partnerships
British Columbia

Project Report:

BC Children's and BC Women's Redevelopment Project

Phase 2

November 2014

BRITISH COLUMBIA

Purpose of this Report

The purpose of this report is to provide key information to the public about the BC Children's and BC Women's Redevelopment Project Phase 2 (the Project). This report describes the need for the Project and how it will be delivered. The report explains how different procurement delivery methods were analyzed, and how project benefits and innovations are expected to be achieved. A summary of the key aspects of the Project Agreement is also provided.

In all of its procurement processes, the Government of British Columbia (B.C.) is committed to a high standard of disclosure as part of its accountability for the delivery of public projects. Ministries, Crown Corporations and other government agencies are publicly accountable for projects through regular budgeting, auditing and reporting processes.

The Project Board, which includes representatives from the Ministry of Health; the Ministry of Transportation and Infrastructure; the Provincial Health Services Authority (PHSA); and Partnerships British Columbia Inc. (Partnerships BC); is accountable for the contents of this project report.

Defined Terms and Abbreviations

Capitalized terms are defined in the glossary at the end of this report.

Abbreviations are defined in the table below:

Teck ACC	Teck Acute Care Centre
ASP	Annual Service Payment
CPJC	Construction Period Joint Committee
DBB	Design Bid Build
DBFM	Design Build Finance Maintain
NPC	Net Present Cost
PHSA	Provincial Health Services Authority (the Authority)
PPP	Public Private Partnership
PSC	Public Sector Comparator
RFP	Request for Proposals
RFQ	Request for Qualifications
VFM	Value for Money

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1. Executive Summary

For more than 50 years, the children and women of British Columbia have benefitted from the specialized care provided through BC Children's Hospital and BC Women's Hospital + Health Centre's programs and services. Last year, there were approximately 200,000 patient visits to BC Children's Hospital, including 8,700 pediatric surgeries and 43,100 emergency department visits; and approximately 7,000 babies were born at BC Women's Hospital + Health Centre, making it one of the busiest maternity centres in Canada.

Existing facilities were not designed to accommodate the increasing volume of women and children who require specialized care to deal with complex and critical illness. Through the Provincial Health Services Authority (PHSA or the Authority), BC Children's Hospital and BC Women's Hospital + Health Centre is undertaking a three-phase redevelopment project. The BC Children's and BC Women's Redevelopment Project will ensure sufficient capacity to meet the needs of a growing population and provide facilities that support 21st century healthcare practices.

The first phase of the project included construction of the Clinical Support Building at BC Children's Hospital which opened in November 2012, three additional beds for the Neonatal Intensive Care Unit, additional space for the UBC Medical School and numerous renovation projects within existing buildings on campus to decant the A-wing and L-wing of the Shaughnessy building.

This project report deals with the procurement process for the BC Children's and BC Women's Redevelopment Project Phase 2 (the Project).

Phase 2 includes the construction of the Teck Acute Care Centre (Teck ACC), which was named in recognition of the $25 million that Teck Resources Limited has contributed to the BC Children's Hospital Foundation' capital campaign. The Teck ACC will be a bright, modern facility with single-occupant patient rooms, access to natural light and gardens. It includes medical/surgical inpatient units, an emergency department, medical imaging and procedural suites, a hematology/oncology department and a pediatric intensive care unit for BC Children's Hospital. The Teck ACC also includes a high-risk labour and delivery suite and a new neonatal intensive care unit for BC Women's Hospital + Health Centre.

Phase 3 will expand services for women and children at BC Women's Hospital + Health Centre, and Sunny Hill Health Centre for Children will be moved from its current site on Slocan Street to the main hospital campus on Oak Street.

The total nominal cost of the three-phase Redevelopment Project is estimated at $678 million. The total nominal capital cost of Phase 2, including elements within and outside of the PPP arrangement, is estimated to be $543 million. This number includes capital design and construction costs plus equipment, procurement, implementation and reserves.

The decision to use the design, build, finance and maintain (DBFM) partnership delivery method was based on a thorough analysis of procurement options. The analysis undertaken indicated project objectives could best be met and value for money could be achieved by using the partnership method.

In April 2014, following a competitive selection process based on the principles of openness, transparency and fairness, the Authority entered into a performance-based, fixed price Project Agreement with Affinity Partnerships (the private partner) to deliver the Project. Affinity Partnerships will design, build, partially finance and maintain the Project for a term of 33 years, which includes the approximate three-year construction period.

Affinity Partnerships submitted a strong proposal and its design for the Teck ACC has many features that will contribute positively to patients, families and care providers. For instance, Affinity Partnerships' solution reduces travel distances, which improves the delivery of patient care by maximizing provider to patient contact time. The separation of various movements such as patient, supplies and materials reduces the risk of infections throughout the facility and enhances the experience of the patient and family. Private rooms provided for all patients speed up patients' recovery and improve privacy. Affinity Partnerships' solution optimizes natural and borrowed light, which contributes to the healing environment.

Once construction of the facility is complete, Affinity Partnerships will provide a range of life cycle and facilities management services over the 30-year operating term of the agreement including plant services, housekeeping and waste management, help desk and utility management. Affinity Partnerships will receive a monthly service payment for these services. Those payments will be based on performance, facility availability and service quality. Service payments may be reduced if Affinity Partnerships does not meet the high-quality standards contained in the Project Agreement.

The final partnership agreement between the Authority and Affinity Partnerships is estimated to achieve a net present cost (NPC) value for money of $54.3 million compared to a traditional procurement method. Additional benefits from the DBFM delivery model include:

- Competition and innovation
- Schedule certainty
- Cost certainty
- Integration
- Life cycle maintenance

PHSA will retain responsibility for all health care delivery at the Teck ACC and all health care services will continue to be publicly funded in accordance with the Canada Health Act. PHSA will own the Teck ACC over the life of the Project.

Teck Acute Care Centre

2. Project Benefits and Key Features

The BC Children's and BC Women's Redevelopment Project Phase 2 will provide an eight-storey, approximately 59,400-square-metre Teck ACC. The new facility puts patients first by incorporating advances in medical technology, improving service efficiency and creating better working environments for health professionals. It includes medical/surgical inpatient units, an emergency department, medical imaging and procedural suites, a hematology/oncology department and a pediatric intensive care unit for BC Children's Hospital. The Teck ACC also includes a high-risk labour and delivery suite and a new neonatal intensive care unit for BC Women's Hospital + Health Centre. Key features of the Project include private single-patient rooms, efficient design and environmental benefits, and the use of natural light and green space.

2.1 Private Single-Patient Rooms

Conclusive evidence has shown that young patients recover faster if their loved ones are close by. The Teck ACC will feature single patient rooms that will allow a parent or family member to stay overnight as an added physical and emotional support for the patient. Sufficient space for a comfortable bed and storage is provided for a parent in addition to patient space and a health-provider zone. In addition to healing benefits, private single-patient rooms improve infection control and patient confidentiality.

2.2 Natural Light and Green Space

Natural light and green space have been proven to enhance healing and reduce a patient's length of stay in hospital. Natural and borrowed light will be optimized and incorporated throughout the new Teck ACC, and wherever possible, patient rooms will have windows allowing for natural light.

