Te Whatu Ora
Health New Zealand

24 November 2022 Ref: OIA2022110402 / HNZ00006187

9(2)(a) [redacted]

Tēnā koe 9(2)(a) [redacted]

Official Information Act 1982 – OIA2022110402

I refer to your request under the Official Information Act 1982 (the Act) regarding staff and equipment for Te Wao Nui, the new Wellington Children's Hospital, which was received by Capital, Coast and Hutt Valley District (CCHV) on 4 November 2022:

> *2. Given the severe, on going staffing shortages in the NZ health sector , where are the skilled staff coming from to actually provide adequate care for patients within this new hospital?*
>
> *3. How do you plan to maintain / upgrade the equipment in this new hospital as needed?*
>
> *Can you please provide detailed copies of the business plans etc that went into planning and building this new hospital facility. You should be able to provide accurate details of all the key issues needed to successfully launch / run this new health facility.*
>
> *This comprehensive plan needs to be shown to all parliamentary parties, and should be open to the public. Failure to do so means that you have something to hide"*

District Health Boards were disestablished as legal entities on 1 July 2022 and Te Whatu Ora – Health New Zealand was established as a legal entity under the Pae Ora (Healthy Futures) Act 2022. Capital & Coast and Hutt Valley District Health Boards are now one district known as Capital, Coast and Hutt Valley District. Both locations share information, staff, many services and a single Interim District Director.

Our response to your request is outlined below.

Response

> *2. Given the severe, on going staffing shortages in the NZ health sector , where are the skilled staff coming from to actually provide adequate care for patients within this new hospital?*

The model of care in the new build does not requires additional nursing staff as there has been no change to the numbers of patients that can be cared for.
We will continue to advertise and recruit into positions as we have in the past. We are fully employed currently for both registered nurses and paediatricians.

3. How do you plan to maintain / upgrade the equipment in this new hospital as needed?

The equipment in the new build will be maintained through:

- CCHV's Clinical Equipment 'Safe Use and Testing policy' informed the selection and procurement of equipment.
- Clinical Engineering staff receive the equipment, acceptance test, label and record the item in the asset register that tracks maintanence and replacement
- Our Standard CAPEX replacement policy informs the process to replace /upgrade equipment.

4. Can you please provide detailed copies of the business plans etc that went into planning and building this new hospital facility. You should be able to provide accurate details of all the key issues needed to successfully launch / run this new health facility.

This comprehensive plan needs to be shown to all parliamentary parties, and should be open to the public. Failure to do so means that you have something to hide

Please find enclosed the final *Wellington Children's Health Services Full Business Case.*

If you have any questions, you can contact us at hnzoia@health.govt.nz.

If you are not happy with this response, you have the right to make a complaint to the Ombudsman. Information about how to do this is available at www.ombudsman.parliament.nz or by calling 0800 802 602.

As this information may be of interest to other members of the public, Health NZ intends to proactively release a copy of this response on Health NZ's website. All requester data, including your name and contact details, will be removed prior to release. The released response will be made available here.

Nāku ite noa, nā

John Tait MB BS, FRANZCOG, FRCOG
Interim District Director

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Wellington Children's Health Services Full Business Case

1 Document Control

1.1.1 *Document Information*

	Position
Document Owner	Roger Palairet, Project Manager for Business Case
File Name	Wellington Children's Health Services Business Case

1.1.2 *Document History*

Version	Issue Date	Changes
v.1.0		Based on the June Business Case; includes the initial financial projections based on emerging understandings of site development, construction, service delivery.
v.2.0	26 September 2017	Updated Economic and Financial Cases based on updated information. The scope of services has been decreased, with additional HDU and Child Assessment Unit services now reserved for later business cases.
v.3.0	2 October 2017 (10am)	Financial Case updated for revised assumptions on life of new building, donations, car parking, demolition, costs of utilities and service connections, lower CPI. Result is reductions in capital and off operational costs. Plus, new option of not demolishing Riddiford building.
v.3.1	2 October 2017 (12pm)	Updated for CE's comments, and see section 9.10 [Sensitivities and potential cost reductions] for issue of cost ranges. Per CE's comments, extra information may support the case: standards for paeds facility, case weight breakdown, WEISS, and if WCHC will fund the under-croft carpark.
v.4.0	9 October 2017	Updated for Executive Leadership Team comments, feedback from discussion held with Treasury and Ministry of Health, and updated cost information. No additional cost information is now expected until new tenders have been let.
v.4.1	9 October (2pm)	Issued to ELT for discussion at its meeting on 10 October.
v.4.2	13 October 2017	Incorporates updated material on risks and on potential IL3-4 costs.
v.4.3	20 October 2017	Revised financial section and economic section to incorporate all known cost estimates and provide categorisation of these estimates in section 8.11
v.4.4	27 October 2017	Amend recommendations and references to accounting treatment.
v.4.5	2 August 2018	Updated with current information and feedback.
v.4.6	30 August 2018	Revised Benefit section 5.2, updated costing tables and floor space
v.4.7	3 September 2018	Updated based on feedback from Portfolio Board meeting 3/9/18
v. 4.8	6 September 2018	Updates made based on signed development deed 5/9/18
v. 4.9	7 September 2018	Updates made based of final review and rechecking costing tables
v. 5.0	10 September 2018	Updates based on Portfolio feedback 10/9/18 and revision costing tables

v. 5.1	12 September 2018	Updated capital charge

1.1.3 Document Review

Role	Name	Review Status
Project Manager for Business Case	Roger Palairet	

1.1.4 Document Sign-off

Role	Name	Sign-off Date
Project Manager for Business Case	Roger Palairet	
Senior Responsible Owner/ Project Executive	Thomas Davis, General Manager Corporate Services, Senior Responsible Officer Children's Hospital Project	

2 Executive Summary

2.1 Overview

The proposal

Capital & Coast District Health Board (CCDHB) has been offered a very generous gift from Mr Mark Dunajtschik through the Wellington Children's Hospital Charity Limited (WCHC) with a donation of $50 million to develop a new children's hospital with a floor space circa 7,700 sqm.

It has become clear that the total building cost is greater than $50 million. WCHC's expectation was that it would provide a bare building for $50 million, and that CCDHB would pay for many of the elements of the proposed building that would normally be included by a developer or builder.

While WCHC was prepared to assume the risks of construction and construction cost escalation, WCHC did not fully appreciate the complexity of the requirements of a hospital-type building. The WCHC team has estimated the cost of completing the new Children's Hospital to be $84 million. This includes the "bare building", fixtures and fittings necessary to comply with the standards that apply to hospital buildings as well as elements such as security systems and a nurse call system.

To give effect to the offer to assume the risk of construction cost escalation, WCHC has offered to meet: any additional costs of building the new Children's Hospital beyond the initial $50 million provided by WCHC and $34 million from CCDHB for the fittings, fixtures and equipment it considers necessary for a fully functioning Children's Hospital. This effectively establishes a maximum price for the building, and caps CCDHB's contribution at $34 million.[1]

CCDHB and WCHC signed a Development Deed on 4 September 2018 setting out the terms of the transaction. The Development Deed is attached as Annex D. The Development Deed is conditional on Crown funding support being provided to CCDHB.

WCHC has incurred design and project costs, and has pre-ordered seismic bearings and lifts. WCHC has also been allowed limited access to the site, but CCDHB will not fully hand the site over for work to begin until the Development Deed is unconditional.

The Next Steps and Recommendations sections of this Business Case set out what is required of the Crown for CCDHB to secure the WCHC's gift and to progress with the new Children's Hospital. Treasury

[1] There are two exceptions to WCHC's commitment to meet costs in excess of $84 million: it will not meet the costs of adverse currency changes from 28 August 2018 for items WCHC is importing directly, and it will not carry the cost of CCDHB variations to the agreed design.

rules and processes for capital business cases were not designed for the kind of philanthropy WCHC is offering.

Costs

The total cost of the programme of works (including the cost of the building, preparatory works, contingencies and all associated works) is estimated to be $107.6 million. If the construction costs of the building are higher than $84 million, that will be WCHC's risk.

The $84 million cost of the new Children's Hospital (including $34 million from CCDHB) does not cover all the project costs for CCDHB. It only covers the cost of the actual building (plus the link bridge to Wellington Regional Hospital, and an access ramp and carpark platform for drop-offs to the new Children's Hospital). The additional costs outside the scope of the $84 million include:

- site preparation costs, including demolishing existing buildings and replacing old storm water and sewage pipes under the proposed new building;
- the cost of creating a new corridor within Wellington Regional Hospital to provide access to the new Children's Hospital (especially to and from theatres, ICU, radiology and ED);
- connection of electricity and other utility services to be delivered to the new Children's Hospital;
- contingencies (above those provided for by WCHC as part of the $50 million gift); and
- other project and project management costs.

The site preparation project to replace the underground services has been completed and the demolition of the Riddiford Building is underway. These projects have been funded by the Crown under the Letter of Support from 14 December 2017.

The capital and operating costs of building and operating the new hospital are set out in detail in section 8 of this Business Case. This business case excludes service level changes – any changes would be via the normal process for new or enhanced services.

Funding

As well as the $50 million gift, it is anticipated that the Wellington Hospitals Foundation and the community will donate $10 million, and $2 million will be available from depreciation. This leaves an amount of $45.6 million to be funded by the Crown.

The Crown has already provided $15.9 million for enabling costs outside the donation and reserved a further $8.4 million in the Health Capital Envelope.

This Business Case seeks a further $21.3 million (which, together with the reserved amount, equals $29.7 million) from the Crown to enable a fully functional Children's Hospital to be completed.

The Crown's total $45.6 million contribution has changed from the $24.3 million sought in the initial draft Business Case as the design process has progressed, and this is explained in section 8. In short, progressing to detailed design, deciding on optional items, completing more intensive planning on essential items, completing the Development Deed and having cost certainty are all interlinked. This has led to clarity on what the $50 million gift (and other donations) can accommodate and, therefore, what quantum of Crown support CCDHB ultimately needs. All costs, and the level of certainty attached to them, are reviewed in this Business Case.

Some funds have already been agreed in principle by the Ministers of Health and Finance on 14 December 2017:

- $6.84m was approved as an immediate equity injection to CCDHB to cover costs already incurred, and to enable immediate works such as the demolition of the Riddiford Building; and
- $9.09m equity was conditionally approved on proof of expenditure to enable construction of the new Children's Hospital to begin.

WCHC has advised that the Crown's contribution would be drawn down late in the build process, with WCHC funding all the earlier work through the donation of $50 million. The CCDHB payments to WCHC (capped at $34 million) would be certified by a Quantity Surveyor, confirming that the portion of the work had been completed satisfactorily. CCDHB will supply the Ministry with a copy of the QS certification.

Why a new Children's Hospital?

CCDHB's Child Health service provides services to children from Wellington, Hutt Valley and across the central region. It includes acute and planned medical and surgical services – both inpatient and ambulatory – Child Protection, Child Development, and Child Rehabilitation services. These services are located in a variety of buildings on the Wellington Regional Hospital (WRH) and Ewart campuses. In summary, the issues presented by CCDHB's current child health facilities are:

- A separation of inpatient, outpatient and allied child health services prevents integrated service models that make best use of the workforce and meet children's and families' needs;
- The existing inpatient (Children's Hospital) building has poor infrastructure that requires replacement to maintain a safe clinical environment. The Children's Hospital was intended to be included in the new WRH when it was developed, but this did not occur; and
- The Children's Hospital building impedes efficient models of care. It does not meet layout and space guidelines for the needs of babies, children and adolescents.

