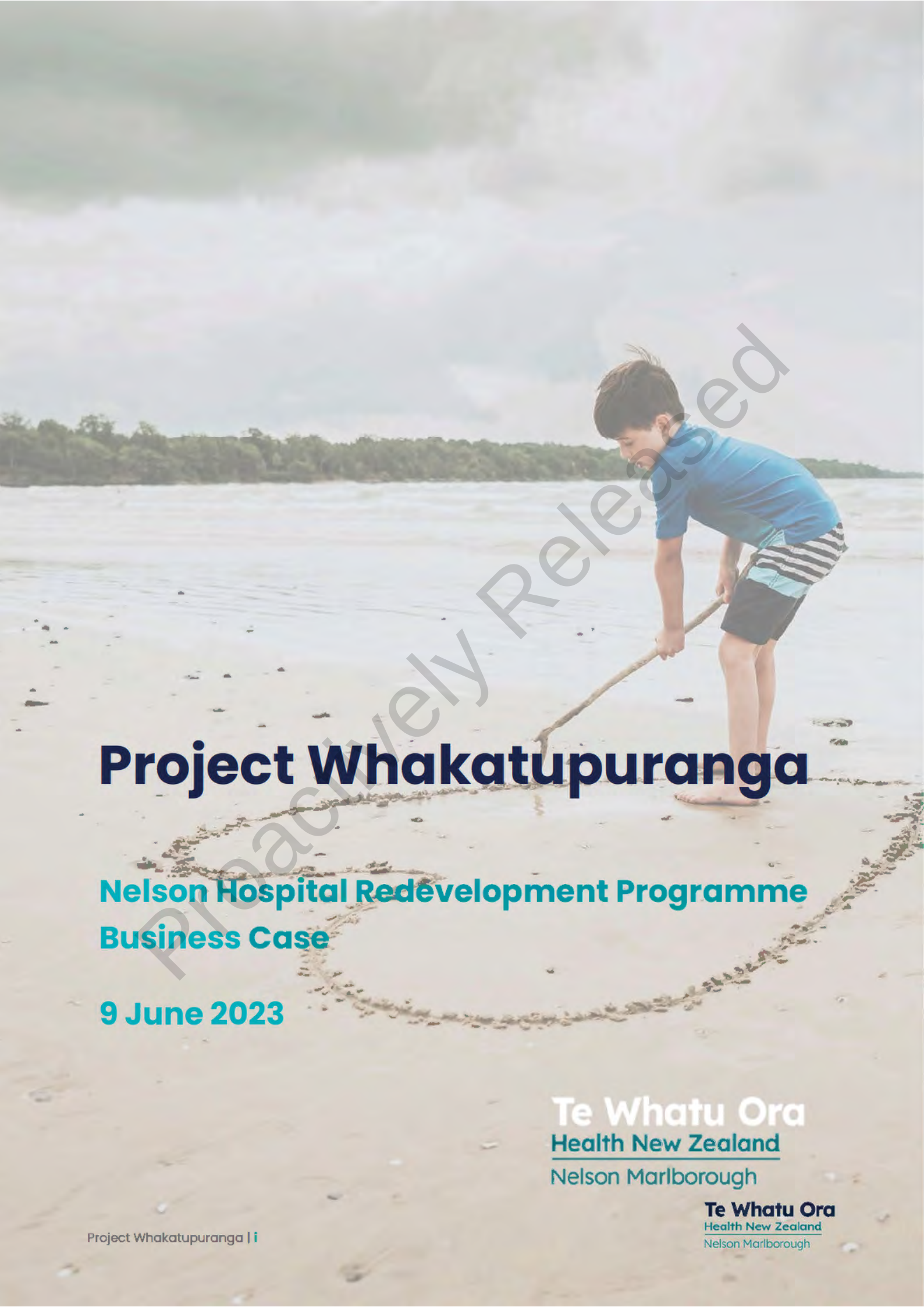

Project Whakatupuranga

Nelson Hospital Redevelopment Programme Business Case

9 June 2023

Te Whatu Ora
Health New Zealand
Nelson Marlborough

Te Whatu Ora
Health New Zealand
Nelson Marlborough

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Glossary

Term	Definition
%NBS	Percent of New Building Standard
AAU	Acute Assessment Unit
AF8+	Alpine Fault Magnitude 8
AH	Allied Health
Amb.	Ambulatory
ARC	Aged Residential Care
ASB	Acute Services Building
AT&R	Assessment, Treatment and Rehabilitation
AusHFG	Australasian Health Facility Guidelines
BoH	Back of House
Cath Lab	Cardiac Catheterisation Laboratory
CBA	Cost Benefit Analysis
CCCS	Conditions of Contract for Consulting Services
CCU	Coronary Care Unit
CHD	Congenital Heart Disease
CIC	Capital Investment Committee
CIIO	Chief Infrastructure and Investment Officer
COPD	Chronic Obstructive Pulmonary Disease
COVID-19	Coronavirus 2019
CSF	Critical Success Factor(s)
CSP	Clinical Services Plan
CSSD	Central Sterile Supply Department
D&D	Data & Digital
DBC	Detailed Business Case
DSA	Detailed Seismic Assessment
DSU	Day Surgical Unit
ECE	Early Childhood Education
ECG	Electrocardiogram
Echo	Echocardiography
ECI	Early Contractor Involvement
ED	Emergency Department
ELT	Executive Leadership Team
EMRAM	Electronic Medical Record Adoption Model
EPB	Earthquake-prone Building
EQ	Equipment
ESD	Environmentally Sustainable Design
ETT	Exercise Tolerance Test
EX	Existing

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Term	Definition
s 9(2)(b)(ii)	
FF&E	Furniture, Fixtures & Equipment
FM	Facilities Maintenance
GDA	Gross Departmental Area
GFA	Gross Floor Area
GP's	General Practitioners
HDU	High Dependency Unit
HVAC	Heating, Ventilation, and Air Conditioning
IBC	Indicative Business Case
ICU	Intensive Care Unit
IIG	Infrastructure and Investment Group, Te Whatu Ora
IIG IDF	IIG Investment and Delivery Framework
IL	Importance Level
IL4	Importance Level 4
IMPB	Iwi Māori Partnership Board
IO	Investment Objective(s)
IOC	Integrated Operations Centre
IPB	Inpatient Building
IPU	Inpatient Unit
IT	Information Technology
L&D	Learning & Development
LINAC	Linear Accelerator (Radiotherapy treatment machine)
LSF	Living Standards Framework
MAPU	Medical Assessment and Planning Unit
MCA	Multi Criteria Analysis
MDT	Multi-Disciplinary Team
MHSOP	Mental Health Service for Older Persons
MIC	Medical & Injury Clinic, aka "Urgent Care" – a primary healthcare facility provided by GP's
MoC	Model of Care
MSP	Managing Successful Programme
MU	Medical Unit
NBS	New Building Standard
NCC	Nelson City Council
NPC	Net Present Cost
NTK	Nelson Tasman Kindergartens
NZ DGN	New Zealand Design Guidance Note, Te Whatu Ora
OPD	Outpatients Department
OT	Operating Theatres
PABX	Private Automatic Branch Exchange
PBC	Programme Business Case

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Term	Definition
PCSA	Pre-Construction Services Agreement
PHO	Primary Health Organisation
PMO	Programme Management Office
PMP	Programme Management Plan
PSG	Programme Steering Group
RHRP	Regional Hospital Redevelopment Programme
SCBU	Special Care Baby Unit
SMP	Site Master Plan
SRO	Senior Responsible Owner
s 9(2)(b)(ii)	
TLA	Territorial Local Authorities
VIE	Vacuum Insulated Evaporator (Tank Oxygen)
Wai2575	2019 Waitangi Tribunal Report on Stage One of the Health Services and Outcomes Kaupapa Inquiry
s 9(2)(b)(ii)	
WST	Workforce/System Transformation

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Executive Summary

Investment Rationale

Purpose

This business case seeks $97.971m[1] release of funding from an existing appropriation allocated to this project for the purpose of commencing the early works and design needed to redevelop Nelson Hospital. This investment will allow the site to be prepared and design be commenced to inform the Detailed Business Case (DBC) and support further decision-making about whether to proceed with major hospital development and redevelopment works.

This business case outlines a programme overall that, if completed, would address the acute and unavoidable seismic risks and capacity constraints at Nelson Hospital, but approval of this case does not commit that expenditure.

Background and History

Since the late 1990s, Nelson Hospital has been working to renew and refurbish their campus:

- The first stage – new inpatient facilities, an Emergency Department (ED), Intensive Care Unit (ICU), day-stay, and radiology buildings – were complete by 2003.
- The second stage of the development, designed to mitigate some of the greatest risks to the resilience and operations of the hospital, was never commenced.
- Since 2017, strategic assessments, business cases, seismic and engineering assessments, models of care, clinical services plans, and capacity and demand modelling have been completed in accordance with advice from the Ministry of Health and Capital Investment Committee.

The key milestones in the Nelson Hospital redevelopment journey are shown in Figure 1 below.

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[1] Rounded to $98m in the rest of this PBC.

Figure 1: Key milestones in the Nelson Hospital redevelopment journey

Strategic Case

Across all stages of this project, the basic narrative has remained the same: Nelson Hospital is in a sparsely populated area exposed to significant seismic risk, and it is unlikely to be able to provide necessary clinical services following a moderate seismic event. Further, the hospital no longer meets modern clinical, patient and whānau expectations and is capacity constrained. Continued delays to the execution of the Nelson programme are exacerbating these risks, which are articulated in this Programme Business Case for the redevelopment.

They key driver for this business case is that Nelson Hospital is subject to high seismic risk putting the resilience of critical clinical services at risk. This is a risk that cannot be mitigated by refurbishment of existing buildings alone…

Nelson Hospital Redevelopment Key Investment Drivers

Problem Statement 1. High seismic risk in the Nelson region due to Alpine Fault proximity and poor seismic resilience of critical hospital infrastructure jeopardises post-disaster service delivery to its population following a significant seismic event.

Nelson Hospital is subject to high seismic risk…

In the Nelson region, there are a number of active or potentially active faults. A significant source of seismic risk to Nelson Hospital is the Alpine Fault, which runs through the South Island.

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Research indicates there is a 75% probability of an Alpine Fault earthquake occurring in the next 50 years, and there is a 4 out of 5 chance that it will be a magnitude 8 plus event.[2]

There are other Faults that could also deliver damaging earthquakes to the Nelson Hospital site, such as the Hikurangi, Wairau and nearby Waimea-Flaxmore fault system.

…and should that risk eventuate, the area could be largely cut off.

Should an earthquake occur, Nelson's access to the rest of New Zealand is at risk which further amplifies the need for Nelson to have a hospital resilience to earthquake damage. Nelson Hospital provides services to approximately 160,000 people across the top of the South Island, including Golden Bay (~80km from Nelson), Nelson, Picton (~140km from Nelson) and Blenheim (~120km from Nelson). Key routes in by road are vulnerable to earthquakes, floods, and other land movements, and even relatively smaller earthquakes and weather events have created major highway disruptions adding hours to travel between Nelson and other South Island centres. Nelson Airport and the Port of Nelson are also susceptible to major earthquakes, liquefaction, and tsunami. It may be some time after an event before commercial flights can be re-established because of the low-lying location.

Planning for the development of a new and resilient Acute Services Building (ASB) at Nelson Hospital therefore needs to continue to allow for these factors and anticipation that the region could be geographically isolated for up to 14 days (due to road closures and airport damage) after a significant seismic event and may need to be largely self-sufficient for some months.

The clinical functionality of key buildings are likely to be compromised in a post earthquake environment, and this needs to be remediated with haste.

Detailed Seismic Assessments (DSAs) undertaken between 2015 and 2020 demonstrate that several buildings across the Nelson Hospital campus have low seismic ratings, ranging between 15%NBS and 55%NBS when assessed as Importance Level 4 structures (essential facilities). Several of Nelson Hospital's key clinical buildings have been assessed as Earthquake-prone by the Council and were issued Earthquake Prone Building (EPB) notices in 2020 and require work be undertaken by 2028. These include George Manson (~70 years old), Percy Brunette (~50 years old), and the Boiler House and Chimney. Earthquake-prone means that a building or part of a building will have its ultimate capacity exceeded in a moderate earthquake. George Manson and Percy Brunette contain and surround critical site services at Nelson Hospital. Ongoing service delivery is at risk should a significant seismic event occur as several buildings across the campus will be damaged. For example, if the service tunnel is damaged, critical services such as power and water will not be able to reach several buildings.

In a post-earthquake scenario, it is likely that buildings will not be immediately occupiable as damaged components will require securing, and some buildings could require more thorough temporary stabilisation before they are able to be occupied. Access to theatres and ED could also be compromised as George Manson occupies the middle of the site, meaning that impractical work-arounds could be necessary to access even those areas of the site that are not irreparably damaged.

Seismic resilience assessments have been undertaken by Beca Ltd. (Figure 2) to evaluate the possible extent of damage and downtime to regain intended functionality. These assessments complement the life safety assessments (DSAs) and demonstrate that the existing Nelson Hospital buildings have poor seismic resilience. This means that critical hospital functions could be interrupted (lost for a period of time), reduced in an Alpine fault (AF8) scenario, or potentially lost in

[2] Alpine Fault Magnitude 8, accessed January 2023, AF8

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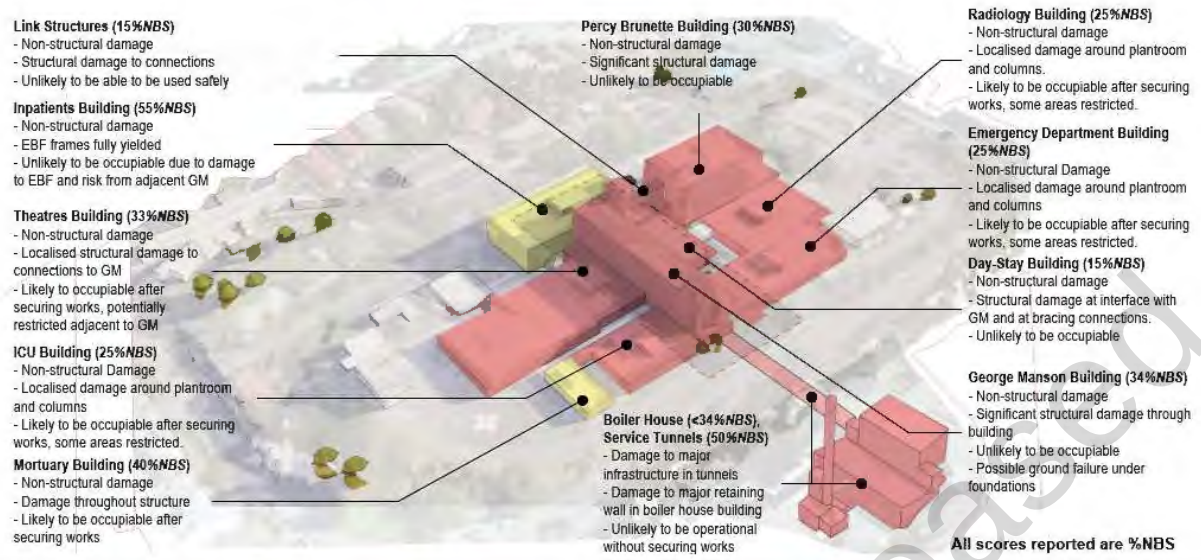
a larger earthquake. An equivalent new hospital designed to modern standards would be expected to remain operational in the same earthquake scenario.

Figure 2: Seismic resilience assessment undertaken by Beca



The high seismic risk faced by Nelson Hospital, its isolation, and the critical clinical services that could be affected by an earthquake means that further delays create further risk to the community in the Nelson District.

Problem Statement 2. The functional configuration and design of facilities constrains innovation and opportunities to improve operational efficiencies, quality of care, patient experience and deliver Kaupapa Māori approaches

In an environment where something must be done, the opportunity needs to be taken to address significant patient experience and operational risks.

The configuration of the Nelson Hospital campus does not support modern clinical Models of Care (MoC). The layout and quality of the physical environment is adversely affecting patient experience, and it is impeding the ability of Nelson to implement an increase in digital care.

Issues exist across the campus, but there are some that particularly affect clinical and patient experience

Wasted clinical time reduces the safety of care, the time available for care, and negatively impacts staff experience.

- There are significant risks in emergency situations as the space around patient beds is limited. For example, in MAPU the space is so tight around the bedside that patients in the immediate neighbouring spaces need to be moved out quickly if an emergency is to occur.
- With the open plan feature of MAPU every other patient in MAPU will be able to see and hear the process and outcomes of medical emergencies of their fellow patients.

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- There are significant challenges with acute bed flow, with ward capacity continually at levels where patients are not placed in their home wards. This has led to a wastage of clinical time.
- The amount of crossover in public and clinical flows is a concern. There are no separate/discreet flows from ED to the theatre suite, nor is there any separation between the flow from theatres to the medical, paediatrics, specialist care baby unit (SCBU), or Maternity wards.
- Due to physical layout and capacity constraints, time is wasted transferring patients between wards. This has led to the hospital being unable to fill all clinical slots due to physical space constraints.

Innovation and implementation of digital healthcare are impeded by layout.

- Current facilities do not support the delivery of virtual health clinics and there is limited telehealth capability, which impacts the hospital's ability to optimise MoC, lower the cost of health care, and address potential inequity of access to care.
- This can present as poor information sharing between care teams, requiring patients to tell their story repeatedly. It also can mean that patients are unable to access virtual care meaning, which is particularly important to maximise clinical efficiency and patient access particularly in Nelson Marlborough where a large portion of the population are a considerable distance from Nelson Hospital where specialists are located.

Patient experience – and particularly the experience for Māori has not kept pace with modern expectations

- There are currently limited opportunities to incorporate Kaupapa Māori MoC. Space also limits the ability to have dedicated whānau space. Additionally, eating and toilet areas are often mixed in culturally inappropriate ways.
- Existing wards do not comply with current standards or guidelines with regards to room sizes and the configuration or provision of ensuites and infection prevention and control. There are currently a lack of ventilation and HVAC which increases the risk of infection.
- An ambulance is required to transport patients from the MH&A Inpatient Unit (Wahi Oranga) to acute services in the main hospital facility. This limits the access to care for some of our most vulnerable patients and is a safety and operational concern due to the time lost during transportation.
- The layout of the facility means that care is provided in a single large area. This reduces the ability of patients to have visitors / whānau at the bedside, and sensitive information may need to be shared with patients without adequate privacy.
- There are also limited opportunities for patient cohort, age, complexity, or gender separation.

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Problem Statement 3. Changing population demographics, health needs, expectations, and care growth are not met by current facilities which compromises service delivery, including the ability to address Māori health equity

Despite an ambitious Model of Care programme focussed on shifting demand to the community and making efficient use of the hospital, demand will exceed available space.

Comprehensive clinical modelling was undertaken in 2019 and updated in 2020/21 to understand the demand on Nelson Hospital Services. Nelson-Marlborough's Ki Te Pae Ora programme (Nelson's MoC Programme) has been developed to improve efficiency, access and outcomes, whilst reducing demand for secondary care services. Ki Te Pae Ora, is ambitious and is highly dependent on out-of-hospital MoC and improving integration and transition between secondary, primary and community care.

To meet the needs of a growing Māori population, Ki Te Pae Ora needs to be implemented at pace with space and flexibility to implement Kaupapa Māori services.

There is significant growth anticipated in the Māori population within the Te Tauihu region particularly for elderly Māori. There is exciting work going on to improve community care and offer better coordinated care for our Māori population. Especially important are services that can function in a Kaupapa Māori way to support engagement and therefore connected ongoing care. Most of these needs and preventive care will be best met in a community setting but the Nelson Hospital needs to provide an appropriate environment for Māori to maximise health gains.

The redevelopment forced by seismic risk should take the opportunity to build for the future and mitigate the current and future demand crisis.

Despite this ambitious programme, there is an acute need for an increase in capacity to accommodate clinical demand being driven by:

- A change in population make-up (an increase in Māori and other historically underserved populations who often require greater care)
- A demographic shift: an aging population, and
- Changing expectations about what the health sector can and should provide.

Modelling indicates that by 2037/38 there will be demand for:

- 94 new physical inpatient beds will be required (excluding Mental Health and Day Stay) – 255 beds versus the 161 beds currently available
- Two new operating theatres (eight versus the current six)
- Two new Endoscopy suites and procedure rooms (three versus the current one).

The risk of major changes to the clinical offering at Nelson from implementation of the Te Waipounamu Clinical and Capital Programme is low. Most services offered by Nelson are core services that are not realistic to be offered elsewhere.

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The offering at Nelson hospital is likely to remain stable. The South Island Alliance has already completed a significant level of regional clinical services planning; given high case load requirements, it is not feasible to only offer services out of town. It is not realistic to provide services in town for rare conditions or where high levels of expertise/equipment/after care, for instant neuro intensive care, are required.

In the long term, as] Nelson Hospital integrates into regional MoC, is likely that there will be some minor 'overs and unders' to needs across the clinical programme, but no major changes to requirements are anticipated.

As clinical demand changes and as the region integrates its clinical offering, Te Whatu Ora, particularly the Regional Hospital & Specialist Services directors, are expecting that:

- The vast majority of adult services delivered to General Medicine and General Surgery are unlikely to change as the current diseases and technology we have are matched to ensure services provide community need. It is possible significant technology changes may occur which will reduce the outpatient workload but with the ageing population escalating needs for Ophthalmological Services are likely to continue.
- Neonatal Intensive Care Services have been reviewed at a national level. It may be that there will be an increased need for transfers in of infants from other secondary care services to make best use of secondary care capacity across the Te Waipounamu and Central Regions.
- Maternity Services need to be delivered as close to home as possible and the capacity to care for mothers and new babies will be required within the Nelson region. Even if the birth rate drops further because of increasing maternal age and increasing number of comorbidities such as diabetes and obesity, there is a higher need birthing population than previously that will need a very similar sized facility.
- Paediatric care will continue to respond to the changing birth rate, but any decline in births is more than matched by the increasing workload related to children with chronic conditions, increased survival of children with chronic conditions and management of diseases such as cancer. The growth of care needs and a growth in neurobehavioral diseases that means that the current planning remains appropriate.
- There may also need to be a consideration of future cancer treatment at Nelson – in particular the need to make space to accommodate investment in LINAC technology. Note, LINAC is currently excluded from the scope of this PBC but is part of the long-term plan for Nelson Hospital.

Solving these problems requires a clear commitment over multiple years and will be guided by the Investment Objectives that underpin the problem statements (Figure 3).

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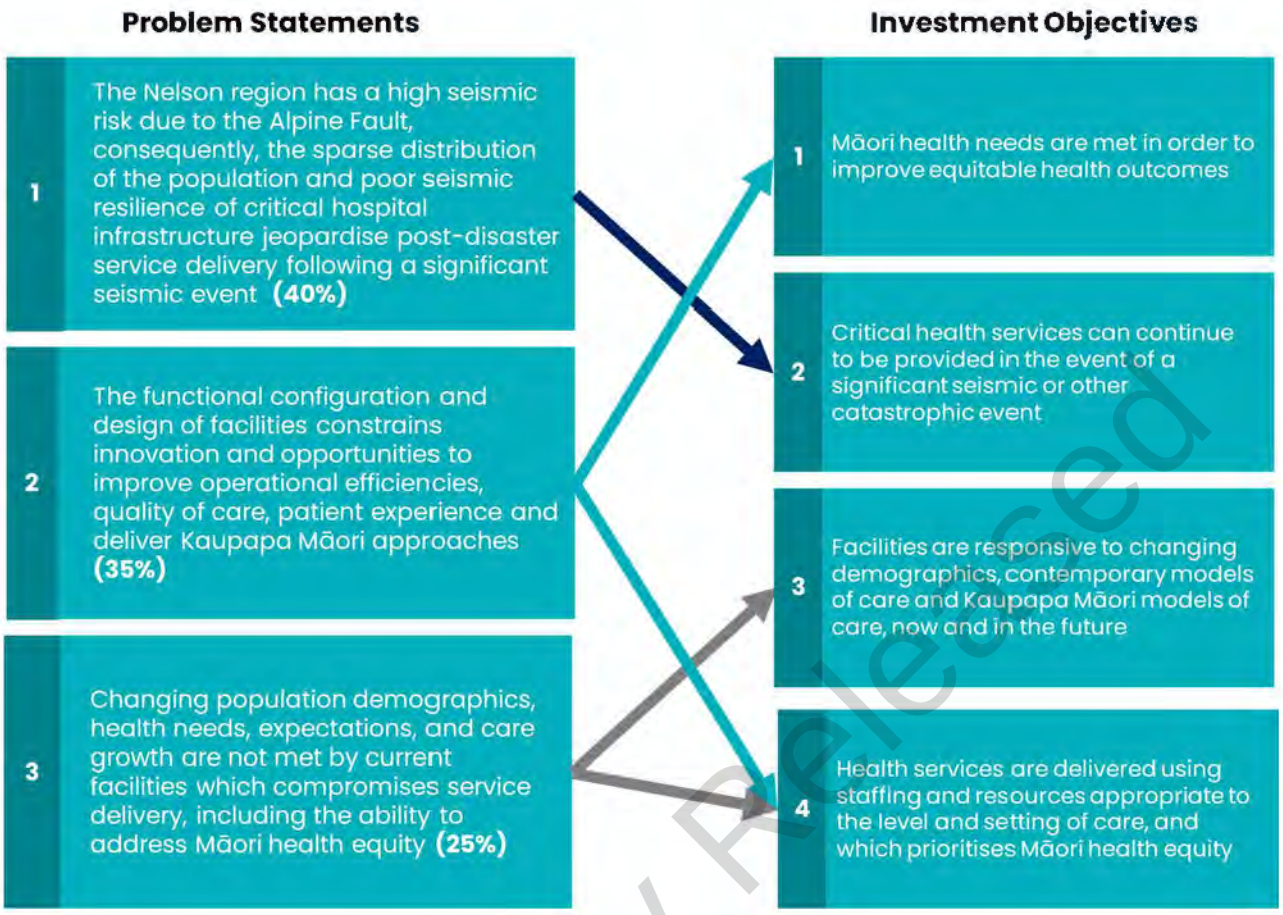
Figure 3: Problem Statements and Investment Objectives



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Economic Case

The options developed to address the Problem Statements defined by the Strategic Case have been subject to thorough testing over the last six-years across multiple business case efforts. Nelson Marlborough progression of this case has been stymied by bad timing: introduction of capital constraints; the uncertainty introduced by health reform. The upside to these delays is that it has provided time for an unusual amount of information to be collected and considered for a PBC. This iterative process has enabled the development of options that are inherently cost-effective and maximise value for money.

It also means that the condition of key buildings are now well understood, and those structures that once were thought to present a risk to the entire site such as the George Manson Building – are now known to be safer than they were initially thought. The quantity of information and refinements have left a set of options that are not significantly different from one another.

All options required new builds to accommodate critical clinical services in highly seismically resilient (IL4) buildings

Given the known operational, resilience, and seismic risks associated with the George Manson and Percy Brunette buildings, it is highly unlikely these could be occupied following a significant seismic event. This necessitates the build of a new IL4 building that can house the critical clinical services previously located in these buildings. In turn, this provides an opportunity to repurpose existing buildings such as the Theatres and former Inpatient Building (IPB) to house clinical services to develop value-for-money options.

All options meet all problem statements, at least to some extent.

All programme options if they are delivered in full:

- Significantly reduce or eliminate seismic risk for critical clinical services
- Provide for much needed bed capacity to meet increasing demand
- Provide for better fit out, enhanced patient and staff experience, and more opportunities to incorporate kaupapa māori approaches.

They differ in terms of:

- How well key clinical collocations are preserved
- The level of seismic risk addressed for some services that are on the margin between critical and important clinical services
- The speed with which capacity is delivered
- Phasing of capital expenditure.

There are four options that deliver benefits, Options 1 and 3 strike the right balance between efficient and effective investment, clinical acceptability, and affordability. Option 2 does not preserve some critical, clinical collocations, and Option 4 is overbuilt: it demolishes buildings that can be reused, creates disruption by its implementation, and builds a site bigger than needed.

Prior to developing the PBC, the Project Team sought a re-evaluation of the seismic rating for the George Manson building. This evaluation determined that the building is not a risk to surrounding

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buildings and can be preserved for some limited non-clinical and administrative functions. This obviates the need to demolish the top four floors, which was a common feature across the options presented in the DBC. The demolition would have been difficult, disruptive, and would have necessitated the demolition of other buildings (notably the Theatres Building) on the site.

The ability to preserve George Manson at its full height, and partially reuse it presented an opportunity to develop new configurations that made use of the existing space, reducing the spatial requirements for new buildings, and allowing the hospital to retain more of its character.

Four options were developed for the PBC. Options 1-3 are newly developed and retain the George Manson building. Option 4 is the previously Preferred Option retaining George Manson and carried forward from the DBC. At the end of the programme, all options are delivered at the existing Nelson Hospital campus and provide the same functions and capacity. Functional areas are modernised, and capacity is increased to meet predicted demand. The indicative delivery timeline for each option is comparable, with minor variations based on differences in sequencing.

These options were assessed against Critical Success Factors (CSFs) and a Multi Criteria Analysis (MCA) was performed as shown in Section 2.4 of the Economic Case. The CSFs are outlined in Table 1.

Table 1: Critical Success Factors Overview

Critical Success Factor	Description	Weight
CSF1 Patient and Population Outcomes	• How well does the option facilitate the delivery of health services in terms of: Equity, quality, safety, experience, and family/whānau integration? • How effectively does the option provide the appropriate level of capacity to meet demand over time	25%
CSF2 Māori Health Equity	How well does the option address Māori health equity in Nelson Marlborough, support Kaupapa Māori approaches and provide benefits to whānau and communities?	15%
CSF3 Adaptability	How efficiently is the option able to respond flexibly to changing health needs and contemporary MoC, including integration of family and whānau within the care team?	10%
CSF4 Viability	• How well the option is able to be delivered given: the organisation's ability to respond to the changes required, the level of available skills, workforce, and supplies required for successful delivery, socioeconomic, political, environmental, cultural impact and community acceptability • How well does the option support a sustainable workforce through facilitating interdisciplinary functioning, provide appropriate clinical support and L&D opportunities leading to higher levels of employee attraction, engagement and retention, and in turn improved service delivery?	15%
CSF5 Potential Affordability	How well the option: • Can be met from likely available funding, currently and over time • Meets other funding constraints	10%
CSF6 Seismic Resilience	How effectively does the option address known seismic risk	25%

The key differentiating factors between the options presented in the PBC are the use of existing buildings versus new builds, the adjacencies between functional areas (some of which have a marked operational impact), the implications of the different designs on construction sequencing and the consequent disruption to operations, the total build cost, phasing, and optionality.