2.3 Efficient Design

Each department has been designed to maximize efficiencies. Departments that see the same patients are located close to one another to minimize the movement of patients and streamline traffic flows of supplies. Decreased travel distances for frequent travel paths result in faster response time, enhanced staff efficiency and the overall improvement of health and wellness of staff and patients. Excellent separation of flows support best infection control practices as well as improvement to the patient experience. The design also features improved line of sight capabilities that will enable staff to easily monitor and ensure safety in patient areas.

2.4 Use of Wood

In keeping with B.C.'s Wood First Act, Affinity Partnerships' design embraces the use of wood throughout the interior and exterior of the facility. This will create an aesthetic that is a warm and welcoming, befitting a facility dedicated to healing.

2.5 Environmental Benefits

The Teck ACC will be green and energy efficient. It will be constructed to attain Leadership in Energy and Environment Design (LEED®) Gold certification, ensuring a high-level of sustainability is achieved for the building. Expected benefits from the design include abundant natural light, reduced energy consumption and water use. In addition, a reduction in the cost of operating the facility is expected throughout the life of the facility.

2.6 Economic and Labour Benefits

The Project will provide a boost to the local economy and create family supporting jobs, generating approximately 2,000 direct and 1,250 indirect jobs during construction.[1]

[1] Job number estimates by the Ministry of Health

3. Project Background, Guiding Principles, and Scope

3.1 Background

BC Children's Hospital and BC Women's Hospital + Health Centre are provincial resources for the coordination and delivery of care to the most acute, complex patients and their families. For more than 50 years, the children and women of British Columbia have benefitted from the specialized care provided through programs and services at BC Children's Hospital and BC Women's Hospital + Health Centre.

Existing facilities were not designed to accommodate the increasing volume of women and children who require specialized care to deal with complex and critical illness. The three-phase, multi-year BC Children's and BC Women's Redevelopment Project will ensure sufficient capacity to meet the needs of a growing population and provide facilities that support 21st century healthcare practices.

Phase 1 included the addition of three neonatal intensive care beds, construction of a new Clinical Support Building, renovations to existing buildings, expanded space for the UBC Faculty of Medicine and numerous renovation projects within existing buildings on campus to decant the A-wing and L-wing of the Shaughnessy building.

Phase 2 includes the construction of the Teck ACC, which includes medical/surgical inpatient units, an emergency department, medical imaging and procedural suites, a hematology/oncology department and a pediatric intensive care unit for BC Children's Hospital. The Teck ACC also includes a high-risk labour and delivery suite and a new neonatal intensive care unit for BC Women's Hospital + Health Centre.

Phase 3 will expand services for women and children at BC Women's Hospital + Health Centre, and Sunny Hill Health Centre for Children will be moved from its current site on Slocan Street to the main hospital campus on Oak Street.

Main Lobby

The total nominal cost of the three-phase Redevelopment Project is estimated at $678 million. The total nominal capital cost of Phase 2, including elements within and outside of the PPP arrangement, is estimated to be $543 million. This number includes capital design and construction costs plus equipment, procurement, implementation and reserves. The BC Children's Hospital Foundation will be contributing approximately $144 million to Phase 2 of the redevelopment project.

3.2 Guiding Principles

The Authority developed the following guiding principles for the Project:

- Reflect patient and family-centred care philosophy;
- Reflect the culture and core values of BC Children's, BC Women's and UBC;
- Maximize operational efficiency; and
- Ensure environmental sustainability.

3.3 Scope of the Project

The BC Children's and BC Women's Redevelopment Project Phase 2 includes the demolition of the A-Wing and L-Wing of the existing 74-year-old Shaughnessy building, site preparation for and construction of the new Teck ACC, and renovation of the BC Women's Urgent Care Suite/ Assessment Room in the 1982 building, the latter to be undertaken through a separate construction management agreement.

The Teck ACC will be approximately 59,400 square metres and will include the following:

- A pediatric intensive care unit with a focus on single-patient rooms that provide enough space for a parent to stay overnight;
- A neonatal intensive care unit providing 70 bassinettes in 70 single-patient rooms;
- A high-risk labour and delivery suite with single-patient rooms close to operating rooms, providing enough space for a partner to stay overnight;
- A hematology/oncology department for integrated inpatient and outpatient services;
- Medical imaging and procedures suites with the capability of ultrasound, MRI and CT;
- An emergency department with more single-patient rooms and dedicated space to address the needs of children with mental health issues;
- Two floors of medical/surgical inpatient units;
- Integrated space in all clinical areas to accommodate medical students, residents, nursing students and other health professional trainees; and
- An additional 180 underground parking stalls.

4. Project Delivery Options

In accordance with the Province's Capital Asset Management Framework (CAMF), Partnerships BC, supported by the BC Children's and BC Women's Redevelopment Project Team, undertook a procurement options analysis to determine an optimal procurement method for the BC Children's and BC Women's Redevelopment Project Phase 2.

4.1 Methodology

The evaluation of procurement options is mainly concerned with identifying the method of delivering the project that will result in the greatest value for money on both a financial (quantitative) and qualitative basis. In financial terms, value for money is established by calculating the estimated cost of a project, based on a particular partnership procurement method, and comparing it to the estimated cost if the project were procured using another method.