The cost of addressing only one of these issues – the infrastructure of the existing inpatient Children's Hospital – has been assessed at $55 million. This is $25 million for refurbishing the existing building and $30 million for a decanting space for the inpatient service during the refurbishment.[2] A refurbished building will not incorporate all children's services, and will have a life span of only 20-30 years – compared to a new build with a life of 80-90 years.

Investing in a new Children's Hospital development that can integrate Child Health services would give more value for money. This would better support high quality, equitable and safe care to children, young people and their families/whānau. The Children's Hospital development will support a children's health system that will also:

- support Child Health networks in the community that link with social services;
- integrate children services in communities – well child, child development, disability services;
- use information sharing and mobile technology to support teamwork in communities; and
- provide complex specialist care in partnership with Christchurch and Starship Hospitals.

2.2 Next Steps

The Development Deed was signed by CCDHB and WCHC on 4 September 2018, but it is conditional on Crown funding approval for CCDHB to undertake the project.

[2] Source Rider Levett Bucknall June 2017

The CCDHB Board cannot confirm that the condition under the Development Deed has been satisfied until a Letter of Support is provided from the Government that formalises the Crown's financial support, and authorises CCDHB to incur the additional costs associated with entering into this programme of works

2.3 Recommendations

CCDHB recommends to that the joint Ministers:

1. **Note** that the service models for the current Child Health services at CCDHB are not able to be integrated because they are in different spaces, and the existing inpatient building has poor infrastructure that requires replacement to maintain a safe clinical environment.

2. **Note** that CCDHB has been offered a generous gift of $50 million from Wellington Children's Hospital Charity Limited (WCHC) to contribute to the development of a new children's hospital of 7,700 square metres, which has a building cost estimate of $84 million;

3. **Note** that the total programme of works is estimated to cost $107.6 million, which includes $84 million building costs, and $23.6 million outside the scope of the core hospital build including site preparation costs, creation of a new corridor within the Wellington Regional Hospital to provide access to the new Children's Hospital, design and connection of utility services and other project and project management costs; $8.4 RESERVED $ 21.2 NEW FUNDING.

4. **Note** that funding to meet the total programme of works includes the $50 million donation from WCHC, $12 million from other donations and sources, $15.9 million already approved by the Crown, and a further $29.7 million of Crown funding sought as an equity injection through this Business Case;

5. **Note** that the additional $29.7 million Crown funding sought includes $8.4 million already reserved in the Health Capital Envelope;

6. **Note** that in respect of the core building costs of $84 million, the WCHC is responsible for building price escalation;

7. **Note** that CCDHB cannot accept the WCHC's gift unless the Crown provides CCDHB with funds essential to support and complete the total programme of works;

8. **Note** that CCDHB has entered into a Development Deed with WCHC for the hospital build, and that the Development Deed is conditional upon Crown funding support being provided to CCDHB;

9. **Note** that CCDHB projects an estimated increased cost of $6.4 million per annum for operating the new Children's Hospital facility (including $3.7 million for depreciation and $2.7 million for capital charge). No additional staff outside the CCDHB baseline are required to operate the building, and CCDHB will absorb the increased operating cost through general savings.

10. **Agree** to provide CCDHB with a Letter of Support agreeing to:
    a. CCDHB confirming the Development Deed it has entered into with WCHC is unconditional (thereby committing both parties to the Children's Hospital Project); and,
    b. Providing CCDHB with a further equity injection of $29.7 million to fund the balance of the full programme of works of the Children's Hospital Project.

3 107.629.721.3Capital & Coast District Health Board

3.1 Summary

This section provides information on Capital & Coast District Health Board (CCDHB) including its role, resources, the services it provides, and the populations it serves. This section outlines CCDHB's children's health system and its role within the national system of children's hospitals.

3.2 Our role and vision

Capital & Coast District Health Board (CCDHB) is responsible for improving, promoting and protecting the health of our people and their communities. Our vision is:

- *Best possible quality of life throughout life for all, through keeping people well including focussed action to eliminate inequitable differences of the health of our population.*

At the heart of our approach is enabling people and whānau to take the lead in their own health and wellbeing, while supporting those who have more complex needs. This requires us to collaborate with organisations to plan and to coordinate at local, regional, and national levels.[3]

3.3 The populations we serve

Our district has a population of approximately 318,000 spanning Wellington City, Porirua City and the Kāpiti Coast district south of Te Horo. There are 60,000 children under 16 years living in our district. Population projections to 2030 show nine percent growth in the total population or 30,000 people. This will predominately be in older age groups.

Projections indicate that, overall, there will be no growth in CCDHB's total child (0-15 years) population. However, our child population will be more ethnically diverse. It is projected there will be more Māori, Pacific and Asian children in our district. The most notable population change expected between now and 2030 that will impact upon us is an increase in the number of people aged over 70.

We are also the complex care provider for the Central Region, which currently has a population of 920,000 people. This is 19 percent of the New Zealand population and, while it is projected to grow by a further six percent over the next 20 years to just under one million people, the number of children within that population will remain the same but become more ethnically diverse. There are 188,000 children living in the Central Region. Of the current admissions of children, 17 percent come from the Central Region.

3.4 Organisation Overview

We deliver a range of high-quality hospital and specialist health services from four campuses: Wellington Regional Hospital (WRH), Kenepuru Community Hospital, Ratonga Rua-o-Porirua, and the Kapiti Health Centre. The resources required to deliver these services in 2017/18 include:

- $560 million of land, buildings, clinical and other equipment mostly located on the WRH campus
- $1 billion of revenue, mainly provided by the Crown

CCDHB has identified a pathway through its 'Even Better Healthcare Plan' and 'Health System Plan' to achieve sustainability. These plans recognise that transformation in models of care, working more closely with communities alongside managing our operational efficiency, infrastructure and regional care arrangements will improve our performance.

[3] New Zealand Public Health and Disability Act 2000, DHB objectives and functions - Part 3. s22 and 23.

For children, medical services are likely to shift into primary healthcare community settings over time. Empowering families and whanau to maximise child health and wellbeing is expected to reduce acute re-admission and manage future demand pressure on hospital services

3.5 Alignment to existing strategies

Service planning across CCDHB aligns with the strategic direction set by central Government. The primary strategic and planning documents include the:

- 2016 New Zealand Health Strategy, which has five interconnected themes aiming at all New Zealanders living well, staying well and getting well: *people-powered, closer to home, value and high performance, one team and smart system.*
- Capital & Coast Health System Plan 2030, which describes how CCDHB will optimise the performance of its healthcare system, recognising the known demand pressures.

Capital & Coast Children's Health System and Service Planning

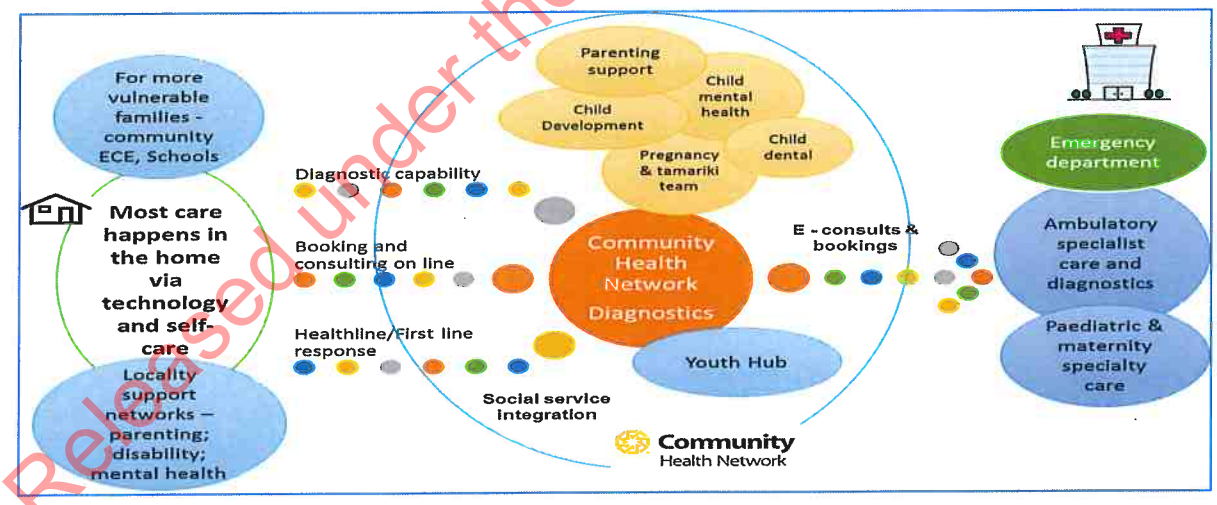
We know that there are challenges to achieving positive child health outcomes. The impacts of social determinants, mental health, obesity and medical advances have changed the range of challenges in the health system. The system needs to take advantage of technologies to support children with more complex conditions while ensuring those who experience the impacts of deprivation and vulnerability are strongly supported in their communities, community health networks and homes.

A key priority in our annual plan is improving our child health and child health services. This includes:

- improving the environment, and quality of healthcare, for specialist children's wards; and
- developing integrated, fit-for-purpose child health services for the sub-region and region.

Ensuring the health of babies and children is where we get the strongest return on investment, in terms of improving the life and health outcomes of our population and reducing future costs. Diagram one shows our services and the key components of our strategies for improving child health:

DIAGRAM ONE: SERVICES FOR CHILDREN, YOUNG PEOPLE AND THEIR FAMILIES



It is estimated that only 20 percent of an individual's health outcomes result from clinical treatment, while the remaining 80 percent reflect socio-economic factors and health behaviours. Thus, in improving health outcomes, we need to have a broad view of strategies and potential partners.

Our strategies to improve the health of children are to work with our partners in the community to:

- Support Child Health networks in the community that link with social services;
- Integrate children services in communities – well child, child development, disability services;
- Use information-sharing and mobile technology to support teamwork in communities; and

- Provide complex specialist care in partnership with Christchurch and Starship Hospitals.

This will be achieved through the following key strategies:

- **Simplify** service delivery for people who have good health literacy and health behaviours;
- **Intensify** service delivery for vulnerable people to reduce inequalities;
- **Work with communities** to improve health and wellbeing to prevent or delay the onset of illness;
- Implement models of care that **intervene earlier** in lower cost settings; and
- Organise technology and inter-disciplinary teams in homes, communities and hospital to **ensure efficient use of resources.**

Specialist Children's Hospitals

Our Children's Hospital is an important part of the national network of specialist children's hospitals. Within this network, there is a super specialisation of children's services at Starship and Christchurch. Our hospital provides specialist care for babies to adolescents with complex health needs.

Our Children's Hospital supports local oncology treatment for children as well as Hutt Valley and Wairarapa children. Further, our hospital provides paediatric surgical services for Hawke's Bay, Hutt Valley, Capital & Coast, MidCentral, Wairarapa and Whanganui DHBs. Specialist paediatric surgery in New Zealand is only performed at Starship, Waikato, Wellington, Canterbury and Dunedin hospitals.

CCDHB Wellington Campus Master Planning

CCDHB has a campus master plan. Key input to this plan included the condition of existing buildings and infrastructure, core infrastructure needs given expected demographic changes and regional health trends. The master plan has the Children's Hospital within CCDHB's top five priorities. Since the master plan was commissioned, the Crown has entered into a Heads of Agreement and conditional Development Deed with WCHC – supported by a $50 million donation – to build a new Children's Hospital on the WRH campus.