- The four options that were developed for the PBC are outlined below, and the delivery timing of the option, its area, and costs, risks and benefits are summarised in Table 2 and Table 3.

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Option 1 – Intermediate

- Delivers a single new IL4 rated Acute Services Building (ASB) that houses acute services and inpatient wards, with an integrated energy centre supporting operational continuity post-earthquake. George Manson and the existing Theatres buildings are repurposed for admin and non-critical clinical services. This option delivers strongly against assessment criteria.
- In Options 1 and 2, all inpatient wards are in the IL4 rated ASB. Inpatient wards are not required by policy to be located in an IL4 building (IL3 is sufficient) and as such these wards are located in an 'overengineered building'. This is done for practical reasons: it is less expensive to build a single IL4 structure to house clinically critical and inpatient services, as opposed to constructing two buildings with the appropriate ratings. Providing for more IL4 space in the medium-term also supports South Island resilience and allows for future expansion of clinically critical services while providing for greater seismic resilience at Nelson Hospital.

Option 2 – Minimum New Build

- As above, this option delivers a single new IL4 rated ASB. Some essential services (in particular the Cardiac Catheterisation Lab) are housed in the existing Theatres building. Locating this service away from other critical services in the ASB has negative clinical implications. This option has the lowest cost, but the trade-off is operational inefficiencies and vulnerability to residual seismic risk. It performs the weakest against assessment criteria, in particular those related to seismic risk and quality of care.

Option 3 – Intermediate, Phased

- This option delivers two separate buildings: an IL4 rated ASB and IL3 rated Inpatient Building (IPB). George Manson and existing Theatres buildings are repurposed as above. The two new buildings are delivered in separate phases. This option performs acceptably against the assessment criteria, although there are some trade-offs to operational efficiency due to the separation between the buildings.
- Critically, delays to the Nelson Hospital programme mean that there is less optionality than there was before. Practically, there is limited phasing, with the IPB Phase 3 needing to start in parallel with Phase 2 delivery to meet bed demand. However, it does provide a theoretical off-ramp for investment should more pressing priorities present in the Te Whatu Ora programme.

Option 4 – Maximum New Build

- Similar to Option 3, this delivers two new buildings: a larger IL4 rated ASB housing all critical services with an integrated energy centre and a larger IL3 rated IPB. However, this option demolishes the existing Theatres and top four floors of the George Manson building.
- While this option performs strongly against many assessment criteria, it is inefficient as it doesn't make full use of existing space and requires the largest new build area. This option builds nearly 47,000m^2 of new space when only some 38,800m^2 is needed. This introduces significant costs to the programme, and delays programme delivery. Practically this means that seismic resilience and clinical risks persist longer, and fixing them costs more, causing greater site disruption than under Option 1.

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Table 2: Options Summary (timing, cost). Note, values in this table have been rounded.

Option	Overall End State Area[3]	Existing Buildings	Construction Milestones	New Build (GFA)	Cost Estimate[4]	Completion
Option 1 Intermediate	60,631m^2	George Manson building repurposed for admin. Theatres building – Endoscopy/bronchoscopy, L&D Skills Lab.	Combined ASB & IPB	36,129 m^2	s 9(2)(b)(ii)	Nov 2031
			Central plant	2,371 m^2	-	-
			All critical services seismically resilient	-	-	Nov 2031
			Delivery of complete programme scope[5]	**38,828 m^2 (total)**	**$1.098 b**	Oct 2033
Option 2 Minimum New Build	59,365m^2	George Manson building repurposed for admin. Theatres building – Endoscopy/ bronchoscopy, Cath Lab, Interventional Suite.	Combined ASB & IPB	34,943 m^2	s 9(2)(b)(ii)	Sep 2031
			Central plant	2,293 m^2	-	-
			All critical services seismically resilient	-	-	Sep 2031
			Delivery of complete programme scope[5]	**37,562 m^2 (total)**	**$1.070 b**	Feb 2032
Option 3 Intermediate, Phased Approach	62,451m^2	George Manson building repurposed for admin. Theatres building – L&D Skills Lab.	ASB completed	32,338 m^2	s 9(2)(b)(ii)	May 2031
			IPB completed	5,494 m^2	s 9(2)(b)(ii)	Nov 2032
			Central plant	2,483 m^2	-	-
			All critical services seismically resilient	-	-	May 2031
			Delivery of complete programme scope[5]	**40,647 m^2 (total)**	**$1.144 b**	Apr 2033
Option 4 Do Maximum	63,590m^2	George Manson building (levels 4-7) demolished. Theatres building demolished.	ASB completed	31,943 m^2	[redacted]	Nov 2031
			IPB completed	8,152 m^2		Jun 2034
			Central plant	6,550 m^2	-	-
			All critical services seismically resilient	-	-	Nov 2031
			Delivery of complete programme scope[5]	**46,842m^2 (total)**	**$1.275 b**	Jul 2034

[3] Total of "New build area","Refurbished area","Vacant area","No Work area","Extention","Shell area"
[4] Capital expenditure (nominal)
[5] This excludes Phase 8: New Radiation Oncology Building which is out of scope of the Programme. This Phase is estimated to end in May 2036 for Option 1-3 and June 2037 for Option 4. The end date of programme scope in this table is driven by Phase 9: New Carpark Building

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Table 3: Rapid Options Assessment summarising the findings of the Economic Case with respect to the Problem Statements

Option	Seismic Resilience	Quality of Care	Future Demographic Needs	Advantages	Disadvantages	Recommendation
Option 1 - Intermediate	Addresses seismic risk	Provides modern, flexible, fit-for-purpose functional spaces	Meets forecast demand	• Addresses key risks and shortfalls in the most efficient manner	• Perceived over-performance with some services (medical/ surgical wards) located in an IL4 rather than IL3 building	**Recommended** for consideration as Preferred Option
Option 2 – Minimum New Build	Cath Lab located in (non-IL4) existing Theatres building	Care adversely affected due to layout	Meets forecast demand	• Smallest total GFA for the new building • Maximises use of existing buildings • Lowest cost	• Incurs unacceptable seismic, clinical, and operational risks	**Not recommended** by the PBC for further development
Option 3 – Intermediate, Phased Approach	Addresses seismic risk	Provides modern, flexible, fit-for-purpose functional spaces. Some inefficiencies due to separation between ASB and IPB	Critical services delivered in line with projected increases in demand (provided the programme proceeds as planned)	• Allows a phased approach to construction, capital expenditure. Allows decision on whether to defer the second phase.	• Clinical risk incurred if second phase is not delivered. • Places key clinical areas in four separate buildings.	**Recommended** for consideration as Preferred Option
Option 4 – Do Maximum	Provides the most seismically resilient solution	Provides modern, flexible, fit-for-purpose functional spaces	Meets forecast demand	• Addresses seismic risks • Allows a phased approach	• Inefficient use of resources • Largest GFA • Most expensive option	**Not recommended** by the PBC for further development

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Preferred Option

Option 2 was eliminated through the Critical Success Factor (CSF) assessment as it performed poorly on patient and population outcomes. The remaining options were further evaluated through an MCA with Options 1 and 3 scoring essentially co-equally and were taken through for further consideration. Based on the performance of the options, we consider that Option 1 - Intermediate presents the best balance between seismic resilience, clinical delivery, and flexibility. The other options have flaws, and Option 3 does not sufficiently phase capital to present real optionality to Te Whatu Ora.

They key differences between the Options 1 and 3 are:

- **Estimated Capital Expenditure:** The high-level estimate for Option 3 is $1.144 billion, which is 4% or $46m greater than the $1.098 billion estimate for Option 1. Cost estimates will continually be refined as design progresses and site enabling works provide a better understanding of the condition of existing facilities and infrastructure. However, the initial high-level estimates indicate that Option 1 is the more cost-effective option. Option 3 does not present real or meaningful cost phasing, as expenditure on Phase 3 (the IPB) needs to start in tandem with Phase 1 (the ASB) to meet bed demand.
- **Delivery Timeline:** Option 1 has an indicative completion date for the combined ASB and IPB building of November 2031. Option 3 is delivered in two phases, with the ASB building completed in May 2031 and the IPB building completed in November 2032.
- **Phasing Of Capital Funding:** Option 1 is designed to deliver the ASB inpatient capacity in a single phase, whereas Option 3 delivers this in two phases (ASB followed by a separate new IPB) allowing for a greater degree of control over capital cash flows. Option 3 commits to a smaller investment up-front for the first phase of works and provides decision-makers an off-ramp prior to committing funds for the second phase. It should be noted that, while Option 3 offers more choice over funding commitments, choosing not to deliver the second phase comes with a risk of not meeting the demand for hospital beds. Following the delivery of the first phase of Option 3 (ASB), Nelson Marlborough will be 30-beds short of what is required, meaning the second phase IPB must be delivered to meet demand.
- **Clinical Delivery:** Option 1 offers the best clinical outcomes once completed, due to the collocation of acute services, inpatient care, and critical support services within a single building. This results in a streamlined hospital campus that maximises the use of existing space. This provides more space that can be used for master planning to accommodate future builds.

Option 1 is recommended as the Preferred Option for further development in the Commercial, Financial, and Management Cases.

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Commercial Case

Delivery and Procurement Approach

Context

As part of the Regional Hospital Redevelopment Programme, Project Whakatupuranga seeks to employ delivery models that build capability in the market and form collaborative partnerships.

Nelson Marlborough hospital – as part of the Regional Hospital Redevelopment Programme (RHRP) – will consider non-traditional procurement and delivery models that support enhanced collaboration with the market. The RHRP, and Project Whakatupuranga, presents opportunities to share knowledge, create efficiencies, develop skills and grow capability in the regions and across the country to support innovation in later RHRP projects. There is an opportunity to create efficiencies across various RHRP projects in design and delivery through standardised designs, shared supply chains and construction methodologies (including opportunities for off-site manufacturing) across projects.

Phases and Delivery Packages

For this project Te Whatu Ora seeks to gain momentum and manage risk by completing some early works and engaging a design team that can support a collaborative (ECI) model of main works delivery.

Project Whakatupuranga is being delivered as multiple phases. This PBC focusses on the delivery of Phase 1, as this PBC will form the vehicle for decision-making for funding that phase. In considering the programme, however, a view is also being taken as to the likely direction of travel for Phase 2 – the main build phase for the ASB in the Preferred Option.

Phase 1 comprises primarily of early and enabling works along with key infrastructure upgrades and can be delivered through a traditional approach (Construct Only), with Design and Build used in exceptional circumstances where further design is required (for example, for the new Early Childhood Education (ECE) centre if approved). Design services for the ASB and incorporated energy centre will be engaged using a standard CCCS.

An initial recommendation (Early Contractor Involvement) for Phase 2 is presented in the Commercial Case.

Figure 4 illustrates the interaction between the three Subprogrammes and project phases and provides a high-level summary of the packaging approach. The Subprogrammes sit across all project phases, and packages for all Subprogrammes have been defined within phases to align with overarching Programme sequencing and Business Case requirements. Detailed Business Cases (DBCs) will be required to progress through future phases of Project Whakatupuranga.

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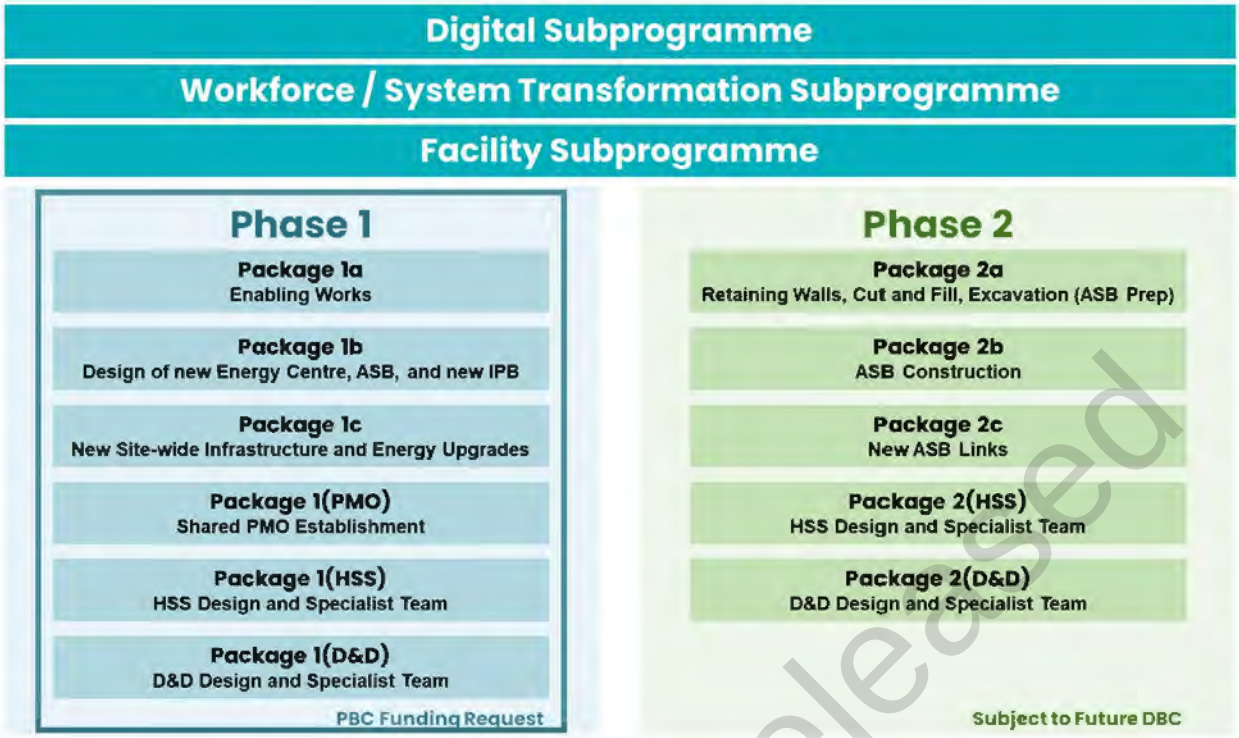
Figure 4: Overview of Sub-Programme interaction with project phases and packages



Indicative Procurement Timeframes

Phase 1 needs to procced with haste, and there will be opportunities for market engagement as part of the DBC development to test the practicality of delivery with a collaborative model.

While further planning is still underway (to be finalised in alignment with Infrastructure and Investment Group (IIG) internal processes following PBC submission), high-level Phase 1 procurement timeframes are presented in Table 4. The Procurement Strategy will provide greater granularity with respect to key procurement activities for each package.

Table 4: Indicative Phase 1 Procurement Timeframes

Milestone	Indicative Timeframe
s 9(2)(b)(ii)	

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s 9(2)(b)(ii)

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Financial Case

*Te Whatu Ora seeks the **release of $98m in funding for Phase 1 of Project Whakatupuranga** from an existing appropriation of $150m made for the Nelson Marlborough Hospital Redevelopment in the Budget 2022 Health Capital Appropriation. This will fund the capital costs of Phase 1 of Option 1 Intermediate (Table 5)*

This funding will allow for Project Whakatupuranga momentum to be maintained and will progress the activities noted below. This funding will also support the establishment of a Programme Management Office (PMO) that will be shared across all three workstreams; the Workforce/System Transformation (WST) Design and Specialist Team; and the Digital Design and Specialist Team.

- **Phase 1a** – Enabling works, s 9(2)(b)(ii)
- **Phase 1b** – Design of new Energy Centre, ASB, Civil Works
- **Phase 1c** – New site wide infrastructure including Energy Upgrades

This funding will enable preliminary design of the ASB to be completed, while retaining sufficient funding flexibility to continue through to detailed design. The design will also provide opportunities to detail more thoroughly how the ASB will operate in practice and identify clinical and operational efficiencies. This information will support the development of a DBC for Phase 2 – new ASB, in which the capital for this phase will be requested s 9(2)(b)(ii). This will provide further evidence and greater confidence that this programme will deliver on the Investment Objectives.

The total programme is anticipated to have a capital cost of **$1.098b for Option 1 – Intermediate.** Subsequent DBCs for the latter phases will support the drawdown of the capital required to deliver these – beyond the s 9(2)(b)(ii) requested for Phase 1. These DBCs will contain more detail about the capital, operating, and maintenance costs, and will also provide a quantitative risk assessment outlining the cost risks associated with the level of design to which the Preferred Option in the DBC is progressed.

For the purposes of this PBC, it is assumed that the **incremental operating costs of** s 9(2)(b)(ii) (nominal, over 20 years) that will be incurred following the redevelopment (should it proceed in full) will be **funded through baseline operating costs of Te Whatu Ora.**

The Te Whatu Ora Board will have opportunities to re-evaluate this project following the completion of preliminary design at which point s 9(2)(b)(ii) will have been spent. If the DBC does not progress, this is sunk expenditure that cannot be recovered.

Table 5: Financial Case Summary[6]

Summary of PBC funding – Capital Costs (nominal)	s 9(2)(b)(ii)
Funding request (see Phase 1 in Table 66)	
Total capital cost of Option 1	
Total incremental operating cost	
Total incremental depreciation (proxy for ongoing asset maintenance and replacement)	
Total whole of life cost (incremental, additional to BaU) (nominal)	
Total whole of life cost (incremental, additional to BaU) (Present Value)	

[6] WOLC have been included for comparison. These are not part of the funding request. WOLC are in present value and have been discounted at 5% each year. Depreciation has been included in WOLC as it is a proxy for ongoing asset maintenance and replacement). Interest has been excluded according to Treasury guidance The Treasury, Whole of Life Costs Guidance, dated 30 June 2015, from https://www.treasury.govt.nz/publications/guide/whole-life-costs-guidance, date accessed 15 May 2023

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Management Case

How Delivery Will be Managed for Success

The Management Case sets out the delivery requirements for Phase 1 of the Preferred Option and a plan that will be put in place to support successful implementation. The Project Whakatupuranga programme will be delivered in line with the IIG Investment and Delivery Framework (IIG IDF) guidance, process and templates. As shown in Figure 5 below, The IDF comprises five sequential and inter-connected phases. Each phase produces defined deliverables, which can be refined to achieve the best possible outcome. Further information on this approach is provided in the Management Case.

Figure 5: IIG Investment and Delivery Framework

The organisational structure proposed in the PMP for Project Whakatupuranga is shown in Figure 6 below. The organisation structure is intended to facilitate appropriate tolerances, delegations, risk escalation and contingency in each layer of governance to enable agile and best practice programme delivery. It is intended that for major infrastructure programmes, governance of the Facility, Digital and WST Subprogrammes will be structured within a single major programme led by a Senior Responsible Officer (SRO) and a Programme Steering Group (PSG).

The PSG, chaired by the SRO, will oversee delivery and provide direction and guidance for all stages of the programme. The group will meet monthly to provide direction, monitor progress, support decision making, execute change control and to resolve issues and risk as escalated by the Subprogrammes.

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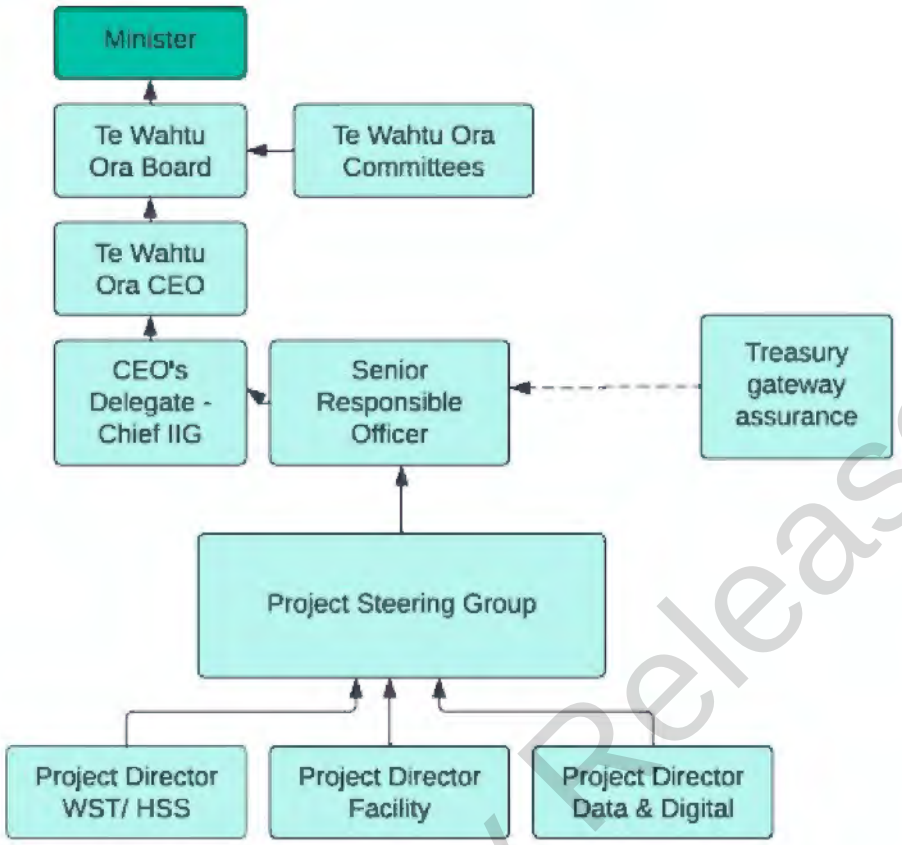
Figure 6: Organisation structure for Project Whakatupuranga



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Programme Leadership and Change Control

The programme is led by the IIG, a function under the 'Enabling' division of Te Whatu Ora. IIG is overseen by the Chief Infrastructure and Investment Officer, a member of the Executive Leadership Team (ELT). Data & Digital is also a function under the 'Enabling' division of Te Whatu Ora.

The Project Whakatupuranga programme as a whole is being delivered for the benefit of Nelson Marlborough, under the Te Waipounamu region of Te Whatu Ora. The Lead – Hospital and Specialist Services, for Nelson Marlborough, reports to Regional Director – Hospital and Specialist Services, who in turn reports to the National Director – Hospital and Specialist Services, a member of ELT. The ELT reports to the Chief Executive.

Programme change control procedures are covered in the Programme Management Plan (PMP) and are concerned with ensuring that changes are managed effectively and do not negatively impact the programme objectives, schedule, or budget.

Any change that is likely to alter scope, time, cost or benefits outside of agreed tolerance must follow the change control process. Delegations for change assessment and decision making will be issued upon approval of the PBC and appropriation of funds by the Chief Infrastructure and Investment Officer (CIIO). Table 6 summarises how the SRO and PMO play an important role in the management of change control processes.

Table 6: Management of change control processes

Management of change control processes	
SRO	Responsible for overseeing the overall delivery of the programme, and as such, plays a key role in managing change control processes. Their specific responsibilities with regard to change control processes include: • Ensuring that the change control process is followed consistently and that changes are evaluated based on their impact on the programme's objectives, outcomes, risks, and benefits. • Providing guidance and direction to the programme team on the management of change control processes. • Endorsing change proposals and ensuring that they are aligned with the programme's objectives, outcomes, and benefits. • Monitoring the implementation of changes and ensuring that they are delivering the intended benefits.
PMO	• Developing and maintaining the programme's change control procedures and ensuring that they are followed consistently and recorded. • Providing guidance and support to the programme team on the management of change control processes, including the identification, assessment, and evaluation of changes. • Monitoring the implementation of changes and ensuring that they are delivering the intended benefits. • Reporting on the status of change control processes to the Programme Board and other stakeholders.

Programme and Key Milestones

The Project Team has developed a realistic and achievable Master Programme for the design, consenting and construction phases to deliver the Project Whakatupuranga programme. Key deliverables and milestones are contained in the table below. Refer to Appendix Q for the Master Programme.

Table 7: Option 1 Key milestones and estimated start and end dates

Key milestones	Start date	End date
Approvals Process	30 May 23	13 Oct 23
ELT, CIC & Te Whatu Ora – Health New Zealand Board Endorsement	30 May 23	23 Jun 23
Ministry of Health review	16 Jun 23	3 Jul 23
Submit to Joint Ministers	4 Jul 23	4 Jul 23
Joint Ministers Consultation and Approval	5 Jul 23	19 Jul 23
Submit to GOV	20 Jul 23	20 Jul 23
GOV Meeting	27 Jul 23	27 Jul 23
Lodge PBC in Cabinet	27 Jul 23	27 Jul 23
Cabinet Approval (indicative date)	31 Jul 23	31 Jul 23
Mobilisation period (indicative date)	24 Jul 23	18 Aug 23
Start of pre-election period for Election 23 (14 October 23)	14 Jul 23	14 Jul 23

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Key milestones	Start date	End date
s 9(2)(b)(ii)		

Following ministerial and Cabinet approval of the PBC, and prior to the design work beginning, it is expected that an establishment phase will get underway to:

- Establish the PMO shared support services
- Complete the client-side team
- Establish governance groups and develop and finalise the Terms of Reference,
- Develop the Programme Brief
- Develop the Programme Management Plans
- Engage consultants/contractors to proceed with Phase 1a, 1b and 1c.

The Project Director will be responsible for establishing and managing a formal delivery schedule with the appropriate scheduling tools. For scheduling and reporting purposes, progress will be tracked in terms of major milestones relative to the current stage, phase and investment gate.

The Project Director will also progress work on delivering the latter phases (Phase 2 onwards) as the programme progresses and through subsequent DBC's. This approach balances the need to make progress and demonstrate commitment to the programme with ensuring rigour around decision making processes.

A summary of the programme plan is shown in the figure below.

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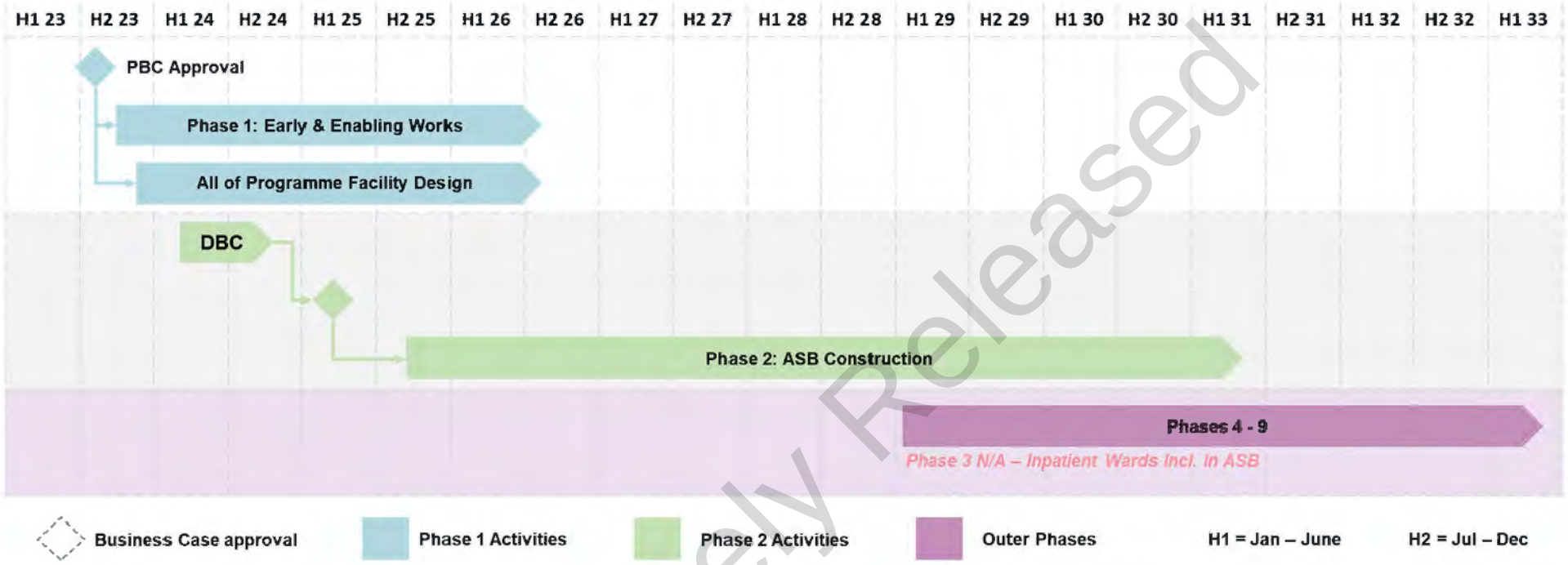
Figure 7: High level programme plan for Option 1. A DBC will be completed for the latter Phases. Phase 3 is not included in Option 1 as there is no new IPB.



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Conclusion and Next Steps

Following the approval of the PBC, the immediate next steps for Te Whatu Ora are to establish a PMO / 'core team' to drive the development of the Programme Brief and begin the procurement of design and consultant services for Phase 1. The key milestones that should occur within the first year of obtaining funding include:

- **Establish the PMO shared support services** to support the delivery of the entire programme.
- **Complete the client-side team** consisting of both Te Whatu Ora staff and required external advisers, including legal, commercial and any project management assistance.
- **Establish governance groups and develop and finalise the Terms of Reference**, including for the Project Board, Project Control Group, Project User Group, Clinical Reference Group and Project Working Group.
- **Develop the Programme Brief**, and given the urgent redevelopment needs, Te Whatu Ora intends to begin this work ahead of DBC approval.
- **Engage consultants/contractors** to proceed with Phase 1.
- **Develop the Programme Management Plans,** which are the documents that have been used to inform the Management Case. Work with Te Whatu Ora – Nelson Marlborough will continue in order to implement the Stakeholder Communications and Engagement and Change Management Plans. This will help ensure that stakeholder understanding, and engagement is high from day one, and impacts on the business due to changes associated with Project Whakatupuranga are well understood.
- **Engage the required external advisers to** support the team including legal, commercial and any project management assistance.

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1 Strategic Case

1.1 Strategic Context

1.1.1 Organisational Overview

As part of the Te Waipounamu Region, Te Whatu Ora – Health New Zealand Nelson Marlborough (Nelson Marlborough) covers the top of the South Island (Te Tau Ihu), specifically the Nelson, Tasman, and Marlborough regions. Nelson Marlborough provides healthcare services to a population of 169,700 people across an area of 22,700 square kilometres (km)[7]. This includes Golden Bay (approx. 80 km from Nelson), Nelson, Picton (approx. 139 km from Nelson), Murchison (approx. 123 km from Nelson) and Blenheim (approx. 120 km from Nelson).