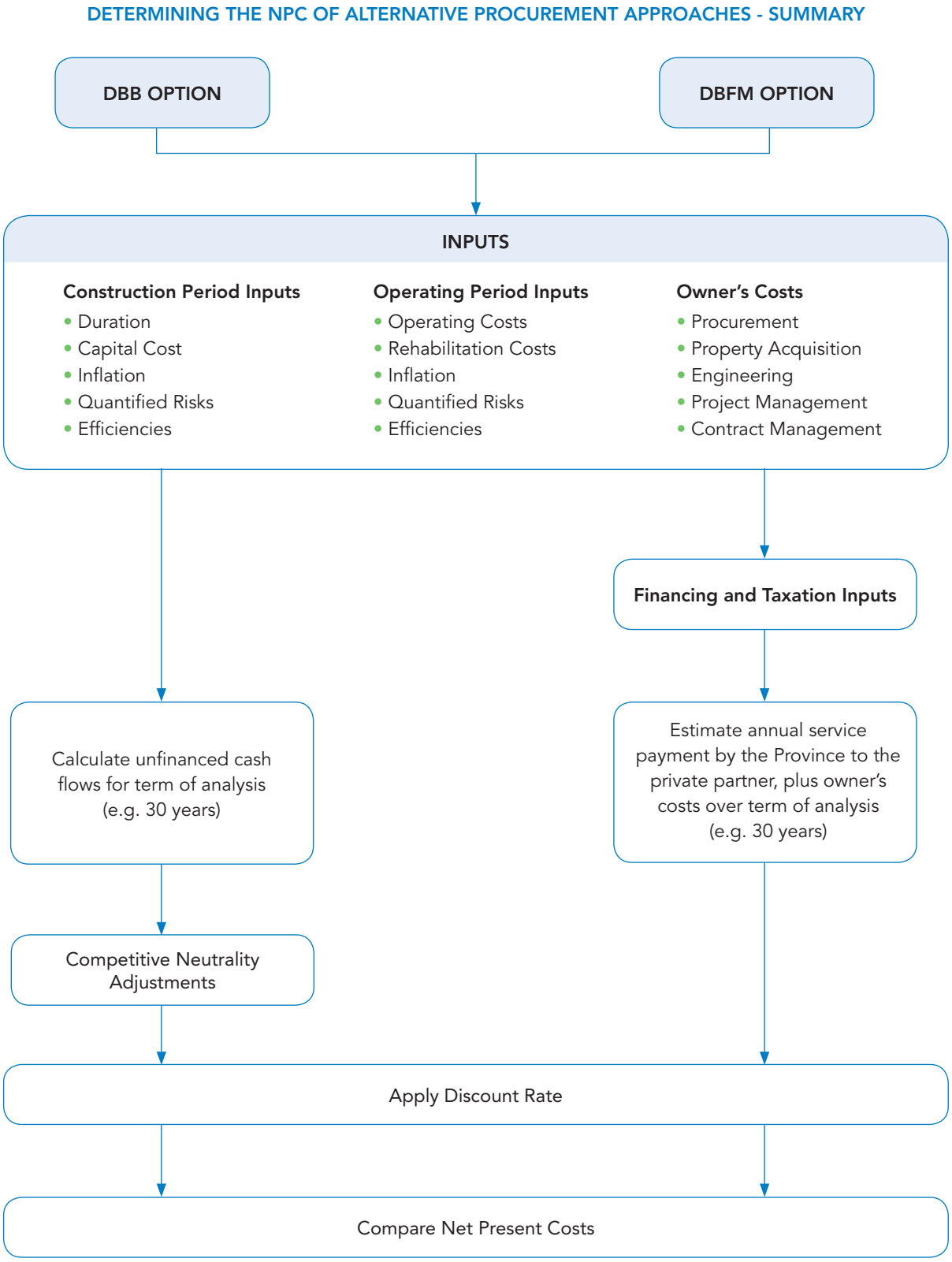
The evaluation of procurement options involves two main steps. The first step identifies key procurement objectives, and provides a qualitative assessment of a wide range of available procurement options including both traditional and partnership methods. The assessment of these procurement options is intended to identify the two procurement methods most relevant to the project, which then form the basis of comparison.

The second step in the assessment involves a more detailed, quantitative analysis that compares the two methods. A comprehensive risk analysis is conducted and financial models representing the two procurement methods are developed and compared. Both procurement methods consider detailed financial inputs that reflect key project components during the construction and operating periods, as well as associated public sector costs under each option.

To ensure that a complete comparison is being made, the analysis also considers inputs that address financing and taxation issues along with adjustments to ensure Competitive Neutrality that include items such as how each model accounts for insurance costs. Without these adjustments, some costs may be understated in some areas and consequently would not reflect the true cost to government. When the procurement models being compared result in significantly different cash flows, a discount rate is applied to the projected future cash flows to facilitate an accurate comparison of the two approaches in present day dollars. Discounting allows procurement methods with different cash flow impacts—such as all payments made in the first year of a 15-year period versus payments spread over the 15 years—to be compared on a like-for-like basis. Comparing competing options in this way provides an objective means of determining the approach that provides the best value in terms of cost.

The results of this quantitative comparison between the two procurement methods, together with the qualitative criteria, are used to determine the method that is expected to provide the best potential value for money.

The following graphic illustrates the financial modeling approach used to compare procurement models.



4.2 Project Procurement Objectives

Procurement options were carefully considered through the development of procurement objectives based on the project objectives. The following procurement objectives were developed by the project team to provide guidance in the selection and analysis of procurement options:

- Schedule certainty
- Cost certainty
- Asset performance throughout life cycle
- Adaptability of final design to meet user requirements
- Overall value for money

4.3 Procurement Options Analyzed

The Authority and Partnerships BC analyzed two procurement delivery options for the project: Design Bid Build (DBB) and Design Build Finance and Maintain (DBFM). The two options are described below:

Design Bid Build (DBB): The Authority would engage an architect to develop a detailed design (working drawings) for the facility. The architect would complete the working drawings and then the Authority would issue a tender call for a construction contract. The lowest qualified price would be selected and an industry standard construction contract would be used. The construction contractor would take responsibility for construction to the specifications detailed in the working drawings developed for the Authority by its architect. The Authority would remain responsible for errors and omissions in the design and would make monthly progress payments to the contractor. Once construction of the facility is completed, the Authority would take possession and maintain and operate the facility for its entire lifespan.

The Authority would retain key design and construction risks, such as schedule, construction cost and life cycle maintenance costs. Separate parties would design, build and maintain the various components of the facility.

The Authority would be responsible to coordinate the involvement of design and maintenance groups. In the past, the Authority has successfully delivered projects on time and on budget using the DBB model.

Team Care Station

Design Build Finance Maintain (DBFM): This partnership delivery model involves a two-stage competitive selection process. The first stage is a Request for Qualifications (RFQ), whereby Respondent teams would submit qualifications to be received and evaluated, resulting in a shortlist of Proponent teams. The second stage invites the Proponent teams to submit proposals as part of the Request for Proposals (RFP) process. At the RFP stage, the Authority would provide performance specifications and seek proposals from the Proponents to design, build, finance and maintain the facility.

The project team would evaluate these proposals to determine a Preferred Proponent with which it would enter into a final Project Agreement. Under the Project Agreement, the successful proponent would be required to design, build, partially finance and maintain the project over the specified term of the agreement.

Performance payments would be made monthly to the private partner over the life of the agreement, at a fixed rate determined at Financial Close. Payments only commence once the facility is completed. To ensure that the private partner receives full payment, they must meet defined and measurable performance and availability standards on a continuous basis. The DBFM approach provides a financial structure that aligns the incentives of the private partner and the Authority. Under the DBFM option, the private partner would be responsible for:

- Arranging partial project financing, including equity, for facility construction and maintenance over a specified term (33 years, which includes an approximate three-year construction period);
- Designing and building the facility; and
- Maintaining the facility over the life of the Project Agreement and handing it back at the end of the contract term in the prescribed condition.

4.4 Results of the Procurement Options Analysis

Based on the procurement options analyzed, the DBFM method was determined to be the preferred procurement option, expected to best meet the Authority's procurement objectives and overall project objectives.

4.5 Achieving Value for Money

Value for money is a term that captures both the quantitative and qualitative benefits that are expected to be achieved by the decision to deliver the project using the partnership method. Quantitative value for money is achieved through the lower project cost resulting from a particular procurement method. Qualitative value is achieved when a particular procurement method is best able to support the broader objectives of a project.

