sale, which will realize potential sales proceeds.
- If the City is able to negotiate a guaranteed maximum price with the Developer and a robust performance security package then there is potential for risk and accountability to remain with the Developer.

Potential disadvantages of this option

- Lack of competitive tension could make it challenging to prove this option offers best value to the City.
- Requires rezoning which presents some risk if rezoning is not achieved or if it is not achieved on a timely basis.
- Potential disturbances to a new neighborhood (that can be mitigated through operational best practices).
- There will still be residual risks to the City if the Developer is ultimately unable to fulfil its obligations to source a contractor and deliver the Fire Hall for a guaranteed maximum price. The City should look to mitigate these risks in the legal agreement through performance security and penalties for nonperformance.

Build new Fire Hall on current site – The City procures a new Fire Hall on the current site (1234 Yates St) using a design-build procurement method

Should the City be unable to come to a satisfactory agreement with the Developer on the terms and conditions to develop a Fire Hall at the new site, the City would need to start another procurement process for a Design-Build contract to design and construct the Fire Hall on the current site.

Potential advantages of this option

- Competitive procurement could drive a better price than directly negotiating with the Developer.
- The neighborhood is already accustomed to having an operational Fire Hall.
- Construction of the Fire Hall will not require rezoning (though the City anticipates that it would develop a scheme that includes additional development that would require rezoning).
- A single stage procurement process with risk and accountability for the entire facility remaining with the selected bidder.

Potential disadvantages of this option

- The City has already tested this option through the initial competition and concluded that it is not the preferred option.
- The requirement to run another procurement competition and locate suitable temporary accommodation for the Fire Hall will increase the cost of the project and extend the construction end date. A preliminary analysis carried out by the City only identified one potential site for locating the temporary accommodation that was on the nearby school board lands. Initial enquiries with the school board on temporary siting were

not positive. This could present a major obstacle to the option of re-providing the Fire Hall on the current site and there is a potential risk that no suitable temporary accommodation will be available.

- Potential operational inefficiencies and added costs during the build phase as not all services from Fire Hall #1 will necessarily be temporarily located in a single location and may be spread across other fire halls in the City.
- The current site will not be available to the City for other uses or for sale.
- Road access from the current site is onto a one-way street that creates potential operational inefficiencies.

3. Approach to Project Risk Analysis

Risk identification

PwC developed an initial risk matrix for this Project based on precedents for accommodation infrastructure projects including standard risk matrices developed by Partnerships BC and Infrastructure Ontario. The precedent risk matrix also includes standard probabilities and impacts and has been used on numerous completed infrastructure procurements. The initial matrix developed by PwC takes account of the risk free/government cost of capital discount rate being applied to this Project and was tailored specifically to this Project as described in the sections below.

The risks were separated into the following broad categories that were used as a basis for the risk identification and quantification exercise:

- Funding approval risks: Changes in funding policies or delays to funding approvals;
- Transaction/tender process risks: For example: due diligence, lack of competitive tension on pricing and termination prior to contract award;
- Risks affecting the entire procurement process: Scope changes requested by the City;
- Legal Agreement risks: Ambiguities in the legal agreement that lead to disagreements during the process;
- Design risks: This category includes stakeholder consultation risks, failure to get rezoning due to design issues, and risks around design optimization;
- Site conditions/environmental risks: This category included relocation of services/utilities, geotechnical, environmental and archaeological site conditions and site contamination;
- Construction risks: These include resource availability for labour, materials and equipment, construction management efficiency/coordination, operational risks during construction, schedule adherence and quality management;
- Permit and approvals risks: These risks relate to the required rezoning process, implementation of permits and approvals and access and title; and
- Completion/commissioning risks: For example commissioning delays and deficiencies risks.

The initial draft matrix was then discussed with the City Project Team and some risks were deleted on the basis they were not considered relevant or material. Additional project specific risks were added. The key risks added include the risk of receiving timely funding approvals from BC Ambulance, a scope change risk to address the fact that the City may require scope changes throughout the project development phase which will add cost and a rezoning process risk.

Risk workshop

PwC (with BTY) facilitated a risk workshop on May 24th 2017 with the City Project Team to identify and quantify the probabilities and impacts of the project risks for the Developer Solution and for the option to Build a new Fire Hall on the current site, as well as to identify potential risk mitigation plans.

Risk workshop attendees

| Organization represented | Attendees |
|--------------------------|--|
| The City | Susanne Thompson – Finance Director Keith Hennessey – Supply Management Service Manager Peter Rantucci – Head of Strategic Real Estate |
| PwC | Catherine Peacock Vladimir Novak |
| BTY | Neill McGowan |

Risk impacts

The impact of each risk was measured as the difference between the base estimate (cost or revenue) and the expected outcome should the risk occur. The following factors were considered:

- Effect: if a risk occurs, it may have an adverse impact on the project, including increased cost and completion delay, which may have cost implications;
- Timing: different risks may affect the project differently over the economic life of the project; and
- Severity of impact: the severity of the risk needs to be evaluated. For example, the collapse of a building arising from design error(s) will have a far greater impact than fixing structural defects arising from a construction error, in terms of cost, schedule, and usability.

Probability of occurrence

During the risk workshop, workshop participants provided estimates of probability based on their experience on similar projects, industry information and the City's own experience on past capital projects. Three main impact scenarios were discussed for each risk: low, medium and high (the low and high scenarios were assumed to be equivalent to 10th and 90th percentile of probability of occurrence). The 10th and 90th percentile have typically been used for risk analysis on infrastructure projects. The median scenario accounts for the most likely outcome, should a risk materialize.

Risk allocation

As part of the risk workshop, the workshop participants were asked to look at how the impacts of the risk would be allocated (or shared) between the City and the Developer in each scenario. Often some aspects of a risk will be retained while others will be transferred. Similarly, a risk may theoretically be transferred, however, the City may find it is not able to achieve the theoretical risk transfer and some elements of risk may be retained by the City.

The quantified values of the risks are allocated between retained risks and transferred risks according to the specific risk.

PwC facilitated a discussion with the City and its other advisors to:

- Review each risk description and determine whether or not the specific risk was applicable to the Fire Hall project;
- Identify whether there were any additional risks not included in the risk matrix;
- Review (and in a limited number of cases amend) the standard probabilities;

- Review (and in a limited number of cases amend) the standard impacts for the best and worst case in the risk matrix;
- Determine the most likely impact for each risk; and
- Review the suggested cost base that would be applied to each risk.

Risk follow-up

On May 29th 2017 PwC facilitated a conference call with the risk workshop participants from the City and Jonathan Huggett, the City's consultant for infrastructure projects. During this call, the risk matrix was refined and some additional risks were added.