Nelson Marlborough provides care from two secondary hospitals (Nelson Hospital and Wairau Hospital in Blenheim), the Nelson Marlborough Public Health Service,[8] and multiple community services. Additionally, Nelson Marlborough also relies on Capital Coast / Hutt Valley and Canterbury to provide some tertiary/specialised services.

Nelson Marlborough has a sparsely distributed population and is relatively isolated from the rest of the country due to its position at Te Tau Ihu. Nelson is 210 km (six hours by sea, 45 minutes by air) from Wellington and over 400 km (five hours by road, 55 minutes by air) away from Christchurch.[9] The average journey between the Nelson and Wairau Hospitals is over two hours and is challenging due to the mountainous terrain. Figure 8 portrays Nelson Marlborough's geographic isolation and other geographic features, including the Alpine Fault.

Nelson Marlborough demographic profiles are illustrated in Figure 9.[10] In total, 11 percent of the Nelson Marlborough population identify as Māori.

Figure 8: Te Whatu Ora – Nelson Marlborough (illustrative only)

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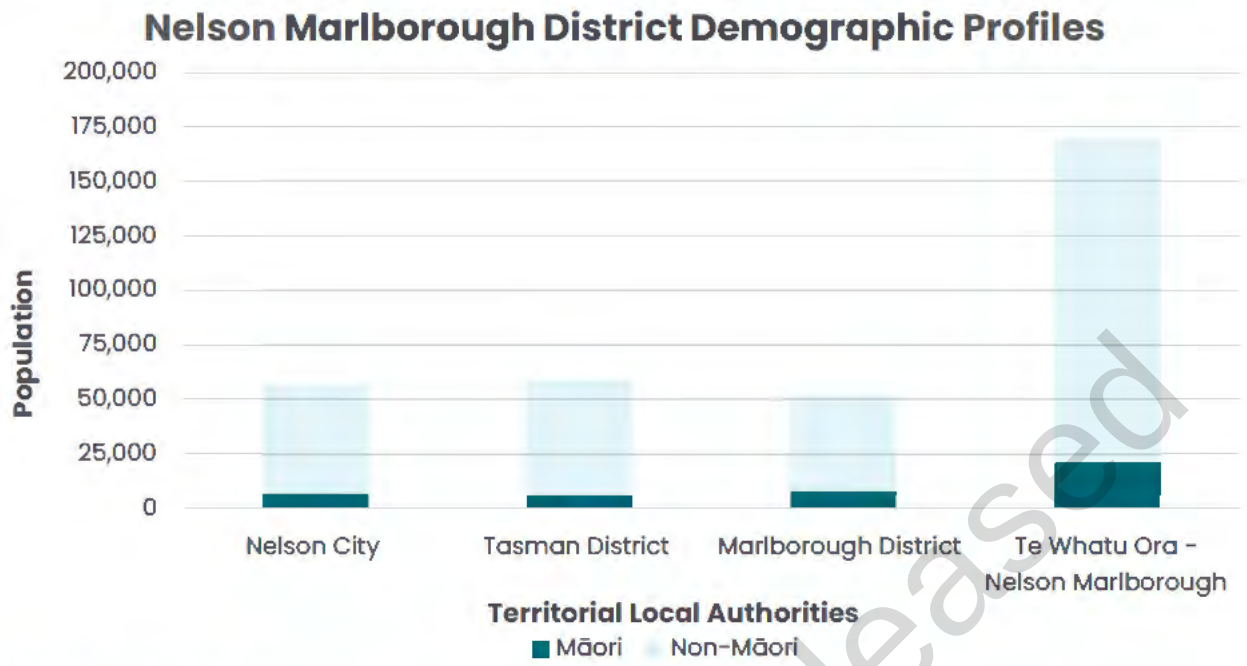
[7] Based on 2022, StatsNZ high projection estimate, sourced from Tāngata - Our People - Te Whatu Ora - Nelson Marlborough (nmdhb.govt.nz)
[8] https://www.nmdhb.govt.nz/public-health-service/
[9] Data sourced from Air New Zealand flight path and google maps
[10] Tāngata - Our People - Te Whatu Ora - Nelson Marlborough (nmdhb.govt.nz) accessed May 2023. 10.7% of Tasman, 12.5% of Nelson, 15.5% of Marlborough.

Te Whatu Ora
Health New Zealand
Nelson Marlborough

Figure 9: Nelson Marlborough Demographic Profile



Health Status

Nelson Marlborough's population is generally in better health than other parts of the country.

- The Nelson Marlborough population has a higher life expectancy and lower amenable mortality than the New Zealand average
- Māori in Nelson Marlborough are doing better on most health indicators than Māori elsewhere in New Zealand
- Children (0-14 years) are generally at lower risk and in better health than their national counterparts[11]

Overall, Nelson Marlborough does well but has the potential to do even better. Like the rest of New Zealand, long-term conditions such as diabetes, cancer, and cardiovascular, cerebrovascular, and respiratory disease account for 80 percent of early deaths. Key statistics are presented below:

- In 2016/17, 6.3 percent of Nelson Marlborough adults were diagnosed with Coronary Heart Disease (CHD), slightly higher than the national average
- One in five adults in Nelson Marlborough had arthritis (20.6 percent), significantly higher than the national average
- One in four adults in Nelson Marlborough reported having chronic pain (24.4 percent), also significantly higher than the national average[12]

Māori Population

11 percent of New Zealand's population who identify as Māori live in the Nelson Marlborough region (Te Tauihu).[13] The focus of the health system has been directed toward improving health equity for Māori, and there are some particular focus areas where outcomes for the Māori

[11] Nelson Marlborough Clinical Service Plan, version March 2019, revised April 2020.
[12] Nelson Marlborough Clinical Service Plan, version March 2019, revised April 2020.
[13] Tāngata - Our People - Te Whatu Ora - Nelson Marlborough (nmdhb.govt.nz), accessed May 2023. 10.7% of Tasman, 12.5% of Nelson, 15.5% of Marlborough. This is a total of 18.5% of Aotearoa's Māori population.

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population in Nelson Marlborough significantly deviate from those of the non-Māori population. In Nelson Marlborough:

- Māori die at twice the rate as non-Māori from cardiovascular disease
- Māori tamariki have a mortality rate one-and-a-half times the rate of non-Māori children
- Māori are more likely to be diagnosed and die from cancer
- Māori die on average seven years earlier than non-Māori
- Māori and Pacific peoples are three times more likely to die within one year of heart attack or stroke
- Māori are less likely to be referred to secondary services
- Greater proportion of Māori live in areas of high deprivation, with increased likelihood of conditions related to poverty in children
- 20 percent of Māori in Nelson Marlborough are not enrolled in Primary Health Organisations (PHOs)[14]

This inequity is the result of differences in the social, economic, and behavioural determinants of health and wellbeing, and access and quality of care.

Aging Population

Nelson Marlborough has an aging population, with the greatest population growth occurring in those aged over 75. This places an increased demand on health services. Keeping an older person healthy generally requires greater intervention than for a younger cohort as they are more likely to have long term conditions and comorbidities. A better designed Nelson Hospital can help to deliver health services more efficiently as it is more prepared for increased demands on services.

Other Vulnerable Populations

Nelson Marlborough is home to other vulnerable populations, including former refugees and seasonal workers. Currently, Nelson is a settlement location under New Zealand's Refugee Quota Programme. These former refugees encounter unique equity challenges such as language barriers, poor health literacy, physical and mental health problems, and histories of trauma. Vulnerable populations, such as former refugees and their needs, must be considered when planning health services.

Marlborough is home to seasonal workers through the Recognised Seasonal Employer (RSE) Scheme. As of August 2022, there were 3,000 RSE employees from nine Pacific nations working in the Marlborough region.[15] A report led by the Equal Employment Opportunities Commissioner found that the scheme allowed for systematic human rights abuses, including poor access to healthcare, unhealthy conditions, and health and safety issues.[16]

Strategic Priorities

Within the 2021-22 Nelson Marlborough Health (now Te Whatu Ora – Nelson Marlborough) Annual Plan, Te Whatu Ora identified several strategic priorities to guide health service delivery and meet the needs of the population outlined above. These priorities are outlined below:

- **Achieve Health Equity:** Improve the health status of those currently disadvantaged (particularly Māori) and reduces barriers to accessing healthcare

[14] Te Whatu Ora, Ki Te Pae Ora Review and Proposed Projects 2022-2023, released August 2022, accessed February 2023
[15] Marlborough Regional Skills Leadership Group, Mar borough Local Insights Report: August 2022.
[16] Te Kāhui T ka Tangata Human Rights Commission, The RSE Scheme in Aotearoa New Zealand: A Human Rights Review.

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- **Drive Efficient, Effective, Sustainable, and Safe Healthcare:** Support clinical services sustainability across the system, clinical governance, innovation and invest to improve
- **One Team:** To achieve joined-up care within health and across local authority and social services
- **Workforce:** Develop the right workforce capacity, capability, and configuration
- **Technology:** Digital enablement to allow better information sharing, more efficient health care delivery and better personal outcomes
- **Facilities Development:** Planning for a redevelopment of Nelson Hospital

Project Whakatupuranga Programme and Subprogrammes

This Programme Business Case (PBC) is guided by the original programme drivers defined in previous business case drafts and reflects feedback from the 2022 Gateway Review of the Detailed Business Case (DBC). The Gateway Review noted the need for design and work programmes to be aligned to the Te Whatu Ora Capital Programme Delivery Model. Accordingly, Project Whakatupuranga – and this PBC – includes three enabling subprogrammes noted below (Figure 10).

1. **Facility Subprogramme (Facility):** The physical redevelopment of the Nelson Hospital campus, and the predominant focus of this PBC
2. **Workforce / System Transformation Subprogramme (WST):** Supports the Facilities Subprogramme by implementing the Models of Care (MoC) needed for the facility to meet patient demand. It is also supported by the new facility to deliver new, more effective MoC
3. **Data & Digital Subprogramme (Digital):** Supports virtual care and base Information Technology (IT) functionality for the new facility. It is a key enabler of the facilities Subprogramme, and focuses on advancing Nelson Marlborough's digital maturity to help deliver and meet modern MoC

Figure 10: Project Whakatupuranga programme

The delivery of these three Subprogrammes will ensure Nelson Marlborough's goals for the Nelson Hospital redevelopment are successful. The following sections describe the WST and Digital Subprogrammes, and how they **enable** and **are enabled by** Project Whakatupuranga through this PBC. The Economic Case also details the scope of the Digital and WST Subprogrammes included within this PBC.

Workforce/System Transformation Subprogramme

The WST Subprogramme supports change management, services migration, and will support staff and consumers in the new delivery of care. As such, MoC are a key focus of the WST Subprogramme. MoC are the ways in which Te Whatu Ora provides healthcare to the community.

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Therefore, it is important to recognise the WST Subprogramme, which Project Whakatupuranga will work in conjunction with.

The WST Subprogramme includes Ki Te Pae Ora / Transforming Care - "towards a healthy future". This is Nelson Marlborough's collective journey to transform healthcare provision across Te Tau Ihu. Working together, valuing people's time, achieving equity, enabling innovation, collaboration and taking a whole system perspective to drive ongoing system transformation are core drivers of the Ki Te Pae Ora approach.

By working collaboratively with clinicians, non-clinical staff, healthcare providers, and consumers and their whānau, projects are undertaken that will lead to changes that create a cross-functional system with the best outcomes for people. These initiatives include integrated service plans, and locality planning. More information on these projects is provided in Appendix A. Overall, these projects focus on making healthcare more proactive and accessible, with people placed at the centre.

In February 2023, a programme review of Ki Te Pae Ora was completed to understand:

- If the programme still meets the needs of the Nelson Marlborough population
- If Ki Te Pae Ora will deliver on the strategic goals of Te Pae Tata 2022 (Interim New Zealand Health Plan)

As a result of this review, the Ki Te Pae Ora Framework was simplified into three workstreams and three enabling portfolios. See Appendix A for a detailed overview of the development journey of the MoC programme to date.

The 2023 Ki Te Pae Ora Review notes that the strategic focus of the Ki Te Pae Ora programme is driven by several assumptions that will be realised due to changes in MoC. Managing clinical demand is essential to the successful delivery of the Nelson Hospital Redevelopment. Many procedures can be better (more safely, more effectively) undertaken in community settings, reducing demand on hospital services. New technology – virtual consults, enabling smoother patient journeys – will also reduce demand. Delivering on these assumptions, as described by the Ki Te Pae Ora programme team, is an essential part of investing in a right-sized, efficient, modern hospital facility. Implementing Ki Te Pae Ora projects and portfolios will manage demand for beds and is essential to meeting future bed demand projections. In this sense, it is critical to achieving Nelson Hospital redevelopment benefits. The Nelson Hospital redevelopment will also support key Ki Te Pae Ora initiatives, including enhancements in patients centred care and procedure room efficiency. The relationships are summarised in Appendix B.

Some key MoC changes supported by investment in the Nelson Hospital redevelopment are summarised in Appendix C.

Data & Digital Subprogramme

Digital technology is a key enabler of modern health facilities. Fifty years ago, health facilities contained a limited number of standalone devices and applications. Contemporary health facilities contain thousands of highly interconnected devices and hundreds of interfaced/integrated applications to operate efficiently and effectively

Digital transformation is essential to realising the benefits of health reform, and this need is represented as one of the five system shifts for realising the reform outcomes. It is a key enabler to implementing Ki Te Pae Ora and Project Whakatupuranga.

To articulate the pathway to advance Nelson Marlborough's digital maturity, the Digital Strategy & Roadmap 2021 – 2024 was commissioned in late 2020. This document (refer Appendix D) outlines the current state, the themes to drive change and the investment pathway from 2021 – 2024.

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The initiatives outlined include some remediation and investment in the digital infrastructure layer (e.g. desktop refresh, Private Automatic Branch Exchange (PABX) upgrade) but predominantly focus on software applications directly associated with care delivery, patient support and hospital operations.

The Strategy and Roadmap informed the development of a Digital Blueprint specific to Project Whakatupuranga. The Blueprint is focussed on the hardware and equipment necessary to commission a 'digitally capable' facility, with initial funding for parallel implementation of the future digital strategy enabling a fit for purpose digital hospital, a core component being the new Electronic Medical Record. The Data & Digital scope within this programme is discussed in detail within the Economic Case.

Clinical Services Planning

Clinical Services Planning has been undertaken over a number of years for Project Whakatupuranga. The Clinical Services Plan (CSP) is an evolving document that provides an overview of future clinical service delivery across Te Tau Ihu over the next 10-15 years. This document is informed by population forecasts; national, regional and Nelson Marlborough health strategies; Ki Te Pae Ora, and the Nelson Marlborough Health Services Plan.

The most recent version of the CSP was revised in 2020.[17] Since this revision, there have been population, modelling, and demand projection updates. The key findings have been consistent and show that:

- The New Zealand population, including Nelson Marlborough, is growing, and aging
- The MoC programme (now Ki Te Pae Ora) is adapting to suit the reformed health system and changing needs of the population
- Workforce capacity influences Clinical Services Planning by impacting the number and type of services that can be delivered to the population
- Inpatient demand projections show that Nelson Hospital's current capacity did not meet the 2022/23 demand for services, resulting in the need for workarounds and caring for patients in suboptimal locations (i.e. using medical and surgical wards to day stay patients etc). This is unsustainable in the medium-term.
- Outpatient demand projections reveal that of the 103 existing physical rooms, only 91 rooms are required by Financial Year 2038 (FY38) due to the impact of the Transforming Care Programme.

An overview of key demand and capacity requirements identified in the CSP is provided in Table 8.

Table 8: Demand projections incorporating peer review

Capacity	Current Capacity (2023)	Demand 2037/38	Required Capacity
Inpatient beds	161	255	**+94**
Outpatient clinic rooms	103	91	**-12**
Operating theatres	6	8	**+2**
Endoscopy rooms	1	3	**+2**

A summary of key themes from the CSP is presented in Appendix E with further detail provided in Appendix F on capacity and demand modelling, and in Appendix G for the results of a peer review conducted by Destravis.

[17] Nelson Marlborough Clinical Service Plan, version March 2019, revised April 2020.

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Overall, these key trends and enablers have both influenced the direction of Project Whakatupuranga Clinical Services Planning and will be influenced by the Project Whakatupuranga in turn, as it develops.

1.1.2 Strategic Alignment

Appendix H provides a detailed overview of Project Whakatupuranga alignment with health, infrastructure, and climate change strategies. Alignment with key national strategies is also summarised in Table 9.

Table 9: Key national strategies and their alignment to Project Whakatupuranga

Strategy	Alignment with Project Whakatupuranga
Te Pae Tata Interim New Zealand Health Plan 2022	Outlines Te Whatu Ora's strategic direction. As a part of Te Whatu Ora, Nelson Marlborough will need to be aligned with this direction in order to contribute to achievement of national priorities.
Te Whatu Ora Statement of Intent 2022 – 2024	As a part of Te Whatu Ora, Nelson Marlborough and Project Whakatupuranga need to align with the strategic direction set out in the Statement of Intent. This alignment includes Output Class 5 on Capital Programmes.
Whakamaua: Māori Health Action Plan	While this document was also released prior to the health reforms Project Whakatupuranga will need to align with the high-level outcomes highlighted in the plan by prioritising Māori health equity.
He Korowai Oranga: Māori Health Strategy	While the new Māori health strategy is in development this is the most recent strategy available and provides useful context for Project Whakatupuranga.

Project Whakatupuranga also aligns with the Nelson Marlborough Site Master Plan (Appendix I).

1.1.3 Scope

To date, significant work has been carried out to determine the Project Whakatupuranga scope. Table 10 summarises the scope considered for this PBC – more detail is included in the Economic Case. The Long-Term Site Masterplan has guided this PBC; Figure 11 provides a high-level overview of the campus; the full Masterplan is included as Appendix I.

Table 10: Project Whakatupuranga Nelson Hospital Programme Business Case Scope

Item	Description	In Scope?
Nelson Hospital	While the Ki Te Pae Ora Programme and CSP take a system-wide approach, the PBC will focus on the redevelopment of Nelson Hospital. Nelson Hospital is split by Waimea Road, a main road into Nelson City. The Main Hospital campus on one site and the Braemar campus on the other The Main Campus is the primary focus of this PBC. Specific scope items are detailed in the Economic Case.	In scope – Main Campus
Braemar Campus	In November 2020, refurbishment and expansion of power infrastructure on the Braemar site to achieve IL4 and a resilient link across Waimea Road was determined to be impractical / inefficient. This energy centre located at Braemar Campus sits outside of the scope of Project Whakatupuranga but is receiving upgrades. Instead, as part of this PBC, a new energy centre and/or central plant area has been included in scope of the new Acute Services Building (ASB) physically within the footprint of the building to provide resilience of operations in the case of an earthquake. Inclusion in this building was the best value for money solution to ensure operational continuity of the buildings on the Nelson Hospital site.	Not in scope

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Item	Description	In Scope?
Alexandra Hospital	Although located in Richmond, 12 km from Nelson Hospital, the Older Person's Specialist Mental Health (OPSMH) service located at Alexandra Hospital was considered in scope during DBC development. This was because Nelson Marlborough needed to consider the best approach to meet the intended growth in bed demand for this service in particular regard to increasing incidence of dementia in the population. Following user group consultation during the development of the DBC it was determined that the service would remain at Alexandra Hospital, but that growth in the acute service would be provided for on site at Nelson Hospital co-located with the Older Peoples Health inpatient unit. This assumption has been carried through to this PBC.	Not in scope
Data & Digital	As discussed in Section 1.1.1, Data & Digital is central to the future of healthcare delivery and is a key consideration in the redevelopment of Nelson Hospital. The Digital Blueprint outlines what Project Whakatupuranga requires from a Data & Digital perspective. As a summary, this will include some remediation and investment in the digital infrastructure layer (e.g., desktop refresh, PABX upgrade) but predominantly focus on software applications directly associated with care delivery, patient support and hospital operations. Specific scope is detailed in the Economic Case (Section 2.3).	In scope

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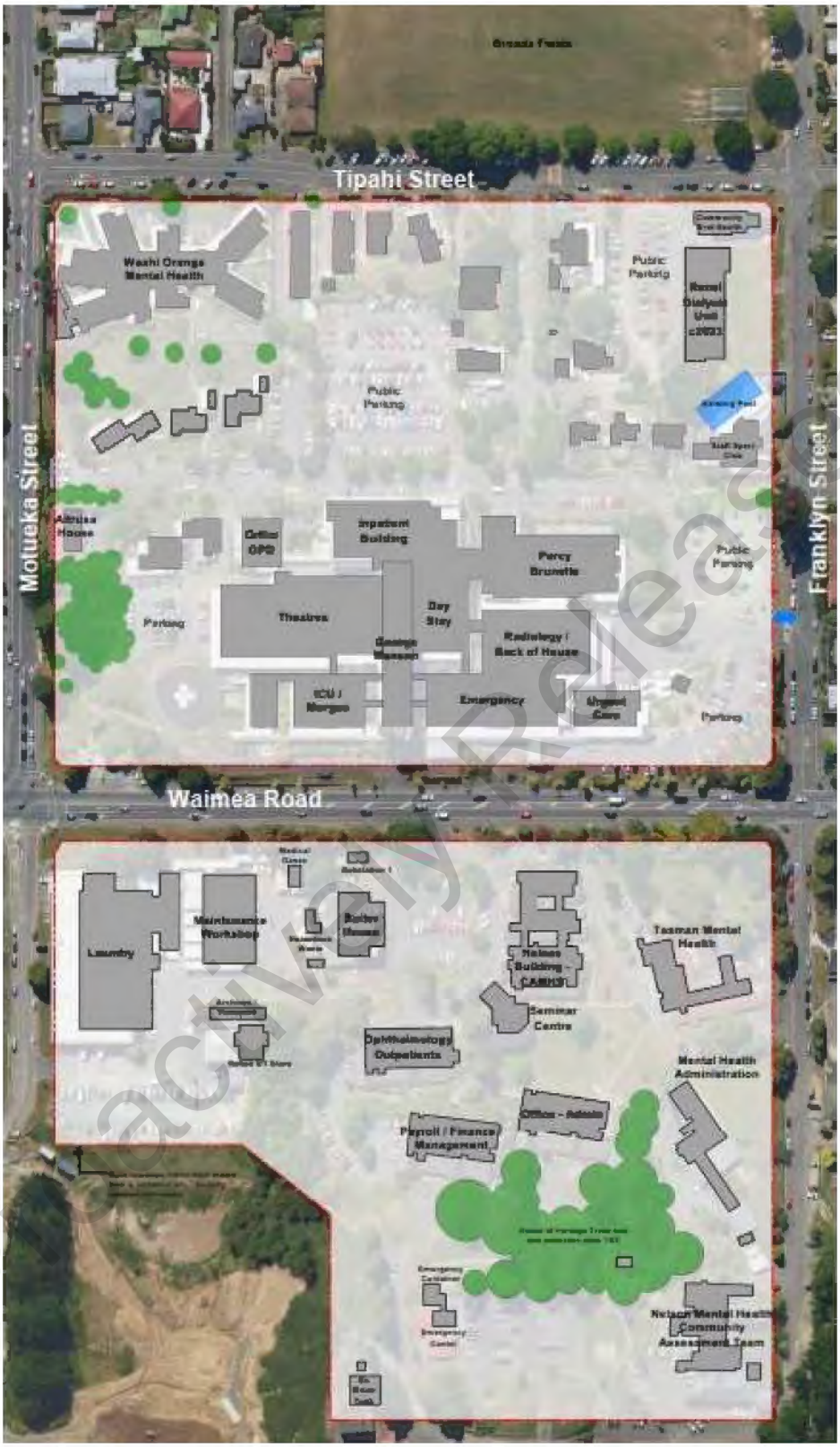
Figure 11: Nelson Hospital campus c/o Klein Architects, Appendix I)



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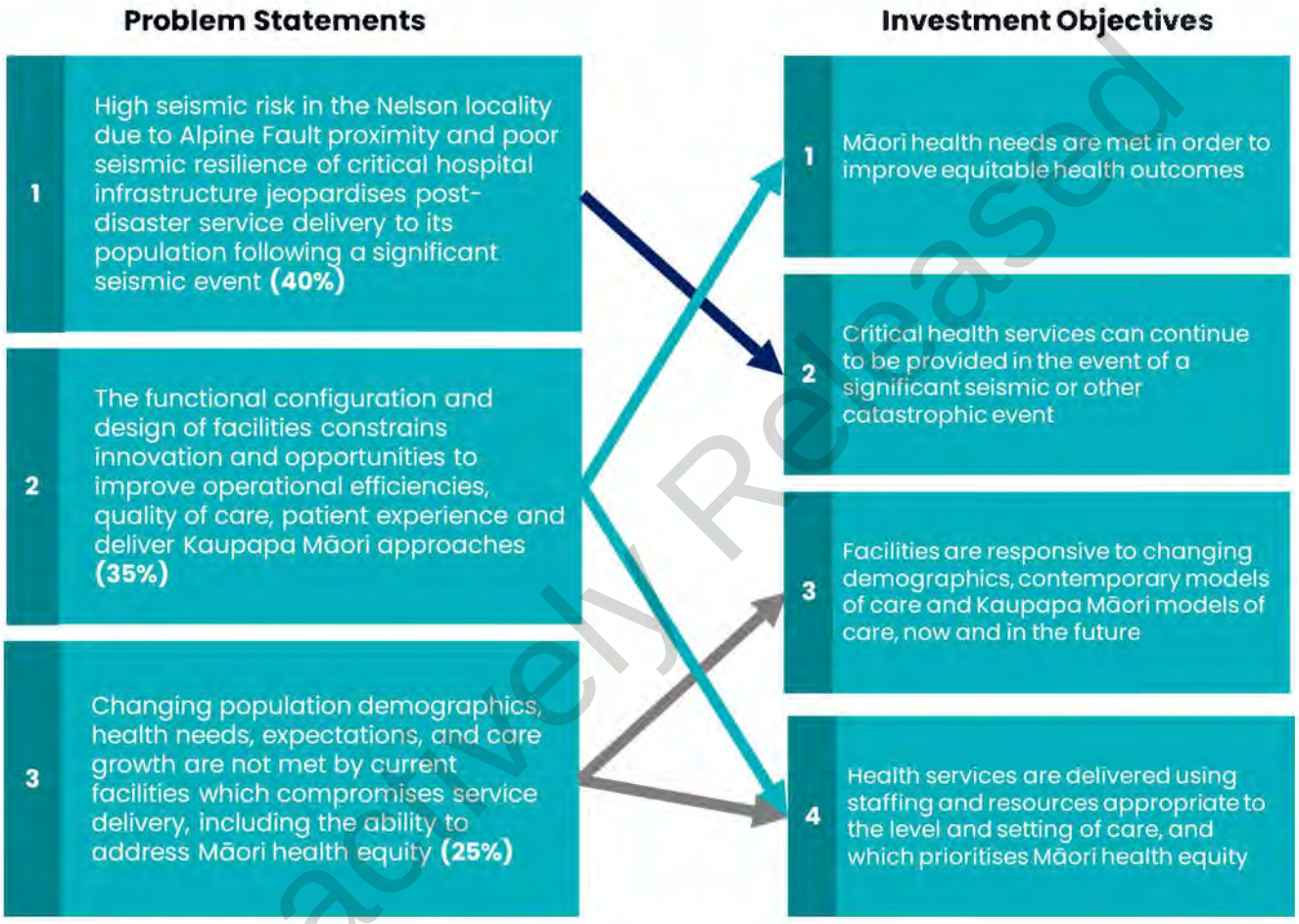
1.2 The Case for Investment

A workshop was held on 20 December 2022 to identify and agree the Problem Statements and Investment Objectives for the PBC. The workshop was attended by key stakeholders including both clinical and non-clinical staff from Te Whatu Ora.

The Problem Statements and Investment Objectives determined during this workshop are illustrated in Figure 12.

Figure 12: Problem Statements and Investment Objectives



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1.2.1 Problem Statements

The three problem statements for Project Whakatupuranga are defined and evidenced below.

Problem Statement 1. High seismic risk in the Nelson locality due to Alpine Fault proximity and poor seismic resilience of critical hospital infrastructure jeopardises post-disaster service delivery to its population following a significant seismic event.

High Seismic Risk

The Nelson Tasman Civil Defence Authority has reported that a major earthquake in the top of the South Island (Te Tau Ihu) has a high probability of occurring.[18] In Nelson City alone, there are eight active or potentially active faults. The Alpine, Bishopdale, Flaxmore, Eighty-Eight, Heslington and Waimea fault lines contribute to seismic risk in the top of the South Island (Te Tau Ihu).[19]

The near-field seismic hazard originates from the region being underlain by a complex network of fault lines, called the Waimea-Flaxmore system. One of these fault lines is only several hundred metres to the east of the Nelson hospital site. The system passes directly through Nelson City and has historically caused large surface-rupturing earthquakes, affirming the need for seismic resilience of key Nelson Hospital infrastructure.[20] The Waimea-Flaxmore fault lines are active, and if they were to rupture it would be extremely damaging to the region; however, they are also very slow moving and as such have a long recurrence period between ruptures estimated at 6,000 years.[21]

The Alpine Fault, running through the South Island with 40 km proximity to Nelson at its nearest point poses the greatest and most immediate threat to Nelson Hospital. Recent Alpine Fault 8 (AF8) research indicates a 75% probability of an Alpine Fault earthquake occurring within the next 50 years, with a 4 out of 5 chance it will exceed magnitude 8.[22] This would significantly surpass the magnitude 7.1 Canterbury earthquake in 2010 (or its more damaging 6.3 aftershock in 2011) and the 7.8 Kaikoura earthquake in 2016.[23] Though the Waimea-Flaxmore system is likely capable of producing ground accelerations greater than that produced by the Alpine Fault, because the Alpine Fault is many times more likely to rupture it presents the main seismic risk to Nelson Hospital. Should an earthquake occur, Nelson's access to the rest of New Zealand is at risk which further amplifies the need for Nelson to have a hospital resilience to earthquake damage.