4 Strategic Context

4.1 Summary

This section sets out the strategic case for the redevelopment of the Wellington Children's Hospital. The strategic case finds that there is a compelling case for change based on the condition and configuration of the existing facilities. Meetings with stakeholders and facilitated staff workshops have helped define the significant issues presented by our current children's hospital facilities:

- The Children's Hospital has poor infrastructure that needs to be replaced to maintain a safe clinical environment, and it does not comply with some certification/accreditation standards;
- The inpatient facilities impede efficient models of care and do not meet layout and space guidelines on the needs of babies, children and adolescents;
- A separation of child health services across WRH sites prevents integrated service models that make best use of the workforce and accommodate our children and families' needs; and
- Existing facilities are creating material risk in the areas of infection control, high dependency, and separation by age and gender.

4.2 Clinical facilities at end of life, uneconomic to renovate and refurbish

The Children's Hospital building requires a significant infrastructure upgrade. Maintenance had been deferred from the building as it was intended that the Children's Hospital be part of the new regional hospital upgrade. When this did not take place, the plan was to relocate into the Grace Neill Building

following the construction of the new WRH. That relocation did not occur and now, at almost 30 years-old, the Children's Hospital building has significant infrastructure issues.

Bringing the Children's Hospital building to current building standards requires new infrastructure – ie electrical, data, medical gasses, heating ventilation and air conditioning (HVAC) system, sanitary fittings, etc. The building has no air-conditioning, leading to ventilation and temperature regulation problems. The building is not assessed as needing seismic strengthening.

In 2010, CCDHB was advised that $9.0 million was needed to address the children's hospital building's issues. That investment was judged uneconomic as that building would *"be at the end of its functional life within the next five to eight years"* when *"a new, purpose built facility will be required"*.

In 2010, the CCDHB committed $1.0 million to improve the children's wards. The Acting CE stated the investment would *"...allow us to operate the facility reasonably for the next four or five years."*

In 2017, the quantity surveyors estimate for a refurbishment of the Children's Hospital was $25 million to which must be added the $30 million estimated cost of building the necessary decanting space.

4.3 Existing facilities impede efficient (effective) models of care

The current facility does not enable current models of care. The Australian Health Facilities Guidelines (AusHFG) state that children and adolescents should be cared for in an environment that supports their physical and psychological needs. It states that the participation of parents is an important principle in paediatric inpatient care. The model refers to family-centred care.

Our multi-purpose rooms make family-centred care almost impossible. We have three six-bed rooms in our hospital, and four dedicated rooms to enable parents to stay. In general, there is insufficient space for all families to stay with their children and very limited space for parents – including showers and toilets. Further, we have no dedicated adolescent facility that caters specifically for their needs and there is a lack of appropriate and safe areas for play for younger children.

4.4 Existing facilities impede an integrated child Health Service

The current facility does not support an integrated Child Health Service. These services are located in a variety of other buildings on, or adjacent to, the WRH campus. The total area of all services is approximately 5,000m2. The spread of our Child Health Service across the WRH campus is a barrier to integrating the workforce and improving the quality and effectiveness of service delivery:

- The separation of outpatient, assessment and inpatient services limits the ability to share the workforce, maintain expert skills and improve operating costs; and
- The separate accommodation of allied health (Child Protection, Child Development, and Child Rehabilitation) from the Child Health inpatient wards and outpatient clinics creates difficulties for staff co-ordination and teamwork in a service where multi-disciplinary assessment and treatment is the norm.

The opportunity to integrate current services on the WRH campus and to develop a modern inpatient facility that enables whānau/family-centred care would contribute to the wellbeing of the children who use the service, their whānau/families and personnel who work within it.

4.5 Existing facilities are creating material risks

The sub-optimal state of our children's hospital inpatient facilities creates clinical risks:

- Insufficient isolation facilities on the wards means the service is unable to isolate all infected children leading to cross infection risk. High acuity infectious children are nursed in single rooms within direct line of sight/access to the nurses' station but infectious children and their whānau have to use shared bathroom facilities, creating cross infection risk;

- Reportable infection control events on the children's wards continue to be highlighted on CCDHB's risk register. Mitigating cross-infection risk redirects staff time from patient care;
- There are no beds dedicated to children in the High Dependency Unit (HDU) for complex post-surgical or medical care. These children, if not cared for within HDU, are managed on the children's wards;
- Space limitations make it difficult to achieve separation of children of different ages and genders within the current facilities, including adolescents; and
- Space limitations mean appropriate levels of family/whānau support cannot be provided.

5 Investment Objectives

The operational and strategic contexts inform our Investment Objectives:

1. To operate service delivery models that are child-centred and empower families;
2. To provide a clinically safe operating environment that enables the workforce to provide quality care to babies, children and adolescents;
3. To provide fit for purpose building infrastructure on the campus; and
4. To provide expert specialist care to babies, children and adolescents as part of the network of specialist hospitals across New Zealand.

These objectives, together with the critical success factors, are the elements against which the investment options for a Wellington Children's Hospital were assessed.

5.1 Key Service Requirements and Potential Business Scope

Potential Business Scope

A new Children's Hospital building must support the primary objective of our Child Health service – which is to provide high quality, equitable and safe care to children, young people and their families/whānau. A new facility will be measured and benchmarked against the Australasian Health Facility Guidelines, and will be developed within a Child Health System design that will strengthen care in the community.

The main scope options considered for a new facility were:

Table 1: Scope options

Scope Options		
Do Minimum	**Do Intermediate**	**Do Maximum**
New Hospital building for inpatient services	One building that integrates existing inpatient, outpatient, and allied health services	The intermediate scope plus specialist facilities such as operating theatres and radiology

Children's Health services are currently dispersed on the WRH campus. In this Business Case the preferred scope option is the intermediate option: to integrate these services while maintaining existing hours of service.

Current Service Provision

In summary:

- We admit an average of 3,200 children (aged under 16) per year to our child health services within WRH. These children have a total of 5,200 annual events or an average of almost 1.6 events for each child.

- Of these 79 percent live in the CCDHB area, 10 percent in the Hutt Valley, and the remainder in the Central Region. Child patients from outside the CCDHB area are predominantly coming to us for specialist surgery.
- Of the admitted patients 22 percent are Māori, 14 percent are Pacific, and the remainder are of other ethnicities.
- Of the children admitted 57 percent are aged under five, 39 percent are aged five-14 years, and four percent are aged between 15 and 16.
- More than 4,300 children per year attend outpatient clinics in WRH, with just over 8000 appointments equalling an average of 1.8 appointments for each child. The majority of these children see the Paediatric Medicine and Paediatric Surgical specialty doctors.
- Child Development services are currently provided in the Ewart Building, close to the WRH campus. There were more than 1,700 attendances in the Ewart Building in 2016/17.

Future Service Provision

Future demand analysis predicts little change in demand – see section 8.6 for further detail. In our assessment, in future we will need to provide the same quantum and nature of services as our child health services currently provide This is based on our:

- District's population of children: out to 2030, while we expect the district's total children's population to be static we also expect it have 880 (eight percent) more Māori children. We also expect more babies to survive complex births and live longer with complex health needs requiring support from specialist services.
- Service Utilisation: children from our district are – against national averages – more likely to visit a GP, less likely to present to ED and have a lower hospital admission rate. The growth in ED presentations is slowing and decreasing for children under 16. This is also true for 0-12 year olds and may be supported by zero fees for under 13s.
- Evolving healthcare model: we aim to offer more services in home and community settings while supporting hospital services to deliver more specialist and complex care. For children, medical rather than surgical services are likely to shift into community settings. Empowering families and whānau to maximise child health and wellbeing is expected to reduce acute re-admissions and manage future demand pressure on hospital services.
- Role in a network of health provision: approximately 17 percent of our inpatient admissions involve referrals from another Central Region district, with the greatest number from the Hutt Valley. We expect to at least maintain our level of specialised services provided to other districts' children, with paediatric surgical provision the most likely to grow.

There have been discussions about the possibility of providing more paediatric services for the Hutt Valley at WRH. While these considerations are ongoing, increased provision for the Hutt Valley is not part of the current proposal.

Section 8.5 outlines the assumption in relation to future service provision and ongoing operating costs. In summary, our planning for the new facility is based on existing services maintaining their existing hours of service. Further, we have assumed that most staffing levels will remain the same between the existing facilities and the consolidated facilities in the new Children's Hospital.

This Business Case excludes any future changes to service levels. Extensions to services will be considered by CCDHB through its normal resource allocation processes. Two proposals – extending the Assessment and Observation Unit's hours, and including a high dependency observation room – have been raised, and both can be accommodated within the children's hospital building design. Whether current resource levels can support these two proposals needs further investigation of the detailed layout, workflow and resource planning.

Facility requirements

The Child Health services to be accommodated, the location of clinical services, and the number of floors within a new building have been discussed with clinicians. This process confirmed that children will still be managed in WRH for emergency care, intensive care, radiology, operating rooms and other specialist services.

To address a deficit in the facilities, a specialist adolescent area – see below – will be located within, and staffed by, the inpatient service. This will enable adolescents to be accommodated appropriately. Otherwise, no compelling need was identified for creating new or standalone specialist facilities in the new Children's Hospital. The new Children's Hospital building will be interlinked with the WRH and will have good access to its specialist facilities.

These consultations have resulted in the following definition of facility and service requirements.

Table 2: Existing scope and location compared to proposed scope

Existing location and scope	Proposed Scope
Reception and Admin	
Reception Services have own reception areas.	Main entrance and reception will be on level two.
Staff and administration area Administration and staff facilities are located throughout the units and their buildings	New staff facilities.
Short Stay Services	
Child Assessment Unit for short-term assessments. Eight beds and one treatment area Service hours: 7.30am-4pm, Monday-Friday.	Seven beds and one isolation bed. Service hours unchanged. Maximum length of stay: 12 hours. Initially all referrals will be from ED. The model of care will evolve so GPs can refer some patients.
Child day stay nine beds **Surgical day-stay:** pre-operative preparation and assessment, and transfers patients to the operating room and post-operative care. **Medical day stay:** preparation, procedure and post-procedure care. Service hours: 7.30am-4pm, Monday-Friday.	Six beds and six chairs for planned surgical and medical day-stay. Service hours unchanged. Maximum length of stay: two-four hours for surgical, six hours for medical
Inpatient Services	
Adolescent Area CCDHB currently lacks a dedicated adolescent area to provide age-appropriate care.	Two beds and a lounge within the inpatient unit Service hours: 24 hours, seven days
Surgical and Medical Inpatient Wards receive elective and acute patients. **Inpatient ward 1:** 24 beds and **Inpatient ward 2:** 28 beds. Both wards have few ensuites and ablution facilities, and little family space Service hours: 24 hours, seven days	**Surgical -14 beds** Two two-person rooms and 10 single-person rooms **Medical: 23 beds** One two-person room, 20 single person rooms and one isolation bed Service hours unchanged.
Oncology Unit for children and adolescents having chemotherapy and who may be immunosuppressed. A self-contained unit provides an appropriate environment for the management of these vulnerable children.	Three beds and one isolation bed within the inpatient unit Service hours unchanged