The results of the risk workshops and associated justifications are included in the risk matrix in Appendix A.

Risk quantification and valuation

Although a number of methods can be used to value risk, the analysis performed in this project was aimed at estimating the risk-adjusted cost to the public sector. The risks were valued by statistical simulation based on multivariate analysis. A generally accepted method of multivariate analysis is Monte Carlo Simulation – an analytical technique used to predict the most likely value of uncertain variables as defined by their probability distributions.

The importance of Monte Carlo Simulation in risk analysis is underscored by the uncertainty of the potential risk impact upon its materialization. For this reason, it is widely considered as the preferred methodological tool to value risk in infrastructure project assessments as it allows the quantification of the impact of risks by taking into account an expected range of outcomes, including abnormal or skewed distributions.

Using the Crystal Ball software developed by Oracle, Monte Carlo based simulation analysis was performed by PwC. The probability distributions for all risks were assumed to be of a triangular shape. Under triangular distribution, a dollar value is assigned for the lowest, highest and the most likely outcome for each risk variable. The triangular distribution is recommended by both Infrastructure Ontario and Partnerships British Columbia and has been used to analyze many other infrastructure projects in Canada.

Risk results

The results of the risk quantification for the retained risks were included in the financial analysis in accordance with leading practices and are included in Appendix A to this report. The risk identification and quantification exercise focused on key risks to the City and in particular risks that are differentiators between the options being considered.

The key risks for the City are those that can lead to project delays and increased costs (or both):

1. Insufficient diligence undertaken by the City (risk transferred under the Developer solution)
2. City fails to achieve competitive pricing (risk is shared under the Developer solution and mitigated through independent benchmarking)
3. Scope changes initiated by the City (this is one of the key risks although and is a City risk under all options) – mitigations include the review of the functional design and outline specifications being carried out by Johnston Davidson Architecture to assess whether the design is workable from a fire operations perspective.
4. Ambiguities in the legal agreement (mitigated through 3rd party legal advice and diligence on the key commercial terms within the final Letter of Intent.
5. The design is not optimized for the life of the project as the Developer has no long-term lifecycle or maintenance obligation - mitigations include the review of the functional design and outline specifications

being carried out by Johnston Davidson Architecture to assess whether key aspects of the building such as mechanical and finishes meet commercial industry standards

6. Schedule delays – mitigated with the Fire Hall being the first phase. Other than a 10% refundable deposit the payment to the Developer will be made on completion and if not completed by a certain date the City may cancel which should provide the Developer with an incentive to keep to the schedule. ¹¹
7. Resource Availability (labour, materials etc.) – mitigated by the City carrying out a critical review of the proposed schedule and confirm appropriate performance security is in place.

¹¹ The City should carry out diligence on whether there are risks associated with the Developer building above an operational Fire Hall if the Developer adds the additional floors at a later date.

4. Approach to financial analysis

Typical discount rate methodologies

As the timing of cash flows varies under the different procurement models analyzed, the comparison must be made based on the net present cost (NPC) of the options being considered. The NPC is calculated by discounting each stream of cash flows forecasted for the procurement models being compared to properly account for the time value of money.

The discount rate is the rate at which cash flows occurring at different times in the future are brought to a base period, usually present day. Consequently, discounting future cash flows takes account of the time value of money so that cash flows occurring at different periods can be aggregated and this allows a direct comparison between the procurement models on an NPC basis. The choice of the discount rate is a key input factor in determining the VFM.

Different jurisdictions apply different methodologies for determining the appropriate discount rate to be applied for use in this form of analysis and for project evaluation purposes. These range from using the public sector's long term rate of borrowing to using the Project Internal Rate of Return (Project IRR) calculated using assumed inputs from similar projects.

Information on the current methods being utilized by select jurisdictions can be found in the table below. The discount rate used for evaluating different procurement models does not need to be the same rate used for accounting for the value of the project on the public sector books.

| Jurisdiction / Province | Discount Rate Selection Basis | Comment |
|-------------------------|--|---|
| Alberta | Linked to the provincial borrowing rates | Discount rate will vary due to changes in provincial borrowing only. The same rate is applied to both the PSC and PPP options. |
| British Columbia | Equivalent to the pre-tax project IRR | Project specific, determined through shadow bid financial model. The same rate is applied to both the PSC and PPP options. |
| Ontario | Linked to the provincial borrowing rates – the simple 10 day rolling average of Ontario bond yields | Discount rate is independent of the project and will vary due to changes in provincial borrowing only. The same rate is applied to both the PSC and PPP options. |
| Quebec | Linked to the historical provincial real borrowing rates (4.0-4.5%) and expected future inflation (2.0-2.5%) | Discount rate is independent of the project as 6.5% applies to all projects. The same rate is applied to both the PSC and PPP options. |
| Saskatchewan | Linked to provincial borrowing rate | Discount rate is independent of the project and will vary due to changes in provincial borrowing only. The same rate is applied to both the PSC and PPP options. |

| Jurisdiction / Province | Discount Rate Selection Basis | Comment |
|--------------------------------|---|---|
| CCPPP Position Paper | Equivalent to the project Internal Rate of Return based on the average IRR of the private bidders for a transaction | Project specific, determined through Shadow Bid financial model. The same rate is applied to both the PSC and PPP options. |
| Government of Canada | Long-term Government of Canada borrowing rate | Discount rate will vary due to changes in borrowing only. The same rate is applied to both the PSC and PPP options. |

The discount rate selected for calculating the NPCs will have a significant impact on the NPC of the Project and therefore the selection of the procurement model that offers the lowest relative NPC.

Rationale for selecting the discount rate for the Fire Hall analysis

As described above, approaches and methodologies used to evaluate infrastructure projects differ by province. In consultation with the City, Infrastructure Ontario’s methodology and approach (using a government cost of borrowing as the discount rate), with some amendments, was identified as the most appropriate for this Project.

The risk free discount rate approach is also used in the Provinces of Alberta, Saskatchewan and Quebec, and is the approach used by PPP Canada, Public Services and Procurement Canada, and Treasury Board Secretariat. The use of this rate represents the most conservative approach to analyzing projects that supports the choice of the preferred procurement model, and is the more likely approach to remain valid should the current low interest rate fiscal environment change in the medium to long term.

Costs retained by the City

We expect that the City will retain certain costs regardless of the procurement model selected. These costs include staffing and overhead associated with project/development management during the construction period. These costs are distinctly different from base project costs for construction. Costs retained by the City (and the related services they cover) do not form part of the contract awarded through a DB arrangement, and they do not form part of the inputs to the risk analysis. Owner’s costs are those costs incurred by the City for internal staff (and associated benefits and overhead), procurement of specialized services (i.e., independent technical auditors of work completed, 3rd party project management), etc.