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[18] Nelson Tasman Civil Defence, accessed January 2023, Hazards – Earthquake
[19] Nelson City Council, accessed January 2023, Fault Lines
[20] GNS Science Consultancy, accessed January 2023, Assessment of the Waimea-Flaxmore Fault System
[21] GNS Science Consultancy, accessed January 2023, Assessment of the Waimea-Flaxmore Fault System
[22] Alpine Fault Magnitude 8, accessed January 2023, AF8
[23] NZ History (2011), accessed January 2023 Christchurch earthquake kills 185

Poor Seismic Resilience

Nelson Hospital is subject to significant seismic hazard. The risk of seismic activity to Nelson Hospital and its infrastructure (refer Appendix J) is an ongoing concern. Seismic assessments from as early as 2014 assessed George Manson (over 70 years old) and Percy Brunette (over 50 years old) as buildings with earthquake risk. Detailed Seismic Assessments (DSAs) undertaken between 2015 and 2020 demonstrate that several buildings across the Nelson Hospital campus have low seismic ratings, ranging between 15 percent NBS and 55 percent NBS when assessed as Importance Level 4 (IL4) structures (essential facilities).

In 2020, Nelson City Council (NCC) issued Earthquake-prone Building (EPB)[24] notices[25] for George Manson, Percy Brunette, the Boiler House, and Chimney. As George Manson and Percy Brunette contain and surround critical site services (Figure 14), Nelson Hospital's ability to provide ongoing service and post disaster function in the event of a significant seismic event is at risk as several buildings across the campus will be damaged.

The EPB notices require remediation of seismic risk by 2028.[26].

Figure 13: Seismic Assessment Metrics

Seismic Assessment Metrics

Detailed Seismic Assessments (DSAs)
Quantitatively assess the seismic rating of a building as a percent of the New Building Standard (%NBS).

New Building Standard (NBS)
The earthquake rating a property is expected to have when built to the current building code.

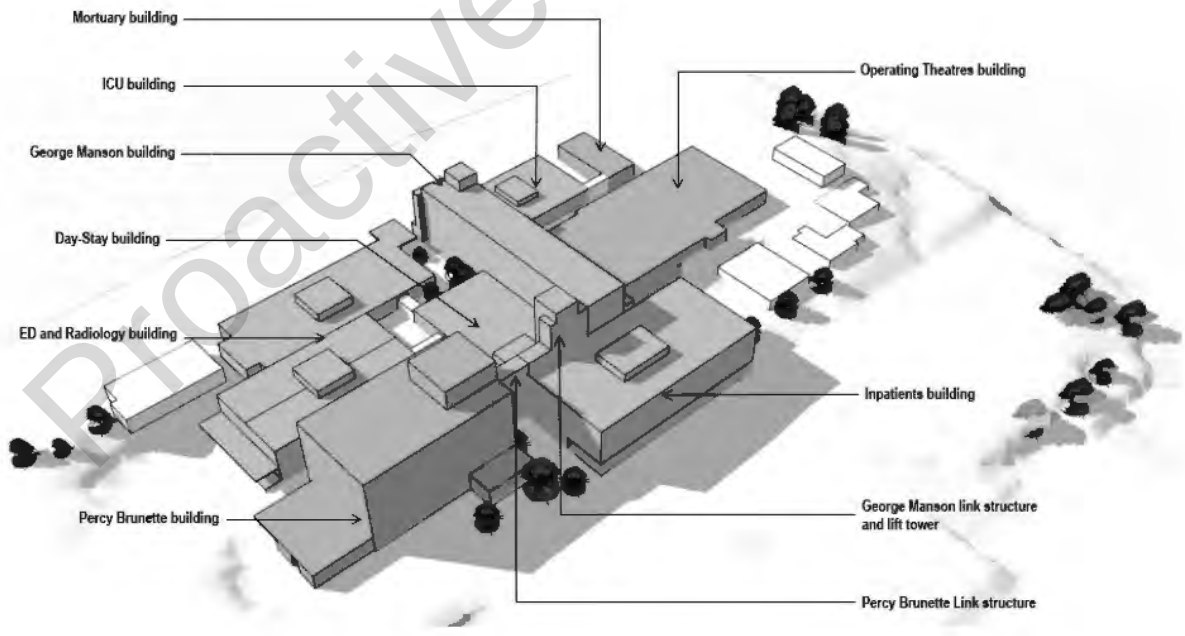
%NBS
A score that evaluates the performance of a particular building over a range of earthquakes, in terms of protecting life. It does not measure the building's ability to handle an earthquake without damage. A building is:

"Earthquake-risk" if it is < 67%NBS

"Earthquake-prone" if it is < 34%NBS

Importance Levels (ILs)
The Building Code defines five levels of importance with corresponding required levels of seismic performance increasing with each IL.

Figure 14: Key Nelson Hospital infrastructure c/o Beca



[24] A building or part of a building will have its ultimate capacity exceeded in a significant earthquake
[25] EPB notices inform building users and the public about a building's potential seismic performance in a significant earthquake compared to a new building on the same site. Ministry of Business, Innovation and Employment, accessed 2023, **Earthquake-prone buildings: notices**
[26] EPBs were issued in 2017 for the Boiler House and Chimney, no longer in scope as detailed in Table 10

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Clinical and Operational Consequences

The operational continuity of Nelson Hospital in a post disaster scenario is critical due to the sparsely distributed population it serves, with heavily restricted access to surrounding hospitals that can provide post-disaster care.[27] Nelson Airport and Nelson Port are highly susceptible to liquefaction and tsunami, meaning it could be weeks before viable air or water travel can be reliably re-established. This would likely extend travel time to the 210km distant Wellington Hospital. Roads are also likely to be affected. The nearest major regional hospital in the South Island, Christchurch Hospital, is more than 400 km from Nelson Hospital – a five-hours' drive under normal conditions,[28] and even relatively small earthquakes and weather events have caused major highway disruptions significantly extending travel time between Nelson and other South Island centres.

Planning for the development of a resilient, Importance Level 4 Acute Services Building (ASB) at Nelson Hospital must continue to allow clinical and operational continuity post-disaster in anticipation that the region may be isolated for up to 14 days[29] due to road closures after a significant seismic event and may need to be largely self-sufficient for weeks or even months. The risk faced by Nelson Hospital, its isolation, and the critical clinical services that would be affected by an earthquake means that further delays create further risk to Te Whatu Ora – Nelson Marlborough's community.

Post-Earthquake Operational Continuity

Some critical clinical services could not be delivered from Nelson Hospital in a post-earthquake environment, and this needs to be remediated with haste. Following a significant earthquake, current facilities would be unable to continue critical clinical operations. Between 2020 and 2022, Detailed Seismic Assessments (DSAs) found several buildings (notably George Manson and Percy Brunette) were earthquake prone given their current uses (IL4). These ratings would be higher if the use of the building changed, and some – like Percy Brunette and George Manson – could be improved by addressing building link issues which limit their ratings (see Table 11). These buildings house critical post disaster functions, and their resilience and continued functionality following an earthquake is imperative.

Table 11: Change in %NBS (IL4) building ratings (2022)

Building	%NBS (IL4)[30]	Life Safety Risk
George Manson link	15%	**Very high**
Percy Brunette link	15%	**Very high**
Percy Brunette	30%*	High
George Manson	34%*	High
ED and Radiology	25%	High
ICU	25%	High
Theatres	33%	High
Mortuary	40%	Medium
Inpatient Tower	55%	Medium

*Governed by link score

[27] As noted in Section 1.1.1, Nelson Hospital provides services to approximately 160,000 people across the top of the South Island, including Golden Bay (~79.9km from Nelson), Nelson, Picton (~139km from Nelson) and Blenheim (~123km from Nelson).
[28] Via SH1, SH6 and SH7
[29] Excluding limited helicopter access
[30] Rating following 2022 reassessment

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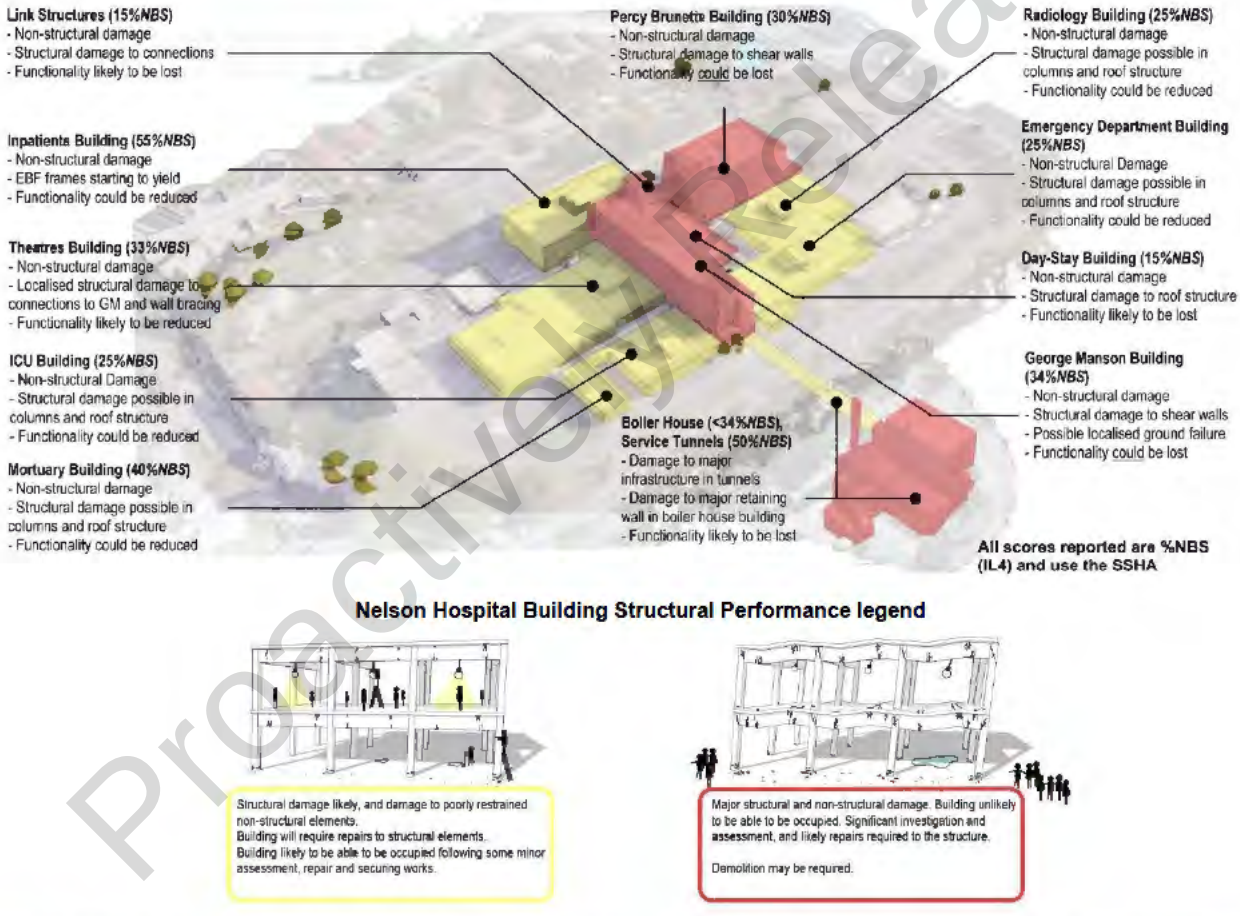
Beca Ltd. have undertaken seismic resilience assessments to evaluate the possible extent of damage and downtime to regain intended functionality. These assessments complement the life safety assessments and demonstrate that the existing Nelson Hospital buildings have poor seismic resilience. This means that critical hospital functions could be interrupted (lost for a period of time) or reduced in an Alpine fault (AF8) scenario, or potentially lost in a larger earthquake. An equivalent new hospital designed to modern standards would be expected to remain operational in the same earthquake scenario.

It is important to note DSAs primarily focus on structural performance. Following DSAs on Nelson Hospital dating as early as 2014, Beca completed a new seismic assessment in 2023 to determine both structural and non-structural impacts of a "minor", "significant", and "major" (greater than 8 magnitude Alpine Fault (AF8+)) earthquake. The Scenario Report (Appendix K) includes assessment of critical non-structural elements, such as ceilings, partition walls and heavy specialist medical equipment affecting the ability of hospital buildings to enable delivery of acute services following an earthquake. Figure 15 below is a summary of the moderate level earthquake scenario and the impact it has on the structural performance of Nelson Hospital buildings.

Figure 15: Significant Level Earthquake Scenario c/o Beca (2022)



Key findings from the seismic assessments, including moderate and major earthquake scenarios are detailed in the following sections with respect to the George Manson and Percy Brunette buildings.

George Manson

The George Manson building (approx. 70 years old, built circa 1955) houses essential services: inpatient surgical wards, the Emergency Department (ED), Day Stay, Endoscopy, and recovery wards. The building has been ranked one of the poorest condition buildings in the country, largely

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due to issues with building components and fitness-for-purpose clinical facilities.[31] The overall rating from the DSAs for the George Manson building is 15%NBS (IL4) due to the poor seismic resilience of the Link Structure and Day Stay/ACU building recognised as having a very high life safety risk. If George Manson were a standalone building, it would score 34%NBS (IL4). However, the overall % NBS is governed by the lowest score of connected parts.

The primary concern in the Scenario Report (Appendix J) is the 1 / 250 years return period of a significant earthquake represented by an Alpine Fault (AF8+) rupture. A significant earthquake could cause George Manson to suffer major structural and non-structural damage. This could damage the entire building with the most significant impacts expected to non-structural elements are expected such as to include suspended building services (Heating, Ventilation, Air Conditioning (HVAC), plumbing, electrical), sprinklers, suspended ceilings, and unrestrained contents. Even if repair is feasible, the building would be closed for months whilst assessment and repair is carried out. Initial damage may also diminish capacity for George Manson to respond to further earthquakes, elevating ongoing seismic risk during aftershocks. The centrality of George Manson may restrict access to perform significant structural repairs, with potential to add months or years to its limited functionality due to greater repair costs and complexity. Damage may also influence whether surrounding buildings can be occupied.

A major earthquake, with a return period of 1 / 500 years is expected to cause damage similar to a significant earthquake. Additional non-structural damage would include damage to site infrastructure (HV, steam, fire, water), suspended medical services, partitions, and furniture.

Percy Brunette

The Percy Brunette building (approx. 50 years old) contains essential services, including surgical outpatients, and core network services. The Percy Brunette building has an overall score of 15%NBS. If it were a standalone building, it would score 30%NBS (IL4), however its score is limited by the poor performance of the Percy Brunette Link structure.

Percy Brunette would likely be unoccupiable following a significant earthquake due to major structural and non-structural damage. At worst, demolition may be required. Non-structural damage to building services, sprinklers, suspended ceilings, and unrestrained contents is also expected. The impact of a significant earthquake on Percy Brunette may trigger use restrictions to surrounding buildings. Scenario assessments demonstrate a major earthquake would likely cause similar structural and non-structural damage as a significant earthquake, plus additional non-structural damage to site infrastructure, suspended medical services, partitions and furniture movement. Damage to Percy Brunette may also affect surrounding building occupancy.

Overall, these seismic assessments all show that the Inpatients Building, Percy Burnette (which includes assessment, treatment and rehabilitation (AT&R), medical and surgical outpatients, and allied health / oncology), Day Stay, and George Manson (medical, surgical, day-stay, paediatrics) buildings could not by occupied and/or access would be impeded. Access to theatres and ED could also be compromised as George Manson occupies the middle of the site. Workarounds could even be necessary to access areas of the site that are not irreparably damaged.

The high seismic risk faced by Nelson Hospital, its isolation, and the critical clinical services that would be affected by an earthquake means that further delays create untenable risk to the sparsely distributed community Nelson Marlborough serves.

[31] Ministry of Health, accessed January 2023 **The National Asset Management Programme for DHBs, Report 1**

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Problem Statement 2. The functional configuration and design of facilities constrains innovation and opportunities to improve operational efficiencies, quality of care, patient experience and deliver Kaupapa Māori approaches

In an environment where major redevelopment is required to mitigate seismic risk, the opportunity should be taken to modernise Nelson Marlborough Hospital and address the significant operational and patient experience deficits.

The quality, design, and configuration of hospital facilities impacts on the efficiency and effectiveness of hospital services. Modern, clinically fit-for-purpose facilities should have appropriate collocations and high connectivity to improve staff and patient flow and provide for a seamless patient journey. This is also critical for supporting demand management and providing patients with the right care, at the right place, at the right time, and by the right team.

Nelson Marlborough Hospital is comprised of older buildings designed to meet outdated MoC, which impedes adoption of contemporary best practice and innovations. Core clinical buildings are over 50 years old; Percy Brunette was built in 1970 and George Manson was built in 1955. These facilities reflect the clinical practice at the time they were built, but MoC have shifted and understanding of clinical best practice has evolved. The design and configuration of these facilities are not fit-for-purpose for contemporary best practice, nor are they sensitive to cultural expectations – which negatively impacts patient experience and engagement with services.

Modernisation and Innovation

Core hospital services are delivered from buildings in need of substantial redevelopment or replacement. The aged buildings are non-compliant with current design standards for room sizes, components, or facilities. For modern standards, both the Percy Brunette and George Manson buildings have relatively small floorplates (850 m^2 to 590 m^2 and 895 m^2, respectively).[32] Consequently, ward sizes and corridors are smaller than recommended by the Australasian Health Facility Guidelines (AusHFG) and they lack appropriate provision of ensuites.

This constrains Nelson Marlborough's ability to modernise and adopt innovative technologies due to limited available floorspace or vertical clearance. For example, clinicians have expressed a desire to adopt a similar rehabilitative MoC to the successful model used in AT&R for geriatric patients for other services, however this is inhibited by the current facility design.

Expanding or adapting the George Manson building for clinical use is not feasible or desirable. Adjoining buildings have been built around George Manson effectively 'land-locking' it and preventing further outward expansion; and its seismic risk profile means that it is essentially precluded from clinical use. With significant refurbishment George Manson could be modernised, but it would result in significant loss of capacity (as much as half of the total bed stock). Given anticipated demand pressures and increasing acuity, any loss of bed stock could introduce clinical and operational risk.

Data, Digital, and Technology

Current facilities do not support delivery of virtual health clinics, there is limited telehealth capability, and it's challenging to effectively integrate virtual and face-to-face care. This prevents Nelson Marlborough from effectively optimising MoC, lowering healthcare costs, and addressing access inequities. It can also lead to poor information sharing, requiring patients to tell their story repeatedly, negatively impacting patient experience and trust in the health system.

[32] The ground floor of the Percy Brunette building has a larger floor plate of 1,400m^2

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"As a person with chronic illness… I would be open to talking to my specialist online sometimes rather than in person… I could email my queries, request an [appointment] and then video call if I didn't need to see him in person."

The inability to share information between services is also significantly impacting the delivery of care and presents challenges to staff and patients alike. The ED and wards use different systems, which affects the transfer and accessibility of patient information and can lead to staff not having visibility over critical information. This introduces significant safety risks if staff are unaware of why a patient is presenting or what the course of action is. It can also lead to patient frustration or loss of trust if they have to keep repeating themselves, and as patients become more unwell, they may be less able to communicate their full history, which can also introduce safety risks.

"When staff explain they don't have all the information about me, it is frustrating for the staff because they have to chase the information but also for me as I have to repeat myself, but also can I trust the place who doesn't know what's happening?"

Adoption of Data & Digital healthcare solutions is of particular importance for Nelson Marlborough given the relative geographic spread of their population and isolation from key centres. There have been significant strides in virtual health and tele-medicine following the COVID-19 pandemic, however the aged, outdated hospital prevents Nelson Marlborough from taking advantage of these opportunities. For example, improved information sharing and virtual options for offsite support could prevent some admissions or lead to earlier discharge.

Virtual health, and virtual ward rounds in particular, require telemonitoring and video capability at each bed that feeds back to a central control centre large enough to house ward round staff and other telehealth equipment. This set-up has been adopted in Israel in response to the COVID-19 outbreak and could be used in the event of future pandemics.

There are challenges associated with the adoption of virtual healthcare solutions. Clinical spaces need to be optimised for telehealth consultations so that the change in practice required by clinicians is seamless. Multiple factors can impact this seamless integration of Data & Digital and can be as simple as required equipment being moved and not returned, computer incompatibility, a lack of private spaces, or a need for multiple screens.

In the current Nelson Hospital facilities, staff are bolting down video equipment and finding spaces such as cubbyholes for telehealth support. Wards are not designed to provide the required level of privacy to accommodate monitors displaying private patient information. Wi-Fi is required for functioning, mobile telehealth but the current system is not hospital grade, leading to connectivity and capacity related issues.

Operational Risks and Challenges

Nelson Hospital's constrained capacity and configuration is not supportive of modern best practice and has led to the adoption of practices that introduce operational risks but enable Nelson Marlborough to maintain service provision. For example, high acute demand has led to acute patients 'blocking' surgical beds preventing these beds from being used for elective or planned patients. This has flow-on effects that reduce hospital efficiencies and adversely impact staff and patients. Ward rounds are often prolonged as clinical teams must travel more widely across the hospital to visit their patients, decision-making is delayed, patients access the next phase of care later, and hospital length of stay is increased. This can result in elective surgery cancellation as there are no post-operative beds available. Delayed surgery can prolong patient suffering, delay diagnosis, and increase time and health costs.

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"Moves from bed to bed during [my] stay was difficult, limiting my time to sleep, [losing] things and causing confusion around where things like toilets were and how my daughter could find me."

Growth in demand for outpatient services has led to inefficiencies due to the current size and configuration of the hospital. Demand for outpatient clinics has outstripped available room capacity and led to relocation of services from the main clinical buildings, which in turn affects patient journey, disrupts collocations, and introduces clinical inefficiencies and risks. Furthermore, multidisciplinary teams are not always collocated, which increases the time for clinicians to complete necessary tasks and introduces clinical and operational inefficiencies. The lack of capacity and relocation of some services has also led to decreased storage capacity. Many departments at Nelson Hospital have insufficient storage space to accommodate modern equipment. This has led to equipment being stored in corridors or scattered around the hospital in various locations. This results in operational inefficiencies and potential clinical safety risk as staff locate the equipment they need.

Some aspects of the current, outdated hospital configuration limits staff line of sight (observation) due to the layout of rooms and location of waiting areas. Staff line of sight in a hospital setting directly correlates with the opportunity to act and is therefore key to enhancing response time and avoiding risk. The long and narrow configuration of surgical wards, with rooms branching off a central corridor also contributes to inefficiencies. Ward layout inconsistencies negatively impact interoperability efficiencies and present challenges to staff who move between wards. Staff bases and key clinical support spaces are disproportionately distanced from some rooms, which makes these areas difficult to nurse. Communication and interaction between staff are also limited in the wards that do not have a central staff station. Reconfiguration will also prevent storage inefficiencies, which has led to equipment being stored in corridors, resulting in operational inefficiencies and potential clinical safety risk as staff locate the equipment they need.

Hospital Flows

Growth at Nelson Hospital has largely consisted of services added as linked but discreet buildings abutting the older facilities. As a result, patient flows throughout the hospital do not meet modern clinical and operational expectations. There is a concerning level of cross-over between public and clinical flows. There is no separation between flows from the ED to the theatre suite, or between theatres and the medical, paediatric, Special Care Baby Unit (SCBU), or Maternity wards.

This lack of separation between public and clinical flows can lead to delays to assessment, diagnostics, and treatment decisions, resulting in increased patient morbidity and mortality, discharge delays, and delays in admitting new patients and providing them with adequate treatment.

For example, currently, a Maternity patient with a child who needs resuscitation must be moved with their baby from the Neonatal Unit, down a public corridor, and through the Antenatal Clinic and waiting area before arriving at the delivery suite. During transfer, the corridor and clinic must be cleared, which disrupts any clinics in session. In the case of emergencies, there is often insufficient time to clear the corridor and clinic, and the parent and their baby are instead transported through publicly occupied spaces. This impacts on parent and baby privacy and affects the patient experience for those attending a clinic.

Capacity constraints and increasing demand for services have led to some services relocating to buildings outside the main complex. This increases transfer time, which affects both staff and patients, and introduces timing and resource inefficiencies. It also creates wayfinding challenges for patients as they need to navigate travelling between multiple departments and buildings.

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Orthopaedics has been particularly affected after relocating from the ED to a clinic outside the main hospital building. Orthopaedic patients often need radiology imaging, which introduces further inefficiencies as the radiology department is located adjacent to the ED.

Patient Experience and Quality of Care

The design and configuration of Nelson Hospital facilities is not conducive to addressing increasing levels of demand and acuity. This often leads to patients receiving care in settings inappropriate for their healthcare needs e.g., children being in adult wards and vice versa. The reduced accessibility to appropriate facility support, staffing expertise, or specialist care can result in suboptimal treatment, subsequently jeopardising clinical quality, safety, and sustainability of care.

The size, number, and layout of rooms also inhibits multidisciplinary team functioning and access to care and does not enable wider support and involvement of whānau and family in the delivery of care. This impedes Nelson Marlborough from optimising or adopting modern MoC to provide patients with high-quality care across the health continuum. In some instances, rooms are too small to accommodate staff and patients safely or comfortably, thereby jeopardising quality of care. For example, private oncology patient rooms are too small for consultations, and cardiopulmonary laboratory rooms are too small to accommodate patients who use wheelchairs, and as such present a barrier to accessing care.

Not only is there insufficient space to provide inclusive accommodation of patients, whānau, family, clinicians, and multi-disciplinary teams, but the aged facilities also lack privacy. This can have negative impacts on patient dignity, feelings of safety and trust, and overall experience. For example, the echocardiography changing area has an open office adjoining it to the imaging room across the corridor, affording limited patient privacy. The ward environment also impinges on patient privacy. The wards are largely comprised of shared rooms and access to private interview or meeting rooms is limited. As a result, there can be a risk of other patients / visitors overhearing private and personal information. Furthermore, the antiquated ward designs do not provide sufficient single rooms, showers, or ensuites to afford patient privacy and independence, and there are limited options for patient cohort age, gender, or complexity separation.

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MAPU Case Study

Conditions in the Medical Assessment and Planning Unit (MAPU) exemplify and highlight the challenges associated with the outdated, aged, facilities. The MAPU consists of a single open-plan space retrofitted to provide 10 individual bed spaces, with restricted space and privacy. Curtains between each space are the only barrier between patients, and due to spatial constraints, each space can only accommodate one bed and one chair. There is no space available for other equipment or a patient's personal belongings.

"[The] current MAPU layout was similar to that promoted following in the Crimean War by Florence Nightingale"

There is limited space available for whānau / relatives / support people, and while they can sit at the chair by the patient's bedside, this means no clinical personnel can be at that side of the bed.

Curtain separation between beds provides limited privacy for patients. In addition to presenting a risk of staff / other patients overhearing private information, patients can also feel reluctant to raise or ask questions about sensitive issues (e.g. bowels, sexual function) in the public setting. The lack of privacy also introduces clinical risk as patients are more likely to conceal key information which could impact the care they receive.

The lack of private spaces in the MAPU does not enable patients to receive low stimulus care when they may need it e.g. post seizure, altered mental state, detoxification. Dementia friendly care is also impossible, which increases patient confusion and delays recovery.

The constrained space in the MAPU is also an impediment during emergency situations. Patients in the neighbouring spaces must be moved out to provide clinical staff enough space to manoeuvre and accommodate any required equipment. This is highly disruptive and vacating neighbouring patients affects the time to provide care to the patient experiencing the emergency. Additionally, the open plan feature means every other patient in MAPU can see and hear the process and outcomes of fellow patients' medical emergencies.

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Isolation Capability

Given the age of core clinical services, they were not built to – and cannot comply with – modern isolation standards. The lack of Heating, Ventilation, and Air Conditioning (HVAC) and private / single bedrooms has been linked to increased cross-infections for all diseases, which was highlighted during the COVID-19 pandemic. The lack of ensuites in wards (e.g. General Medicine) also restricts isolation capability as patients cannot be isolated in their rooms. While shared bathrooms can be designated for isolation purposes, this reduces access for the entire ward – particularly challenging as there are already insufficient bathrooms for the number of patients on the wards. Designating a shared bathroom for isolation purposes is also not always clinically appropriate from an infectious / mobility perspective.

There are no negative pressure rooms in the surgical wards, MAPU or Day Surgical Unit (DSU). As a result, the Intensive Care Unit (ICU) had to convert space to allow for isolation capacity as required by the COVID-19 pandemic. Single rooms are not negative pressure but do allow for some level of isolation. The Medical Unit (MU) at Nelson Hospital has a relatively high number of single rooms in comparison to other wards but the lack of rooms in other clinical areas reduces the isolation capacity across the hospital.

Kaupapa Māori Approaches

Provision of Culturally Appropriate Care

In total, 11 percent of the population in the Nelson Marlborough region (Te Tauihu) identify as Māori[33]. The Māori population is expected to increase relative to the non-Māori population. The Māori population is anticipated to growth 2.4 percent annually from FY19 to FY38 with virtually no growth expected in the non-Māori Nelson Marlborough population. This growth in the Māori population, and particularly in the numbers of Māori children and youth, will affect health service demand in Te Whatu Ora – Nelson Marlborough. There needs to be more emphasis on prevention and early intervention services, as well as services that better integrate Kaupapa Māori, to improve Māori health equity.

In spite of this growth, the experience of care, particularly for Māori has not kept pace with modern expectations. Feeling cared for in a way meets cultural and personal needs is essential to a positive patient experience. Western medicine does not always acknowledge a Māori worldview, so the power of tino rangatiratanga/self-determination for Māori is diminished.

Nelson Hospital's current layout and configuration provides few opportunities to reflect Kaupapa Māori approaches in healthcare and meet cultural expectations. Bedrooms are small and cannot accommodate larger whānau groups which can negatively impact the ability for whānau to be involved across all aspects of care and decision-making.

Many staff, patients, and whānau have expressed a desire for increased investment in Kaupapa Māori and whānau centred services to provide whānau, hapū, and iwi with greater access to a broad range of services underpinned by Māori ethos.

At the existing hospital, the Te Waka Hauora Māori health liaison team are located outside of the main building, creating a physical barrier that could result in fewer referrals to the service. It is the aspiration of many within the Māori community to routinely receive Rongoā. This is traditional Māori healing using medicines, massage, and/or spiritual and holistic health services. Providing this service as part of a healing hospital journey would require hiring staff, providing appropriate and culturally responsive facilities and the ability to work at the patient's bedside.