PARTNERSHIP PROJECTS TYPICALLY PROVIDE THE FOLLOWING QUALITATIVE BENEFITS

- **Competition and innovation:** The competitive nature of the bidding process encourages the private partner teams to develop innovative solutions in all aspects of the project from design and construction through to operations.
- **Schedule certainty:** The private partner receives a significant portion of their payment through monthly availability payments once the facilities are available for use, thereby providing a financial incentive to complete the project on time.
- **Cost certainty:** The Project Agreement is a fixed price contract.
- **Integration:** The private partner is responsible for the design and construction, maintenance and rehabilitation of the facility. This creates opportunities and incentives to integrate these functions to optimize performance of the facilities over the duration of the Project Agreement.
- **Life cycle maintenance:** The private partner is responsible and accountable for ensuring the facilities are maintained and rehabilitated over the duration of the Project Agreement otherwise the Annual Service Payment may be reduced.

5. Competitive Selection Process

A two-stage, competitive selection process was undertaken for the BC Children's and BC Women's Redevelopment Project[2]. During the RFQ stage, respondents were asked to present their qualifications for the Project. Seven teams responded to the RFQ. A shortlist of three Proponent teams was selected and invited to participate in the RFP stage process. The teams that were shortlisted are described below.

PROPONENT	DESIGN	CONSTRUCTION	FINANCING	FACILITIES MANAGEMENT
Affinity Partnerships	• ZGF Architects LLP • CEI Architecture	• Balfour Beatty Construction LLC • Ledcor Design-Build (B.C.) Inc	• Balfour Beatty Investments • Ledcor Developments Ltd	• Balfour Beatty Communities • Black & McDonald Limited
Oak Street Health Partners	• IBI Group • HKS Architects Ltd	• Laing O'Rourke Canada Limited • Graham Design Builders LP	• Innisfree Limited • Laing O'Rourke pls • Gracorp Capital Advisors Ltd	• Serco Facilities Management
Plenary Health	• Stantec Inc	• PCL Constructors Westcoast Inc.	• Plenary Group	• Johnson Controls Canada LP

The RFP required each Proponent to submit a proposal to design, build, partially finance and maintain the Project under the Affordability Ceiling. The Affordability Ceiling was set by the Authority to ensure the project was affordable once proposals were received from Proponents.

During the RFP stage, collaborative and topic meetings were offered so that each team had the opportunity to discuss issues or concerns related to commercial, legal, design and construction and facilities management matters. Prior to the closing date for submissions, a final draft Project Agreement was issued and it served as the common basis for all proposals.

The timeline of the competitive selection process is outlined in the table below.

PROCUREMENT STAGE	TIMING	OUTCOME
RFQ	January 2013 to February 2013	The project was marketed locally, provincially, nationally and internationally. Submissions from seven respondents were evaluated and the following shortlist of three teams was announced March 2013: • Affinity Partnerships • Oak Street Partners • Plenary Health
RFP	March 2013 to December 2013	The three shortlisted teams submitted proposals.
Selection of Preferred Proponent	January 2014	After evaluation of the proposals, Affinity Partnerships was selected as the Preferred Proponent.
Project Agreement Finalization	April 2014	The Project Agreement was signed by the Authority and Affinity Partnerships

[2] The RFQ and RFP procurement documents are publically available at www.partnershipsbc.ca

5.1 Evaluation of Proposals

The overall objective of the evaluation was to select the proposal that best met the requirements of the RFP and achieved value for money. The Project Board appointed an evaluation committee to evaluate the proposals based on the criteria set out in the RFP and to recommend a Preferred Proponent. The evaluation work was completed in two stages: evaluation of technical submissions and evaluation of financial submissions.

First, the evaluation committee determined whether Proponents' technical submissions contained any material non-compliances and whether they satisfied the mandatory requirements of the RFP and the final Project Agreement. Each team that provided a technical submission that met the mandatory requirements of the RFP was invited to provide a financial submission. Following rigorous evaluation of all teams' technical submissions, the evaluation committee recommended that two teams be invited to submit financial submissions.

Both Proponents' financial submissions were below the Affordability and Capital Cost Ceilings and substantially satisfied the financial requirements. The financial requirements included the provision of sufficient financing and a robust and deliverable financial plan, and the ability to raise sufficient capital and be a financially viable entity.

The Net Present Cost (NPC) of each Proponent's submission was adjusted for evaluation purposes as per the RFP, including the scored elements identified in Section 5.3 of this report, and the result was that Affinity Partnerships had the lowest adjusted NPC. Therefore the Evaluation Committee recommended that the Project Board select Affinity Partnerships as the Preferred Proponent, and Project Board accepted that recommendation.

5.2 Affordability Ceiling and Scope Ladder

In a DBFM, the private sector partner is paid an Annual Service Payment (ASP) consisting of the initial capital costs (e.g. design and construction), operational costs (e.g. facility management), major repairs and replacement of building elements (e.g. the roof) throughout the term of the Project Agreement. All of these costs are captured in the net present cost (NPC) of the project. The Affordability Ceiling is the NPC of the maximum government will pay in Annual Service Payments over the life of the project.

To ensure the Authority received affordable proposals, it was mandatory for the cost of proposals to be equal to or lower than the Affordability Ceiling. For the BC Children's and BC Women's Redevelopment Project Phase 2, the Affordability Ceiling was set at $416.2 million NPC.

A Scope Ladder was introduced to provide a means for Proponents to meet the Affordability Ceiling by providing scope reduction steps outlined in the RFP. A Proponent could propose to reduce the scope of the Project by one or more of the scope items set out in an approved list. Proponents proposing reductions to the scope of the Project were asked to limit their proposed reductions to items identified by the Authority in the Scope Ladder, and reductions could only be made in the order set out therein. An example of a Scope ladder item was the combination of two playrooms for Oncology into one centralized location. Neither of the Proponents that were invited to submit a Financial Submission used any of the Scope Ladder items.

The winning proposal received from Affinity Partnerships met the Affordability Ceiling and delivers the BC Children's and BC Women's Redevelopment Project Phase 2 scope in its entirety, without reduction, as outlined in the Project Agreement.

5.3. Scored Elements Criteria

The BC Children's and BC Women's Hospital Redevelopment Project Phase 2 is the second health care project in B.C. to use scored elements methodology. Scored elements enable the Authority, during evaluation of submissions, to allocate extra "points" to submissions with clinical design elements that optimize the design over and above the compliance requirements in the RFP.

Proponents could score additional points for submitting a clinical design that optimized travel distance and corridor efficiency, separation of flows, line of sight, natural light and standardization. These categories were developed using evidence-based patient outcomes.

The use of scored elements methodology achieved an optimized clinical design as intended. The following highlights outline some of the clinical design achievements in the Affinity solution:

1) Decreased travel distances resulting in faster response time, staff efficiency and overall improvement in health and wellness of staff;
2) Excellent separation of flows, supporting best infection control practices and improved patient experience; and
3) Improved line of sight capabilities ensuring that staff can easily monitor the status and ensure safety in patient areas.

5.4 Fairness Advisor

A fairness advisor, Jane Shackell Q.C., Miller Thomson LLP was engaged to monitor the competitive selection process and offer an assessment about the procedures and whether the selection process was carried out in a fair and reasonable manner. The fairness advisor was provided access to all documents, meetings and information related to the evaluation processes throughout both the RFQ and RFP stages.