Risk analysis

Failure to fully take into account risks is one of the key reasons why public projects are frequently not delivered on time, on budget and to specification. Industry best practice for project risk management, particularly in the delivery of the projects procured using alternative procurement models, takes a more sophisticated and systematic approach to risk, estimating the range of potential impacts of risk on a cost-by-cost and risk-by-risk basis. Risks in this context are unforeseen events that can affect costs and schedule.

Risk management in the context of a DB project does not involve transferring all project-related risks to the private sector. The goal of risk allocation is to transfer project risks to the party that is best able to manage them. An

efficient allocation of risks between the public and private sectors will ultimately maximize the efficiency of the project and will provide the lowest relative NPC.

Contingencies are budgeted for in addition to the expected costs and quantified risks. Contingencies are included to reflect the fact that there is a level of uncertainty associated with the advancement of design that can lead to changes in quantities of materials and unit prices. These contingencies typically represent an initial estimate of the likely expected additional costs over the cost estimates, before consideration of risks.

There are also cost items that may be missed during the cost estimation process, or additional variations that will have an impact to the overall cost of a project. Therefore, reviewing the risk quantification and allocation during the procurement process is necessary to ensure that risk adjustments continue to be appropriate including the following:

- The risk register is complete to ensure a comprehensive adjustment;
- The range of possible outcomes are evaluated and accounted for;
- Consideration of the specific characteristics of unique risks; and
- Correlations between different events and risks.

Approach to financial analysis for the Fire Hall Project

The comparison of the risk adjusted NPC of different procurement options (often referred to as a VFM analysis) is usually carried out prior to the procurement process as part of the development of a business case in support of an infrastructure investment. It compares a costed indicative design solution (public sector comparator) with an estimate of the cost of the project under an alternative procurement model (shadow bid) at the business case stage. If the cost of the shadow bid is lower than the public sector comparator, (i.e. it demonstrates VFM) then following a procurement process, the preferred bid will be compared with the public sector comparator. If the preferred bid is lower than the public sector comparator the project is considered to provide VFM.

In the case of the Fire Hall project, the City had already been through an RFQ process, evaluated the three responses received and had commenced negotiations with the Developer of the preferred solution, Nadar Holdings Ltd. As the City wanted to confirm whether the Developer's proposed pricing was reasonable, it appointed PwC (and its subcontractors BTY and BCS) to develop independent benchmark costs using the Developer's schematics and to provide a benchmark valuation of the air space parcel as a proxy for the shadow bid. This proxy shadow bid was then compared with the pricing proposed by the Developer.

The public sector comparator that has been used in this financial analysis is the most viable alternative option that the City would carry out if it is unable to agree terms with the Developer (build a new Fire Hall on the current site) using a design-build procurement method. The Developer's proposed pricing has also been compared with the estimated costs of the option to build the new Fire Hall on current site.

5. *Financial Analysis*

Options compared in the financial analysis

The following options have been compared in the financial analysis:

- Developer Solution – Build Fire Hall #1 with the Developer according to the terms of the Letter of Intent dated May 12th, 2017 as updated based on an email from the City to PwC dated October 19th, 2017; with
- Independently developed benchmark costs based on the Developer’s proposed solution; and
- Build new Fire Hall #1 on current site – Procurement of a new Fire Hall on the current site (1234 Yates St) using a design-build procurement method. This is the most viable alternative option that would be pursued by the City should it be unable to finalize an agreement with the Developer.

Based on discussions with the City, we have not included operational or lifecycle costs in the analysis as the City considers these costs would be the same under all options.

Source of assumptions for the financial analysis

The purpose of this section is to summarize the key assumptions used in the analysis. The financial model that has been developed is based on a range of assumptions provided by different parties including the following:

- A guaranteed maximum price for the Fire Hall component based on the Letter of Intent between the City and the Developer dated May 12th, 2017 as updated based on an email from the City to PwC dated October 19th, 2017.
- Independently derived design, construction and development cost estimates developed by BTY. These costs were derived based on schematics provided by the Developer that did not include any cost information. In addition, BTY was also provided with information on total areas and the overall size of the project
- Once BTY had prepared its draft cost report, the assumptions contained within the report were provided to the Developer (again without sharing any cost information) in order to identify and reconcile any variations in scope assumptions and in particular to confirm that both the Developer solution and the BTY benchmarks were comparable on a like for like basis.
- On October 30th 2017, the City and its advisors (including BTY and PwC) met with the Developer to discuss assumptions related to areas and materials in order to identify any potential areas of inconsistency between the two sets of assumptions. There was no pricing information identified at this meeting. On November 14th 2017, BTY provided PwC with final revised pricing.
- Burgess Cawley Sullivan Associates Ltd provided an air space parcel valuation and reviewed the existing land valuation for the current site (1234 Yates St) and confirmed the values in an email to PwC dated May 30, 2017.
- The City provided all the remaining assumptions including, but not limited to:
 - timing assumptions;

- owner's costs; and
- discount rate assumptions.

These assumptions could be subject to change as the procurement progresses. The key assumptions that have been used in the analysis are summarized in the tables below.

Timing assumptions

| | Developer Solution | Build new Fire Hall on current site | Benchmarking of Developer Solution |
|---|----------------------------------|--|---|
| Procurement/preparation/contract negotiation start | July 1 st , 2017 | July 1 st , 2017 | July 1 st , 2017 |
| Completion of negotiations/approvals/zoning etc. | August 31 st , 2018 | June 30 th , 2019 | August 31 st , 2018 |
| Temporary accommodation construction start | N/A | July 1 st , 2019 | N/A |
| Temporary accommodation construction end | N/A | December 31 st , 2019 | N/A |
| Design and construction start | September 1 st , 2018 | January 1 st , 2020 | September 1 st , 2018 |
| Construction end | June 30 th , 2021 | December 31 st , 2021 | August 31 st , 2020 |

Exact dates in the financial model have been rounded to either the first or the last day of the month for ease of comparison. This does not have a material impact on the financial model results.

Developer Solution Assumptions:

- The Developer solution assumes that it will take until August 2018 to obtain all the required approvals for the Project as well as the required zoning and permitting.
- The Developer Solution assumes an 8-10 month design period. However, as some of the design activities can be carried out concurrently with preparation/approvals, the design duration following the procurement preparation period is assumed to be 6 months. (This is consistent with BTY's design period assumptions.)
- The Developer has estimated the construction period as 28 months. In total the Developer Solution assumes a total design and construction period of 34 months, comprising of 6 months of design and 28 months of construction.¹²

Build New Fire Hall on Current Site Assumptions:

¹² There is a significant difference between the BTY design and construction assumption. We understand this is because the construction period for the Developer Solution is for completion of the entire project.