Physical Barriers

The current Nelson Hospital wards do not provide the physical, private patient bedspace required for Hauora Māori care. There is limited space for whānau, impeding their ability to stay with patients in care. In the extreme, this can deter some people from seeking care. The open / shared nature of facilities also means that confidential health information is shared in the proximity of other patients. Māori are kaitiaki (guardians) of their personal information and often do not feel comfortable with their information being shared in this way, which negatively impacts patient experience and may deter people from seeking care.

There is also limited space within the current facilities to prepare kai (food) appropriately. Hospital environments are considered 'tapu' (sacred/ restricted) and the use of kai can be seen as 'noa' (to be free from the extensions of tapu). It is important to have objects and places that can help a patient and whānau with the tapu hospital environment. This is further complicated by the physical layout with eating and toilet areas often in close proximity, which is culturally inappropriate.

Due to limited outpatient facility availability and staff numbers, scheduled outpatient appointments are often short, and this does not align with the Hauora Māori approach to healthcare. The short

[33] Tāngata - Our People - Te Whatu Ora - Nelson Marlborough (nmdhb.govt.nz), accessed May 2023. 10.7% of Tasman, 12.5% of Nelson, 15.5% of Marlborough.

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length of appointments also does not align with a Hauora Māori approach to healthcare. The hui process is a framework that enhances the doctor-patient relationship and the Meihana model helps to address ethnic disparities in healthcare, and these usually require more time than is allocated within the short appointments. This means clinicians are less likely to use these frameworks, despite the benefits for Māori health.

Staff Training and Experience

Opportunities for learning and development are negatively impacted by the layout and configuration of learning facilities. The facilities are not fit-for-purpose, room layouts are not conducive to all-day courses, and they do not support modern technology and learning methods. All services indicated that the lack of appropriate facilities has compromised (and will continue to compromise) their work.

The lack of space available in the existing buildings also impacts staff ability to guide and support trainees. Ways of working are becoming increasingly collaborative, but larger and multidisciplinary teams are unable to fit in the spaces available, which impedes easy access to the team for trainees. It is critical for trainees to have space to learn and feel they are an integral part of the team. This is compromised at Nelson Hospital. Furthermore, the lack of appropriate spaces risks Nelson Hospital's ability to retain accreditation as a safe centre for teaching.

Staff routinely report that they find staff facilities and amenities lacking. The limited availability of sleeping spaces and natural light for shift workers can have a deleterious effect on the ability of some staff to work safely. This negative experience is compounded by the lack changing areas, tea rooms, spaces to decompress, showers, and toilets, which negatively affects staff morale.

Problem Statement 3. Changing population demographics, health needs, expectations, and care growth are not met by current facilities which compromises service delivery, including the ability to address Māori health equity

Nelson Marlborough faces significant future demand pressures. Despite the development and implementation of the Ki Te Pae Ora programme to focus on shifting demand to the community and making efficient use of the hospital, demand will exceed available space at Nelson Hospital.

Capacity Constraints and Population Growth

Existing Capacity Constraints

Nelson Marlborough Hospital does not have sufficient capacity to meet existing demand. Table 12 illustrates this demand gap through inpatient beds; 34 additional beds required to meet existing demand[34] across all services.

Acute bed flow also places considerable strain on available capacity. Due to high demand, ward capacity is frequently at levels that prevent patients from being placed in their home ward e.g., medical boarders in surgical wards, adults in paediatric wards. Not only does this increase clinical risk (staff in the ward aren't specialised in the patient's care needs), but it also leads to inefficiencies and can waste clinical time due to the need to "shuffle" patients around to find available space.

To mitigate the impacts of this constrained capacity, Te Whatu Ora – Nelson Marlborough has relocated some services to buildings outside the main complex to increase available ward capacity.

[34] As per CSP demand update projections for 2022/23. Further detail provided in Appendix F.

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However, this is not clinically appropriate, complicates wayfinding and the patient journey, and negatively affects sustainable service delivery. For example, Orthopaedics has been relocated outside the ED in a downstairs clinic outside the main complex. As such, the service is no longer collocated with Radiology (adjacent to the ED) which introduces operational complexity for patients requiring radiology imaging.

Table 12: Demand and capacity comparison for Nelson Hospital services within scope[35]

Department	Current Capacity	2022/23 Demand | Gap		2037/38 Demand | Capacity Needed	
ED	0	2	-2	1	+1
MAPU/AAU	10	21	-11	29	+19
ICU/HDU/CCU	7	9	-2	11	+4
Med/Surg	84	89	-5	120	+36
AT&R	20	24	-4	43	+23
Neonatal	8	9	-1	8	-
Paediatrics	12	15	-3	13	+1
Maternity	10	13	-3	12	+2
Psychogeriatric	10	13	-3	18	+8
Total	161	195	-34	255	+94

Population Growth and Future Demand

Te Whatu Ora – Nelson Marlborough's population is growing and aging. Without further investment, this growth will exacerbate existing capacity constraints and could lead to unsustainable service delivery.

Between 2018/19 and 2040/41, Te Whatu Ora - Nelson Marlborough's population is projection to grow by 9.6% according to the most recent 2020 population projection[36]. Most of this growth is expected to occur before 2029/30, with the Nelson Marlborough population reaching 171,70 by 2037/38. [37,38]

Without investment to provide additional capacity, this population growth will exacerbate existing capacity constraints and threaten sustainable, clinically appropriate service delivery. Demand and capacity modelling was completed as part of the CSP development, and revised in 2021, to understand the health needs of Te Whatu Ora – Nelson Marlborough's population in the future. Modelling also considered the ambitious Ki Te Pae Ora Programme and ambitions to shift demand into the community and improve efficiencies across the hospital. Despite these MoC shifts, modelling found demand is currently and will continue to exceed available capacity. Further detail is included in Appendix F.

Table 12 shows that 94 more inpatient beds are required relative the current capacity to meet 2037/38 demand. The largest driver of growth is inpatient demand, with Med/Surg room demand increasing by 36 beds, and AT&R increasing by 23 beds. This is partially offset by a decrease in projected outpatient demand (a decrease of 12 rooms). This reduction is the result of MoC optimisation, due to increases in productivity, and the repatriation of some day stay patients to ambulatory care.

[35] As per CSP demand update projections for 2022/23. Further detail provided in Appendix J
[36] Stats NZ projections for MoH 2012-2020 updates.
[37] IBC modelling update, 27 October 2021.
[38] Stats NZ projections for MoH 2012-2020 updates.

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Increasing demand is leading to delayed care: patients assessed in the ED who require admission to a hospital bed receive cannot be admitted due to a lack of capacity. Delays to receiving care can negatively impact a patient's health outcomes and the patient experience.

A lack of hospital beds in one department has also recently caused a higher volume of patients to be admitted to beds located away from the ward of the speciality they were admitted to. This creates inefficiencies in care and variable outcomes for these patients because Nelson Hospital staff have to travel to another ward to reach displaced patients.

Capacity constraints also have a negative impact on patient safety and quality of care as they place pressure on the length of stays and inherently create tighter admission criteria. Operationally, this may result in suppression of referrals, theatre cancellations, deferred care, and outpatient and department backlog.

As the population grows, these demand and capacity related issues will only increase – especially in the face of an aging Nelson Marlborough population who are more likely to require care for long term conditions and comorbidities. If left unaddressed, the demand pressures and capacity constraints will continue to cause equity, access, and operational challenges at Nelson Hospital. Investment in future capacity will be required to enable Nelson Marlborough to continue providing appropriate, safe, and sustainable care to their community.

Peer Review Findings

In 2022, the Destravis Group peer reviewed the demand and capacity modelling – the full review is included in Appendix G. The peer review broadly supported the demand conclusions and Nelson Marlborough's ambitious MoC initiatives.

Destravis highlighted the need for additional resourcing to support the commissioning of services delivered in primary and community care settings, which the modelling assumed would decrease future requirements for inpatient beds and outpatient rooms.

Increasing Expectations

Growing patient expectations of healthcare quality are contributing to increased demand for Nelson Hospital services. Technology advances allow people to take more ownership of their healthcare, leading to a population that is more informed of their personal healthcare challenges and the service they should be offered.

The digital shift across most industries means the population is now accustomed to more personal, efficient, on-demand, and self-guided experiences. This experience is often aided by more seamless integration of Data & Digital capability. Practitioners and hospitals are implementing a digitally connected health ecosystem that can still provide a good quality of care from the comfort of a patient's home e.g., phone apps to book appointments / order prescriptions, virtual consultations, etc.

Scientific and technological advancements continue to improve healthcare quality and ability to save lives. This has led to a more effective health care system, but one in which potential productivity benefits have been taken as care improvements. The ability to do more, and a greater understanding from patients about the care available, has driven increased demand.

Sufficient capacity and modernity of hospital infrastructure is key to delivering on these growing healthcare expectations.

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1.3 Risks, Benefits, Dependencies

1.3.1 Strategic and Planning Risks

The most significant strategic and operational planning programme level risks are presented in Table 13. Project specific delivery risks, and the risks associated with the Preferred Option and Preferred Procurement Model are discussed in the Management Case in Section 5.

Table 13: Main risks and impact of Project Whakatupuranga

Risk	Rating
Ongoing clinical / operational requirements: Value management required to meet capital funding constraints focuses principally on cost, rather than considering clinical and/or ongoing operational requirements, reducing the ability to realise clinical and efficiency benefits associated with the redevelopment.	Very High
Te Whatu Ora and/or Government approval processes: the business case approvals timeline is delayed leading to a consequent programme delay.	Very High
Misaligned expectations: Misaligned expectations resulting in reputational damage through adverse public, staff and media reaction to key project events and incident.	Very High
Health System Reform: the direction of the project changes due to decisions made by the Te Whatu Ora and Te Aka Whai Ora board going forward as reforms are implemented and mature.	High
Long-term future proofing: capital constraints fail to allow for future proofing beyond the 15–20-year planning horizon of clinical services and demand, thereby restricting the flexibility of the facilities to respond to changing population needs in the future.	High
Roles and responsibilities between Te Whatu Ora stakeholders: Allocation of responsibilities and risks between Te Whatu Ora stakeholders are not clearly defined.	High

1.3.2 Main Benefits

Key Project Whakatupuranga benefits are outlined in Table 14. Further detail and links to Treasury's Living Standards Framework (LSF) domains are detailed in Appendix L and Appendix M.

Table 14: Main potential benefits of Project Whakatupuranga

Main Benefit	Description
Continuity and resilience of service delivery	The hospital can continue to provide critical health services in the event of a major seismic event or other disaster and can meet future health needs of a growing population.
Increased quality in service provision	Services provided are patient centred, safe, efficient, effective, equitable and timely.
Equitable health outcomes	Services provided are equitable, culturally safe, appropriate and contribute to lifting Māori health outcomes.
Flexibility and sustainability of service provision	Hospital services will be designed in a flexible way to accommodate future technology and MoC changes.

1.3.3 Dependencies, Constraints, Considerations

There are several key events and initiatives that Project Whakatupuranga will need to remain cognisant of throughout delivery. These have been summarised below.

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- **General Election:** The general election date in October 2023 dictates the deadlines for the PBC approvals process, including Nelson Marlborough, Regional and Board approval.
- **Statutory Obligations to Remediate / Vacate EPBs:** Both George Manson and Percy Brunette have been served EPB notices by NCC. These notices triggered the legal requirement for the risk to be remediated by November 2028.
- **Nelson Digital Strategy & Roadmap 2021-2024:** System-wide IT transformation is required to enable Nelson Marlborough to respond to the changing healthcare landscape. The Digital Strategy & Roadmap informed the development of a Digital Blueprint for Project Whakatupuranga (see Section 1.1.3). Project Whakatupuranga success is contingent on the ongoing funding and implementation of the Digital Strategy & Roadmap and Digital Blueprint. The dependencies (as well as risks) associated with the delivery of the Digital Subprogramme is detailed in the registers within Appendix DD and Appendix EE.
- **South Island Digital Transformation:** Project Whakatupuranga is also dependent on the South Island Digital Transformation and/or the National Data & Digital Roadmap to provide core Electronic Medical Record System and Electronic Health Record functions.
- **Interim capacity projects at Nelson Hospital and Wairau Hospital:** Nelson Marlborough is already experiencing capacity and configuration/condition issues. Some of which will not be able to be 'managed' until the new facility is built, without investment. To help respond to these issues, Te Whatu Ora - Nelson Marlborough has planned for over thirty interim capacity projects across Nelson Hospital and Wairau Hospital.
- **Ongoing implementation of the New Zealand Health Reform:** The success of the programme is dependent on the new organisations, systems, processes, and policies that will arise through the implementation of the health reforms. Subsequent Business Cases will need to consider these ongoing changes to the health context that will influence Project Whakatupuranga.
- **Localities Initiative:** A three-year locality plan will be developed, detailing goals for relevant Nelson Marlborough localities. Project Whakatupuranga will need to be able to support the delivery of these plans.
- **Ki Te Pae Ora:** Nelson Hospital redevelopment will be essential to successfully implementing Ki Te Pae Ora, but the implementation of new MoC will also be needed to balance demand with capacity providing by the redevelopment

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2 Economic Case

2.1 Introduction

This Economic Case provides an overview of the options that have been considered for Project Whakatupuranga that address the Problem Statements identified in the Strategic Case. To do this, the Economic Case:

- Defines the Long List of options for assessment
- Assesses the Long List of options against the defined Investment Objectives for this programme
- Assesses the Long List of options against the defined Critical Success Factors (CSFs)
- Determines a Short List of options
- Defines a set of criteria to assess the Short List of options through a Multi Criteria Analysis (MCA)
- Identifies and recommends a Preferred Option for recommendation that optimises value for money

Option Development History

The options presented in this Programme Business Case (PBC) have been informed by nearly seven years of dedicated work on Project Whakatupuranga to date. A brief history of the approach taken to develop options prior to this PBC is detailed in Figure 17. More information on the options development history is provided in Appendix N.

The development of options over time has largely been guided by the following drivers:

- Increased understanding of seismic risks over time
- An increasing population and related increases in demand for health services
- Models of Care (MoC) development
- Exacerbation of functional configuration and current facility design issues
- Capital constraints and changing capital envelope targets
- Recent changes to the structure of the New Zealand health system through the 2022 health reform

The 2019 Indicative Business Case (IBC) and its 2020 addendum developed 11 options for consideration. The clinically Preferred Option involved a comprehensive redevelopment of the Nelson Hospital site to deliver clinically acceptable outcomes and mitigate seismic risk to all clinical services. However, due to capital constraints imposed by the Capital Investment Committee (CIC), the Recommended Option differed from the clinically Preferred Option. A subsequent DBC developed in 2022 further refined the options presented in the IBC.

This PBC presents a refined set of options, which have been guided by the original programme drivers and feedback from the DBC Gateway Review. The Gateway Review noted the need for design and work programmes to be aligned to the Te Whatu Ora Capital Programme Delivery Model.

These options have been developed as programmes, leveraging the synergies between the three key Subprogrammes Te Whatu Ora are delivering under Project Whakatupuranga (described below). The Management Case further details the interaction between the Subprogrammes.

1. **Facility Subprogramme (Facility):** Physical redevelopment of the Nelson Hospital campus, and the predominant focus of this PBC

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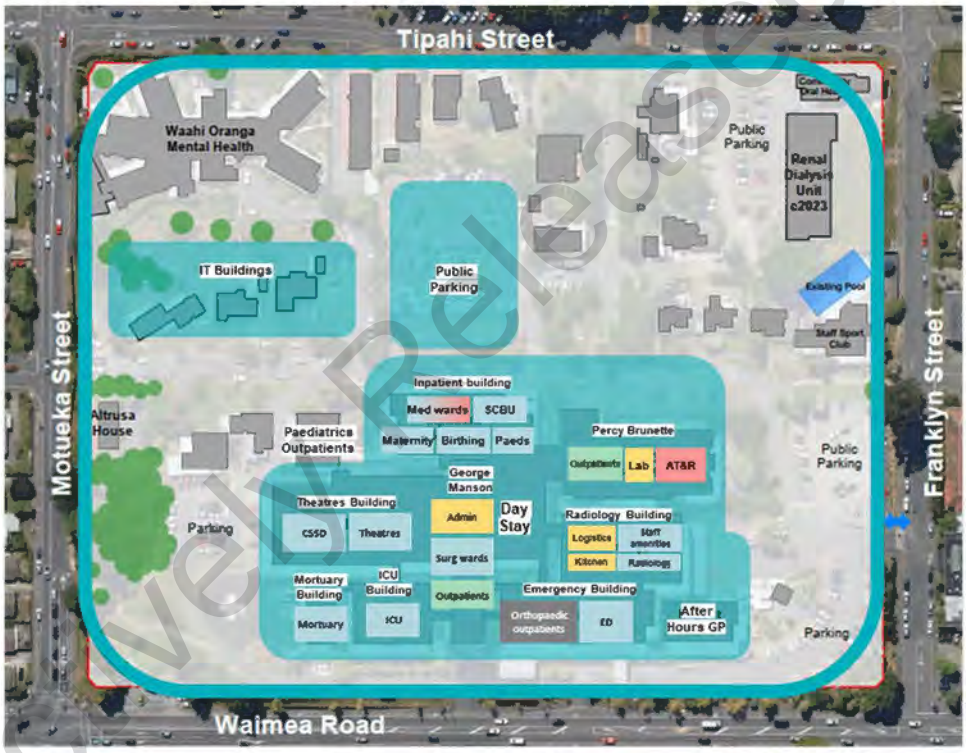
2. **Workforce / System Transformation Subprogramme (WST):** Supports the Facility Subprogramme by implementing the MoC needed for the facility to meet patient demand, but also is supported by the new facility in delivering new, more effective MoC
3. **Data & Digital Subprogramme (Digital):** Supports virtual care and base IT functionality for the new facility. It is a key enabler of the Facility Subprogramme, and focuses on advancing Nelson Marlborough's digital maturity to help deliver and meet modern MoC

These key drivers and how they influence the PBC options development are further discussed in Section 2.2.

As a reference, refer to Figure 16 for a diagram of the current Nelson Hospital campus and the services and locations in scope with respect to the Site Master Plan.

Figure 16: Summary view of the Nelson Hospital Campus and key services/locations in scope of Project Whakatupuranga[39]

Nelson Hospital Campus Long Term Site Master Plan (Overview)



Nelson Hospital Campus (North of Waimea Road)
Blue highlighted area are the key buildings and services that are part of the Redevelopment Scope

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[39] 2023 Current State of the Nelson Hospital site and services in scope (Adapted from Klein, Programme Business Case Design Report 1 May 2023).

Figure 17: Options Development History

Options Development History

2017 Strategic Assessment

Reason for Assessment

In the late 1990s, a two-stage programme commenced to redevelop Nelson Hospital. The first stage of works was completed between 1996 and 2003 and provided several new facilities.

Over 20 years on the second stage is still yet to be delivered. The key challenges were highlighted in a Strategic Assessment submitted to the Capital Investment Committee (CIC) in March 2017. The assessment explored how the design of facilities was impacting quality of care, capacity, and ways of working, and Earthquake-prone Buildings were presenting life safety and service continuity risks.

2020 Indicative Business Case Addendum

Drivers for Business Case Development

During the 2019 IBC review process, the Capital Investment Committee (CIC) requested that Nelson Marlborough address the following points prior to re-submission of the IBC:

- Further examine the CSP assumptions
- Consider reuse of existing buildings to meet cost targets
- Meet capital constraint of $500m - $700m over the entire tenure of the redevelopment

Preferred Option

Of the three new IBC Addendum options (Option 8, Option 9 and Option 10) and one reworked IBC option (Option 11), Option 11 was the clinically preferred option. However, because this option had a capital cost significantly over the target threshold and because it provided only marginal additional benefits over Option 10, Option 10 was recommended to be taken forward for further development in the DBC.

Option 10 (recommended) removed the most seismically vulnerable buildings from the Nelson Hospital site while re-using as many existing facilities as possible. The total GFA of 51,704m² (new: 45,197m², cosmetic upgrades: 10,811m²)

2022 Detailed Business Case – Gateway Review

Review Outcome

The DBC was developed during a transitory period for the establishment of the new health system through Te Whatu Ora – Health New Zealand. Consequently, as the DBC progressed through the approval pathway, the Gateway Review Report (October 2022) recommended Project Whakatupuranga take a programme approach to assist with incorporating national priorities as they are established by Te Whatu Ora. The DBC was not submitted to the Te Whatu Ora Board, and it was recommended by the Gateway Review to commence a PBC.

2023 Programme Business Case

Reason for Development

In the time between completing the DBC and developing the PBC, a better understanding of the seismic risks associated with key buildings within the Nelson Hospital campus emerged.

George Manson can be retained and repurposed as an IL2 building to house administrative functions. The adjacent Theatres Building could also be viably retained for some non-critical clinical uses.

This PBC Economic Case therefore explores a new set of options to reflect these developments and the new information received since DBC development.

2019 Indicative Business Case

Drivers for Business Case Development

- Exacerbation of site issues due to lack of investment since 2003
- Need to address acute seismic risk presented by some facilities to critical clinical services
- Increasing demand and complexity of presentation
- Service delivery lacking behind contemporary best practice

Business Case informed by

- CSP modelling
- Agreed MoC Programme

Preferred Option

The 2019 Nelson Hospital Redevelopment Indicative Business Case (IBC) outlined seven options, ranging from greenfield through to staged brownfield redevelopment. Two options were recommended for progression to the subsequent Detailed Business Case (DBC):

- **Option 1 (recommended):** Full greenfield redevelopment on a new, unspecified site. Approximate total Gross Floor Area (GFA) of 95,867m² (all new)
- **Option 3 (preferred):** Brownfield redevelopment, including refurbishment of existing Mental Health inpatient unit. Approximate total GFA of 88,474m² (new GFA: 79,289m², refurbished GFA: 9,185m²)

2022 Detailed Business Case

Drivers for Business Case Development

- Continued capital constraints, with maximum available capital of $700m
- Options largely based on the 2020 IBC Addendum
- Confirmation of the IBC and IBC Addendum seismic constraints encouraging link strengthening and building demolition options for George Manson and the retention and non-clinical use of Percy Brunette
- An increased population projection of 1.4% since the IBC Addendum, resulting in increased demand projections
- Poor configuration and design of existing buildings

Preferred Option

As Option 1 (the previous IBC Option 10) did not fit within the capital envelope, two value engineered sub-options were developed. The DBC ultimately recommended DBC Option 1B as the Preferred Option. The main differences for Option 1B that lowered its cost compared to Option 1A, were that Child and Youth services moved to the new Inpatient Building in Phase 2 and the Laboratory and Blood Bank moved to another building in Phase 6. This option was best able to deliver Project Whakatupuranga to meet the budget and deliver fundamental clinical requirements.

Option 1b (value engineered, overall preferred option): Child and Youth services moved to the new Inpatient Building in Phase 2 and the Laboratory and Blood Bank moved to another building in Phase 6, allowing the option to fit in the capital envelope. Phase 1 GFA of 40,599 m² (all new), Total GFA of 58,013m² (new: 47,459m², refurbished:10,554m²)

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2.2 Options Overview

Key Drivers for PBC Options Development

This section describes the key seismic, demand and capacity, and functional design drivers that informed options development for this PBC. These key drivers informed the Problem Statements for Project Whakatupuranga, as described in the Strategic Case, and outlined below for reference.

Table 15: Problem Statements from the Strategic Case

Problem Statement	Description
Problem Statement 1	High seismic risk in the Nelson locality due to Alpine Fault proximity and poor seismic resilience of critical hospital infrastructure jeopardises post-disaster service delivery to its population following a significant seismic event.
Problem Statement 2	The functional configuration and design of facilities constrains innovation and opportunities to improve operational efficiencies, quality of care, patient experience and delivery of Kaupapa Māori approaches.
Problem Statement 3	Changing population demographics, health needs, expectations, and care growth are not met by current facilities which compromises service delivery, including the ability to address Māori health equity.

Seismic risks on the Nelson Hospital site continue to be better understood since the first options were developed

Following completion of the DBC in 2022, further information has become available about the seismic risks associated with the George Manson Building. More detailed information on the seismic context and changes since the DBC can be found in Appendix J, Appendix K and Appendix N.

Previous reports suggested that George Manson could lean over adjacent buildings and present a potential risk of collapse, creating a hazard in the 'fall zone' following a significant seismic event. Subsequent investigations have revealed that the risk is less than initially assessed. Critically, George Manson does not pose a risk to surrounding structures.[40] This means George Manson can be retained and repurposed as an IL2 building to house administrative functions, and the adjacent Theatres Building can be retained for some non-critical, clinical uses.

All options focus on providing for a safe post-disaster clinical environment with critical clinical services placed in IL4 buildings. The options also focus on the reuse of existing buildings (e.g. George Manson, Theatres, and Day Stay) as far as practical to enhance environmental sustainability, reduce disruption, and manage cost. The ability to retain some 5,000 sqm+ of existing building allowed for rationalisation of some previous options, and drove the creation of a new, more efficient suite of facility options.

All revised options have the following key features:

- ✓ Designed to increase Nelson Hospital seismic resilience relative to the current state, protecting critical clinical services in a moderate earthquake.[41] As outlined by Beca, the overall seismic resilience is improved significantly in all PBC options, due to the development of a new, standalone Acute Services Building (ASB). This comparison of existing site resilience compared to the redeveloped site is depicted in Figure 18.

[40] Project Whakatupuranga – Nelson Hospital Redevelopment – Structural Engineering PBC Memo, located in Appendix K.
[41] A real example of this in Nelson could be the Alpine Fault Earthquake (AF8).

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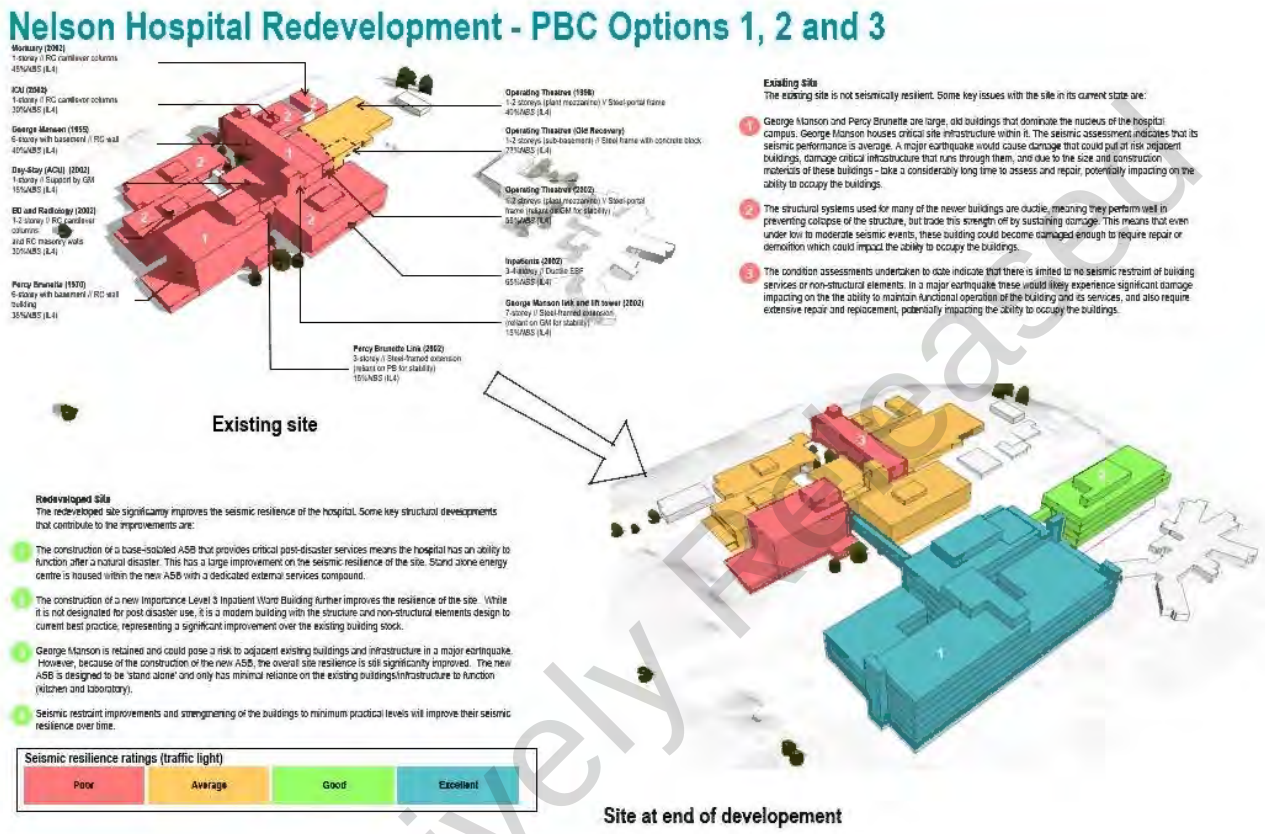
- ✓ The ASB is designed to allow for post disaster functionality (IL4)[42].
- ✓ Delivers laboratory functions within the ASB allowing full post-disaster functionality within a standalone facility without reliance on linkages to existing buildings
- ✓ Collocates critical services with critical functional relationships within the ASB and new IPB (where included in an option) (e.g. Maternity, Birthing, and SCBU). Refer to Table 16

Figure 18: Comparison of Existing Nelson Hospital Site Seismic Resilience to the Redeveloped Site under Options 1,2 and 3[43]



Existing demand and capacity constraints have only been exacerbated since the first options were developed in 2019

Since the 2019 Indicative Business Case (IBC) and 2020 IBC Addendum options were developed, demand and capacity modelling were updated for the 2022 DBC to reflect the impact of an increasing and aging population. This has only increased the number of beds required by 2037/38 to meet demand projections and has further highlighted the existing bed shortfall in the Nelson Hospital site. This existing bed shortfall needs to be urgently addressed, indicating there is less time to phase the delivery of bed capacity and more pressure to deliver capacity as soon as possible.

Therefore, all options:

- ✓ Address the current capacity and demand issues on site by delivering 258 end-state beds, meeting projected demand by 2037/38, following the completion of all programme phases.

[42] The Building Code is published in Schedule 1 of the Building Regulations 1992 and contains clause A3 Building importance levels. A building is given an importance level (1-5) determined by risk to human life, the environment, economic cost and other risk factors in relation to its use. The importance level sets design standards including seismic performance standards NZS1170.

[43] Project Whakatupuranga – Nelson Hospital Redevelopment – Structural Engineering PBC Memo, located in Appendix K.