Service hours: 8am-4:30pm, Monday-Friday.	
Outpatient Clinics	
Outpatient Clinics include: medical, surgical and some sub-surgical specialties **Child Rehabilitation Service** is for those children and adolescents with health funded therapy needs (Monday to Friday 8am-6pm). **Child Development Service** provides disability assessment, diagnosis and therapy for children from birth to 16 years (8am-6pm Monday-Friday) **Child Protection Service** provides services, across the DHB region, for vulnerable children, at risk mothers and their unborn children or infant (8am-6pm, Monday-Friday with an on-call facility 24 hours, seven days a week) Facilities for services provided on an outpatient basis include four dedicated rooms in Ewart Building, 12 in Grace Neill Block (Level 5), and 3 in Grace Neill Block (Level 3).	21 Clinic Rooms – which will serve Outpatients, Child Protection, and Child Development. A minor treatment room. The accommodation will include a physiotherapy gym, clinic rooms, and family/ multi-disciplinary treatment rooms Maximum length of stay: three hours Service hours unchanged for all of these services. There will be opportunities for more integrated models of care, such as joint clinics, and greater inter-professional practice

Design considerations

Taking the above into account, and the preferred northern site (refer to section 6.3.2) and the benefits of aligning WRH and the new Children's Hospital's levels, the new facility would be designed as 7,700m2 gross floor area (GFA) over three floors. The rationale for this is:

- Three floors provide a natural split of clinical services:
  - Outpatient and ambulatory services on level 2 (this floor operates Monday-Friday and is intended to be locked down at approximately 6pm);
  - Child assessment, surgical and day procedures on level 3 adjacent to the bridge link for easy access to WRH; and
  - Oncology and medical patients on level 4. Oncology patients have a direct lift link to this area without going through other clinical services to protect neutropenia children.
- This natural split means that all overnight patients are all located on two floors and therefore there are two teams that manage them. Having two teams provides backup to ensure clinical safety and security at all times and avoid small teams working in isolation;
- Winter to summer utilisation and occupancy levels vary by up to 50 percent. Modelling of the winter peak demonstrates utilisation of between 90-100 percent and January/February has an occupancy of approximately 50 percent (largely due to elective surgery not being undertaken). The proposed facility will enable one ward to be closed during the summer period, which offers staffing efficiency and enables maintenance to be undertaken one ward at a time; and
- Three floors provide efficiencies from integration of services and encourages clinical collaboration and communication. This offers efficiency in terms of space and from a staffing perspective. For example, the outpatient department, child protection unit and child development unit will have a single main reception. The child assessment unit is integrated within the ward rather than running as an isolated separate unit.

In principle, the new Children's Hospital will be a standalone building with its own cold and hot water supply, independent heating ventilation and air conditioning system, back-up medical gas supply and a transformer. The transformer is expected to be supplied by the company that supplies power to

the Children's Hospital. The cost will be paid off over 10 years as part of the usual power bill with a capital charge. The rationale for this is the WRH energy centre has insufficient capacity to provide heating and cooling to the new building. Also, the distance from the WRH energy centre to the new hospital is significant, meaning energy loss through transport cannot be mitigated. CCDHB is also considering a new 11kV power supply to the hospital from the north end that would supply the Wellington Regional Hospital and support the Children's Hospital but would give resilience to the whole site. The costs of this are outside this Business Case.

5.2 Benefits

Having fit for purpose children's services and inpatient facilities offer a number of potential benefits:

- Improved quality and experience of care for children and family/whānau, increased patient satisfaction, leading to better health outcomes for children;
- A more child and adolescent friendly environment with ability for a parent/caregiver to stay by every bedside;
- Access to the right services at the right time, with patient transfer decisions not being influenced by the condition or location of services and facilities as can occur at present;
- A larger, more functional unit for observing and assessing children that supports more timely assessment of acute admissions, and an ambulatory model for short-stay patients to better support care of children in the community;
- Bedrooms and a lounge space specifically designed for adolescent consumers;
- Co-location of children's services in one facility improves coordination and teamwork including with other agencies such as Oranga Tamariki and the regional school;
- Fewer health and safety challenges and risks for patients and staff – e.g. increased ensuite bathrooms, and greater numbers of single bedrooms, will enable infection control risks to be more easily managed;
- Ambulatory services that are co-located and facilitate better multi-disciplinary practice;
- Ability to use the building as a site of child health expertise with tele-health facilities within the building for enabling children to receive some treatments while remaining in their local community;
- A better working environment for staff, with associated benefits in terms of staff satisfaction, recruitment and retention;
- Child services will benefit from an IL4 structure building designed to be operational immediately after an earthquake or other disastrous event;
- The new building and corridor set the platform for the future pod developments;and
- A more efficient use of CCDHB's resources.

A collateral benefit is that a new Children's Hospital enables the existing Children's Hospital to potentially be used as a decanting ward if the copper pipes replacement project progresses.

5.3 Risks

The risks of not investing in the redevelopment of Wellington Children's Hospital facilities include:

- Inefficient service delivery and patient flows within the hospital; and
- Recruitment and retention risks and safety concerns for staff, who face a challenging working environment and potential harm to patients that they are unable to fully mitigate.

Should future children's services expand to incorporate significantly higher levels of inter-district flows, the Children's Hospital will need the flexibility to expand.

5.4 Constraints and Dependencies

We need to ensure that a Children's Hospital redevelopment is as efficient as possible. New facilities will add costs, such as depreciation and capital charge. The design of the facility needs to enable more efficient running costs as the new area is larger.

For a new build site, choice is constrained by the need to be integrated with other Site Master Planning initiatives for the WRH campus – including patient flow issues with and within the WRH, future ambulatory facilities and car-parking requirements.

There are substantial in-ground services including a council sewer, located 5 m underground, and a storm water drain that traverse the site. These will have to be addressed.

6 Economic Case

6.1 Summary

A long-list of options was evaluated against the critical success factors selected by the organisation. A new building was preferred and site location options and timing as well as funding source were all considered in further detail and compared. The final two options were to accept the donation of $50 million and work with the Wellington Children's Hospital Charity Limited (WCHC) for a building ready to hand over in the last quarter of 2020 or, as a counterfactual option, to have constructed a building ready by early 2022 financed with Crown funds.

The donation option has an estimated net present cost of $44.9 million over 10 years compared with the counterfactual option of $109 million. Ongoing operational costs and one-off costs are similar for each option, but these costs are deferred for the counterfactual option. Capital costs are lower for the donation option. Assumed annual inflation rates were 5.5 percent for construction-related costs and 1.74 percent for other operational costs. Cost of capital was assumed to be six percent, as is currently charged by the Crown. Both options have assumed that no further donation than the $10 million from the Wellington Hospitals Foundation and other fundraising is available to fund other CCDHB capital and operational costs.

WCHC's assumption of the risks of construction and construction cost escalation above $84 million reduces many of the usual construction risks that CCDHB would normally face. WCHC's extensive experience as a developer – as well as the existing relationships with other organisations such as construction companies, architects, engineers and advisors – provide further assurance that the facility will be fit-for-purpose and available on time with minimal financial risk to CCDHB.

The Development Deed that has been signed includes general duties of care from WCHC and the contractor, together with (relatively limited) direct covenants from the construction company and a commitment to assign standard building warranties and guarantees over materials and works to CCDHB.

6.2 Critical Success Factors

The following Critical Success Factors were identified and agreed by stakeholders through a series of meetings, including Board approval. The assessment of options is significantly influenced by the presence of a credible benefactor who is willing to invest $50 million in a new Wellington Children's Hospital. WCHC would fund and build the facility and will meet design, and construction cost escalation risk for the donation of $50 million (plus a contribution from CCDHB of $34 million).

The critical success factors selected are:

- **Support our strategy:** How well it integrates with other programmes and projects, including how well it supports optimal health outcomes.

- **Yield good value for money:** How well the option optimises value for money from both the perspective of the organisation and society, and minimises associated risks.
- **Be affordable:** How well the option can be met from likely available funding, and matches other funding constraints.
- **Be commercially viable:** How well the option matches the ability of potential service providers to deliver, and appeals to potential suppliers.
- **Be achievable:** How well the option is likely to be delivered given our ability to support the changes required, and matches the level of available skills required for successful delivery.

6.3 Options assessment

6.3.1 Long-list of options

The long-list of options considered as part of the selection process included;

1. Status quo – do nothing
2. Refurbish the existing hospital
3. Accept donation and plan to build as soon as practicable – 3a and 3b; with two location sub-options – north and south
4. Follow a conservative planning and building cycle with all funding sourced from the Crown rather than largely by donation – 4a and 4b; with two location sub-options – north and south

In the internal Business Case process in June 2017 the CCDHB Board dismissed Option 1 – Status quo and option 2 – Refurbishment.

These options were not pursued, as the existing facilities are considered poor and impinge on quality of service delivery. The costs of refurbishment, and the requirement to build and fit out temporary premises while refurbishment work proceeds, were estimated at $25 million for refurbishment and $30 million to make a space available and suitable for the displaced service (source: Rider Levett Bucknall June 2017). The level of funds required for this refurbishment process was considered more effectively applied to a new building.

6.3.2 Location

We identified two sites, north and south in the campus, which could accommodate a development of the size needed for a new Wellington Children's Hospital. These sites are currently partly-utilised for car-parking and occupied by older unused or partially-used buildings. Both sites therefore need some preparation expenditure.

The south site was discounted as any building on the south site would disrupt the Emergency Department (ED) of the Wellington Regional Hospital (WRH). A new building on the south site would:

- Cause significant disruption to patients arriving by ambulance and being transferred to other hospitals
- Constrain the future expansion capacity of the ED, which is identified in the master planning process as an older building requiring modification and potential expansion
- Block any future expansion in partnership with a community provider to provide Accident and Medical services on the campus

In addition, the new Children's Hospital must connect into the WRH at level 2 for foot traffic and at level 3 for inpatient transfers to the intensive care unit and operating theatres. The ability to connect into WRH from the south site is compromised on level 2.

The south site has insufficient land for the development of outdoor green spaces to assist in providing a healing environment for children. The south site is on the corner of Mein Street and Riddiford Street, a busy intersection which can be difficult to enter and exit. Should future children's services expand to incorporate significantly higher levels of inter-district flows the south site offers almost no flexibility for further buildings to connect with the new hospital.

The northern site is larger than the southern site, and is the logical site for future expansion as it can directly link into WRH on level 2 and 3. The northern site offers the potential to expand the existing Wellington Blood and Cancer Centre, the Children's Hospital, and several ambulatory care pods. All these services can be linked by a common corridor connecting the north end of the site to WRH on levels 2 and 3. Constructing the connection at level 3 requires a partial reconfiguration of the Oncology Department.

Developing either site is likely to impact upon car-parking. With the selection of the north site we have included the cost of demolishing the Riddiford Building (a cost to CCDHB, not the donor) which has been requested by the donor. Exercising this option as part of the project would give us more flexibility in car-parking solutions, remove a longstanding derelict facility, and provide a larger clear site. A larger clear site and improved car-parking will also support developments with other WRH partners.

6.3.3 Timing

Our short-list of options then considered the timing of a new building on the north site. The two time-scales were:

- Current planning process with building scheduled to commence in 2018 initiated by a $50 million donation; or
- Extension of the planning period and then subsequent building of the same facility funded by the Crown with a new building available in early 2022.

6.3.4 Service Solutions

The two short-listed options were considered using three of the critical success factors identified, as there are no known reasons for the short-listed options to be commercially unviable and or unachievable.