The fairness advisor issued reports for both the RFQ and the RFP stage of the competitive selection process. In her report on the RFP process, the fairness advisor concluded that, "I am satisfied that the procurement process as described in the RFP was fair, reasonable and appropriate, and that the Project Team reasonably implemented and complied with that process."

The fairness advisor's reports are publicly available at www.partnershipsbc.ca

5.5 Due Diligence Committee

A two-person due diligence committee monitored the entire competitive selection process to ensure it was conducted with appropriate due diligence. The committee:

- Reviewed evaluation material;
- Reviewed the evaluation framework of the RFQ and RFP;
- Examined whether the evaluation of submissions was consistent with the process outlined in the procurement documents; and
- Confirmed that the Evaluation Committee reached a consensus in its decisions.

The due diligence committee found that the competitive selection process was conducted appropriately.

5.6 Competitive Selection Costs

The cost of the competitive selection process is factored into the value for money analysis. The total competitive selection cost for the Project from approval of the Business Plan to Financial Close is $16.1 million, including the cost of developing performance specifications, preparing procurement documentation, obtaining advice from external advisors and partial compensation of $500,000.

Partial compensation can encourage competition, ensure the quality of proposals submitted, secure access to intellectual property and mitigate costs incurred by Proponents in developing their proposals.

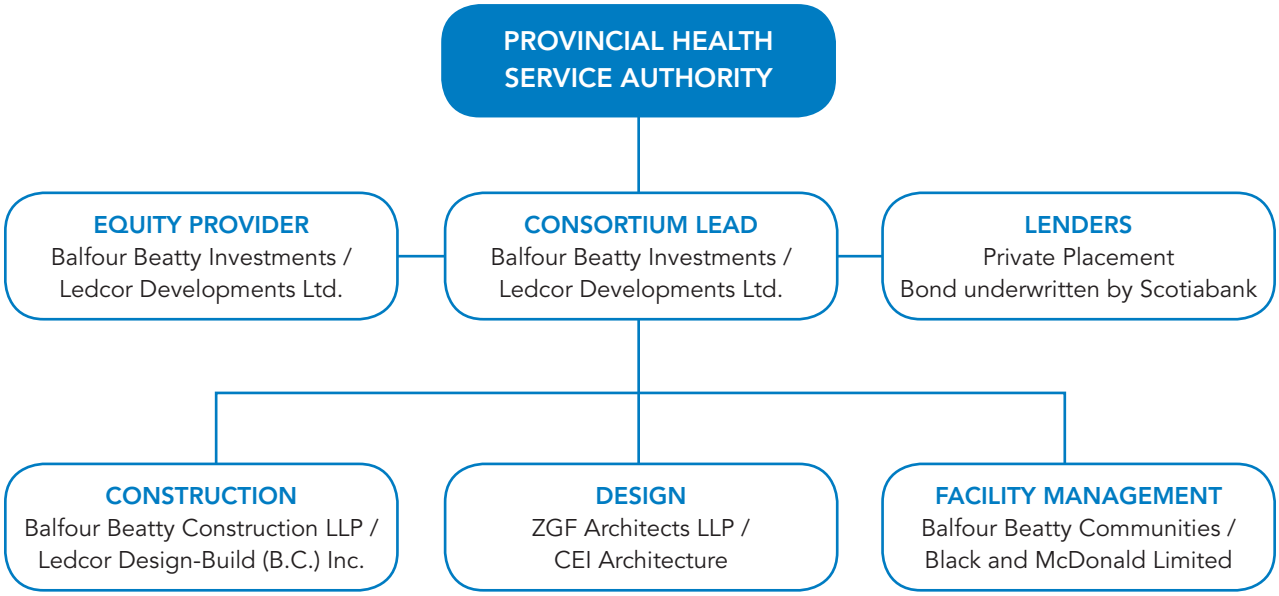
6. The Final Project Agreement

QUICK FACTS	
Private partner	Affinity Partnerships
Facility Owner	Provincial Health Services Authority
Provincial contributions to capital cost (nominal)	$182.3 million
Construction Complete	2017
Term of the Project Agreement	33 years, including construction
NPC of Annual Service Payments	$289.9 million

6.1 Profile of the Private Sector Partner

Affinity Partnerships is the private partner for the BC Children's and BC Women's Redevelopment Project Phase 2. Affinity Partnerships is a consortium of companies qualified through the RFQ process and consisting of the following key members identified in Figure 1 below.

FIGURE 1: RELATIONSHIP BETWEEN PHSA AND AFFINITY PARTNERSHIPS



6.2 Key Terms of the Project Agreement

Under the terms of the Project Agreement, Affinity Partnerships is responsible for the following:

- Arranging financing for a portion of the construction cost and operating the facility for a specified term (construction plus 30-year Operating Period);
- Designing and building the facility;
- Providing facility management services including:
  - Housekeeping and waste management services;
  - Plant services; and
  - Helpdesk services.
- Maintaining the facility over the 30-year operating phase and returning it in a fully maintained condition at the end of the Project Agreement term; and
- Obtaining LEED® Gold certification within 36 months of the Service Commencement date of the facility.

6.3 Performance-Based Payment Principles

During construction, the Authority will make construction payments based on a percentage of the eligible construction costs incurred by Affinity Partnerships in a specific month as certified by an Independent Certifier.

Affinity Partnerships is incented to perform through a payment mechanism based on the principles of performance, facility availability and service quality. Once construction is complete and service commencement has been achieved, Affinity Partnerships will begin receiving an Annual Service Payment from the Authority. These payments will be made monthly and are based on the facility availability and the quality of facility maintenance services provided by Affinity Partnerships. The performance of Affinity Partnerships will be continuously monitored based on key performance indicators. If the performance standards in the Project Agreement are not met, the Authority may apply deductions to the Annual Service Payment.

Payment deductions are based on the severity of the failure to meet the performance indicator, the importance of the room or department area affected, and the level of unavailability. An unavailability deduction applies when a functional unit (room or department) fails to comply with the condition specified in the Project Agreement. For example, if the temperature or humidity of a room is outside a predetermined range, that room would be considered unavailable.

6.4 Adjustments to Annual Service Payments

The Annual service payment may be adjusted to reflect specific circumstances as defined in the Project Agreement, including:

- **Indexation:** The capital component of the annual service payment will not be indexed. The facility maintenance (FM) services component and life cycle costs and Service Payments are indexed by the Consumer Price Index (CPI).
- **Changes:** If the Authority requires the private partner to make a physical change or amend the services, the Authority can pay the cost up front or have the cost financed. If the Authority chooses to have the change financed, the cost will be reflected in an amended Service Payment.
- **Change in Law:** If there is a change in law targeted at hospitals, the ASP may be amended to leave the private partner in no better or worse position than if that change in law had not occurred.
- **Compensation Events:** Any compensation payable for a compensation event is provided by a lump sum payment or as an adjustment to Service Payments.
- **Life Cycle:** The life cycle costs are not uniform throughout the term of the contract and the lifecycle component of cost will fluctuate. This does not affect the ASP which has a non-indexed portion and an indexed portion which grows only by inflation. The underlying base amount does not change.
- **Market Testing:** The housekeeping and elevator services will be market tested on a six year basis.