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The functional configuration and design of facilities has continued to inhibit the delivery of modern Models of Care since the first options were developed

Due to a lack of significant capital investment in the Nelson Hospital site over the last 20-years, issues with the functional configuration and design of facilities have only worsened, especially in relation to modern MoC expectations. These issues constrain innovation and opportunities to improve operational efficiency, quality of care, patient experience and deliver Kaupapa Māori approaches.

Therefore, all options:

- ✓ Improve the functional configuration and design of Nelson Hospital by consolidating functions in a new ASB as well as new and/or existing IPBs
- ✓ Are designed with an emphasis on meeting cultural expectations, supporting modern MoC, as well as meeting the New Zealand Design Guidance Note (NZ DGN) and Australasian Health Facility Guidelines (AusHFG)
- ✓ Provide critical adjacencies between services and/or wards that benefit the movement of patients and staff throughout the Nelson Hospital site and therefore support operational efficiencies. Refer to Appendix O for a functional relationship matrix of services
- ✓ Include culturally responsive design elements to help ensure Māori health needs are met and equity is improved. This includes appropriate taonga at entry and exit pathways, provision of whānau space in every department / service near the unit entrance, area for Māori Health Offices, and a large Tūpāpaku Viewing Room in the Mortuary area
- ✓ Have considered the important role whānau play in a person's overall wellbeing. All options include a large whānau room in the front of the ASB to provide a gathering space for the community. Whānau inclusion in the patient journey has also been included within the facility design e.g. through provision of adequate space in inpatient rooms for family members
- ✓ Include investment into improving the Data & Digital capability of Nelson Hospital
- ✓ Include appropriately sized areas to meet the needs of modern equipment and staffing levels around the patient and designed for accessibility and ease of assistance by clinical staff
- ✓ Include layout and stacking of services informed by clinical work processes to give appropriate collocations and promote seamless patient journeys for both staff and patients

The location of services in each option has been informed by IL ratings as the more critical the service, the higher the need for that service to continue to operate in a post-earthquake environment. Other key factors, such as the desire for critical clinical adjacencies, also informed the design of all options. These drivers are outlined in Table 16 below. More information on the key factors informing design is in Appendix O.

Table 16: Summary of Key Factors Informing Design

Post-disaster services that must be located in IL4 rated ASB	
• Emergency Department (ED) • Acute Assessment Unit (AAU) • Radiology • Operating Theatres • Cath Lab* • Laboratory	• Procedure Suite • Intensive Care Unit / Critical Care Unit / High Dependency Unit (ICU/CCU/HDU) • Medical/Surgical Inpatient Unit (IPU) • Pharmacy • Central Sterile Supply (CSSD) **Note Cath Lab clinical preference is to be within an IL4 facility*
Critical adjacencies between services/wards	

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- ED and AAU
- Maternity, Birthing and SCBU: preference for all be on the same level/adjacent to each other
- Cath Lab: preference to be close to radiology, especially interventional radiology
- Birthing: preference for direct access to operating theatres, ideally on the same level
- ICU/HDU/CCU: preference is for quick access to ED and operating theatres, ideally co-located with an inpatient ward supporting higher acuity and cardiology inpatients
- Operating theatres, procedure suite and Cath Lab: collocate to create an Interventional Platform for space and staff efficiency. PBC options consider separation of Endoscopy and Cath Lab in separate procedural suites within the retained existing theatre building
- All procedure rooms and theatres to have plant directly above or close by
- CSSD: preference is to be adjacent horizontally or vertically to theatres

Critical locations for specific services

- ED to be level with main public entry to allow rapid access for both ambulance and walk-ins
- Mortuary to be on ground level to allow discrete access
- AT&R ward to be on a level with direct access to an outdoor rehabilitation courtyard
- Transit Lounge to have separate exit/entry to drop off/pick up area
- Integrated Operations Centre (IOC) to be centrally located in the public lobby

All options have been designed to include the same scope of services to benefit the Nelson Marlborough population

In light of these key drivers, all options have been designed to include the same scope of services, as outlined in the table below. Therefore, differences between the options mainly reside in programme delivery dates and the phasing of capital allocations.

Table 17: Existing buildings and services in scope of PBC options

Services and facilities in scope for this PBC			
• Plant	• Radiology	• Bunker	• AT&R
• Server Room	• CSSD	• Procedure Space	• MHSOP
• Unallocated Areas	• Staff Amenity	• Urgent Care Centre	• AT&R Support
• Staff Amenity	• Maternity/Birthing/ SCBU/Parents Accommodation	• Existing Logistics Dock	• Café/Faith/Amenities
• Pharmacy	• OR Admin	• Food Services	• Main Entry Spaces
• Mortuary	• Operating Theatres	• Existing Food Services	• Links
• BoH	• Cath Lab/Interventional Suite	• Cardiac Testing	• OPD Allied Health
• External Area (BoH)	• Laboratory & Blood Bank	• AH Pool	• Dental
• Travel & Contingency	• ICU/CCU/HDU	• Amb Radiology	• OPD
• Emergency Department	• Medical/Surgical IPU	• Library	• Ante Natal/Gynae
• Satellite Radiology	• Child & Youth	• IT	• OPD Surg/ENT/audio/ Opthal
• Acute Assessment Unit	• Covered Outdoor Space	• Central EQ & Plant	• AT&R OPD
• Lobby/IOC/Amities	• Administrative Space	• Facil/Eng/ Hotel Service	• Mental Health IPU
	• LINAC Support	• L&D – Skill Lab	• Car Parking
		• Endoscopy/Bronchoscopy	• ECE
			• Energy Centre

Existing Buildings in scope of this PBC	
• Existing ICU (Building V)	• George Manson (Building G)
• Existing Morgue (Building W)	• Existing Theatres (Building T)
• Existing Urgent Care Centre (Building X)	• Existing IPB (Building I)

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Services and facilities in scope for this PBC	
• Existing Emergency (Building U) • Existing Radiology (Building R) • Existing Day Stay (Building S)	• Percy Brunette (Building P) • Mental Health (Building M)

Note that while the Braemar Campus contains an existing energy centre, references to a new energy centre in this Economic Case refer to a self-contained and separate energy centre located in the new ASB. The significance of this new Energy Centre in the ASB is that it is contained in an IL4 rated building and therefore provides for post disaster functionality. The Braemar Campus energy centre is not in scope of this PBC as noted in the Strategic Case.

Options Developed for this PBC

The starting point for the development of options for this PBC was the DBC clinically Preferred Option, **Option 1A**.[44] This was clinically preferred because it housed the Laboratory and Blood Bank within the ASB, as opposed to DBC Option 1B which excluded the Laboratory but was marginally more affordable. **PBC Option 4 is equivalent to DBC Option 1A,** and the other PBC options use DBC Option 1A as the 'base reference' design.

PBC **Option 1 – Intermediate**, **Option 2 – Minimum New Build**, and **Option 3 – Intermediate Phased Approach** were then developed by refining PBC Option 4 with the key drivers described in the 'Key Drivers for PBC Options Development' section. Updates to the seismic risk assumptions allowed for the retention and reuse of the George Manson building and adjacent Theatres Building in these options.

This PBC provides a 'Do Minimum' option in lieu of a Base Case because there is no acceptable 'Do Nothing' scenario for the Nelson Hospital redevelopment. **Option 2 – Minimum New Build** represents the minimum acceptable option from a seismic, clinical, and operational perspective.

Considering this development process, Table 18 provides a detailed overview of the key features of each option developed for this PBC.

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[44] Options Development Summary informed by Klein Options Development Memo in Appendix N

Key Option Features

The table below provides an overview of key features for each option. Refer to Appendix O for the full Design Report and Appendix P for the Cost Estimates.

Table 18: Key Features of options

Feature	Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – Do Maximum
Purpose	This option is designed to house all critical services required in a post-disaster environment in a single IL4 rated ASB that includes all inpatient wards. All existing Nelson Hospital buildings are refurbished and used for administration or non-critical clinical services where appropriate.	This option is designed to house most critical services required in a post-disaster environment in a single IL4 rated ASB with the smallest total GFA (for the new buildings) and therefore minimum New Build Area (relative to other options). The Cardiac Cath Lab is located in the existing Theatres Building and subject to seismic risk. All existing Nelson Hospital buildings are refurbished and used for administration or non-critical clinical services where appropriate.	This option is designed to house all critical services required in a post-disaster environment in a new IL4 rated ASB and new IL3 rated IPB. All existing Nelson Hospital buildings are refurbished and used for administration or non-critical clinical services where appropriate.	This option is designed to house all critical services required in a post-disaster environment in a new IL4 rated ASB and new IL3 IPB with the greatest total GFA (for the new buildings) and therefore largest New Build Area (relative to other options). Many existing Nelson Hospital buildings are refurbished and used for administration or non-critical clinical services where appropriate, with the exception of George Manson which is partially demolished, and the Existing Theatres Building which is fully demolished.
Option Development Basis	Design developed by refining PBC Option 4	Design developed by refining PBC Option 4	Design developed by refining PBC Option 4	PBC Option 4 is DBC clinically Preferred Option -Option 1A
High Level Summary of Key Features *Similar services between options* Different services between options	• Retention of George Manson • Retention of existing Theatres Building • *New IL4 rated ASB* • No new IL3 rated IPB • Single new build phase (only ASB) • Inpatient wards located in new ASB • *Relocated Early Childhood Centre (ECE)* • *Existing buildings refurbished* • *New Carpark Building* • Endoscopy / Bronchoscopy in existing Theatres Building	• Retention of George Manson • Retention of existing Theatres Building • *New IL4 rated ASB* • No new IL3 rated IPB • Single new build phase (only ASB) • Inpatient wards located in new ASB • *Relocated Early Childhood Centre (ECE)* • *Existing buildings refurbished* • *New Carpark Building* • Cath Lab in existing Theatres Building • Minimum New Build Floor Area	• Retention of George Manson • Retention of existing Theatres Building • *New IL4 rated ASB* • New IL3 rated IPB • Two new build phases (ASB and IPB) • Inpatient wards located in both new ASB and new IPB • *Relocated Early Childhood Centre (ECE)* • *Existing buildings refurbished* • *New Carpark Building*	• Partially demolishes George Manson • Fully demolishes existing Theatres Building • *New IL4 rated ASB* • New IL3 rated IPB • *Two new build phases (ASB and IPB)* • *Inpatient wards located in both new ASB and new IPB* • *Relocated Early Childhood Centre (ECE)* • *Remaining existing buildings refurbished* • *New Carpark Building* • AT&R moved into new IPB • Maximum New Build Floor Area
Overall Programme	**Option 1 – Intermediate**	**Option 2 – Minimum New Build**	**Option 3 – Intermediate, Phased Approach**	**Option 4 – Do Maximum**
Programme Start	21 Aug 23 (Phase 1 Commencement)	21 Aug 23 (Phase 1 Commencement)	21 Aug 23 (Phase 1 Commencement)	21 Aug 23 (Phase 1 Commencement)
Programme end	21 May 36 (Phase 8 Completion)[45]	21 May 36 (Phase 8 Completion)	21 May 36 (Phase 8 Completion)	18 Jun 37 (Phase 8 Completion)
Total capex (nominal and real / Present Value, PV) (real costs discounted at 5%)	$1.098b (nominal) | $692m (real, PV)	$1.070b (nominal) | $674m (real, PV)	$1.144b (nominal) | $871m (real, PV)	$1.275b (nominal) | $731m (real, PV)
PBC Phase 1 funding request (real costs discounted at 5%)	s 9(2)(b)(ii)			
Total New Build area (GFA)[46]	38,828m²	37,562m²	40,647m²	46,842m²
Total new ASB Build Area (GFA)	36,129m²	39,943m²	32,338m²	31,943m²
Total new IPB Build Area (GFA)	Inpatient wards located in ASB	Inpatient wards located in ASB	5,494m²	8,152m²
Total Refurbished area (GFA)	13,190m²	13,760m²	12,057m²	9,349m²
Total Demolition area (GFA)	No demolition	No demolition	No demolition	5056m²
Total Vacant area (Internal Floor Area, IFA)	570m²	-	1,704m²	550m²
Total area with no works / existing retained (IFA)	7,154m²	7,154m²	7,154m²	7,154m²
Total extension area (new build) (IFA)	549m²	549m²	549m²	549m²
Total Shell Area (fit out by 3rd party) (IFA)	340m²	340m²	340m²	340m²

[45] Phase 8 – New Radiation Oncology Building is the last phase to be completed. However, it should be noted that this is out of scope of Project Whakatupuranga. However, this has been noted to align with Long Term Master Planning.
[46] Klein Design Report Appendix O, Area Summary Chart

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Feature	Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – Do Maximum
Overall Option Scope Area *Total of "new build area","Refurbished area","Extention","Shell area"*	52,907m^2	52,211m^2	53,593m^2	57,080m^2
Overall End State Area *Total of "new build area","Refurbished area","Vacant area","No Work area","Extention","Shell area"*	60,631m^2	59,365m^2	62,451m^2	63,590m^2

Key Programme Features	Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – Do Maximum
s 9(2)(b)(ii)				

Existing Buildings	Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – Do Maximum
George Manson (Building G)	Refurbished - Admin use	Refurbished Admin	Refurbished - Admin use	Partial Demolition
Existing Theatres (Building T)	Refurbished - Clinical use	Refurbished - Clinical use	Refurbished - Admin use	Full Demolition
Existing Inpatient Building (Building I)	Refurbished - Clinical use	Refurbished - Clinical use	Refurbished - Clinical use	Refurbished - Clinical use / Refurbished - Admin use
Percy Brunette (Building P)	Refurbished - Clinical use	Refurbished - Clinical use	Refurbished - Clinical use	Refurbished - Clinical use
Existing ICU (Building V)	Refurbished - Admin use	Refurbished - Admin use	Refurbished - Admin use	Refurbished - Admin use

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Feature	Option 1 – Intermediate		Option 2 – Minimum New Build		Option 3 – Intermediate, Phased Approach		Option 4 – Do Maximum	
Existing Morgue (Building W)	Refurbished - Admin use		Refurbished - Admin use		Refurbished - Admin use		Refurbished - Admin use	
Existing Urgent Care (MIC) (Building X)	Refurbished - Clinical use		Refurbished - Clinical use		Refurbished - Clinical use		Refurbished - Clinical use	
Existing Radiology (Building R)	Refurbished - Clinical use	Refurbished - Admin use	Refurbished - Clinical use	Refurbished - Admin use	Refurbished - Clinical use	Refurbished - Admin use	Refurbished - Clinical use	Refurbished - Admin use
Existing Day Stay (Building S)	Refurbished - Admin use		Refurbished - Admin use		Refurbished - Admin use		Refurbished - Admin use	
Services in IL4 rated buildings	**Option 1 – Intermediate**		**Option 2 – Minimum New Build**		**Option 3 – Intermediate, Phased Approach**		**Option 4 – Do Maximum**	
Acute Services Building (ASB) *Similar services* **Different services**	• *Acute Assessment Unit* • *BoH* • *Cath Lab/Interventional Suite* • *Child & Youth* • *Covered Outdoor Space* • *CSSD* • *Emergency Department (incl. CAT)* • *External Area (BoH)* • *Helipad* • *Helipad Support* • *ICU/CCU/HDU* • *Laboratory & Blood Bank* • *Lobby/IOC/Amenities* • *Maternity & Birthing/SCBU/Parents Accommodation* • *Med/Surg IPU (B)* • *Med/Surg IPU (C)* • *Med/Surg IPU (D)* • *Medical/Surgical IPU (A)* • *Mortuary* • *Operating Theatres* • *OR Admin* • *Pharmacy* • *Plant* • *Satellite Radiology* • *Server Room* • *Staff Amenity* • *Travel & Contingency* • *Unallocated Area* • *Void*		• *Acute Assessment Unit* • *BoH* • Child & Youth • Covered Outdoor Space • *CSSD* • *Emergency Department (incl. CAT)* • *External Area (BoH)* • *Helipad* • *Helipad Support* • *ICU/CCU/HDU* • *Laboratory & Blood Bank* • *Lobby/IOC/Amenities* • *Maternity & Birthing/SCBU/Parents Accommodation* • *Med/Surg IPU (B)* • Med/Surg IPU (C) • Med/Surg IPU (D) • *Medical/Surgical IPU (A)* • *Mortuary* • *Operating Theatres* • *OR Admin* • *Pharmacy* • *Plant* • *Satellite Radiology* • *Server Room* • *Staff Amenity* • *Travel & Contingency* • *Unallocated Area* • *Void*		• *Acute Assessment Unit* • *BoH* • Cath Lab/Interventional Suite • *CSSD* • *Emergency Department (incl. CAT)* • Endoscopy/Bronchoscopy • *External Area (BoH)* • *Helipad* • *Helipad Support* • *ICU/CCU/HDU* • *Laboratory & Blood Bank* • *Lobby/IOC/Amenities* • *Maternity & Birthing/SCBU/Parents Accommodation* • *Med/Surg IPU (B)* • Medical/Surgical IPU (A) • *Mortuary* • *Operating Theatres* • *OR Admin* • *Pharmacy* • *Plant* • *Satellite Radiology* • *Server Room* • *Staff Amenity* • *Travel & Contingency* • *Unallocated Area* • *Void*		• *Acute Assessment Unit* • *BoH* • Cath Lab/Interventional Suite • *CSSD* • *Emergency Department (incl. CAT)* • Endoscopy/Bronchoscopy • *External Area (BoH)* • *Helipad* • *Helipad Support* • *ICU/CCU/HDU* • *Laboratory & Blood Bank* • *Lobby/IOC/Amenities* • *Maternity & Birthing/SCBU/Parents Accommodation* • *Med/Surg IPU (B)* • Med/Surg IPU (C) • Medical/Surgical IPU (A) • *Mortuary* • *Operating Theatres* • *OR Admin* • *Pharmacy* • *Plant* • *Satellite Radiology* • *Server Room* • *Staff Amenity* • Transit Lounge • *Travel & Contingency* • *Unallocated Area* • *Void*	
Services in IL3 rated buildings	**Option 1 – Intermediate**		**Option 2 – Minimum New Build**		**Option 3 – Intermediate, Phased Approach**		**Option 4 – Do Maximum**	
Existing Theatres (Building T) *Similar services* **Different services**	• Endoscopy/Bronchoscopy • L&D – Skill Lab • Vacant space		• Cath Lab/Interventional Suite • Endoscopy/Bronchoscopy		• L&D – Skill Lab • Vacant space		• Building Demolished	
Existing Inpatient Building (Building I) *Similar services* **Different services**	• AT&R • MHSOP • *Café/Faith/Amenities* • *Main Entry*		• AT&R • MHSOP • *Café/Faith/Amenities* • *Main Entry*		• AT&R • MHSOP • *Café/Faith/Amenities* • *Main Entry*		• Admin • Cardiac Testing • Education • L&D • *Café/Faith/Amenities* • *Main Entry*	
New Inpatient Building *Similar services* **Different services**	*Inpatient wards / services in other buildings*		*Inpatient wards in other buildings*		• Child & Youth • Covered Outdoor Space • Med/Surg IPU (C) • Med/Surg IPU (D) • Plant		• AT&R • Child & Youth • Covered Outdoor Space • Med/Surg IPU (D) • MHSOP • Plant	

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Feature		Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – Do Maximum
Critical service adjacencies and locations		**Option 1 – Intermediate**	**Option 2 – Minimum New Build**	**Option 3 – Intermediate, Phased Approach**	**Option 4 – Do Maximum**
Critical service adjacencies achieved *Similar services* Different services		• *Birthing / Operating Theatres* • Cath Lab / ED / ICU • Cath Lab / Radiology • *CSSD / Operating Theatre* • *ED / AAU* • *ICU / HDU / CCU* • *Maternity / Birthing / SCBU* • *Operating Theatres / Plan* • Operating Theatres / Procedure Suites / Cath Lab • *Procedure Rooms / Plant*	• *Birthing / Operating Theatres* • *CSSD / Operating Theatre* • *ED / AAU* • *ICU / HDU / CCU* • *Maternity / Birthing / SCBU* • *Operating Theatres / Plan* • *Procedure Rooms / Plant*	• *Birthing / Operating Theatres* • Cath Lab / ED / ICU • Cath Lab / Radiology • *CSSD / Operating Theatre* • *ED / AAU* • *ICU / HDU / CCU* • *Maternity / Birthing / SCBU* • *Operating Theatres / Plan* • Operating Theatres / Procedure Suites / Cath Lab • *Procedure Rooms / Plant*	• *Birthing / Operating Theatres* • Cath Lab / ED / ICU • Cath Lab / Radiology • *CSSD / Operating Theatre* • *ED / AAU* • *ICU / HDU / CCU* • *Maternity / Birthing / SCBU* • *Operating Theatres / Plan* • Operating Theatres / Procedure Suites / Cath Lab • *Procedure Rooms / Plant*
Critical Locations achieved		• ED level with main public entry for rapid ambulance / walk in access • Mortuary to be on ground level to allow discrete access • AT&R ward level with direct access to outdoor rehabilitation courtyard • Transit Lounge to have separate exit/entry to drop off/pick up area • Integrated Operations Centre centrally located in the public lobby	• ED level with main public entry for rapid ambulance / walk in access • Mortuary to be on ground level to allow discrete access • AT&R ward level with direct access to outdoor rehabilitation courtyard • Transit Lounge to have separate exit/entry to drop off/pick up area • Integrated Operations Centre centrally located in the public lobby	• ED level with main public entry for rapid ambulance / walk in access • Mortuary to be on ground level to allow discrete access • AT&R ward level with direct access to outdoor rehabilitation courtyard • Transit Lounge to have separate exit/entry to drop off/pick up area • Integrated Operations Centre centrally located in the public lobby	• ED level with main public entry for rapid ambulance / walk in access • Mortuary to be on ground level to allow discrete access • AT&R ward level with direct access to outdoor rehabilitation courtyard • Transit Lounge to have separate exit/entry to drop off/pick up area • Integrated Operations Centre centrally located in the public lobby
Bed Capacity		**Option 1 – Intermediate**	**Option 2 – Minimum New Build**	**Option 3 – Intermediate, Phased Approach**	**Option 4 – Do Maximum**
Inpatient Bed Shortfall / Surplus during Programme Delivery Red = Shortfall Green = Surplus Note: 2030/31, 2034/35 projections are estimated averages	2022/23	-34	-34	-34	-34
	2027/38	-52	-52	-52	-52
	2030/31	+2	+2	- 30	=
	2032/33	+23	+23	+23	-3
	2034/35	+12	+12	+12	+12
	2037/38	+3	+3	+3	+3
New ASB inpatient beds (vs total modelled demand for Nelson Hospital)	ASB beds	226 (2031)	226 (2031)	194 (2031)	224 (2031)
	Demand	224 (2030/31)	224 (2030/31)	224 (2030/31)	224 (2030/31)
	Difference	+2	+2	-30	=
New IPB inpatient beds (vs total modelled demand for Nelson Hospital)	IPB beds	N/A	N/A	226 (2032)	258 (2034)
	Demand	N/A	N/A	235 (2032/33)	246 (2034/35)
	Difference	N/A	N/A	-9	+12
Existing IPB inpatient (vs total modelled demand for Nelson Hospital)	Ex IPB beds	258 (2032)	258 (2032)	258 (2033)	No beds in EX IPB
	Demand	235 (2032/33)	235 (2032/33)	235 (2032/33)	235 (2032/33)
	Difference	+23	+23	+23	No beds in EX IPB
Total beds (end state)	Provided	258 (2033)	258 (2033)	258 (2033)	258 (2034)
	Demand	255 (2037/38)	255 (2037/38)	255 (2037/38)	255 (2037/38)
	Difference	+3	+3	+3	+3
Total outpatient rooms/spaces (end state)		91	91	91	91
Total inpatient beds (end state)		258	258	258	258
Total operating theatre rooms (end state)		8	8	8	8

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Feature	Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – Do Maximum
Total procedure rooms (end state)	• 2 Endoscopy rooms • 1 Procedure room (within Endoscopy Department) • 1 Ambulatory Procedure (next to Medical Day Stay)	• 2 Endoscopy rooms • 1 Procedure room (within Endoscopy Department) • 1 Ambulatory Procedure (next to Medical Day Stay)	• 2 Endoscopy rooms • 1 Procedure room (within Endoscopy Department) • 1 Ambulatory Procedure (next to Medical Day Stay)	• 2 Endoscopy rooms • 1 Procedure room (within Endoscopy Department) • 1 Ambulatory Procedure (next to Medical Day Stay)

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Services Stacking

All options have the same overall service scope, but there are key differences in the configuration of these services across the new and existing buildings in each option.

Figure 19, Figure 20, Figure 21 and Figure 22 below depict the differences in services stacking between options. For a full view of the stacking in each option completed by Klein, refer to Appendix O.

The following services locations have the most significant clinical, operational, and fiscal impacts:

- In Options 1 and 2, all inpatient wards are in the IL4 rated ASB. Inpatient wards are not required by policy to be located in an IL4 building (IL3 is sufficient) and as such these wards are located in an 'overengineered building'. This is done for practical reasons, notably that it is less expensive to build a single IL4 structure to house clinically critical and inpatient services, as opposed to constructing two buildings with the appropriate ratings.[47]
- In Options 3 and 4, inpatient wards are located across an IL4 rated ASB and IL3 rated new IPB. For those inpatient wards located in the IL4 rated ASB, these options are overdelivering in terms of seismic resilience.
- In Option 2, the Cardiac Cath Lab is located in the existing Theatres Building. It is preferred that the Cardiac Cath Lab is located in an IL4 rated facility and therefore the new ASB.[48] Locating this service away from other critical services in the ASB has negative clinical implications.
- Option 3 houses Endoscopy and Bronchoscopy in the IL4 rated ASB. As this service is not a critical clinical service it is not required to be housed in an IL4 rated building and therefore Option 3 is overdelivering on seismic resilience.
- Option 4 contains a suite of services in the IL4 rated ASB that do not need to be located in an IL4 rated building, therefore overdelivering on seismic requirements.
- Option 4 demolishes levels four to seven of the George Manson building and the whole existing Theatres Building. These buildings do not need to be demolished, and while the consolidation of the hospital footprint introduces some clinical efficiencies, this option does so at a high cost: demolishing buildings that have some useable life.

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[47] Practically, it is not simple or cost effective to build a single structure with different seismic (IL) performance in different areas of the structure.
[48] Refer to the Options Development Memo for full list of factors informing design.

Figure 19: 'Option 1 – Intermediate' Key Stacking Differences

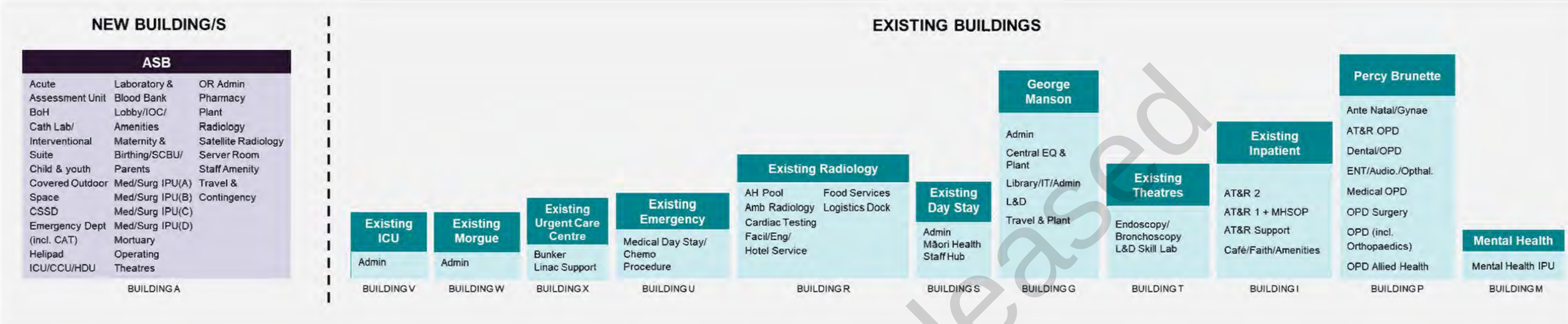

Figure 20: 'Option 2 – Minimum New Build' Key Stacking Differences

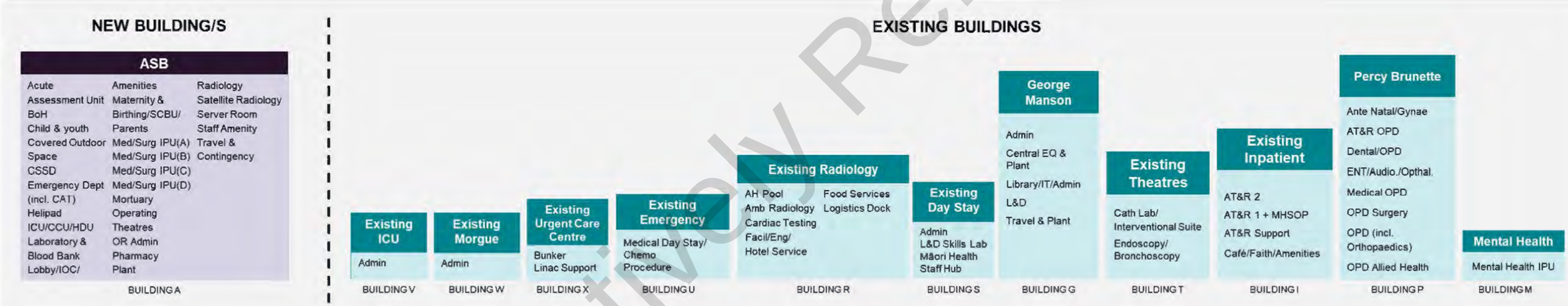

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Figure 21: 'Option 3 – Intermediate, Phased Approach' Key Stacking Differences

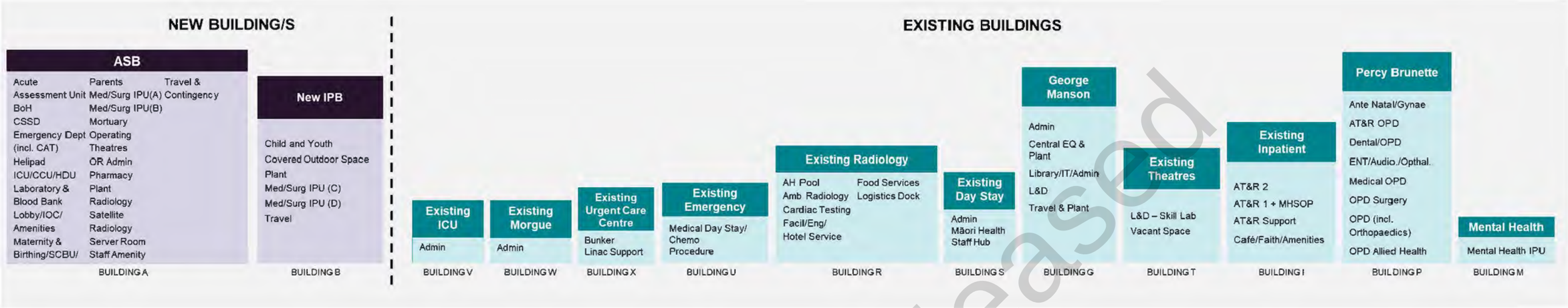
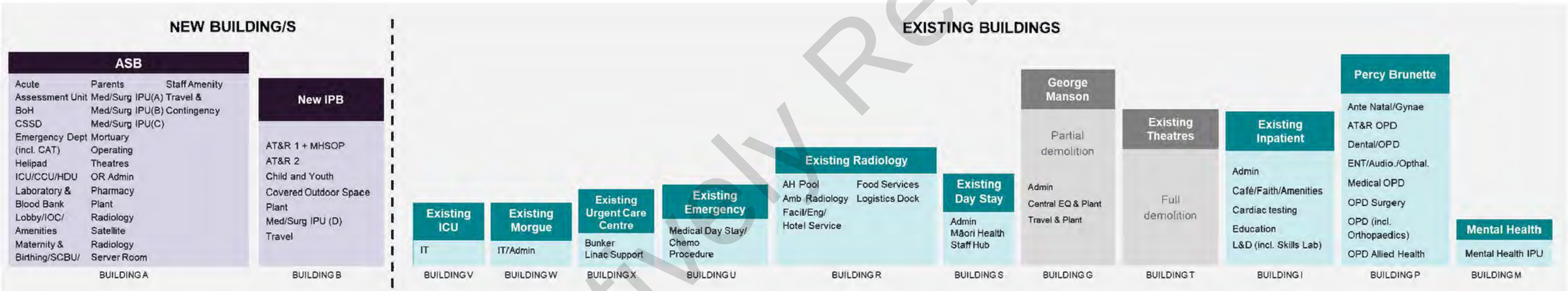


Figure 22: 'Option 4 – Do Maximum' Key Stacking Differences



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Programme

The following section will describe each option's Programme for delivering the Nelson Hospital redevelopment for Project Whakatupuranga. At a high level, this PBC will be requesting funding to support the first package of works. Subsequent business cases will be completed for Phase 2 onwards which will indicate the funding required for each. The full cost of each option will be described in Section 2.5.1 of this Economic Case. The Commercial Case will detail how the Preferred Option(s) will be procured. The Financial Case will detail the funding request that this PBC seeks and the capital costs for the entire programme of the Preferred Option(s). Lastly, the Management Case will detail how the Preferred Option will be delivered according to the timeframes indicated in the Preferred Option's programme.