If the donation had not been accepted, we would have planned and built a new building using Crown funding without assistance or donation from an experienced developer. This alternative is the counterfactual for this Economic Case. Most costs will be the same as the donation option costs assuming that CCDHB has a similar negotiating status with the selected construction company to that of WCHC, which may not be the case. There is no donation with the counterfactual option.

Timing of the counterfactual and the donation option have been estimated as different. The build progress has been estimated as six months longer than the donation option, with the planning and approval stages also being lengthier. Capital requirements and risks for the counterfactual option are higher due to the potential for higher construction costs arising from current rates of construction cost inflation in Wellington. The building will be handed over in the first quarter of 2021 in the donation option, and in early 2022 in the counterfactual option.

Table 3: Broad timelines

	Donation option	**Counterfactual**
Planning phase	December 2017 to April 2019	January 2018 to December 2019
Building phase	Last quarter of 2018 to end of 2020	January 2020 to December 2021
Handover of building	First quarter of 2021	First half of 2022

Table 4 summarises the assessment that was carried out on the two options as service solutions:

Table 4: Options assessed as service solutions

Option	Critical Success Factors			
	Strategic Fit	Affordable	Value for Money	Comment
Partner with WCHC to develop a consolidated children's hospital by first quarter 2021	This provides a facility that fits with the strategic plan for child health services and for the Wellington campus	Not all costs will be covered by donated capital. Additional depreciation costs will have an impact	Donated capital has no capital charge. This could save up to $3.2 million per annum of capital charge on capital provided by the Crown	Transforms our service delivery and facilities as quickly as possible **Recommended**
Carry out planning and building without a partner or Benefactor using largely Crown funds by early 2022	Has a delayed benefit to the child health service and requires a longer period of housing the service in lower quality accommodation	Requires a larger capital injection from the Crown and also has a higher risk of cost escalation where WCHC is not involved	A solution where new money is invested for a sub-optimal outcome.	Poor value for money, lacks certainty, defers benefits and requires increased Crown funding

6.4 Economic Assessment of the Short-Listed Options

The economic assessment of the two options summarised here includes the estimated monetary values of expenditure on assets, one-off operational costs to prepare the site, transition costs and ongoing operational costs. Estimated depreciation and any capital charges have been excluded, they are included in the Financial Case.

The estimated costs of major items after applying estimated construction inflation are detailed in the Financial Case. The consideration period of the analysis has been set at 33 years with 2017/18 as year one to match the expected depreciated life of the building of 30 years once the building is open in the donation option.

Analysis of future demand on children's health service, those that are dependent on the new building, and those that are anticipated with or without the new building are discussed in the Financial Case. Early indications are that most scenarios will have minimal impact on the net costs of operating the facility.

Estimated monetary amounts have been discounted by six percent as the Public-Sector Discount Rate, which reflects the capital charge levied on DHBs.

Cost inflation of 1.74 percent has been applied to estimated operating costs and construction inflation of 5.5 percent has been applied to construction expenditure (this includes site preparation and engineering works).

Both options were conservative in assuming that a donation of $10 million will be the only donation available to fund CCDHB capital and operational expenditure for the new facility.

Net Present Values (NPV) have been calculated to compare the costs of the short-listed options. The resulting NPVs are:

- Progressing the new build by partnering with WCHC has a net present cost of $44.9 million over 10 years. This assumes the cost is financed by three parties – WCHC ($50m), donations from the community ($10m), and the Crown. See Annex B for the Discounted Cash Flow for this option

- Providing a new build with Crown funding has a net present cost of $109 million over 10 years. This assumes that construction costs have escalated due to the longer planning and build period. This option also results in up to $3.2 million per annum additional capital charge over the WCHC option

6.5 Non-monetary Benefits and Costs

Non-monetary benefits include the difference in timing of the new facility, the adoption of construction and associated cost escalation risks and difference in experience in developing new buildings.

The timing of a new facility for the child health service is different with the WCHC funded option predicted to provide the facility two years earlier than the Crown-funded and self-directed option.

The adoption of the risks of construction and construction cost escalation for the new facility by WCHC reduces many of the normal construction risks that would be faced by CCDHB.

WCHC's principal's extensive experience as a developer – as well as the existing relationships held with other organisations such as construction companies, architects, engineers and advisors – provides further assurance that the facility will be fit-for-purpose and available on time with minimal financial risk to CCDHB.

6.6 Risk and Uncertainty

In assessing the short-listed options, the main high level areas of risk for the preferred option can be summarised as follows:

- Design: CCDHB needs a degree of control and final approval over the final design to ensure the building is fit for purpose.
- Financial risk: a new build will add one-off and ongoing costs that CCDHB will be responsible for.
- Financial certainty: securing WCHC (financial) performance is potentially a key issue as is securing Crown funding – either to fully or part fund (alongside the donor) – the new building.

Refer to section 9.7 and Annex A for the detailed assessment of project risks, including the listing of the high or very high risks that the project management and governance is managing.

6.7 The Preferred Option

The following table contrasts the estimated monetary costs and non-monetary costs and benefits of the two short-listed options;

Table 5: Comparison of short listed options

	New build now ready for 2021 with WCHC	**New build ready for 2022 without WCHC**
Analysis Period (years)	33	33
Capital Costs with inflation	$37.4	$101.5
Site preparation and moving costs	$10.3	$10.3
Present value of costs	$47.7	$111.8
NPV rank out of two	1	2
Multi-Criteria Decision Analysis of non-monetary benefits – 1 out of 2 is the more favourable score		
Earlier availability of new facility	1	2

Lower construction risk for CCDHB	1	2
Lower likelihood of delays or reduced fitness-for-purpose	1	2
MCDA Rank out of 2	**1**	**2**

The preferred option was to engage now in a plan and build process with WCHC using the donation of the building costs and WCHC's management of construction risks such as cost escalation.

6.8 Sensitivities

The sensitivity of the net present costs of the preferred option to changes in key assumptions was modelled.

With the discounting rate of six percent the net present costs were relatively insensitive to:

- increasing annual CPI inflation from 1.74 percent to three percent
- increasing annual inflation in the costs of construction from 5.5 percent to 7.5 percent

The maximum change of net present costs produced by each of these changes was $0.25m.

7 The Commercial Case

7.1 Summary

CCDHB and WCHC signed a Development Deed on 4 September 2018 setting out the terms of the transaction. The Development Deed is attached as Annex D. The Development Deed is conditional on Crown funding support being provided to CCDHB.

Before the Development Deed can become unconditional, CCDHB needs certainty that the Crown will provide the funds (up to a total amount of $45.6 million) for CCDHB to meet its share of the costs of the Children's Hospital Building project (including $34 million for direct building costs and other preparatory and ancillary costs). The amount of $45.6 million is explained in section 8.

From a procurement perspective, WCHC is responsible for selecting the main building contractor and delivering the construction programme. WCHC has selected McKee Fehl Constructors Limited (MKF) as its preferred main building contractor. There is no practical option for the part of the build being paid for by CCDHB to be constructed by any other company. CCDHB is complying (and has complied) with the Government Rules of Sourcing in relation to its spending on preparatory and ancillary works outside the scope of the $34 million building costs.

The design and planning of the facility is anticipated to take approximately 15 months. From the fourth quarter of 2018, the construction phase is expected to take up to 24 months depending on contractor availability and complications that may arise during the construction phase.

7.2 The Negotiated Deal and Key Contractual Arrangements

The preferred option takes up an offer from WCHC – with a gift of $50 million and a contribution from the Crown – design, build and gift to CCDHB a purpose-built Children's Hospital on the Wellington Regional Hospital campus (CCDHB-owned land). WHCH has also agreed to meet any cost of the building within the agreed design scope above $34 million.

The Development Deed dated 4 September 2018 sets out the terms of the gift and the development of the new Children's Hospital, conditional on ministerial approval for the necessary Crown funding.

To move forward, the proposal is for:

- The Business Case (taking into account the Development Deed) is then reviewed by the Ministry of Health Capital Investment Committee; and

- Ministers provide a Letter of Support, and the CCDHB Board confirms satisfaction of the funding condition in the Development Deed at or about the same time.

Development Deed

CCDHB has entered into the Development Deed with WCHC. Mark Dunajtschik is personally guaranteeing WCHC's obligations.

WCHC has committed to build a new Children's Hospital on CCDHB land. WCHC will pay $50 million towards the cost of the building, but this is not enough to meet the full cost of the new Children's Hospital. The estimate from WCHC's contractor McKee Fehl Constructors Limited (MKF) is that the building will cost another $34 million to complete, and this cost will fall to CCDHB[4]. This estimate is informed by the analysis of CCDHB's quantity surveyors Rider Levett Bucknall.

WCHC has committed to meet any costs of the building within the agreed design scope above $84 million – effectively capping CCDHB's cost for the building at $34 million. WCHC has calculated that the $34 million expected to be paid by CCDHB should cover all fittings, fixtures and equipment in the building that CCDHB considers necessary. WCHC's commitment to pay the additional cost above $84 million excludes the additional cost to WCHC of any unfavourable foreign exchange movements from 28 August 2018 and the cost of CCDHB scope variations to the detailed design.

WCHC has advised that the foreign exchange risks are on materials being sourced internationally by WCHC at an estimated value of $5.8 million. These materials are expected to be ordered in USD in the next three-six months. A 10 percent foreign exchange risk contingency is therefore $580,000.

The design work is being done by WCHC's consultants, but CCDHB will continue to have the ability to influence and approve the design within the agreed scope. In particular, CCDHB has an incentive to value engineer the design so the cost of the project (and the Crown's contribution) is reduced where possible.

WCHC has an obligation to use its best endeavours to ensure the consultants exercise reasonable skill and care (ie are not negligent), but WCHC's consultants owe no direct contractual duty to CCDHB. They probably owe a duty of care in negligence law to CCDHB. The input from CCDHB's team requesting and approving elements to be included in the design would make it difficult for CCDHB to make design-based claims against WCHC's consultants if there are problems in the areas where there is shared design input. WCHC's consultants will have sole responsibility for detailed designs of the technical engineering aspects of the building if CCDHB's team is not closely involved in those aspects.

The scope of the building being constructed will be as per the 50 percent Detailed Design documents due on 17 September 2018, plus the link bridge to Wellington Regional Hospital, the access ramp and the new carpark space (which have not been designed yet). There is no distinction between the parts of the new Children's Hospital WCHC will pay for and those CCDHB will pay for. It proved too difficult to align the WCHC contribution with different categories of spending. The approach now is to treat the building as a whole, and for the parties to pay their respective shares as the costs are incurred. All construction work will be contracted through WCHC and MKF.

All amounts paid by WCHC to MKF will be transparent to CCDHB. For the parts of the project CCDHB will pay for, CCDHB will have the option to require MKF to undertake competitive tenders among sub-contractors. All payments by CCDHB will be subject to QS certificates (from the CCDHB QS).

MKF has legal responsibility to CCDHB by virtue of a clause in the Development Deed that acknowledges that the deed's terms are for the benefit if CCDHB and are enforceable against MKF, as well as a direct Deed of Covenant and Continuity and a Weathertightness Guarantee. MKF will also assign all third party guarantees to CCDHB (including materials guarantees and guarantees from sub-contractors, if any).

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4 Excluding preparatory works on the site (demolitions and underground services), utility services to the new Children's Hospital, and works within Wellington Regional Hospital.

MKF is responsible to CCDHB for workmanship under the Deed of Covenant and Continuity, including sub-contractors' workmanship, although MKF accepts no responsibility for materials or design. The term of the Deed of Covenant and Continuity is 12 months from practical completion. The Weather tightness Guarantee is for a term of six years and applies to the workmanship of MKF, but not of its sub-contractors.