- The BTY construction period assumption of 24 months was also used for the option to build a new Fire Hall on the current site.
- For this option the City has assumed the procurement process will be concluded at the end of June 2019 (including finding and securing a site and permits for temporary accommodation). The procurement process for the current site is assumed to be 24 months in total. For individual activities, it is assumed to be 3 months to hire a specifications writer, 3 months for development of the specifications, and 16 months for the procurement process (RFQ, RFP evaluation and closing activities. This assumption was provided by the City.
- The City has assumed that the construction time for temporary accommodation is 6 months (based on modular office space and open parking and including some utility hookups and installation of signal priority).
- The City has assumed that the DB tender for the current site would be concluding at the time that the construction of the temporary accommodation would be ready for occupation.

Benchmarking of Developer Solution Assumptions:

- The benchmarks provided by BTY assume a 24-month design and construction period.

Construction period assumptions

| CAD millions in nominal dollars | Developer Solution (new site) | Build new Fire Hall on current site | Benchmarking of Developer Solution |
|---|-------------------------------|-------------------------------------|------------------------------------|
| Design, construction and development costs | \$33.7M ^{13 14} | \$39.3M ¹³ | \$31.7M ¹³ |
| Temporary accommodation construction costs | N/A | \$2.8M | N/A |

Nominal construction costs were derived from the following sources:

- Proposed pricing of the Developer Solution – The guaranteed maximum price was provided to PwC by the City in an email dated October 19th, 2017
- Build a new Fire Hall on the current site – Costs were taken from Option 3 in the Project estimate report dated January 22nd, 2016 and amended to be comparable with the Developer Solution. Costs taken from Option 3 include: Fire Hall construction costs, the cost premium for the new 2016 seismic code, the cost of demolition of the current Fire Hall (including remediation and asbestos abatement), the cost of site modifications and upgrades, a fixed cost allowance for furnishings, fixtures, and equipment (FF&E), design and management costs and 20% design and construction contingency. These base costs were inflated by 10% to reflect estimated escalation between January 2016 and June 2017 (using BTY’s escalation factors). From July 2017 onwards these costs were indexed using BTY’s escalation factors. To be comparable with the Developer Solution, the costs for the BC Ambulance component were added to the option to build a new Fire Hall on the current site. These costs were taken from the independently derived benchmark costs.

¹³ Includes BC Ambulance

¹⁴ Includes estimated value of the air parcel and permitting fees

- The estimated cost of temporary accommodation was taken from Option 3 in the Project estimate report dated January 22nd, 2016. These base costs were increased by 10% to reflect cost escalation between January 2016 and June 2017 and again from July 2017 using BTY’s escalation factors.
- Independently derived benchmark costs – Construction costs are based on the Class C cost estimate provided by BTY using a base date of June 30th, 2017. These costs include design and construction costs allowances, management & overhead costs and project contingency (on soft costs). The base costs have been escalated using BTY’s escalation factors.
- Contingency for Victoria market – An additional contingency of 20% has been added to the estimated design and construction costs for the current site and independent benchmarking options¹⁵ to reflect the resource constrained construction market in Victoria. This was derived by reference to the City of Victoria’s Capital Cost Project Estimate Development Policy, developed by Urban Systems, dated January 1st, 2017 (range of 25%-35% for Class D estimates) and adjusted downwards based on an estimate provided by BTY (20%-25%). Additional sensitivities have been tested including a 10% contingency estimate provided by Opus.
- No financing costs have been included.
- No tax implications are analyzed.

The construction inflation percentages used were provided by BTY and are shown in the chart below.



The financial analysis assumes a linear spend based on the estimated design and construction period for the respective options. This assumption does not have a material impact on the financial model results. Costs are assumed to be paid as incurred.

¹⁵ No additional contingency was added to the Developer Solution as this is anticipated to be a guaranteed maximum price.

Owner's costs

| CAD in 2017 dollars | Developer Solution | Build new Fire Hall on current site |
|-----------------------------------|--------------------|-------------------------------------|
| During procurement/preparation | \$0 | \$0.2M |
| During design/construction period | \$0.5M | \$0.5M |

Owner's costs are project management and oversight costs incurred by the City and have been escalated in the financial model from July 1, 2017 using a 3% escalation assumption provided by the City. Annual escalation is applied as of each January 1 with the first step-up occurring on January 1, 2018. Oversight costs during construction are assumed to be the same for both options. The option to build a new Fire Hall on the current site includes an estimate of incremental costs of \$0.2M that the City will incur preparing a new DB procurement process.

In addition to the monthly recurring project management costs, both the Developer Solution and the option to build a new Fire Hall on the current site include an allowance of \$4M for FF&E and occupancy costs (assumed to be incurred on the last day of construction and calculated as an allowance of \$110 per sq ft multiplied by an estimated total area of 41,763 sq ft).

All options include additional, one-time, costs in respect of municipal & connection fees including development cost charges, building and development permits, rezoning and connection fees. To simplify the analysis, and as more detailed information is not available at this stage, all costs described in this paragraph are assumed to be the same for all options. Additionally, the option to build a new Fire Hall on the current site includes a \$0.2M allowance that represents the cost sharing of the design to date that the City has agreed to pay the Developer and which will allow the City to use the drawings.

Air space parcel and land valuations

The air space parcel valuation was provided by BCS on May 30th, 2017 and calculated as \$1.9M based on 41,763 sq ft at \$45 per buildable square foot.

The land value of the current site was provided by the City (appraisal provided by CUNNINGHAM & RIVARD APPRAISALS LTD. on September 2, 2016) and reviewed by BCS. The updated land value provided by BCS has been reduced by demolition, remediation and asbestos abatement costs (net \$4.6M). These cost estimates have been taken from Option 3 in the Project estimate report dated January 22, 2016 and increased by 10% to reflect escalation between January 2016 and June 2017 (using BTY's escalation factors).

BCS believes it may be possible that the cost per square foot of buildable area could be \$5 higher than what has currently been assumed in the financial analysis. An additional \$5 a buildable square foot would result in an increase of approximately \$425k in the land value.

These land and air space parcel values have been assumed to offset the cost of the Developer Solution (and represent potential additional value to the City that is not available if the City reverts to the option to build the new Fire Hall on the current site). The land value for the current site is shown below the line in the assessment, as the City has not yet decided on the alternative use of the site.