As a summary the key phases within each option are summarised below.

Table 19: Summary of Key Phases within each option

Phase		Option 1	Option 2	Option 3	Option 4
PBC requests funding to support activities within Phase 1					
1a	**Enabling Works, including ECE, Carpark, Site Clearance**	✓	✓	✓	✓
1b	**Design of Energy Centre and ASB**	✓	✓	✓	✓
1c	**New Site-wide Infrastructure including Energy Upgrades**	✓	✓	✓	✓
2a	Retaining Walls, Cut and Fill	✓	✓	✓	✓
2b	Acute Services Building	✓	✓	✓	✓
2c	Links (New)	✓	✓	✓	✓
3a	Existing building work	✗	✗	✓	✓
3b	Inpatient Tower 1 (new) & link to ASB	✗	✗	✓	✓
3c	Migration of second ATR ward to new IPU tower	✗	✗	✓	✓
4	Inpatient Building (existing building 'I')	✓	✓	✓	✗
5	Percy Brunette (existing building 'PB')	✓	✓	✓	✓
6a	Theatre Building (existing building 'T')	✓	✓	✓	✓* demolish
6b	George Manson (existing building 'GM')	✓	✓	✓	✓ partially demolish
7a & 7b	Emergency Building (existing building 'U') Radiology Building (existing building 'R')	✓	✓	✓	✓
7c	Day Stay Unit Building (existing building 'S')	✓	✓	✓	✓
7d	ICU (Ex) and Mortuary (Ex) Refer Phase 3a	✓	✓	✓	✓
8	New Radiation Oncology Building	N/A – not in scope	N/A – not in scope	N/A – not in scope	N/A – not in scope
9	New Carpark Building with Retail/ Urgent Care TBC	✓	✓	✓	✓

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Programme Differences across options

The proposed programme phasing for each option is provided in Appendix Q, and summarised in Figure 23 below. The key completion dates by option are highlighted in Table 20.

Table 20: Key Programme Completion Dates by Option

Key Completion Dates	Option 1 – Intermediate	Option 2 – Minimum New Build	Option 3 – Intermediate, Phased Approach	Option 4 – DO Maximum
New Energy Centre[49] Commissioned and Operational	3 August 2028	28 June 2027	28 June 2027	28 June 2027
Links Complete	18 January 2030	18 January 2030	18 January 2030	18 January 2030
New ASB 'Go Live'	5 November 2031	3 September 2031	6 May 2031	5 November 2031
New IPB Complete	N/A	N/A	24 February 2032	6 April 2034
Existing Wards & PB refurbishment complete	20 October 2032	18 August 2032	8 February 2033	22 March 2035
Theatre & George Manson Reconfigured	17 November 2032	15 September 2032	19 May 2032	20 April 2035
Fit out to ED, Radiology, ICU, Day Stay and Mortuary	30 November 2033	28 September 2033	1 June 2033	2 May 2036

As this PBC is requesting funding for Phase 1 – Design, Enabling Works, Infrastructure and Energy Updates, Figure 24 highlights programme differences across Phase 1A, 1B and 1C. Overall, each option commences Phase 1 on 21 Aug 23. The differences between the options for Phase 1 completion are not material as there are only differences of one to two months. The PBC Funding request is further discussed in the Financial Case.

Sitewide Infrastructure

Sitewide infrastructure needs to be resilient to earthquake risk to maintain the operations of facilities containing critical clinical services. The new energy centre and services are integrated in the ASB will provide some of this resilience to critical services. During Phase 1, further detailed investigation of the sitewide infrastructure and building interface realities will be undertaken to inform the DBC and the investment decision to proceed with delivery of the ASB.

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[49] Note this refers to the energy centre in the new ASB and not the Braemar Campus energy centre.

Figure 23: Overall Phasing Differences between Options

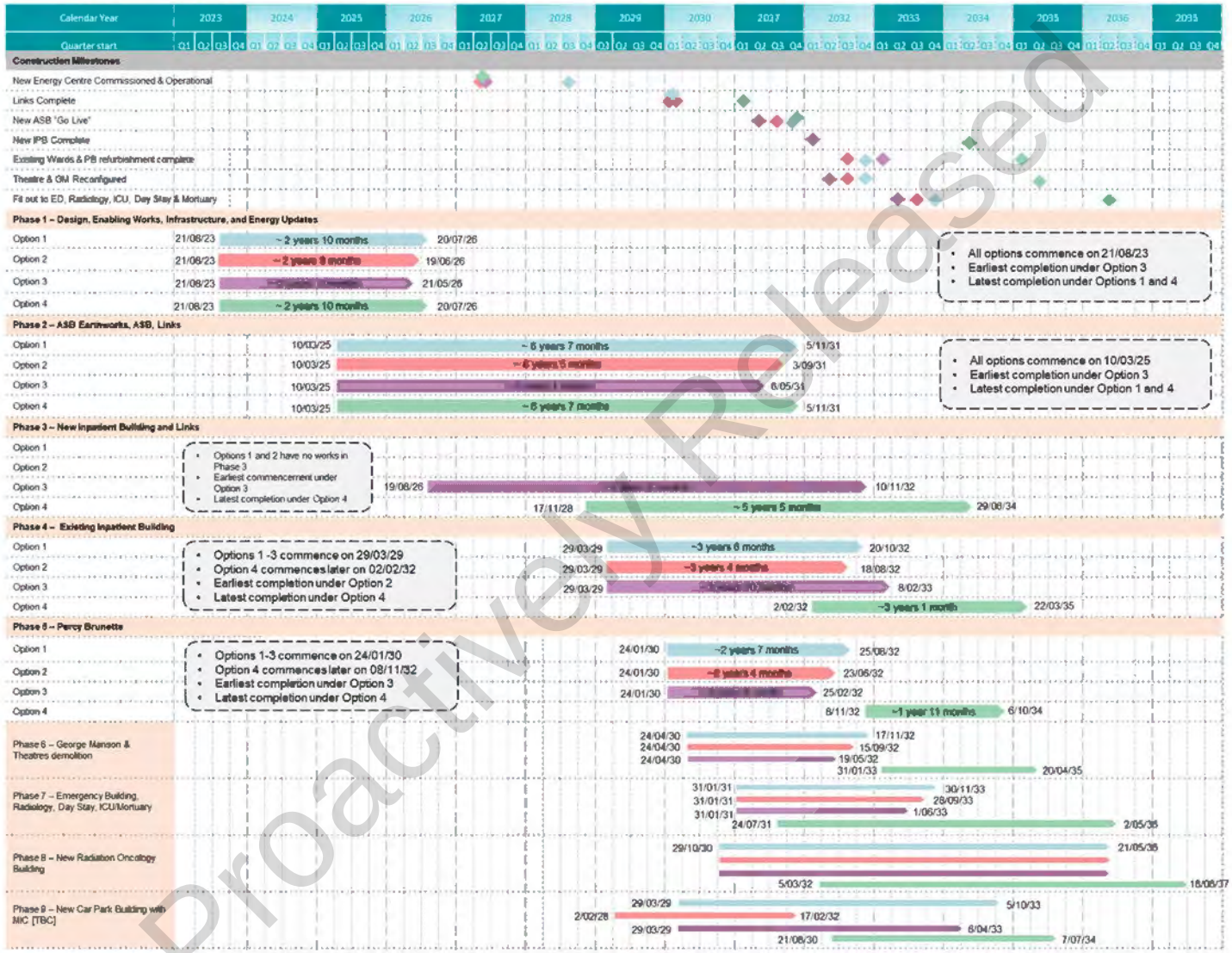

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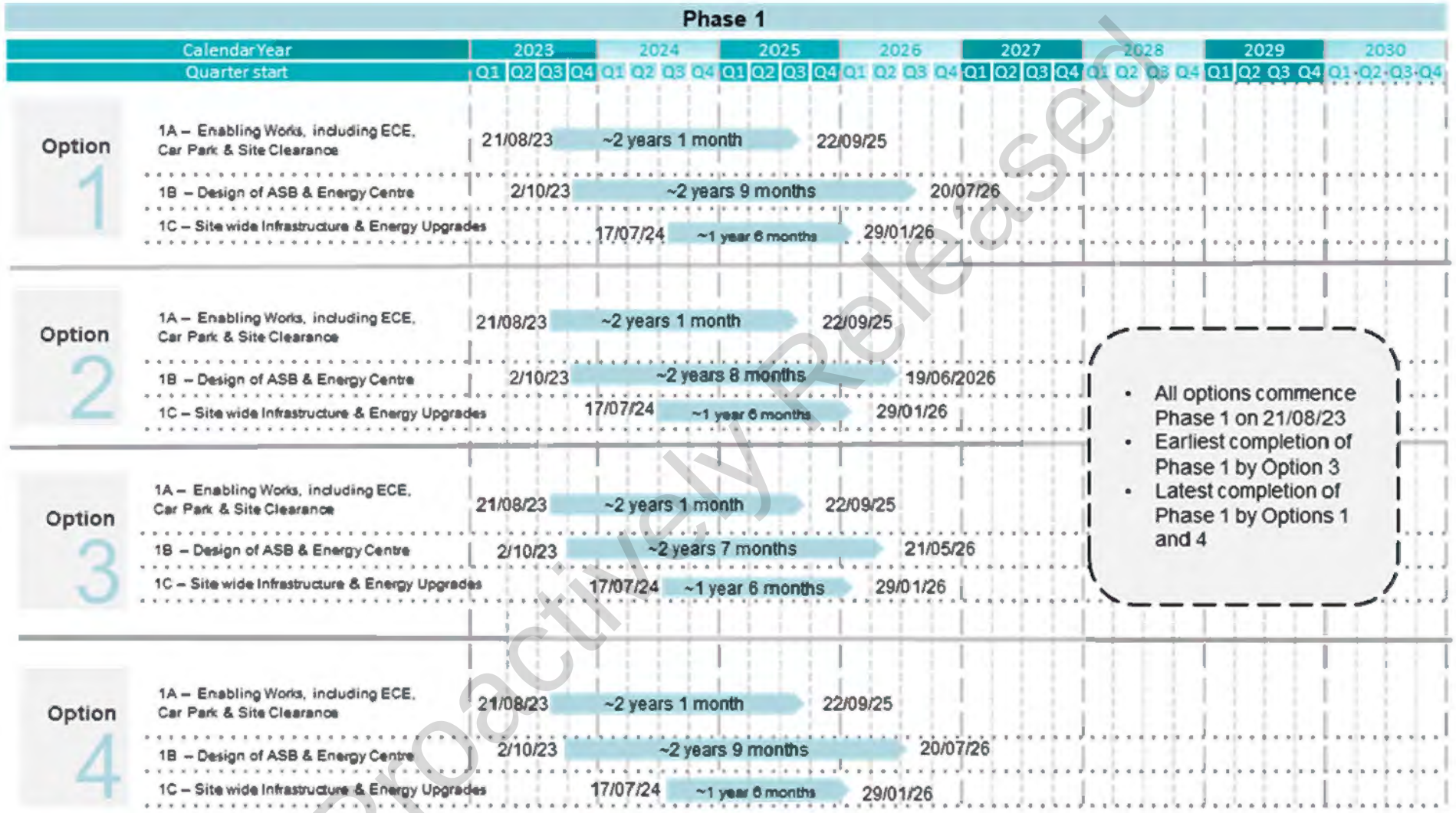
Figure 24: Phase 1 Programme across the options



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Bed Capacity Mapping

This section will discuss the modelled[50] bed demand (inpatient and outpatient) for Nelson Hospital through to 2037/38 compared with the capacity provided by each option over time. All options ultimately provide the same end capacity (258 beds) however variations exist as to how and when capacity is provided. These variations exist because Options 1 and 2 only build a single new consolidated ASB. Whereas Options 3 and 4 separate the construction of new buildings into two phases. Under this phasing, Phase 1 provides a new ASB, and Phase 2 provides a new IPB. Phase 3 of Options 1, 2 and 3 involve the refurbishment of the existing IPB to house AT&R services (outpatient beds).

The following sections further illustrate the expected provision of beds under each option. It is important to note the following assumptions used to inform each option's bed numbers against the modelling completed for the 2022 DBC. Refer to Appendix O for the design memo completed by Klein which provides more information on this.

1. Projected bed demand numbers for 2022/2023, 2027/2028, 2032/33, 2037/2038 are from the Demand Modelling completed on 27 October 2021 for the 2022 DBC.
2. Projected bed demand numbers for 2030/2031 are an estimated average between 2027/28 projection and 2032/2033 projection
3. Projected bed demand numbers 2034/2035 are an estimated average between 2032/33 projection and 2037/2038 projection.

Fulfilment of bed capacity over time

All options keep Nelson Hospital operating at a deficit between 2023 to 2028 until the new ASB is built. The bed deficit reaches a maximum of 52 beds as the demand in Nelson Marlborough grows while each option completes the first three phases of IIG's Investment and Project Delivery Cycle (Identify, Define, Design) prior to Phase 4: Delivery[51]. However, by 2037/2038 all options are providing a surplus of 3 beds compared to the modelled / projected demand. In summary by:

- **2030/31 – Options 1, 2 and 4 meet bed demand whilst Option 3 results in a deficit of beds. All options deliver a new ASB by end of 2031.**
  - + Options 1 and 2 deliver 226 beds via the new ASB which is a surplus of 2 beds to the projected demand of 224. Option 1 deliver a new ASB in November 2031 whilst Option 2 in September 2031
  - – Option 3 is in deficit of 30 beds despite a new ASB being delivered in May 2031. This is because the new IPB will meet this shortfall, however, it will not be complete until 2032. This is partly impacted by the requirement to fit out one AT&R ward in the shell of the new IPB which is estimated to take approximately 10 months
  - + Option 4 provides the projected number of beds required when its ASB is delivered in November 2031
- **2032/33 – Options 1,2 and 3 meet bed demand whilst Option 4 is in deficit. Option 1, 2, and 3 completes existing IPB refurbishment. Option 3 completes construction of new IPB. Option 4 begins the fit out of the new IPB.**
  - + Options 1, 2 and 3 deliver 258 beds after the existing IPB is refurbished. Additionally, Option 3 delivers a new IPB by February 2033. This is a surplus of 23 beds compared to the modelled demand

[50] Based on the Demand Modelling completed for the 2022 DBC
[51] Refer to Commercial Case for more information on IIG's Investment and Project Delivery Lifecycle

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- Option 1 completes existing IPB refurbishment by October 2032
- Option 2 completes existing IPB refurbishment by August 2032
- Option 3 completes existing IPB refurbishment by February 2033

– For Option 4, one AT&R ward in the shell of the new IPB must be fit out between September 2033 to June 2034. This results in a shortfall of 3 beds in total.

- **2034/2035 onwards – All Options provide a surplus of 12 beds compared to projected demand.**
  - Options 1, 2 and 3 have completed the delivery of a new ASB, refurbishment of the existing IPB and new IPB (only for Option 3). These deliver a surplus of 12 beds compared to demand.
  - Option 4 completes the delivery of a new IPB in October 2034. This delivers a surplus of 12 beds compared to demand.
- **2037/2038 – All options complete delivery. Each option provides a surplus of 3 beds compared to the modelled demand.**

Figure 25: Fulfilment of capacity across the options over time (Refer to Klein's Option Memo Appendix O)

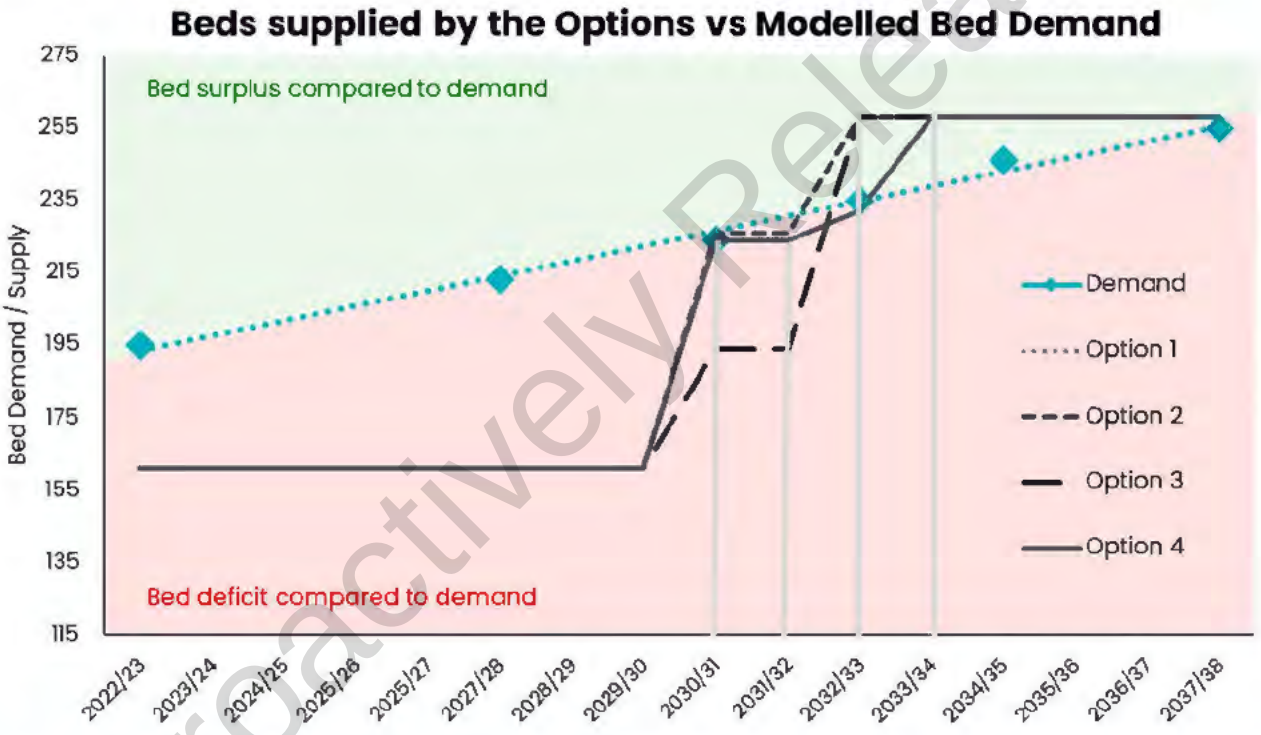

Table 21: Fulfilment of bed capacity across the options over time

Beds provided by each option vs. Modelled Bed Demand						
Option	**2022/23**	**2027/28**	**2030/31**	**2032/2033**	**2034/2035**	**2037/38**
Option 1	161	161	226	258	258	258
Option 2	161	161	226	258	258	258
Option 3	161	161	194	258	258	258
Option 4	161	161	224	232	258	258
Modelled Bed Demand	195	213	224	235	246	255

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Surplus (+) / Shortfall (-) provided by each option vs. Modelled Bed Demand						
Option	2022/23	2027/28	2030/31	2032/2033	2034/2035	2037/38
Option 1	-34	-52	+2	+23	+12	+3
Option 2	-34	-52	+2	+23	+12	+3
Option 3	-34	-52	-30	+23	+12	+3
Option 4	-34	-52	=	-3	+12	+3

Key — Bed Shortfall compared to modelled demand + Bed Surplus compared to modelled demand

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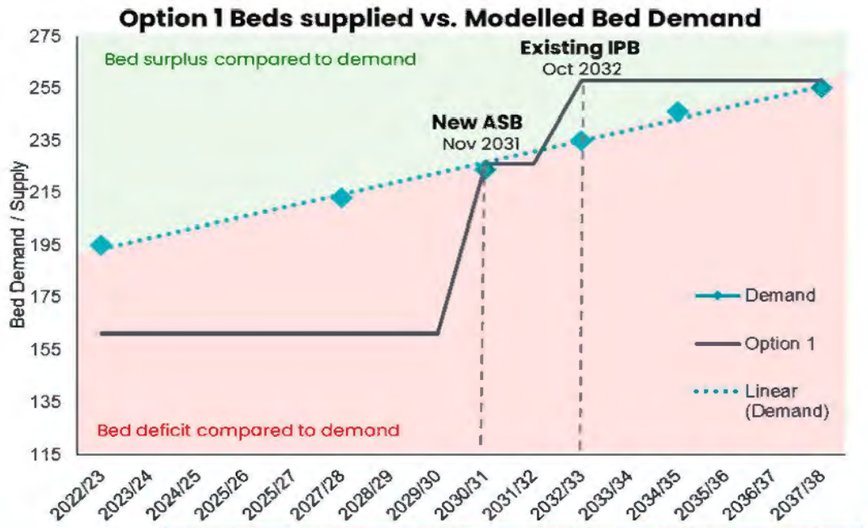
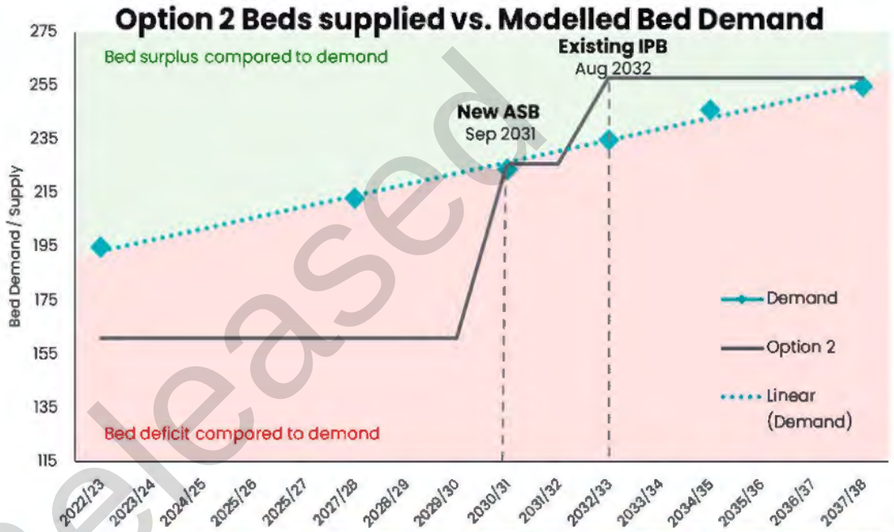
Fulfilment of bed capacity over time per option

The figure below combines the information illustrated information from Figure 25 and Table 21 to show each options' provision of beds against the projected bed demand over time.

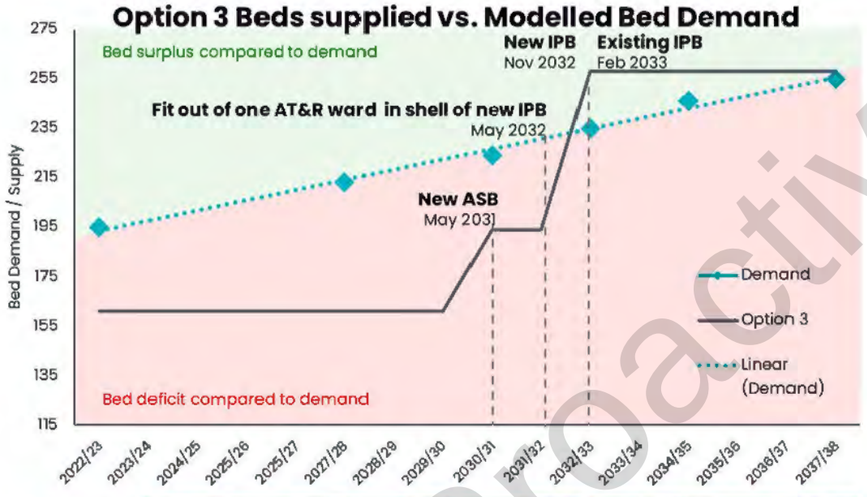
Figure 26: Option by option summary of beds provided vs. modelled bed demand showing the key builds



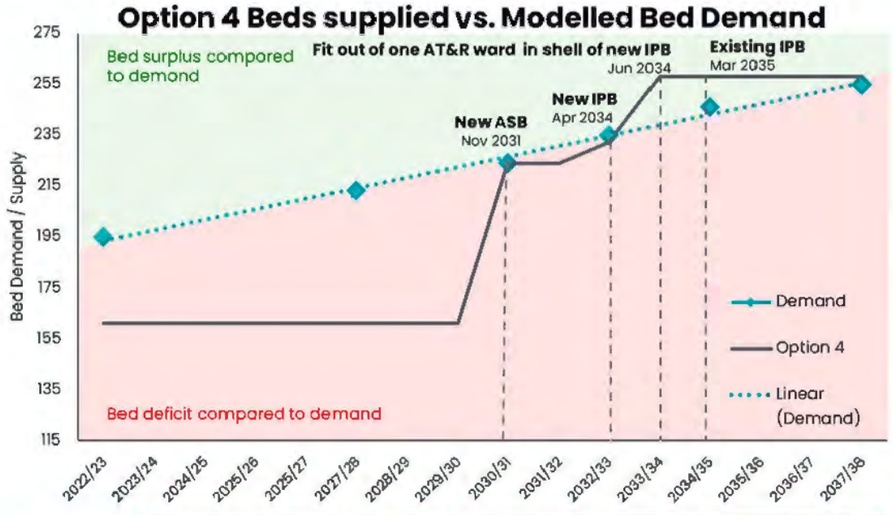
	2022/23	2027/28	2030/31	2032/2033	2034/2035	2037/38
Modelled Bed Demand	195	213	224	235	246	255
Beds Supplied	161	161	226	258	258	258
Surplus (+) / Shortfall (-)	-34	-52	+2	+23	+12	+3



	2022/23	2027/28	2030/31	2032/2033	2034/2035	2037/38
Modelled Bed Demand	195	213	224	235	246	255
Beds Supplied	161	161	226	258	258	258
Surplus (+) / Shortfall (-)	-34	-52	+2	+23	+12	+3



	2022/23	2027/28	2030/31	2032/2033	2034/2035	2037/38
Modelled Bed Demand	195	213	224	235	246	255
Beds Supplied	161	161	194	258	258	258
Surplus (+) / Shortfall (-)	-34	-52	-30	+23	+12	+3



	2022/23	2027/28	2030/31	2032/2033	2034/2035	2037/38
Modelled Bed Demand	195	213	224	235	246	255
Beds Supplied	161	161	224	232	258	258
Surplus (+) / Shortfall (-)	-34	-52	=	-3	+12	+3

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Impact of a Phased Programme on Capacity and Capital Allocation

The table below provides further granularity regarding the beds provided by each option as each deliver a new ASB, new IPB and complete the refurbishment of the existing IPB (where applicable). Each option is compared against the projected bed demand for the same year these are delivered.

Options 1 and 2 deliver a surplus of beds against demand in the same years the new ASB and existing IPB are delivered. Options 3 and 4 result in interim bed deficits as the new ASB and new IPB are required to be both be complete to provide the beds that meet the projected demand.

Table 22: Summary of key buildings within each option that provide inpatient and outpatient beds

	Option 1	Option 2	Option 3	Option 4
Phase 2 - New ASB				
Provision	226	226	194	224
Projection (2030/2031)	224	224	224	224
Difference	+2	+2	-30	=
Phase 3 - New IPB (Option 3 and 4)				
Provision	-	-	226 (2032/33)	258(2034/35)
Projection (2032/33)	-	-	235	-
Projection (2034/35)	-	-	-	246
Difference	-	-	-9	+12
Phase 4 – Existing IPB Refurbishment				
Provision	258	258	258	-
Projection (2032/33)	235	235	235	-
Difference	+23	+23	+23	-
Total beds				
Provision	258	258	258	258
Projection (2037/38)	255	255	255	255
Difference	+3	+3	+3	+3

Key	– Bed Shortfall compared to modelled demand	+ Bed Surplus compared to modelled demand

Options 1 and 2 have been designed to deliver a new ASB that includes all critical clinical services[52] and new inpatient wards in one consolidated building. As discussed in the previous section, this delivers 226 beds in Phase 2 (New ASB) of the redevelopment, providing 2 more beds than is required by the 2030/32 projected bed demand.