WCHC is providing a programme of works and proposed milestones, but WCHC can alter the programme without CCDHB having any control. The assumption is that WCHC (and MKF) have strong incentives to finish the project in a timely manner. If WCHC for any reason fails to continue the project to completion, CCDHB has the ability to 'step in' to finish the project itself – either through MKF or another contractor. WCHC and the benefactor would be liable for the cost of doing so (at least up to the value of the gift). The processes CCDHB would be required to follow to exercise the 'step in' right mean this would be a slow and inconvenient course of events – which is as intended by WCHC.

7.3 Procurement Strategy

From a procurement perspective, WCHC is responsible for selecting the main building contractor and for delivering the construction programme. WCHC has selected McKee Fehl Constructors Limited (MKF) as the main building contractor. WCHC will also procure services (engineers, town planners, quantity surveyors and architects) as necessary. MKF will engage specialist sub-contractors to assist it to carry out the construction work. The amount CCDHB is contributing to the $84 million construction project will all be paid through WCHC to MKF and its suppliers and sub-contractors.

CCDHB has no choice in selecting MKF, and it would be impractical for any other contractor to construct those parts of the building being paid for through CCDHB's $34 million contribution.

MBIE accepts that WCHC engaging MKF is outside the ambit of 'All of Government' procurement processes, even though part of the amount being paid by WCHC to MKF will be sourced from CCDHB.

The Development Deed does however include the ability for CCDHB to require MKF to undertake a competitive tender process for sub-contractors that CCDHB is effectively paying for, if CCDHB wants MKF to do so. It is yet to be seen whether this ability will be practical or useful, but it does provide CCDHB with some ability to influence the procurement of sub-contractors.

CCDHB has also needed to procure a range of services to ensure the project delivers fit for purpose hospital facilities. The procurement of these services has followed (and is following) the CCDHB procurement policy and processes, which are consistent with wider government policy and requirements.

CCDHB has consulted with MBIE to ensure the proposed procurement strategy complies with Government procurement rules. This has included the potential use of WCHC's consultants, advisors and suppliers where it is efficient to do so. MBIE endorsed the proposed approach.

7.4 Procurement Activity Already Completed

Prior to the approach by WCHC, CCDHB commenced initial work to review options for improving its Children's Hospital services. To support this CCDHB had engaged the Health Planner Limited architectural services – Rider Levett Bucknall – to provide quantity surveying services, an engineering services programme manager, and a range of technical consultants.

CCDHB has also procured contractors to undertake the preliminary works necessary to make the site available, including the replacement of underground stormwater and sewage pipes and demolishing existing buildings. These projects have already been funded by the Crown.

These procurements have complied with the Government Rules of Sourcing.

7.5 Procurement Services

Where possible procurement of services will link in with 'All of Government' arrangements or contracts with WCHC's suppliers where this is efficient to do so.

Consultancy Services

CCDHB will engage external providers to provide professional advice, programme management, quantity surveying and design services. Site preparation, and building and engineering works required to connect or realign existing services to the new building are the responsibility of CCDHB. CCDHB will engage external providers to undertake:

- Development of detailed design and specifications within an estimating and cost-planning framework.
- Contract documentation, tendering and contract administration.
- Contract administration (construction phase), and project management.
- Completion and handover activities.

Technology

The technology components of the project will be procured through the main construction contract or through existing supplier agreements to the CCDHB.

Demolition Services

The engagement of a demolition services supplier is a responsibility of CCDHB. Naylor Love Limited has been selected as the demolition services provider.

Construction Services

The engagement of the construction services supplier (or main building contractor) is the responsibility of WCHC. WCHC has selected McKee Fehl Constructors Limited as the preferred construction partner. The adoption of the risks of construction and construction cost escalation above the estimated $84 million cost of the building (including the $50 million donation by WCHC) reduces the many of the normal construction risks that would be faced by CCDHB.

CCDHB will engage a building contractor to implement the internal layout changes necessary in WRH to connect with the new Children's Hospital. This will not be a major construction contract and the local market has sufficient number of firms to support a competitive tendering process

CCDHB is responsible for in service connections and site preparation. This includes the existing sewer and drainage services that have been replaced and relocated. The local market has sufficient number of firms to support a competitive tendering process. It is possible that the same contractor used by WCHC may be hired by CCDHB to complete this work.

7.6 Potential Risk Allocation

While the Children's Hospital project is not considered high risk under the Treasury's 'Risk Profile Assessment' (see Annex C), it is important that relevant risks are allocated to the party best able to manage them. If a service provider has clear ownership, responsibility and control over the delivery of the service it follows that they are better placed to manage risks (ie cost, quality, and timing).

The risks associated with this project will be shared by the provider of the asset (WCHC and the construction partner) and the CCDHB. The early stages of the project will provide for risk sharing because WCHC and MKF will be bound to provide the asset to specification and quality. Once CCDHB begins to use the asset the ability to share risks will diminish. The table below describes how risk will be shared between the CCDHB and relevant service providers during the project.

Table 6: Risk Allocations

Service	Risk allocation description	Risk Allocation	
		CCDHB	Private
Inadequate business specifications	CCDHB will take full responsibility for inadequate business specifications, such as the number and type of rooms required, that will inform the architectural design.	100 percent	0 percent
Design risk	Various consultants are responsible for different aspects of the building design (i.e. architect, engineers and planners etc.). Thus, these consultants take the majority of risk if their specific design is faulty/not achievable. In fulfilling their contract consultants are required to hold a pre-defined 'Professional Indemnity' insurance value throughout the life of the project. The CCDHB retains a share of the design risk as it signs off each design stage.	20 percent	80 percent
Construction risk	CCDHB is transferring the majority share of the construction risk to WCHC through the Development Deed. The parts of the new Children's Hospital construction paid for by CCDHB will also be delivered by WCHC though MKF. The main residual risks to the CCDHB are around delay to the project caused by accidental fire or acts of god. Also, if the contractor is insolvent/delays on their contract there is a potential delay risk and risk of WCHC being able to get someone else to fulfil the contract for the same price.	30 percent	70 percent
Defects risk	The building will have construction quality, and materials, guarantees that will be directly provided to or assigned to CCDHB. Technology components will include standard manufacturing warranty periods, coupled with ongoing support and maintenance agreements (as per existing contracts with existing suppliers). Standard warranty periods for all fixtures, fittings and equipment will be provided for six months minimum (as per existing contracts with existing suppliers)	10 percent	90 percent
Health and Safety risk	Health and safety responsibilities will be shared between WCHC, CCDHB and service providers (particularly MKF). MKF will be responsible for developing a site-specific health and safety plan and ensuring specific site safe certifications. CCDHB will work with service providers to ensure safety and security is maintained.	20 percent	80 percent
Fiscal risk	WCHC's main building contractor will provide direct deeds and duty of care/collateral warranties to CCDHB. WCHC is committing to pay the first $50 million and construction costs above $84 million for the new Children's Hospital. The Crown will provide a Letter of Support that formalises the Crown's support, authorisation and commitment to CCDHB in entering this project.	20 percent	80 percent
Other risk	All other project risks will generally be borne by the CCDHB	100 percent	0 percent

7.7 Potential Payment Mechanisms

The table below summarises the proposed payment methods for each of the procurement streams.

Table 7: payment mechanisms

Service	Payment Mechanism
Consultants	Progress payments based on agreed contract sum and certified by an external project manager.
Technology	Progress payments based on agreed sum and certified by the appointed technology project manager.
Fixtures, Fittings and Equipment	Payment made upon receipt of invoice post delivery and installation of agreed product.
Construction Services	Progress payment based on agreed sum, quantity surveyor reviews and recommends payment, which is then certified by the external project manager for payment. Payment is made internally based on delegated authority within CCDHB.

7.8 Contractual and Other Issues

Table 8: Contractual issues

Type	Description
Type of Contract	A Development Deed has been agreed to support the delivery of the design and construction of the Children's Hospital. CCDHB has retained external legal advice in relation to contractual matters and advice during the course of the programme of works. For construction works that the CCDHB itself is responsible for, contracts for construction services will be agreed to support the delivery of the construction works. Contractual agreements with the previously noted external consultants will be confirmed using the CCDHB's standard conditions of consultancy agreement. Technology and fixtures, fitting and equipment contracts will be based on the existing forms that the CCDHB has with its incumbent providers.
Contract management	Construction contracts of the magnitude proposed are paid monthly according to a quantity surveyor's assessment of the value of the work completed to date. A percentage sum is retained against which any remedial work can be done in case of building faults. The responsibility for managing the delivery of the respective external contracting arrangements for the project will pass to a manager that will be acting under delegation to sign the respective contracts. These persons will develop a contract and relationship management plan in consultation with the successful supplier for the procurement. Contractual performance will be reviewed under the terms of each agreement.
Accountancy treatment	No contractual issues have been identified to date regarding the procurement of the services. The accountancy treatment for all services will meet all necessary accounting standards for capital projects and is explained in the financial case of this Business Case.

8 Financial Case

8.1 Summary

The preferred option is WCHC developing the Children's Hospital building with CCDHB responsible for site preparation, service connections and linking the new building to the WRH. This option has an estimated cost to CCDHB of approximately $45.6 million, including one-off operational costs of $10.3 million (expressed here after construction and cost inflation have been applied). Additional

donations from individual donors and the Foundation have been included in this analysis to the total of $10 million, as contributions to CCDHB's capital costs.

A summary of the total funding is in the table below:

Table 9: Total budget summary

Excludes GST					
Childrens Hospital	Total Cost	FUNDING Benefactor funded	FUNDING Other parties / regular budgets	FUNDING Crown approved funding	FUNDING REQUIRED Total DHB new Funding required
Main construction					
Sub total	83,707,638	50,000,000	12,000,000	0	21,707,638
Items not included					
Sub total	**11,280,377**	**0**	**0**	**5,604,665**	**5,675,712**
Preparatory works					
Sub total	10,321,988	0	0	10,321,988	
Contingency					
Sub total	2,269,757	0	0	0	2,269,757
Total cost	**107,579,760**	**50,000,000**	**12,000,000**	**15,926,653**	**29,653,107**

All estimates have been provided by CCDHB personnel or advisers and approved by the members of the Executive who are part of the Project Steering Committee.

This Business Case excludes potential future service changes.

Construction escalation has been applied to relevant costs at 5.5 percent each year, with 1.74 percent annual inflation applied to other costs.

The additional annual depreciation for the preferred option is estimated at between $3.4 million and $3.7 million each year once the facility is completed.

The financial model assumes that the capital charge only applies to $35.3 million (the Crown capital contribution). This results in an increase in capital charges for the project of up to $2.1 million a year, assuming that no repayment of Crown borrowings can occur.

This Business Case assumes future demand scenarios have a marginal impact on the net cost of resourcing the facility. For example: where children from outside CCDHB may come to the facility for care in future their care will be paid for by increased revenue from the DHB of domicile.

This analysis is conservative and includes the higher end of the range of estimates that have been made or tenders received. Further tender processes will assist in providing firmer cost estimates.