Discount rate

| | Assumption |
|----------------------|--|
| Discount date | July 1, 2017 |
| Discount rate | 2%. This assumption has been provided by the City which it uses in its evaluation of projects and is equal to “lost” investment revenue. This assumption is not materially different from the 5 year lending rate from Municipal Finance Authority of BC which is currently 1.8%. |

Summary results of the financial analysis

The results of the financial analysis are summarized below.

Developer Solution compared with option to build a new Fire Hall on current site

| <i>Discounted values (CAD millions) at 2.00% to July 1st 2017</i> | Developer Solution | Build new Fire Hall on current site |
|--|---------------------------|--|
| Total design, construction and development costs | 32.0 | 36.6 |
| Temporary accommodation construction costs | 0.0 | 2.6 |
| Owner's Costs ¹⁶ | 4.9 | 5.6 |
| Air space parcel value | (1.9) ¹⁷ | 0.0 |
| Estimated value of risks retained by the City ¹⁸ | 1.9 | 4.8 |
| Total | 37.0 | 49.7 |
| Estimated cost saving to the City with Developer Solution | 12.7 | |
| % Estimated cost saving to the City with Developer Solution | 25.6% | |

The analysis above shows that proposed pricing in the Developer Solution appears to offer value to the City when compared to the estimated cost of the option to build a new Fire Hall on the current site (the City’s most viable alternative option).

Impact of including sale proceeds of the current site

If the City decides to dispose of the current site, incorporating the land valuation estimate into the financial analysis above would increase the estimated cost saving to the City to \$17.3M and 34.8% respectively.

¹⁶ These are the Owner’s costs escalated plus the allowance for FF&E and discounted to July 1, 2017.

¹⁷ The Developer’s proposed pricing has been reduced by the estimated value of the air parcel to make the option directly comparable with the option to build a new Fire Hall on the current site. Under the Developer Solution the City derives additional value from acquiring the air parcel that would not be available under the option to build a new Fire Hall on the current site.

¹⁸ Based on the estimate of the value of the risks that the City will retain under the contractual model it anticipates agreeing with the Developer.

Developer Solution compared with Benchmarked Solution

In addition to comparing the Developer Solution with the option to build a new Fire Hall on the current site, the Net Present Cost of the design, construction and development costs for the Developer Solution have been compared with the Net Present Cost of both the independently derived benchmark cost estimates provided by BTY together with the air space parcel valuation provided by BCS.

| Discounted values (CAD millions) at 2.00% to July 1st 2017 | Developer Solution | Benchmarking of Developer Solution |
|--|---------------------------|---|
| Total design, construction and development costs | 32.0 | 30.3 |
| Development costs charges | 0.1 | 0.5 |
| Air space parcel value | 0 | 1.9 ¹⁹ |
| Total | 32.2 | 32.7 |
| Estimated cost saving to the City with the Developer Solution | 0.6 | |
| % Estimated cost saving to the City with the Developer Solution | 1.7% | |

Based upon the latest pricing, the estimated savings associated with the Developer solution are not material when compared with the independently benchmarked costs for the Developer solution. The City will need to make sure it has fixed price certainty from the Developer and that the risk transferred to the Developer is consistent with the assumptions that have been made in the financial analysis contained within this report. Any increases to the Developer price or changes to the risk allocation will likely result in a solution that is not beneficial to the City

Summary of sensitivity analysis on key variables

Developer Solution compared with building a new Fire Hall on the current site

The financial analysis assumed a 20% City capital cost contingency and \$45 per buildable square foot. The table below shows the impact on the financial analysis of making changes to both the City's capital cost contingency % and the estimated cost per buildable square foot.

| Change in buildable cost per sq. ft vs the City's capital cost contingency (CAD millions) | 10% contingency | 20% contingency | 30% contingency |
|--|------------------------|------------------------|------------------------|
| \$30 | 9.4 | 12.1 | 14.7 |
| \$45 | 10.0 | 12.7 | 15.4 |
| \$60 | 10.7 | 13.3 | 16.0 |

Upside case

If the City's capital cost contingency were increased from 20% to 30% and the cost per buildable square foot were increased from \$45 per buildable square foot to \$60 per buildable square foot then the Developer Solution would be \$16M cheaper than building a new Fire Hall on the current site (the City's most viable alternative option).

¹⁹ The estimated value of the air space parcel has been added to the benchmark costs developed by BTY to make this option directly comparable with the Developer Solution.

Downside case

If the City's capital cost contingency were reduced from 20% to 10% and the cost per buildable square foot were reduced from \$45 per buildable square foot to \$30 per buildable square foot then the Developer Solution would be \$9.4M cheaper than building a new Fire Hall on the current site (the City's most viable alternative option).

The sensitivity analysis shows that the changes made to these two variables does not materially affect the financial outcome.

Developer Solution compared with Benchmarked Solution

The financial analysis above has assumed a 20% City capital cost contingency and \$45 per buildable square foot. The table below shows the impact on the financial analysis of making changes to both the City's capital cost contingency % and the estimated cost per buildable square foot.

| Change in buildable cost per sq. ft vs the City's capital cost contingency (CAD millions) | 10% | 20% | 30% |
|--|------------|------------|------------|
| \$30 per buildable sq ft | (1.9) | (0.1) | 1.8 |
| \$45 per buildable sq ft | (1.3) | 0.6 | 2.4 |
| \$60 per buildable sq ft | (0.7) | 1.2 | 3.0 |

Upside case

If the City's capital cost contingency were increased from 20% to 30% and the cost per buildable square foot were increased from \$45 per buildable square foot to \$60 per buildable square foot then the Developer Solution would be \$3M cheaper than the Benchmarked Solution.

Downside case

If the City's capital cost contingency were reduced from 20% to 10% and the cost per buildable square foot were reduced from \$45 per buildable square foot to \$30 per buildable square foot then the Developer Solution would be \$1.9M more expensive than the Benchmarked Solution.

The sensitivity analysis shows that the changes made to these two variables does not materially affect the financial outcome.

Information provided by the City on recent land values

The land value was provided by BCS to PwC in May 2017. Since this time, the City has observed increases in local land values and Victoria-based appraisers have suggested to the City that recent sales have achieved closer to \$80 per buildable square foot.

The impact of increasing the land value to \$80 per buildable square foot is to increase the cost savings estimate for the Developer Solution from \$600k to \$2M, when compared with the Benchmarked Solution.

The impact of increasing the land value to \$80 per buildable square foot is to increase the cost savings estimate of the Developer Solution from \$12.7M to \$14.2M when compared with building a new Fire Hall on the current site.