6.5 Risk Allocation Summary

The Project Agreement includes detailed risk allocation provisions over the construction period and 30-year operating term. This approach transfers key risks to Affinity Partnerships—such as construction, cost and schedule—and adds value through design and private sector innovation.

The table below summarizes key risk allocation retained by the Authority, transferred to Affinity Partnerships and shared between the two parties.

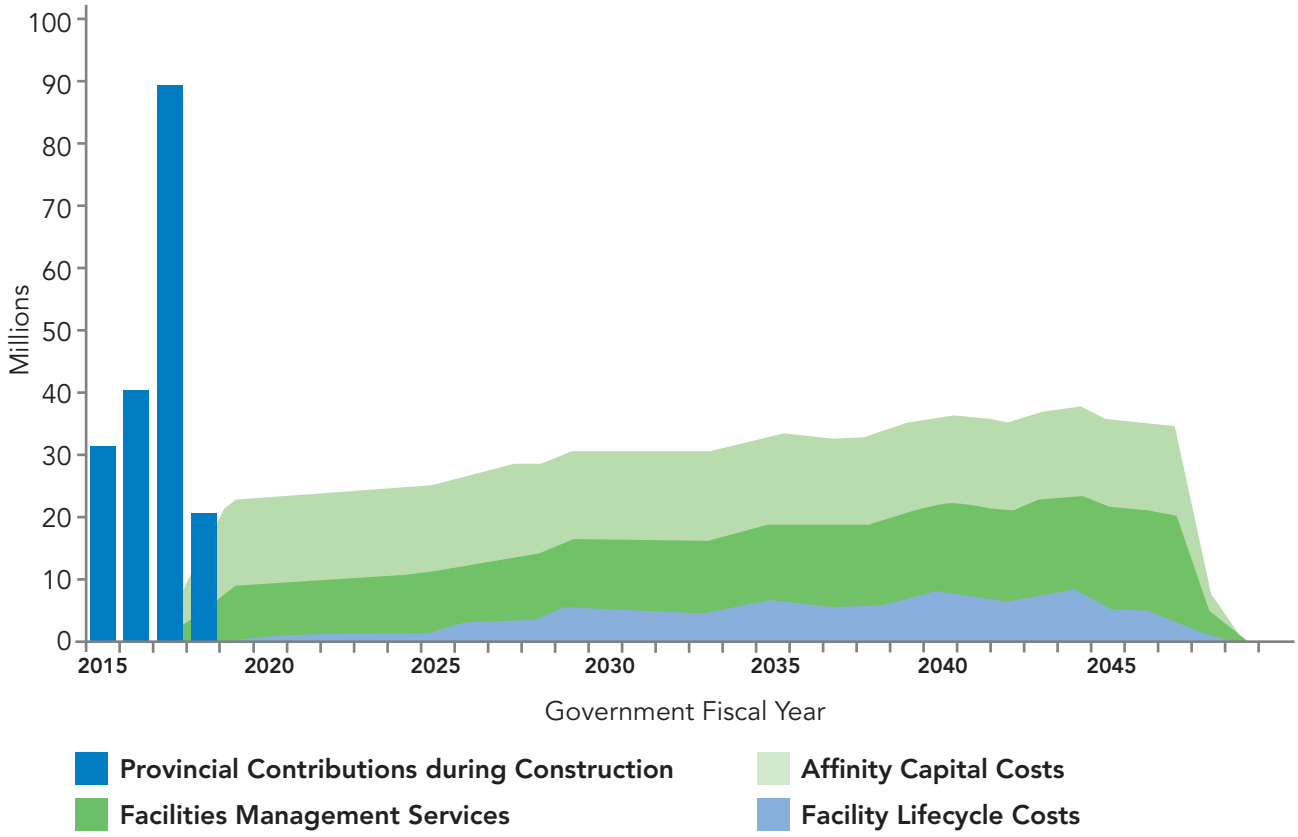
AUTHORITY RISKS	SHARED RISKS	AFFINITY PARTNERSHIPS RISKS
Ownership of the facility	Force Majeure	Design
Program Delivery	Change in law	Construction Cost and Schedule
Utility unit costs	Unforeseeable site conditions at A and L wings of Shaughnessy Building (pre-existing)	Financing
Contaminated Soil (Pre-existing)	Equipment Availability	Commissioning
Cost of equipment where owner controls selection or purchase	IMIT Integration	Maintenance
Owner Initiated Scope Changes		Inflation risk Life cycle Facility energy efficiency LEED Gold Certification Geotechnical City approvals for demolition of A and L wings of Shaughnessy Building Development Permit/Occupancy Permit

The risk allocation is supported by the following provisions in the Project Agreement:

- Affinity Partnerships will only start receiving Annual Service Payments from the Authority when an Independent Certifier confirms the conditions for Service Commencement have been achieved, thus providing an incentive to complete construction on time and on budget;
- The expiry date of the Project Agreement is fixed, so any delays in completing construction will reduce payments to Affinity Partnerships, providing them with a strong incentive for timely construction completion; and
- Provisions are in place to reduce the Annual Service Payment if Affinity Partnerships does not meet the performance standards in the Project Agreement for facility availability and maintenance.

6.6 Financial Summary

The graph below demonstrates the cash flows to Affinity Partnerships that meet the Affordability Ceiling as defined in the RFP. The graph is expressed in nominal dollars and assumes 2.5 per cent inflation for facilities management and life cycle costs. Payment projections assume no penalties or deductions.



6.7 Quantitative Benefits

The estimated NPC of the Project delivered using a DBB approach is $525.8 million. The estimated NPC of the Project delivered using the DBFM approach and Affinity Partnerships' proposal is $471.5 million. A comparison of these numbers is provided below. In financial terms, the final Project Agreement is estimated to achieve a NPC value for taxpayers' dollars of $54.3 million when compared to the alternative procurement option.