8.2 Building, site preparation and services

The estimates for capital expenditure are based on the following design for a new children's hospital;

- Three-level building; with 7,700 m2 over three levels of service provision.
- Services planned to be provided from each floor of the facility and their opening hours are:

Table 10: Planned services

Level	Area	Sub-specialties	Hours of operation
Level 1	Outpatient facilities	Outpatient clinics Procedure rooms Child Development Service Child Protection Service Child Rehabilitation Service	M-F, 8am-4:30pm M-F, 8am-4:30pm M-F, 8am-6pm Access required is 24 hours M-F, 8am-6pm
Level 2	Short Stay & Assessment Area Surgical Inpatient Beds	Child Assessment Unit Surgical Day Stay Unit Medical Day Stay Unit Adolescent Unit Surgical Inpatient Unit	M-F, 7.30am-4pm M-F, 7.30am-4pm M-F, 7.30am-4pm 24 hours, seven days 24 hours, seven days
Level 3	Medical Inpatient Beds	Medical Inpatient Unit Oncology Unit	24 hours, seven days M-F, 8am-4:30pm

The Business Case assumes that the building can be designed and built for $84 million (including FF&E) and is partially funded by a donation from WCHC, which will also take responsibility for the building project.

Site preparation, building and engineering works required to connect or realign existing services to the new building and any car parks are the responsibility of CCDHB.

The supply of a building warranty has been covered in the Development Deed with WCHC, which confirms that building warranties will be sought and passed on to CCDHB.

8.3 Estimated Crown capital expenditure

Capital expenditure is estimated (at 30 June 2018) in nominal dollars as a total of $35.3 million plus operating costs of $10.3 million for the three years of the building project:

Table 11: Estimated capital expenditure	Estimate $
Community/Foundation donations for FFE	(10,000,000)
Depreciation funding from CCDHB	(2,000,000)
General construction costs	33,707,638
WRH internal corridor	5,264,277
Oncology SMO Relocation	833,000
Pedestrian access	211,000
Engineering services to new building	750,000
Project workforce capitilised	3,220,000
Construction Insurance/FEES	352,100
FX Currency Risk on material	650,000
Contingency 15% on items not included	1,692,057
FX Currency Risk on material	577,700
Total estimated Crown capital expenditure before inflation	**35,257,772**

The estimate for construction insurance costs has been sourced from CCDHB's insurers.

Project workforce costs comprise the estimated fees of quantity surveyors, surveying engineers, health facility planners, project management, financial consulting and legal fees. A portion of these fees is assumed to relate to work concerning the operational costs necessitated by the facility building project and appear in one-off operational costs.

Capital expenditure in future years for refurbishment of the new building is estimated in the financial model. Over the life of the building refurbishment costs of two percent of the building cost ($1m) are scheduled for years five, 10, 15, and 25, and costs of 10 percent ($5m) at year 20. Over 30 years the estimated refurbishment costs total a further $9 million.

8.4 Estimated one off operational expenditure

Estimated one-off operational expenditure is shown below;

Table 12: Estimated one off operational expenditure

Item	Estimate $	y/e 30/6/18	y/e 30/6/19	y/e 30/6/20
Drainage and stormwater works	$3,287,345	$2,138,999	$1,148,436	$0
Geotec report	$75,000	$75,000		
Demolition - Riddiford	$5,319,697	$1,228,613	$4,091,084	$0
Project workforce opex	$725,000	$48,990	$600,898	$75,112
Moving expenditure	$50,000			$50,000
Temporary car parking - mainly rental	$805,551	$102,299	$502,323	$200,929
Temporary data / voice at $1,600 a month - 1/2/18 - 31/12/19	$36,800	$8,000	$19,200	$9,600
Cost inflation on non-construction items	$22,505			$22,505
Total estimated one-off operational costs with construction inflation	**$10,321,988**	**$3,601,901**	**$6,361,941**	**$358,146**

A portion of the project workforce is assumed to relate to operating expenditure items and has been estimated at $725,000.

Carparking on the campus has been carefully considered to ensure minimal inconvenience to patients, their families and staff.

8.5 Changes to ongoing operational costs compared to the current layout and location

This Business Case excludes any future changes to service levels. Extensions to services will be considered by CCDHB through its normal resource allocation processes. Two proposals – extending the Assessment and Observation Unit's hours and including a high dependency observation room – have been raised and both can be accommodated within the Children's Hospital building design. Whether current resource levels can support these two proposals needs further investigation of the detailed layout, workflow and resource planning.

Each department supporting, servicing and providing services for the new Children's Hospital building has been asked to identify whether any additional costs will eventuate from the new layout and location (as described by the draft Concept Design at 22 August 2017).

These services included orderlies, food services, laboratory, pharmacy, emergency response services, cleaning, linen, waste disposal, radiology, patient administration services, mail, pest control, security, transport, signage, traffic, procurement, inwards goods, and infection control.

None of these departments indicated that there would be increased operational costs for the new building over those expensed currently if patient volumes remain constant.

Utility costs of power, gas and water are assumed to increase due to the larger area of the new building. However the efficiency of the new building is expected to counter part of this increase. A figure of $85,000 per annum has been estimated as the upper range of additional utility operating cost for the new facility.

Additional insurance for the new building is assumed to be $70,000 following discussion with CCDHB insurers.

Maintenance has been running at $120,000 annually for the current Children's Hospital and the Children's Outpatients Department. CCDHB has reviewed the maintenance expenses and noted that they largely relate to the building, rather than fittings or fit-out. Therefore we have assumed that this type of maintenance requirement will cease with new premises.

The additional costs of $85,000 for utilities, $70,000 for insurance, reduced by the saving of $120,000 for maintenance gives an estimated increased cost of $35,000 for operating the new Children's Hospital facility.

The financial analysis has excluded both potential revenue as well as the continuing operating costs of the areas being vacated by services moving to the new facility.

8.6 Future scenario assumptions

Initial future demand analysis predicts little change in demand that significantly impacts net costs. This version of the financial modelling for the Business Case therefore assumes little change in demand over the 33-year period considered.

This initial assumption is based on:

1. No increase in CCDHB, 3DHB or regional population of children aged under 16 is predicted, but the population will be more ethnically diverse.
2. Small increases in complexity (and therefore cost) can be offset by a reduction in admissions for conditions that can be treated in primary care
3. Any changes in patterns of care for surgical patients across the region will attract inter-district flow funding – therefore the net cost impact will be minimal
4. Possible introduction of patients for Hutt Valley DHB will attract inter-district flow funding – therefore the net cost impact will be minimal
5. Any internal CCDHB movements of care for children will be subject to separate business cases
6. PHARMAC signalled a possible increase in day stay treatment for oncology. This may mean a reduction in children travelling to other centres for treatment. This may reduce the costs of treatment borne by CCDHB and provide some treatment closer to home for some children
7. The service may see an increase in urgent visits for children given the publicity and visibility of the new facility. This increase in presentations to ED and for assessment may be of a temporary nature or may stabilise at a higher level than historical trends

These and other potential trends will be reviewed in the system design work programme and the results will be incorporated into future financial analysis.

8.7 Financial Metrics

The financial model assumes that;

- Six percent capital charge, 5.5 percent construction inflation and 1.74 percent cost inflation over the 33-year period
- the current costs of the child health service are fully funded by the Crown
- only Crown funds used for capital expenditure will result in a capital charge
- over the 33-year period the funds provided by the Crown for capital will not have been repaid

- all capital and operating cost estimates have been provided by CCDHB personnel or advisers and approved by the members of the Executive who are part of the project Steering Group

8.8 Depreciation rates

Depreciation rates consistent with CCDHB policy have been applied in the financial model. Each item is listed below with the period of depreciation in years.

Table 13: Depreciation rates

Capital item	Depreciated over years
New Children's Hospital building costs	30
Fixtures, fit-out and equipment	11
Level 3 Airbridge corridor	20
Internal corridor from WRH at level 3	20
Pedestrian access Children to WHB at level 2	20
Raised carparking area	30
Roof for carparking	30
Refurbishments to the new hospital in future years	10
Engineering services to the new building	20
Project workforce – capitalised	30
Construction insurance – capitalised	30

8.9 Full service costs

The full-service costs (sourced from Decision Support for all children aged under 16 excluding neonatal, maternity and emergency department patients) for child health services for the year ended 30 June 2017 were $31.5 million. Inflation of 1.74 percent each year has been applied to this total in the service cost table in Annex B.

Additional depreciation for the preferred option of between $3.4 million and $3.7 million a year for the 30-year period will be incurred each year once the facility is completed.

Increased annual capital charges for the project rise $2.7 million assuming that no repayment of Crown borrowings can occur.

A full-service cost table and discounted cash flow are included in Annex B.

8.10 Sensitivities and potential changes in costs

Further donations

Further donations may be received in future in addition to the $50 million for the building, $5 million from the Wellington Hospital Foundation, and a further $5 million of general contributions.

Increasing accuracy in estimates with tenders

This financial analysis includes all estimates supplied up to 30 June 2018 for the project. Quantity surveyor estimates may be reduced or increased when the design process for the building progresses and further tenders are established. Experience with the first tender for demolition of the three buildings resulted in the upper end of the tender range being $470,000 lower than quantity survey estimates.

Reducing utility costs

Utility cost increases of $85,000 a year over the current costs represent the maximum increase anticipated, actual cost increases may change. No further analysis to determine the lower end of the range is possible until later in the build process.

Operational costs

There is a possibility of underestimation of operational costs. Departments that have considered their costs unaffected by location may experience a slight cost increase. Experience from other centres predicts that the increased visibility of children's health services in a new building may provide a short-term increase in acutely presenting children to the Emergency Department.

Replacement source of power

The CCDHB is also considering a new 11kVa transformer and power supply to the hospital from the north end, which would support the Children's Hospital and give resilience to the whole site. The costs of this are outside this Business Case.

8.11 Contingency

The $50 million budget by WCHC includes a contingency of $5.865 million. This is not CCDHB's contingency, but WCHC's commitment to spend $50 million before CCDHB is required to contribute to the building project means CCDHB is a beneficiary of this contingency (however it is spent). There is no need for CCDHB to allocate a contingency on its $34 million share of the building cost because this amount is capped, with WCHC agreeing to meet any additional building costs.