6. Benchmarking

Benchmarking with other Fire Hall projects

BTY provided examples of cost per square foot benchmarks for fire hall projects in Western Canada against which to compare the Class D cost/m² of the new Fire Hall. These buildings ranged from a wood-frame single-storey building to a three-storey building with a LEED Platinum requirement. This analysis shows that the estimated cost per m² of the independent costing is comparable to the benchmarks.

Benchmarking with recent performance on other City capital projects

The City has provided the following examples of recent capital projects performance compared with the initial budget.

1. Pandora Avenue Two-Way Bike Lane
 - Single bid received
 - April 2016 cost estimate \$2.61M
 - June 2016 revised cost estimate \$2.995M
 - Actual bid received in July 2016 was \$3.416M which is 30% higher than the April 2016 cost estimate and 14% over the revised budget developed in June 2016

2. Crystal Pool Change room renovation
 - Estimated cost in the 2016 Financial Plan was \$30k
 - No bids received from a Request for Offer in July 2016 as contractors were too busy to undertake this work
 - Council re-directed City staff to re-issue RFO
 - City re-issued Request for Offer in October and received two bids, both over the 30K budget
 - Council were requested to increase budget to \$60K (including contingencies) and accepted a bid of \$43,750 for the work. That was 46% higher than the estimated cost in the Financial Plan
 - Work is scheduled to start in September 2017.

3. David Foster Harbour Pathway Project
 - Construction cost estimate February 2017 of \$3.260M
 - Single bid received in May 2017 of \$4.279M which is 31% over the February cost estimate

Based on the data provided by the City, the bid prices received for City capital projects as compared with the original budget are in the range of 30%-46%.

7. Other Project Risks

This section provides commentary on certain project risks that may be difficult to quantify or that will be retained by the City.

Examples of risks that remain with the City

Ambiguities in the Statement of Requirements: Section 4.2.4. (B) of the RFQ states that the final design will comply with the Statement of Requirements that will be provided in the Development Agreement, and all applicable laws, including City's bylaws and Design Guidelines. The design should also have regard for the City's policies and initiatives. Provided the Developer complies with the statement of requirements it has met its obligations but should there be ambiguities in those requirements this risk will remain with the City. The City has engaged Johnston Davidson Architecture to carry out a review of the functional design and outline specifications to assess whether the design is workable from a fire operations perspective. Further actions to mitigate this risk could include the City obtaining 3rd party analysis and validation of any design information produced on its behalf during the design development and construction phase.

Rezoning – the Developer will take the risk associated with submitting a complete/comprehensive rezoning package to the City. However, the risk that the City may reject the rezoning application or rezoning may not be granted on a timely basis is not a risk that the Developer can manage.

Inability of the Developer to secure a construction contractor, labour etc – although the Developer is offering a guaranteed maximum price there is a risk that at the time the Developer is ready to start construction the contractor may not be available to commence work. The City is relying upon the reputation of the Developer and Contractor but if the contractual agreement doesn't contain appropriate penalties or performance security then there is still residual risk with the City.

Pricing risks – the Developer is proposing a guaranteed maximum price that relates to a specific scope as detailed in the Letter of Intent. Changes to that scope, for example, City initiated scope changes of any kind will add additional cost to the Project. Other pricing related risks include delays that might be caused by the public sector. An example would include delays in BC Ambulance approving funding, or not approving funding, which then leads to a de-scoping of the Project and an extension to the overall schedule. The Developer has already indicated to the City that it will be difficult to hold the price. The City therefore needs to satisfy itself that the schedule in the contractual agreement is realistic.

Change in market conditions – the financial analysis assumes that the construction market in Victoria will continue to be resource constrained into the foreseeable future. If there is a downturn in the local market then the City will be paying a premium to the Developer as it will be committed to paying the guaranteed maximum price.

Ability of the City to dispose of the air space parcel at a future date – if the City decides it wants to dispose of the air space parcel at a future date it can do so as it is a separate legal parcel. The Fire Hall could be converted to other municipal or commercial uses. However, it may be difficult to recover full value given that the Developer Component will sit above the Fire Hall air space parcel.

Examples of risks that the City may wish to address in the final Contractual Agreement

Uses of Developer Component – the City may wish to include a provision in the contractual agreement with the Developer that will allow the City to impose restrictions on the types of activities or tenants in the building for the floors of the building that are the responsibility of the Developer.

Defects following Occupation – the City may wish to consider how it would address the implications of a defect in the Fire Hall building after the warranty period given there is no long-term financing at risk and therefore there's no incentive for the Developer to remedy such a defect.

Maintenance of the Developer Component – since the City will have limited control over the Developer Component it would be prudent to make sure the final contractual arrangement includes obligations for the Developer to provide adequate day-to-day cleaning and maintenance and long-term lifecycle for its components of the building structure that it retains ownership of.