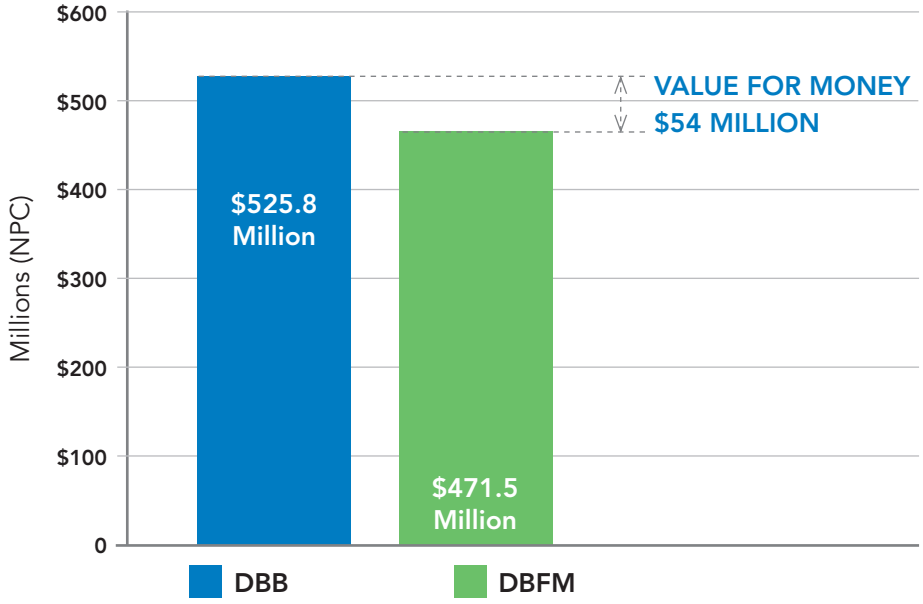
TABLE 1: VALUE FOR MONEY TABLE

NET PRESENT COST (millions)	FINAL PROJECT COST	DBB OPTION
Annual service payments to Affinity Partnerships	289.9	
Capital costs		308.0
Provincial construction payments	159.1	
Life cycle and operating costs		147.2
Risk adjustment		47.9
Project management costs, including GST, insurance and procurement	22.5	22.7
Total	**471.5**	**525.8**
Cost differential	54.3	
Percentage savings	10.3%	

A number of factors contributed to the value for money achieved for the Project. Competitive construction pricing and an early completion date were among the significant factors. A fast track construction schedule resulted in part from the private partner's proactive approach to demolition and their confidence in the development permit process achieved through extensive municipal collaboration organized by PHSA. The private partner's efficient floor plan was developed using the LEAN principles established by PHSA and then enhanced to meet the project's scored elements evaluation, and is expected to result in lower operating costs and minimized infection risk, further contributing the VFM. Integration of the design, build and finance teams, and an efficient allocation of risk were also driving factors.

The value for money analysis was made following established methodology[3]. The NPC of the figures described above were developed using a discount rate[4] of 6.87 per cent at March 31, 2014, which represents the costs of capital over time, taking into account factors such as inflation and interest rates.

FIGURE 2: VALUE FOR MONEY - COST COMPARISONS



6.8 Accounting Treatment

B.C.'s Office of the Comptroller General, responsible for the overall quality and integrity of the Province's financial management and control systems, has established accounting guidelines for partnership projects.

Based on accounting guidelines, and for accounting purposes, the nominal capital costs associated with the PPP portion of the BC Children's and BC Women's Redevelopment Project Phase 2 is expected to be about $369 million. This figure includes the capital cost for the design and construction, the associated interest during construction, and Affinity Partnerships' bid development and financing costs. It does not include costs for Authority-purchased equipment, insurance, GST, the competitive selection process, implementation or contingencies. These costs are accrued to the Authority through the construction period as the costs are incurred.

[3] Partnerships BC's Discussion Paper: Methodology for Quantitative Procurement Options Analysis is publicly available at www.partnershipsbc.ca

[4] The discount rate used for the calculation of value for money (VFM) is 6.87 per cent. To test the impact of a change in the discount rate on the quantitative VFM proposition of the PPP model versus the PSC model, the modeling results were re-calculated assuming a discount rate 50 basis points higher and 50 basis points lower than the base discount rate. It should be noted that no change in the estimated value of risks was undertaken in conjunction with the change in discount rates used in the sensitivity analysis. A change in the discount rate, either higher or lower, would require a reassessment of the risks of the project. The results of the sensitivity analysis of the discount rate showed that the NPC of the final Project Agreement would have been approximately $48.2 million less than the PSC if the discount rate was 50 basis points lower, and about $58.8 million less if the discount rate was 50 basis points higher.

7. Ongoing Project Agreement Monitoring

The Project Agreement with Affinity Partnerships includes specific provisions to ensure project delivery, performance and quality standards are met. Monitoring spans every phase of the project, from Financial Close through design and construction, facility operations and maintenance. There are a number of major phases in the project monitoring schedule, with roles and responsibilities assigned to project participants at each stage.

7.1 Design and Construction Phase

The Project Agreement stipulates that both the Authority and Affinity Partnerships must appoint design and construction representatives. The Authority representative will review, approve, accept or confirm Affinity Partnerships' activities in accordance with the Project Agreement. The Authority representative is supported by a compliance team of professionals. The Authority representative and the compliance team will have full access to the construction site, drawings and specifications, and will report observations to the Authority regularly.

In addition, a Construction Period Joint Committee (CPJC) will be formed at the commencement of construction. The CPJC formalizes communications between the Authority and Affinity Partnerships with the purpose of providing a formal forum for the parties to consult and cooperate on all matters relating to the Project during construction. The CPJC is a requirement of the Project Agreement and will remain in place until construction is complete and service commencement has been reached.

In support of the aforementioned monitoring activities, the Authority and Affinity Partnerships have also jointly appointed an Independent Certifier who will monitor and report on construction progress, and provide certification that the conditions for service commencement have been achieved.

7.2 Operations and Maintenance Phase

The Project Agreement stipulates that both the Authority and Affinity Partnerships must appoint a representative to serve as a member of the Operating Period Joint Committee over the 30-year operating term of the agreement. The committee is a formal forum for the parties to consult and cooperate on all matters related to the facility during the operational term.

During the operations phase, Affinity Partnerships will provide the Authority with the following plans for review and approval:

- Life cycle report and start-up plan;
- Annual service plan and five year maintenance plan;
- Life cycle asset and rehabilitation plan;
- Environmental management plan; and
- Energy management plan.

7.3 Quality Management

The Project Agreement is designed to motivate Affinity Partnerships to ensure delivery, performance and high standards of quality given the monetary consequences of not achieving these requirements.

Affinity Partnerships is required to have a performance monitoring program in place during the operating period that will monitor the delivery of services. All reports and supporting data generated from this program are readily available to the Authority at any time for audit purposes. Monthly reports delivered to the Authority will contain a variety of information, including:

- A summary of calls made to the facilities management help desk and their resolution;
- A summary of unavailability events and service;
- A calculation of the monthly service payment owed to Affinity Partnerships; and
- A summary of all life safety actions and statutory testing (e.g. fire extinguisher inspections).

These reports allow for a thorough review and analysis on a monthly basis by the Authority to ensure the facility is performing as intended. It will also ensure building operations and conditions are consistent and achieving Project objectives established at the start of the Project. The reports provide key information that determines if the facility is being properly maintained in accordance with the performance standards set out in the Project Agreement.

There are strict penalties if Affinity Partnerships misrepresents the monthly report.

7.4 Hand-Back Requirements

At the end of the 30-year operating term, the facility must be in a condition that is consistent with the services and maintenance specifications in the Project Agreement. For example, it would not be acceptable for the building fabric to be failing, the flooring to be unreasonably worn or the general environment to be unkempt. Affinity Partnerships and the Authority will jointly appoint and pay for an independent party to inspect and survey the condition of the buildings in advance of the end of the project term. Affinity Partnerships is responsible for meeting the hand-back requirements at the end of the project term.

Keeping facility conditions up during the operations period through ongoing maintenance will ultimately lead to hand-back conditions being satisfactory.

7.5 Project Agreement Reviews

The Authority will review the Project Agreement at appropriate intervals from the start of operations. This review will focus on whether the Project Agreement is functioning as intended and whether the expected services and benefits are being realized. The intent is to ensure satisfactory performance and ensure administrative elements are being applied correctly.