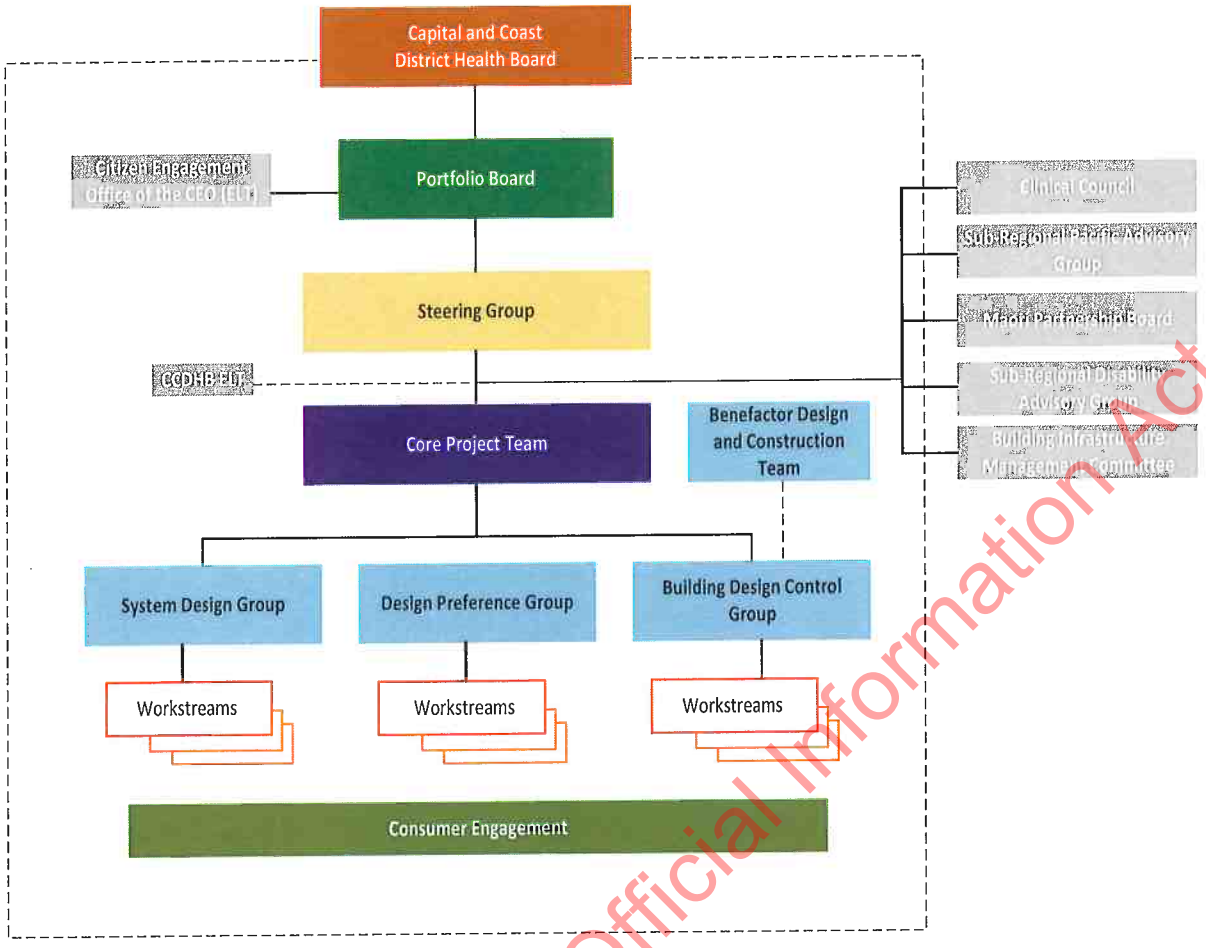
The exceptions to the $34 million cap include additional costs incurred by WCHC from unfavourable foreign exchange movements affecting the materials WCHC is sourcing internationally. MKF's advice is that these items include the structural steel, building façade, HVAC central lighting, generator, wall and floor selections, sanitary plumping together with miscellaneous other items. The value of these items is estimated to be $5.8 million. A 10 percent contingency on this amount has therefore been allocated to cover currency movements (ie $580,000).

It is also prudent for CCDHB to provide a contingency for parts of the programme of works external to the Children's Hospital construction – including the WRH internal corridor and SMO relocation work, engineering services and other project costs. A $1.7 million contingency has been allocated for these items (calculated at 10-15 percent). There is no contingency on the preparatory work that has already been completed (ie the underground services), or which are underway, and the contingencies have already been identified (ie the Riddiford Building demolition).

9 Management Case

9.1 Project Governance and Management

The diagram below outlines the governance structures identified to lead and govern the project through to completion. Roles and responsibilities are summarised below and detailed in the Project Management Plan (PMP).



Board

The Board is the highest level in the organisation's governance structure, and is accountable for Board-level decisions and post-project benefits realisation of the project. The Board will also sign off on overall project approach, key phases, milestones and financials.

Portfolio Board

As the Children's Hospital is a significant project for the organisation, the Portfolio Board ensures there is active Board and CE representation and engagement. The Portfolio Board will meet monthly aligned with the scheduled Board meetings. The Portfolio Board is accountable for benefits realisation to the completion of the project and Board delegated authority.

Steering Group

The Steering group consists of senior clinicians and executives from CCDHB and the wider health sector. The Steering Group meeting is initially weekly, moving to fortnightly as the project moves through the first major milestones. By December 2017 it is expected the Steering Group will meet monthly or as required. The Steering Group has a delegated authority as set out in the terms of reference and reports to the Portfolio Board. There is also senior engagement from regional services and Hutt Valley DHB on the Steering Group.

9.2 Work Groups

The project has three work groups, and a core project team, consumer and citizen engagement each with a Terms of Reference. Each group focuses on a specific aspect of the project as follows:

Core Project Team

The Core Project Team has overall day-to-day control of the project including responsibility for its project planning, risk management, communications. It is made up of Senior Responsible Officers,

Work Group Chairs and leads, as well as the Project Manager. This team is responsible for ensuring that tasks are completed on time and escalating any issues that may impact on project milestones.

Design Reference Group
The Design Reference Group is responsible for developing the models of care, schedules of accommodation, staffing levels, future proofing.

Building Design Control Group
The Building Design Control Group will work closely with WCHC's architects, builders and contractors. They are responsible for the building specification, services connections, reviewing and approving service design, ensuring on-going maintenance, life cost of the new building, arranging site works with WCHC's building contractors.

System Design Group
The System Design group is responsible for ensuring the new facility and services works within the wider healthcare systems. This group's short-term focus is analysis of volumes and modelling to support the business case and the work of the Design Reference Group. The longer-term focus is ensuring the new facility works well within the wider health care system.

Consumer Engagement
The project will engage with consumer groups. These will include children and adolescents from different geographical areas, different health conditions, those from Māori and Pacific backgrounds, and those with lifelong disabilities. Current inpatients and their families can also contribute. Findings and recommendations from the consumers will be fed into the work groups.

Citizen Engagement
A number of community groups and organisations are interested in making gifts, donations, and other equipment for use in the new Children's Hospital. The coordination of this work stream, and the engagement with the Wellington Hospital Foundation, will be from the CE office.

9.3 Project Management Strategy, Framework and Plans

The project management and delivery of the CCDHB's new Children's Hospital project is unique in the New Zealand health sector, in that the benefactor (through WCHC) has very generously offered a gift of $50 million to fund a new Children's Hospital on CCDHB land in Newtown, Wellington. WCHC has engaged a team of designers and a construction contractor to undertake, in cooperation with the CCDHB, to fully design and construct the new Children's Hospital building and associated work under WCHC's team's management. The CCDHB have very limited project management authority with the WCHC's team, although the CCDHB team will work alongside the WCHC's team to ensure the design is appropriate, that construction quality is achieved and there is sufficient transparency around the pricing of the works. These matters have been outlined within the Development Deed between WCHC and CCDHB.

The CCDHB will project manage the scope of work that is outside the WCHC project scope.

Following a Prince2 Methodology, the CCDHB project team is addressing project management, managing change, realising benefits and risk management. The following management tools have or will be developed and managed by the project team.

- Project Management Plan which includes:
    - Project Organisation and Structure
    - Project Start Up Activities
    - Monitoring and Control

- Risk Management
- Health and Safety Management
- Delegated Authorities
- Quality Management
- Communication Management
- Configuration and Change Management
- Performance Management
- Project Transition
- Post Project Evaluation Strategy and Plan.

Stakeholder management and communication plans are documented in the PMP.

9.4 Change Management

During all project delivery stages changes will be managed through a change control system, which will be established and administered by the Project Manager. Changes will be minimised as they can be the largest contributor to cost and time overruns on projects. As changes will invariably occur, a system will be in place to control costs and maintain quality and programme. Changes in construction projects broadly fall into three categories:

- Brief changes – to the scope, specification, programme
- Design changes – correction/improvement on design as it develops
- Construction changes – imposed by site conditions and other constraints

The scope will be carefully managed throughout the process.

9.5 Benefits Management

CCDHB has held interviews with subject matter experts to understand and identify the expected benefits of replacing the current Children's Hospital with a new Children's Hospital building that integrates inpatients and outpatient services. The objectives of benefits realisation management for the project are to:

- Ensure benefits are identified and defined at the outset, and linked to strategic outcomes;
- Ensure business areas are committed to realising their defined benefits with ownership and responsibility for adding value through the realisation process;
- Drive the process of realising benefits – including benefit measurement, tracking and recording benefits (and other notable achievement) as they are realised;
- Use the expected benefits as a roadmap for the programme, providing a focus for change; and
- Provide alignment and clear links with the strategic objectives of CCDHB and Government.

A set of benefit indicators and measures has been identified to provide a basis for ongoing monitoring of the benefits of the Children's Hospital project:

- Client satisfaction
- Staff satisfaction
- Cost per m2 for maintenance
- Public confidence in CCDHB facilities and services

9.6 Risk Management

CCDHB has detailed risk management processes in place, which will continue to be used to manage risk throughout the project. Risk workshops have been run with the Building Control and Clinical Design (Design Reference) groups. Seventy six risks were logged in these workshops. These have been reviewed and consolidated to 50 risks. Likelihood and potential impacts were recorded in the risk workshops. The severity of the risk has then been calculated using a matrix.

The high and very high severity risks were reviewed by the Steering Group. Mitigations for the risks were discussed and the post mitigation impact and likelihood considered. Residual risk severity was then calculated.

Table 14: Project risk summary

Summary of Risks (after mitigation)					
Categories	Very High	High	Medium	Low	Grand Total
Benefits		1	9	7	17
Clinical			1	1	2
Financial	1	3	4	2	10
Health & Safety			3		3
Implementation				3	3
Operational			3	3	6
Quality		2			2
Reputational		2			2
Time				4	4
General				1	1
Grand Total	**1**	**8**	**20**	**21**	**50**

After considering mitigations, nine risks remain listed as high or very high risks. These key risks are:

- If CCDHB shares of the estimated build cost exceeds the budget during the detailed design phase of the project, CCDHB may become liable for either additional costs or be asked to compromise on final building scope;
- CCDHB building costs (including connecting buildings and redirect excising in ground services) may be higher than initial estimates;
- That Government funding is not approved to cover the costs of the project over and above the benefactor contribution, resulting in project delay or cancellation;
- There may be impacts to cost, quality of outcome or delays if appropriate monitoring and commissioning processes and acceptance criteria are not in place;
- That CCDHB doesn't actively engage and communicate with its stakeholders;
- That unknown project conditions or design changes result in increased project costs and time delays during the construction phase;
- That the design does not meet all of CCDHB's clinical functionality and operational requirements, and the new building isn't efficient operationally – resulting in increased operational costs;
- The design does not allow for future-proofing of the new building is not taken into account in the design, resulting in a building that may not meet the clinical requirements growth and changes to models of care ahead; and
- That the commissioning processes and completion requirements for the new building aren't undertaken adequately or provided to CCDHB. This includes the delivery of completion

documentation such as; guarantees and warrantees, operating and maintenance manuals, as built drawings, etc.

These key risks will be managed within work groups and will be reported to Steering Group and Portfolio Board. All high and very risks have been included in Annex A.

9.7 Risk Profile Assessment

The Treasury Risk Profile Assessment has been completed. The outcome by area is outlined below:

Table 15: Project risk assessment

Area	Risk Rating
Project's external impact External impacts on project Information Technology element	Low
Project's impact on State Sector and CCDHB Project scope and complexity Procurement element Infrastructure element	Low
Supplier and CCDHB experience CCDHB Project Management Framework	Low

10 Annexes

Annex #	Title	Description
Annex A	Risk Identification and Management	August 2018
Annex B	Discounted Cash Flow and Service Cost Table	August 2018
Annex C	Treasury Risk Profile Assessment	August 2018
Annex D	Signed Development Deed	September 2018