Appendix A: Risk Register

City of Victoria Fire Hall 1 - Risk Matrix

Risk Profile

| Risk Category | Risk Allocation | | Definition | Rationale | Mitigation plans and Risk Owner | Cost Base | Risk Profile | | | | | | | | |
|---|---|---------------|---------------|---|--|--|----------------|--------|-------------|---------|-----------------|--------|-------|-------|-------|
| | Current site DE New site DB | | | | | | New site DB | | | | Current Site DB | | | | |
| | Probability | Impact | | | | | Probability | Impact | Probability | Impact | Probability | Impact | | | |
| % | 10th perc | Typical | 90th perc | % | 10th perc | Typical | 90th perc | % | 10th perc | Typical | 90th perc | | | | |
| 1 Funding Approvals | | | | | | | | | | | | | | | |
| 1.01 | City funding approvals | Public Sector | Public Sector | Risk that City funding approvals are not received in a timely manner and ultimately delay the project. | Any delays in Council approval could lead to increased costs to the Project. | City funding approvals are a public sector risk on either option as they are outside the control of the Developer. | Total Contract | 10.0% | 5.0% | 10.0% | 25.0% | 10.0% | 5.0% | 10.0% | 25.0% |
| 1.02 | BC Ambulance Funding | Public Sector | Public Sector | Risk that BC Ambulance funding approvals are not received in a timely manner and ultimately delay the project. | For the BC Ambulance component which is required to be self-financing, BC Ambulance will need to provide funding approvals. If these approvals are delayed then the overall project could be delayed. Risk is thought to be low now the provincial election is over and BC Ambulance staff have previously indicated there is support for the project. If there isn't support for this element then it would be removed from the overall project scope which would cause delays. For the new site this risk is transferred to the Developer. | For the current site the City owns this risk and it would need to liaise with BC Ambulance to confirm approvals are received on a timely basis. | Total Contract | 0.0% | 5.0% | 10.0% | 25.0% | 10.0% | 5.0% | 10.0% | 25.0% |
| 2 Transaction/Tender Process | | | | | | | | | | | | | | | |
| 2.01 | Due Diligence | Transfer | Shared | Risk that an insufficient level of due diligence is undertaken and communicated to the Developer resulting in reduced tolerance to risk and higher pricing | For the new site this risk is transferred to the Developer as it will be the developer's land and it is responsible for its own due diligence. In addition the City is already engaged in discussions with the Developer and this intensive interactive approach throughout the process should enable the City to identify inconsistent/insufficient information and address it prior to finalizing terms/contract award. | The VFM assessment which is supported with 3rd party external advice has supplemented due diligence activities carried out by the City. City will require a bonding/letters of credit to secure progress payments. | Total Contract | 13.0% | 6.0% | 11.0% | 15.0% | 13.0% | 6.0% | 11.0% | 15.0% |
| 2.02 | Tendering Competition | Shared | Public Sector | Risk that City fails to achieve Value for Money due to lack of competitive tension on pricing. | For the current site the City would be required to carry out certain tendering activities. For the new site there is no tendering competition on pricing. However, the preferred Developer is long standing in the Victoria marketplace and the City is of the view that reputational risk will keep the Developer team honest. The City also has mitigation plans to reduce this risk. It is the City's experience that available contractors are in short supply in the Victoria market at this time. Recently, the City has experienced several projects with one bidder only. For the new site this is a shared risk as the Developer will have to source its own subcontractors but the City will be responsible for determining whether it is getting VFM in the absence of competitive pricing. | The City will have the independent benchmarks developed by BTY as well as the other benchmarks developed by Advicas against which to compare the Developer's pricing to test that it provides value to the City. | Total Contract | 8.0% | 8.0% | 17.0% | 40.0% | 8.0% | 8.0% | 17.0% | 40.0% |
| 2.03 | Delays in contract award | Shared | Shared | Risk of additional costs and schedule impacts resulting from a delay in awarding contract | This is not considered to be a significant risk as the City is currently working on making changes to the Letter of Intent to address areas that are ambiguous e.g. zoning deadline starts when the City receives a complete application. Similarly, for a standard process the City's experience does not show major delays in contract award. | Jawi has made it clear it's difficult to hold pricing in the current market so price may go up so developing a realistic project schedule is essential. | Total Contract | 12.0% | 1.0% | 2.0% | 5.0% | 15.0% | 1.0% | 2.0% | 5.0% |
| | Termination prior to contract award | Public Sector | Public Sector | Risk of decision to not proceed with project resulting in delay to contract award | The City has only ever cancelled projects prior to award due to budget reasons. This is not considered to be a risk for this project given the commitment to the Letter of Intent and the fact that the City has already committed to the Letter of Intent and the fact that the City has already committed to the Letter of Intent. | City would have to take over the project and complete and get rights of access to land. The legal agreement needs to provide for this. For the option on the current site bonding would be required. | Total Contract | 0.0% | 1.0% | 3.0% | 5.0% | 0.0% | 1.0% | 3.0% | 5.0% |
| 3 Risks affecting the entire procurement process | | | | | | | | | | | | | | | |
| 3.01 | Scope Changes requested by the City prior to completion | Public Sector | Public Sector | Risk that scope of work is changed by the City, resulting in additional costs to the project and which would be incurred outside of any competitive process or benchmarking exercise. | The letter of intent and the existing plans reduce the probability of scope changes for the project being developed on the new site. However, the City has not yet had sight of the structural drawings for the new site so the probability of this risk is slightly higher for the new site than the current site. In addition on the new site there is a higher probability of scope changes because it is a multi-use building. | The City is currently working to tighten the language in the Letter of Intent so that if there's an engineering reason that the Developer needs to make changes it will have an obligation to preserve the functionality of the spaces. The City could mitigate and manage this risk by considering a zero sum change process (if a change is added in then something is removed to stay within the overall budget allocation). The building is flexible and the city can take additional space if needed. | Total Contract | 15.0% | 3.0% | 5.0% | 13.0% | 10.0% | 3.0% | 5.0% | 13.0% |
| 4 Legal Agreement | | | | | | | | | | | | | | | |
| 4.01 | Ambiguities in Legal Agreement | Shared | Shared | Risk that ambiguities exist in the legal agreement that could lead to disagreements during the construction phase. | This risk is thought to be the same for both sites as the Fire Hall project would be a negotiated solution with a Developer on both the current and the new site. | Diligence on the Letter of Intent to remove any ambiguities before the legal agreement is drafted and finalized. Will hire external legal counsel with experience. | Total Contract | 10.0% | 3.0% | 6.0% | 10.0% | 10.0% | 3.0% | 6.0% | 10.0% |
| 5 Design | | | | | | | | | | | | | | | |
| 5.01 | Stakeholder Consultation Pre Contract Award | Public Sector | Public Sector | Risks associated with fulfilling stakeholder consultation requirements and achieving sign-off where required prior to Contract Award | The current site is already zoned for the Fire Hall so there is no risk. The new site has to go to public consultation for the rezoning (public hearing) to allow the Fire Hall to be built so this risk is higher. However, the risk is only slightly higher as the new site is only 2 blocks away from the current site. | Fire dept has been involved in project devt | Total Contract | 1.0% | 0.5% | 1.0% | 3.0% | 0.0% | 0.5% | 1.0% | 3.0% |
| | Compliance with Codes and Standards | Transfer | Transfer | Risk that design does not comply with relevant codes and standards | This risk is not a differentiator between the new and current site options and therefore design quality is the same for both sites. | | Total Contract | 0.0% | 0.5% | 1.0% | 3.0% | 0.0% | 0.5% | 1.0% | 3.0% |
| 5.02 | Failure to get rezoning due to design issues | Public Sector | Public Sector | City doesn't agree to the rezoning as they don't like the design. | Rezoning is delayed while redesign takes place or in the worst case the project is cancelled if rezoning is not achievable for that site. | Low risk because of planning process the City uses which involves a lot of consultation over design issues throughout the process. | Total Contract | 5.0% | 1.0% | 2.0% | 5.0% | 5.0% | 1.0% | 2.0% | 5.0% |
| 5.03 | Design Optimization | Public Sector | Public Sector | Risk that design is not optimized for full project life | For the new site option there is a very high likelihood that the Developer will retain long-term ownership based on its current practices in which case it will be motivated to design for the long term. | The City can mitigate this risk by making sure that the legal agreement contains objective standards that the Developer must meet. There is not as much certainty on the current site option and a selected Developer for that site may not be motivated to hold the asset for a long period. | Total Contract | 5.0% | 15.0% | 20.0% | 25.0% | 25.0% | 15.0% | 20.0% | 25.0% |