7.6 Project Board

The Project Board was established in 2012 to provide guidance and oversight for the implementation of the project, including the traditional capital components. Members of the project board include representatives from the Ministry of Health, the Ministry of Transportation and Infrastructure; the Provincial Health Services Authority; and Partnerships British Columbia.

The Authority has assembled an integrated project management team that will be responsible for implementing the project through design, construction and operating period. The project team reports through the chief project officer to the Project Board.

8. Glossary of Terms

Affordability Ceiling: A number identified in the RFP representing the net present cost of the maximum government expects to pay in Annual Service Payments based on an assumed inflation rate of 2.5% over the life of the project.

Annual Service Payment (ASP): The mechanism by which a private partner in a PPP arrangement is compensated. According to performance standards specified in a Project Agreement, an ASP is paid to the private partner for capital and operating costs, as well as their required rate of return, over the term of the agreement.

Authority: Provincial Health Services Authority

Business Plan: Document prepared in British Columbia by the Authority demonstrating the need and cost/benefit of a project, in addition to supporting a procurement method and providing an overview of the accounting impacts that a project may have.

Capital Cost Ceiling: A number identified in the RFP representing the maximum capital cost proponents were expected to spend on designing, developing, financing and constructing the Project until Service Commencement.

Competitive Neutrality: A circumstance where competitive advantages that typically accrue to government as a result of public sector ownership are neutralized through a series of adjustments that permit a fairer comparison of non-public sector alternatives.

Discount Rate: A rate used to relate present and future dollars. Discount rates are expressed as a percentage and are used to reduce the value of future dollars in relation to present dollars. This equalizes varying streams of costs and benefits so that different alternatives can be compared on a like-for-like basis.

Financial Close: The point in the procurement process where negotiations with a preferred proponent are finalized and a Project Agreement is executed, allowing construction to begin.

Independent Certifier: An independent, third-party certifier engaged jointly by the Authority and the private partner to verify and certify whether certain conditions of the Project Agreement are being satisfied.

Life Cycle: The long-term requirements to maintain and rehabilitate an asset.

Net Present Cost (NPC): The value of periodic future cost outlays when they are expressed in current, or present day, dollars by discounting them using the Discount Rate.

Nominal Cost: Costs calculated in nominal terms at current prices recognizing adjustments for inflation.

Operations: The ongoing processes or activities of a practical or mechanical nature that are involved in running a facility, such as janitorial services in a building or snow removal on a roadway.

Partial Compensation: A payment made to unsuccessful shortlisted bidders in a RFP process as partial compensation for expenses incurred in submitting a proposal.

Performance Specification: Specifications developed by the Authority that define the output and performance levels required in relation to construction and life cycle performance of an asset, to ensure the completed project satisfies the objectives of a project with respect to meeting the Authority's service delivery needs.

Preferred Proponent: A proponent selected from a shortlist of bidders to enter into negotiations with the Authority to reach Financial Close and deliver a project.

Procurement Decision: The decision by the Authority to procure a project in a particular way to achieve value for money.

Project Agreement: The Project Agreement sets out the requirements for the delivery of an asset under a PPP in terms of cost, schedule and life cycle performance that typically govern the performance-based payment of the ASP to a private partner.

Public Private Partnership (PPP): A project structured using a long-term, performance-based agreement with a private sector partner to deliver and maintain an infrastructure asset, including significant upfront capital investment.

Request for Proposals (RFP): Document issued by the Authority for qualified Proponents to submit formal proposals to deliver a project.

Request for Qualifications (RFQ): Document issued by the Authority inviting parties interested in participating in an RFP, to submit their qualifications for delivering a project.

Retained Risk: Risks associated with delivering a project that are not transferred to the private partner under a PPP, representing a cost to the project regardless of the procurement approach.

Scope Ladder: Allows a Proponent to reduce the scope of the Project by one or more of the scope items set out in an approved list outlined in the RFP to meet the Affordability Ceiling.

Service Commencement: The date upon which the following activities have been achieved: the architect certifies substantial performance of the buildings; an occupancy permit has been issued and all construction commissioning activities are complete.

Traditional Procurement: Methods by which the public sector has traditionally procured projects in B.C, through design bid build (DBB), or a combination of DBB and design build (DB) contracts.

Transferred Risk: Risk associated with delivering a project that is typically borne by the public sector under traditional procurement that is transferred to the private sector under a PPP.

Value for Money (VFM): Also commonly referred to as value for taxpayer dollars, VFM describes the benefits to the public expected to be realized through a particular procurement method, which can be quantitative and/or qualitative in nature. Quantitative value for money is achieved through the lower cost of a project resulting from the procurement method, whereas qualitative value is achieved when a particular procurement method better supports the goals and objectives of a project without necessarily costing less.

Concourse

9. July 2017 Supplement to Project Report

The following table provides nominal cash flows that represent the underlying numbers used to create the net present costs in the Value for Money table in Section 6.7 of the Project Report. The cash flows in the following table have been annualized and include all categories of costs included in the Value for Money table in the Project Report. To clarify, the number in the Final Project Cost column includes both payments to the Project Co as well as all of the Province's costs (e.g. project management).They have not been updated for any changes to the Project Agreement or performance issues after contract execution. It is important to note that the cash flows used to derive the net present cost numbers for the DBB and Final Project Cost columns in the Value for Money table are based on a combination of monthly, quarterly and semi-annual cash flows. Discounting the annual cash flows will produce net present cost numbers, similar, but not exactly the same as in the Project Report. The calculation of net present cost numbers is dependent on the timing of the cash flows, so a difference in the net present cost numbers is to be expected.

FISCAL YEAR END (March 31)	FINAL PROJECT COST Cash flows for deal that make up Value for Money ($000s)	DBB OPTION Cash flows for deal that make up Value for Money ($000s)
2011	887	955
2012	2,309	2,429
2013	2,663	2,425
2014	2,173	1,343
2015	37,016	38,748
2016	44,029	112,811
2017	94,366	183,233
2018	38,817	77,815
2019	23,163	9,779
2020	23,746	10,071
2021	24,237	10,380
2022	24,824	11,042
2023	25,225	11,648
2024	25,464	12,664
2025	25,726	12,901
2026	27,160	12,459
2027	28,246	19,254
2028	28,721	22,416
2029	30,643	12,984
2030	30,697	13,338
2031	30,803	16,106
2032	30,611	20,727
2033	30,812	21,563
2034	32,189	14,888
2035	33,366	15,384
2036	33,311	16,068
2037	33,124	28,738
2038	33,506	38,382
2039	35,641	20,648
2040	36,732	17,657
2041	36,489	19,530
2042	35,674	28,023
2043	37,375	32,691
2044	38,222	44,166
2045	36,211	43,524
2046	35,896	29,612
2047	34,744	21,698
2048	8,694	17,082
2049	17	0

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Partnerships British Columbia Inc. PO Box 9478 Stn Prov Govt, Victoria, BC V8W 9W6 | www.partnershipsbc.ca