City of Victoria Fire Hall 1 - Risk Matrix

| Risk Category | Risk Allocation | | Definition | Rationale | Mitigation plans and Risk Owner | Cost Base |
|--|--|----------|---------------|---|---|----------------|
| 6 Site Conditions/Environmental | | | | | | |
| 6.01 | Utility/Services Relocations | Shared | Shared | Risk associated with inaccurate information or delay to completing necessary relocations | This is not a differentiator as both sites are comparable and within close proximity to each other. This risk would not be fully transferred under the current site option either. | Total Contract |
| 6.02 | Geotechnical | Transfer | Transfer | Risk associated with inaccurate information or delay to completing necessary investigations | This is not a differentiator as both sites are comparable and within close proximity to each other. Geotechnical risk is usually fully transferred under DB contracts | Total Contract |
| 6.03 | Existing Contamination | Transfer | Shared | Risk associated with inaccurate information or delay to completing necessary remediation | On the current site there is an underground oil tank and therefore potential contamination from the fueling history. The new site is the risk of the Developer. It is currently housing a paved parking lot which has been there for a number of years and therefore the probability of there being contamination issues is thought to be less than for the current site. There is nothing on the Provincial registry that would suggest that the new site is a contaminated site. However, the City has not done any studies on either site. | Total Contract |
| 6.04 | Archaeological | Shared | Shared | Risk associated with inaccurate information or delay to completing necessary clearances | This is not a differentiator as both sites are comparable and within close proximity to each other. If burial site then there will be delays even on the new site. | Total Contract |
| 7 Construction | | | | | | |
| 7.01 | Construction Management Efficiency/Coordination | Transfer | Transfer | Risk that management team does not effectively coordinate activities to complete construction on schedule | No difference between the options as there will be one building on each site and the DB model will be used in either case. | Total Contract |
| 7.02 | Resource Availability - Labour, Materials, Equipment | Transfer | Transfer | Risk that required resources are not available, resulting in delay and increased costs. | This is a Developer risk on the new site and there is already a reputable construction contractor identified. For the current site this is possibly a higher probability as the City does not have experience of hiring contractors. The other associated risk is that the Developer's "A" team is busy and the City gets the Developer's "C" team but this risk is the same for both sites. | Total Contract |
| 7.03 | Schedule Adherence | Transfer | Transfer | Risk that construction schedule is not maintained/achieved. | Payment mechanism has not yet been defined but it likely to be monthly/progress payments for both sites. This risk is the same for both sites, is transferred to the developer and is not a differentiator. | Total Contract |
| 7.04 | Quality Management | Transfer | Transfer | Risk that construction quality falls below required standards, codes or prescribed levels. | This risk is the same for both sites and is not a differentiator. | Total Contract |
| 8 Permits and Approvals | | | | | | |
| 8.01 | Rezoning process | Shared | Shared | Risk that there is a delay in obtaining any required rezoning resulting in schedule delays and additional costs. | This risk is thought to be the same for both sites as in reality the City would be aiming for additional development on the current site which would also require rezoning. However, if we are comparing just the bare Fire Hall on the current site then there is no risk as the site is already zoned. The Developer needs to get the new site rezoned in order to be able to build the Fire Hall. | Total Contract |
| 8.02 | Implementation Permits and Approvals | Transfer | Transfer | Risk that there is a delay in obtaining relevant Permits to the construction contractor, resulting in schedule delays and additional costs. | This risk is thought to be the same for both sites assuming that both sites are rezoned to fire hall use (as per previous risk). | Total Contract |
| 8.03 | Title/Access/Title Encumbrances | Transfer | Public Sector | Risk that site access is not made available to Contractor within the prescribed timeframe. Assembly of the site needs to be investigated by the City. | This risk would only apply to the current site. The Developer would assume this risk on its own site. | Total Contract |
| 9 Completion / Commissioning | | | | | | |
| 9.01 | Commissioning | Transfer | Transfer | Risk that commissioning delays could result in a delay to the handover of the facility, resulting in additional costs. | This is a higher probability risk under the current site option due to the double move (from current space to temporary accommodation and then again into the new facility) although the impact is expected to be the same for both sites. Note: estimated costs of temporary accommodation and moves will be included in the base cost of the current site option. | Total Contract |
| 9.02 | Deficiencies | Shared | Shared | Risk that there are excessive deficiencies upon substantial completion resulting in operational difficulties and overall client dissatisfaction. | This risk is considered to be the same under both options. | Total Contract |

| Risk Profile | | | | | | | |
|--------------|-----------|---------|-----------|-----------------|-----------|---------|-----------|
| New site DB | | | | Current Site DB | | | |
| Probability | | Impact | | Probability | | Impact | |
| % | 10th perc | Typical | 90th perc | % | 10th perc | Typical | 90th perc |
| 13.0% | 4.0% | 8.0% | 15.0% | 13.0% | 4.0% | 8.0% | 15.0% |
| 12.0% | 2.0% | 5.0% | 10.0% | 12.0% | 2.0% | 5.0% | 10.0% |
| 3.0% | 2.0% | 5.0% | 15.0% | 6.0% | 2.0% | 5.0% | 15.0% |
| 6.0% | 2.0% | 5.0% | 10.0% | 6.0% | 2.0% | 5.0% | 10.0% |
| 8.0% | 0.5% | 1.0% | 3.0% | 8.0% | 0.5% | 1.0% | 3.0% |
| 4.0% | 1.0% | 2.0% | 5.0% | 8.0% | 1.0% | 2.0% | 5.0% |
| 0.0% | 6.0% | 15.0% | 30.0% | 0.0% | 6.0% | 15.0% | 30.0% |
| 0.0% | 1.0% | 6.0% | 40.0% | 0.0% | 1.0% | 5.0% | 10.0% |
| 5.0% | 5.5% | 13.0% | 20.0% | 5.0% | 5.5% | 13.0% | 20.0% |
| 8.0% | 5.0% | 10.0% | 20.0% | 8.0% | 5.0% | 10.0% | 20.0% |
| 5.0% | 1.0% | 2.0% | 5.0% | 0.0% | 1.0% | 2.0% | 5.0% |
| 5.0% | 1.0% | 2.0% | 5.0% | 5.0% | 1.0% | 2.0% | 5.0% |
| 0.0% | 2.0% | 5.0% | 10.0% | 3.0% | 1.0% | 5.0% | 10.0% |
| 5.0% | 0.5% | 1.0% | 2.0% | 10.0% | 0.5% | 1.0% | 2.0% |
| 5.0% | 1.0% | 2.0% | 5.0% | 5.0% | 1.0% | 2.0% | 5.0% |