In comparison, Options 3 and 4 have been designed to deliver the required capacity but in a way that allows for greater phasing of capital funding. At a high level, Options 3 and 4 also phase the delivery of bed capacity. This means that less bed capacity is provided in Phase 2 (New ASB) than under Options 1 and 2 as more capacity is provided upon completion of Phase 3 (New IPB).

[52] Note that it is preferred to locate the Cardiac Cath Lab in an IL4 building, but it is not assumed to be a critical clinical service. Under Option 2 the Cardiac Cath Lab is located in the existing Theatres Building rather than the IL4 rated ASB.

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As shown Table 22 above:

- New inpatient wards are located across the new ASB and new IPB. This means that on delivery of Phase 2 (New ASB) Option 3 delivers 194 beds leading to a temporary shortfall of 10 beds for 2031 and Option 4 delivers 224 beds, equalling the demand requirement for the same period.
- On delivery of the new IPB in Phase 3, Option 3 results in a shortfall of 9 beds relative to the 2022/23 projected bed demand of 235, and Option 4 delivers a surplus of 12 beds relative to the 2034/35 bed demand of 246. Option 4 has a temporary bed capacity shortfall in 2032/33 relative to projected bed demand in between the delivery of Phases 2 (New ASB) and 3 (New IPB).

Despite temporary shortfalls in capacity during programme delivery, Options 3 and 4 still provide the same number of beds at the end of their programme as Option 1 and 2 (258).

The phasing of new bed capacity through two-staged construction of the ASB and new IPB allows for the phasing of capital expenditure and creates off-ramps between Phases should other pressing investments present themselves across the Te Whatu Ora portfolio. It introduces the risk, however, that latter phases are not delivered, and Nelson Hospital continues to experience capacity deficits. For further detail refer to Section 1.4.

In Option 3 and 4, delivering the new ASB and new IPB separately allows funding allocations to be phased through the approval of separate DBCs. This phased approach also provides decision-makers with choices about whether to proceed with the second new build phase (IPB). This permits reprioritisation of funding across the capital programme delivery framework that Te Whatu Ora – Health New Zealand are delivering. This choice, however, also introduces some clinical risk if the second phase is not delivered and an extended delivery timeline in comparison to Option 1 and 2.

Summary of findings

Nelson Hospital is currently operating at a 34-bed shortfall[53]. This is only projected to increase over time. If this demand is not met, it will negatively impact the level of quality care Nelson Marlborough can provide. Providing capacity as soon as possible is thus a priority and has to be carefully considered for each option developed for this PBC.

A ranking of the options in terms of their ability to provide capacity as soon as possible provides the following results noted in the table below. It should be noted that all these options do provide a surplus of three beds compared to forecasted demand by 2038 (258 beds vs. 255).

Table 23: Ranking of options in terms of how quickly they provide capacity

Ranking		Reason for Ranking
=1	Option 1 – Intermediate	Both Option 1 and Option 2 deliver the beds that meet demand by 2031. This is at least 2 years earlier than Options 3 and 4. Both options meet the demand through the new ASB. There is no reliance on a new IPB to provide beds. There are only 3 months difference in Option 1's and 2's delivery of the ASB. Option 2 delivers the new ASB in Sep 2031 whilst Option 1 delivers it by Nov 2031.
=1	Option 2 – Minimum New Build	
2	Option 4 – Do Maximum	Although there is an interim 3 bed shortfall while the new IPB is being fit out, this option delivers beds that meet demand sooner (2030/31), relative to the other options.

[53] Current number of beds 161 vs modelled bod demand of 195

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Ranking		Reason for Ranking
3	**Option 3 – Intermediate, Phased**	Option 3 keeps Nelson Hospital operating at an overall deficit for the longest. The bed demand is not met until 2032 when both the new ASB and new IPB are both delivered.

2.3 Key Enabling subprogrammes

Te Whatu Ora – Health New Zealand is delivering two other subprogrammes as part of Project Whakatupuranga (within the Facility Subprogramme). Notably the:

1. **Data & Digital Subprogramme (Digital):** Supports virtual care and base IT functionality for the new facility. It is a key enabler of the facilities Subprogramme, and focuses on advancing Te Whatu Ora – Nelson Marlborough's digital maturity to help deliver and meet modern models of care; and
2. **Workforce/System Transformation Delivery Subprogramme (WST):** Supports the facilities Subprogramme by implementing the Models of Care needed for the facility to meet patient demand, but also is supported by the new facility in delivering new more effective Models of Care (MoC).

The delivery of these will ensure Te Whatu Ora – Nelson Marlborough's goals for the Nelson Hospital redevelopment is successful. The following sections will describe these two subprogrammes and how they enable and are enabled by Project Whakatupuranga through this PBC.

Data & Digital

Digital technology is a key enabler of modern health facilities. Fifty years ago, health facilities contained a limited number of standalone devices and applications. Contemporary health facilities contain thousands of highly interconnected devices and hundreds of interfaced/integrated applications to operate efficiently and effectively.

All PBC options include investment for improving the Data & Digital capability of Nelson Hospital. This is crucial for responding to changing health needs or major events as seen during the recent global COVID-19 pandemic. The Digital Blueprint (Appendix R) sets out the initial concept design for the digital scope associated with Project Whakatupuranga. It is guided by the themes and initiatives in the National Digital Strategy and Roadmap as well as the Nelson Digital Strategy and Roadmap (2021 – 2024). The delivery approach, including roles and responsibilities are outlined in the Management Case.

Scope

The in-scope functions of the Digital Subprogramme for Project Whakatupuranga are summarised below. The scope focusses on infrastructure (hardware and equipment) necessary to commission a "digitally capable" facility and to extend existing software systems (where necessary). For more information on this refer to Appendix S.

Table 24:Scope of Digital Subprogramme

In Scope Functions	Out of Scope Functions
• Specification, design, procurement, integration and commissioning of all digital components. • Unit, system, integration and user acceptance testing of all digital components.	• Delivery of any digital components not outlined in the scope. • Upgrade or replacement of any existing digital components unless specified.

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In Scope Functions	Out of Scope Functions
• Development / revision of user training material and delivery of training for any "new" digital components. • Raising technical change requests and coordinating changes to the production environment. • Development of "as built" documentation and transition / handover of all digital components to the appropriate operational stakeholders. • Overall program and project management of the digital scope including stakeholder engagement, business analysis, risk management and status reporting. • Delivery of scope aligned to three work packages: 1. Passive Infrastructure and Engineering Systems 2. Active infrastructure and equipment 3. Applications and data	• Management or delivery of any inflight or parallel digital projects, including those defined in the Nelson Marlborough Digital Strategy and Roadmap. • Detailed service design or process mapping other than that specific to the configuration of digital components. • Definition and costs related to ongoing operational impacts of the proposed investment. It is assumed that a recurrent, operational cost equal to 20% of the capital investment (software and equipment) will be required along with an uplift in operational support capacity. This will be further defined in future stages of the design and commissioning process. • Definition or management of digital benefits. • Delivery of Specialist Furniture, Fixtures & Equipment (FF&E) and Bio Medical equipment, (other than supporting integration to this equipment)

Work Packages

Two workshops were held in February 2023[54] with Te Whatu Ora's Digital team to determine the investment required to support the scope and work packages for the Preferred Option of Project Whakatupuranga.

These functions will be delivered across a series of work packages, as outlined in Table 25. This table outlines key cost categories, responsibility, and overall budget estimates for the work packages. Note that Package 1 is not part of the separate D&D Budget compared to Packages 2 and 3. For more detail on the related budget estimates refer to Appendix S.

Table 25: Digital Subprogramme work packages

Work package	Cost Item	Description	Responsibility	Scope Incl. in Facility Estimate
Package 1: Passive Infrastructure and Engineering Systems	Primarily includes comms rooms, structured cabling, and facility systems.	As this package is included within the contract and construction costs it is part of the core infrastructure contract (delivered by the main contractor).	s 9(2)(b)(ii)	Yes
Package 2: Active infrastructure and Equipment	Underlying infrastructure, devices and supporting systems including network, voice, servers, audio visual and end user devices.	Active equipment including network, voice, servers, audio visual and end user devices. Will provide 'digital hospital infrastructure ready' capability.[55] A Stage 6 Electronic Medical Record Adoption Model (EMRAM) rated hospital delivers high quality patient care with an interoperable electronic health record in place.		Yes

[54] These were supported with working sessions with the Digital team over the course of the PBC

[55] The HIMSS Electronic Medical Record Adoption Model (EMRAM) is an eight-stage model that measures clinical outcomes, patient engagement and clinician use of EMR technology to strengthen organizational performance and health outcomes across patient populations. Source: https://www.himss.org/what-we-do-solutions/digital-health-transformation/maturity-models/electronic-medical-record-adoption-model-emram

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Work package	Cost Item	Description	Responsibility	Scope Incl. in Facility Estimate
Package 3: Applications and Data	Data and reporting	To provide sufficient operational and strategic reporting capability	Applications and data managed by Te Whatu Ora Digital Team	Yes
	Project Management costs	To enable management and delivery of digital projects		
	Applications and transition	To enable inpatient, (EMRAM) and Outpatient, (O-EMRAM) level 6 Digital Hospital Capability. A Stage 6 O-EMRAM capable Hospital will indicate that the technology infrastructure in place provides advanced clinical decision support, proactive care management and structured messaging. The Data & Digital team have noted that this is dependent on a national EMR solution being available for localisation and transition.		
Required for work packages included in separate D&D Budget	Contingency	To account for unforeseen costs, risks and additional expenses	n/a	Yes

Budget Estimate

The investment required for each phase of Data & Digital is summarised in the tables below according to each phase of the option and the three work packages.

The Financial Case will detail the investment required each year over the programme. For detailed information and assumptions on why these investments are required at each Phase refer to Appendix S. It is currently assumed that there is no investment required at Phase 5 as this is predominantly decanting.

Following approval of the PBC, the Digital Subprogramme will continue to develop documentation in parallel with the design development process and consistent with other disciplines involved with the redevelopment (e.g., mechanical, electrical etc.)

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s 9(2)(b)(ii)

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s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

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Workforce/System Transformation Subprogramme

Scope

The primary focus of WST is to develop change management, migration of services and supporting of staff and consumers in the new delivery of care. At a high level, the WST Subprogramme scope is summarised in the table below.

Table 30:Scope of WST Subprogramme

In Scope Functions	Out of Scope Functions
• Acute Hospital services: • Emergency Medicine • Medical services • Surgical services • Child & Youth • Maternity • Older Adult Health • Clinical Support services • Hospital Operations • Outpatient services • Facility driven change opportunities as outlined in the: • FDB • MOC Summary paper • Workforce growth and transformation	• BAU hospital and specialist services • Mental Health

Models of Care

As discussed in the Strategic Case, a MoC broadly defines the way health services are delivered and span the entire New Zealand health system. Therefore, it is important to recognise the MoC Subprogramme Project Whakatupuranga will work in conjunction with.

The design, condition and configuration of hospital facilities impacts on the efficiency and effectiveness of hospital services. Modern facility design should support optimal patient flow, thereby reducing length of stay, minimising avoidable harm, and improving quality of care.

Te Whatu Ora – Nelson Marlborough's MoC work influenced the development of the Clinical Services Plan (CSP)[56] which formulated assumptions around functional capacity, bed demand and the utilisation of hospital-based services. These have influenced the options designed for Project Whakatupuranga and presented in this Economic Case.

The MoC work sits within this Subprogramme. MoC exist across the entire health system, not just inside a hospital facility but as part of the care delivered in primary, community, and public health settings, so any improvement or innovation to MoC will have to consider not only a health facility approach but the wider implications of health care delivery.

MoC integration is improved in all options relative to the current state by both the construction of new building/s and the refurbishment of existing Nelson Hospital buildings. The delivery and design of the new ASB and new IPB (Options 3 and 4) will better meet clinical expectations for care delivery. The refurbishment of existing buildings for administrative / non-clinical functions will

[56] Clinical Services Plan (CSP) developed in 2019 and revised in 2020.

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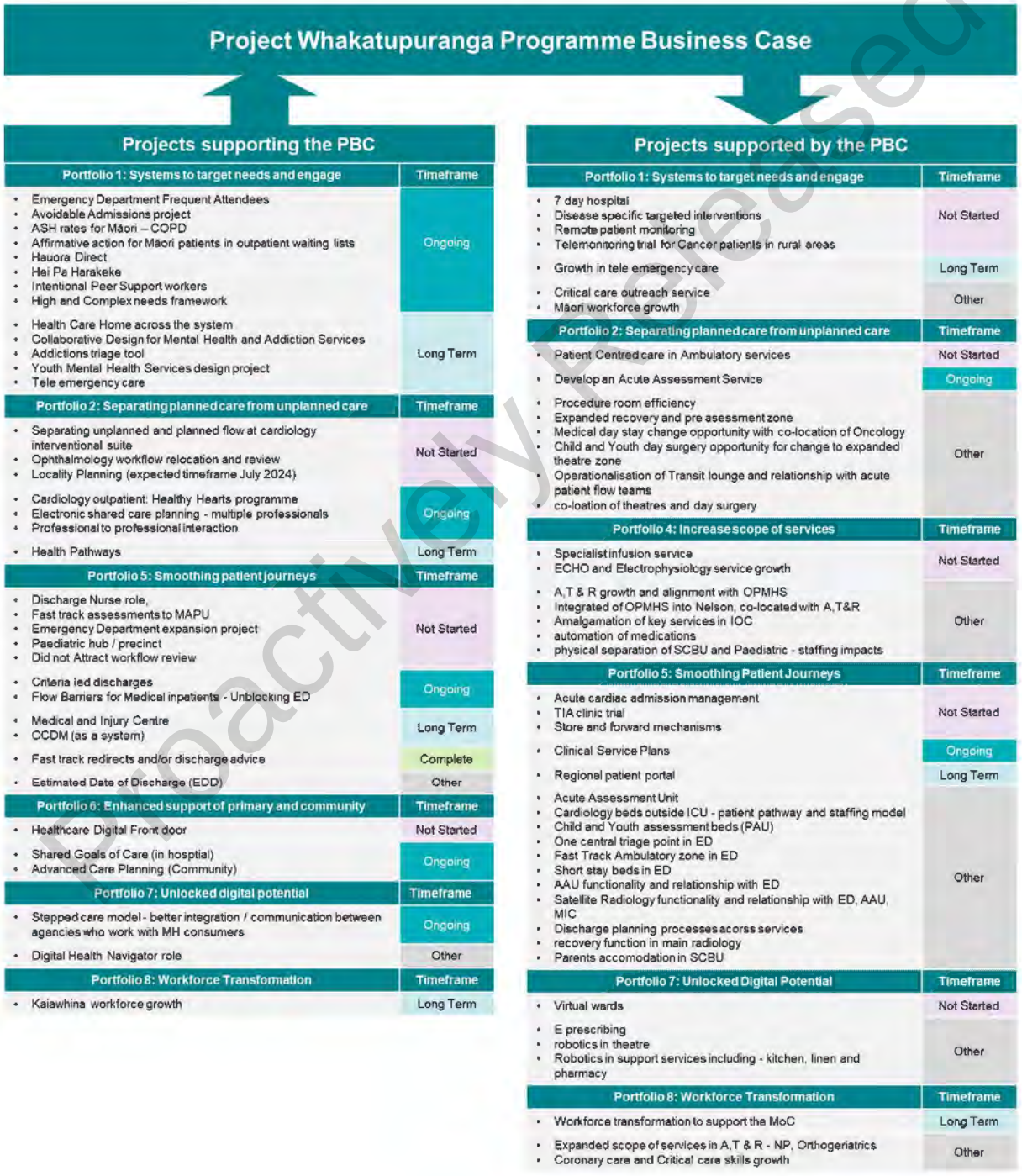
enhance the ability of the hospital to respond to changing demographics, contemporary MoC, and Kaupapa Māori MoC.

Ki Te Pae Ora – or towards a healthy future, is the Nelson Marlborough transformation programme, proactively progressing improvement across the system. The programme will be key in the development of MoC and new ways of working for the redeveloped Nelson Hospital site. Ki Te Pae Ora consists of eight portfolios, each with a range of projects.

Therefore, the implementation of some of these MoC projects has supported and continues to support the Project Whakatupuranga PBC, and the investment supported by the PBC supports the implementation and completion of some MoC projects. This relationship between portfolios, projects and the PBC is outlined in Figure 27. For more detail on MoC refer to Appendix T.

Figure 27: Relationship between Ki Te Pae Ora portfolios and projects, and the PBC



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Budget Estimate

This PBC is requesting funding to support the establishment of a PMO that will be shared across all three subprogrammes including WST. The funding to support the implementation of Ki Te Pae Ora will be funded outside of this project.

Phase 1 – Subprogramme Scope Alignment

The focus of this PBC will be to request funding of Phase 1 which comprise of the sub-phases noted below across all subprogrammes of Project Whakatupuranga.

- Phase 1 (PMO) – Programme Management Office Shared Support Services across the life of Project Whakatupuranga
- Phase 1a – Enabling works
- Phase 1b – Design of new Energy Centre, ASB, Civil Works and IPB (where relevant)
- Phase 1c – Site wide infrastructure (new) including Energy Upgrades
- Phase 1 (WST) – WST Design and Specialist Team
- Phase 1 (Digital) – Digital Design and Specialist Team

As a summary of activities within each Subprogramme refer to the table below. Refer to the Commercial Case and Financial Case for a comprehensive description of the scope and costs within each package.

Table 31: High level work packages within Phase 1 of the programme of which this PBC is requesting funding to deliver. The start and end date for Phase 1a-1c for all options are the same.

s 9(2)(b)(ii)

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s 9(2)(b)(ii)

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[57] Note this refers to the new ASB energy centre and not the existing Braemar Campus energy centre.

2.4 Options Assessment

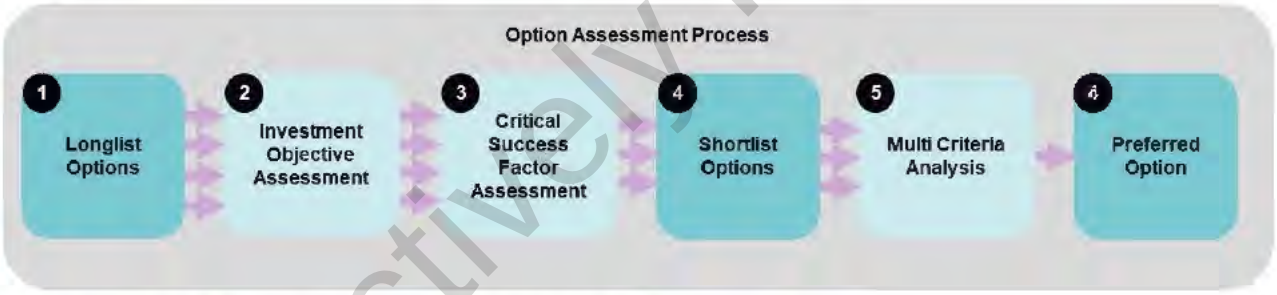
2.4.1 Qualitative Assessment

A series of workshops[58] were held in March and April 2023 to assess the Long List of options using the methodology outlined in Figure 28. These workshops included key stakeholders from Te Whatu Ora – Nelson Marlborough, IIG, s 9(2)(b)(ii) . This same group has been involved in developing, validating, and scoring the Investment Objectives, Critical Success Factors and Multi Criteria Analysis to obtain a recommended Preferred Option for Project Whakatupuranga. This section will detail the Methodology behind this options Assessment process.

This options assessment summary is summarised below and shown in the figure below. A three-stage qualitative assessment is used to assess the Long List of options to obtain a Short List of options and, subsequently, a Preferred Option.

- **Investment Objectives (IOs**): To ensure each Long List Option has the potential to achieve the desired benefits for the Programme
- **Critical Success Factors (CSFs):** To assess which option is expected to achieve or contribute to each of the respective Critical Success Factors
- **Multi Criteria Analysis (MCA):** Some costs and benefits are not able to be quantified, the MCA assess those costs and benefits that cannot be reliably/efficiently quantified in monetary terms

Figure 28: Options Assessment Process Summary. A quantitative cost assessment is also completed for the Long List of options.



Investment Objective Assessment Overview

Investment Objectives specify desired outcomes for the proposed investment and are used to assess each option in terms of how well it achieves the desired vision. As part of the initial screening, each option was scored against the Investment Objectives presented in the Strategic Case.

Each option was assessed against the Investment Objectives on a **Does Not Meet**, **Partially Meets**, or **Meets** basis as shown in Table 32. Options that failed to at least **Partially Meet** any of the Investment Objectives were automatically excluded from any further assessment. However, the Do Minimum is taken through to the CSF assessment as a comparator.

Table 32: Investment Objective Scoring Scale

Does Not Meet (D)	Partially Meets (P)	Meets (M)

[58] March 16, 2023, and April 4, 2023

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Critical Success Factor Assessment Overview

Critical Success Factors (CSFs) establish the elements that are essential for the successful delivery of the Project. They complement, but are distinct from, the Investment Objectives. In general terms, Investment Objectives describe *what* the investment intended to achieve, whereas CSFs describe *how* best to achieve it. Together, these form the assessment framework all options were assessed against to ensure options deliver the elements critical to the project's success.

The CSF assessment provides a mechanism to effectively capture and assess costs and benefits, and therefore robustly and transparently narrow down options. When benefits are qualitative or diffuse, qualitative assessment can be more relevant and useful than quantitative assessment.

Quantifying benefits that accrue from treating a small number of highly acute tāngata whaiora is particularly complex. Health outcomes, recoveries, and readmissions also have multi-factorial drivers that are challenging to incorporate in the traditional Cost Benefit Analysis (CBA) typically adopted in Business Cases. Due to the associated complexity of quantifying and attributing outcomes to a given intervention, some costs and benefits cannot be quantified or monetised. As such, a formal CBA has not been undertaken and this qualitative assessment framework is identified as appropriate to select the Preferred Option.

The identified CSFs, their descriptions, and respective weightings have been set out in Table 33. These have been agreed with key representatives from Te Whatu Ora and Te Whatu Ora – Nelson Marlborough during the workshops held. Each CSF was also weighted to reflect its relative importance in driving successful delivery of the Investment Objectives.

Table 33: Critical Success Factors

Critical Success Factor	Description	Weight
CSF1 Patient and population outcomes	• How well does the option facilitate the delivery of health services in terms of: Equity, quality, safety, experience, and family/whānau integration? • How effectively does the option provide the appropriate level of capacity to meet demand over time	**25%**
CSF2 Māori health equity	How well does the option address Māori health equity in Nelson Marlborough, support Kaupapa Māori approaches and provide benefits to whānau and communities?	**15%**
CSF3 Adaptability	How efficiently is the option able to respond flexibly to changing health needs and contemporary MoC, including integration of family and whānau within the care team?	**10%**
CSF4 Viability	• How well the option is able to be delivered given: the organisation's ability to respond to the changes required, the level of available skills, workforce, and supplies required for successful delivery, socioeconomic, political, environmental, cultural impact and community acceptability • How well does the option support a sustainable workforce through facilitating interdisciplinary functioning, provide appropriate clinical support and L&D opportunities leading to higher levels of employee attraction, engagement and retention, and in turn improved service delivery?	**15%**
CSF5 Potential Affordability	How well the option: • Can be met from likely available funding, currently and over time • Meets other funding constraints	**10%**
CSF6 Seismic Resilience	How effectively does the option address known seismic risk	**25%**

Each option was individually assessed against the CSFs, with scores ranging from **'Very Poor'** to **'Very Good'**. Each score had an associated underlying numeric value (as shown in Table 34) to enable the scores to be weighted (as outlined in Table 33). For example, where an option was deemed to perform **'Good'**, it received a score of +1.

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Table 34: Critical Success Factor Scoring Scale

Very Poor	Poor	Average	Good	Very Good
-2	-1	0	+1	+2

As a guide for each side of the scoring scale for the CSF, Table 35 provides an overview of what would be considered Very Poor (-2), Average (0), or Very Good (+2) for each of the CSFs. These considerations are not exhaustive and are intended to support alignment and consistency.

Table 35: CSF Scoring scale rationale

CSF	Very Poor -2	Average 0	Very Good +2
CSF1	• Critical safety risks present • Operational challenges present (e.g. flows, collocations, site distribution) • Insufficient capacity to meet current / projected demand or unacceptable bed shortfalls throughout delivery	• Critical safety and operational risks addressed – some residual risks may remain • Operational challenges mitigated but may not be optimised • Sufficient capacity to meet demand – may be some acceptable shortfall throughout the Programme	• Critical safety risks addressed • Design optimised from operational viewpoint (flows, collocations) • Future proofed capacity
CSF2	• Fails to actively meet Te Tiriti obligations • Insufficient space provided to accommodate family / whānau / karakia / prayer / cultural needs • Design is not culturally responsive	• Actively meets Te Tiriti Obligations • Space provided to an extent to accommodate family / whānau / karakia / prayer / cultural needs • Mana whenua / IMPB input into design	• Actively meets Te Tiriti obligations • Ample spaces incorporated throughout to accommodate family / whānau / karakia / prayer / cultural needs • Facility designed and developed in true partnership
CSF3	• Does not support implementation of modern MoC or D&D • Does not provide capacity to meet future demand • Facilities are not flexible for future changes	• Supports implementation of modern MoC and D&D – some limitations may exist • Provides sufficient capacity to meet future demand • Some degree of flexibility to respond to future changes	• Fully supports implementation of modern MoC and D&D across the campus • Provides future proofed capacity to meet demand • Facilities highly flexible to respond to future changes
CSF4	• Lacking key resources • No workforce plan in place / in development • Market depth insufficient to deliver the programme • Limited / poor staff amenities, L&D, and support space • Layout / configuration doesn't support MDT functioning	• Supports implementation of modern MoC and D&D – some limitations may exist • Provides sufficient capacity to meet future demand • Some degree of flexibility to respond to future changes	• Fully resourced with workforce plan in place to ensure workforce available at "Go Live" • Market capacity sufficient to deliver • Appropriate and readily accessible staff amenities, and dedicated L&D and support spaces • MDT functioning well supported
CSF5	• Budget significantly exceeds available funding • Capital requirements would adversely affect other Health System projects / programmes	• Budget somewhat exceeds available funding but can be mitigated via phasing • Budget is significant enough that proceeding will have an effect on other capital investments	• Fully affordable within available capital envelope • Phased or delivered in a way that allows other competing capital projects to proceed

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CSF	Very Poor -2	Average 0	Very Good +2
CSF6	• Most critical post-disaster services not housed in IL4 building(s) • Unacceptable risk of harm • Hospital likely inoperable following seismic event	• Some seismic risk may remain e.g., non-clinical services • All critical post-disaster clinical functions in IL4 building • Hospital would be operational (incl. with temporary facilities) following an earthquake	• All seismic risk remediated • All clinical services housed in an IL4 building • Example – New Dunedin Hospital

Multi Criteria Analysis Overview

Some costs and benefits cannot be quantified due to the associated complexities of quantifying and attributing such outcomes to a particular intervention. MCA is an economic analysis tool used to assess those costs and benefits that cannot be reliably/efficiently quantified in monetary terms.

The following categories and criteria were used to further assess the short list of options. These are also weighted to reflect their relative importance.

Table 36: Multi Criteria Analysis

Criteria	Weight
1 Flexible, fit-for-purpose facilities	**20.0%**
1.1 Ability of facilities to respond to changing health needs	6.7%
1.2 Ability of facilities to flexibly manage different patient cohorts	6.7%
1.3 Ability of facilities to enable contemporary MoC e.g. virtual care, supporting Multidisciplinary (MDT) functioning	6.7%
2 Continuity and resilience of service delivery	**22.0%**
2.1 Minimised complexity and disruption to site, services, and patients through programme delivery	4.0%
2.2 Speed of programme delivery and therefore reduction of seismic / resilience and clinical risk	5.0%
2.3 Retention of critical service capacity following a major seismic event following programme delivery	8.0%
2.4 Resilience of core services provision following a major seismic event following programme delivery	5.0%
3 Quality of service provision	**23.0%**
3.1 Access to care: facilitated by capacity, location, and configuration	7.7%
3.2 Equity of care: access, diagnosis, intervention, and outcome	7.7%
3.3 Patient experience, including involvement of family / whānau in delivery of care	7.7%
4 Sustainability service provision	**26.0%**
4.1 Proximity of core hospital facilities: impacting on effective Multidisciplinary (MDT) functioning and the provision of appropriate clinical support	13%
4.2 Optimising economic life of existing facilities	13%
5 Externalities	**9.0%**
5.1 Impact on surrounding residential community	4.5%
5.2 Environmental impact for whole-of-life e.g. creation of waste materials	4.5%

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Each option was allocated a score based on how well it would achieve each criterion, as outlined in Table 37.

Table 37: MCA Scoring Scale

Very Poor	Poor	Below Average	Average	Above Average	Good	Very Good
-3	-2	-1	0	+1	+2	+3

2.5 Qualitative Assessment Results

Investment Objective Assessment Results

The Investment Objective assessment allows internal and external stakeholders to understand whether each option has the potential to achieve the desired benefits for the programme. All the Options that pass the assessment proceeds through to the CSF.

The results of this assessment are outlined below in Table 38, with further detailed rationale in Table 39. In summary, all options could at minimum Partially Meet each Investment Objective and therefore were taken through for further assessment.

Table 38: Summary of Investment Objective Assessment Rationale

IO ratings:	Does Not Meet (D)	Partially Meets (P)	Meets (M)

Investment Objective	Option 1 Intermediate	Option 2 Minimum New Build	Option 3 Intermediate, Phased Approach	Option 4 Do Maximum
IO1: Māori health needs are met in order to improve equitable health outcomes	Meets	Meets	Meets	Meets
IO2: Critical health services can continue to be provided in the event of a significant seismic or other catastrophic event	Meets	Partially Meets	Meets	Meets
IO3: Facilities are responsive to changing demographics, contemporary Models of Care and Kaupapa Māori Models of Care, now and in the future	Partially Meets	Partially Meets	Partially Meets	Meets
IO4: Health services are delivered using staffing and resources appropriate to the level and setting of care, and which prioritise Māori health equity	Meets	Partially Meets	Partially Meets	Meets
Conclusion	Proceed to CSF	Proceed to CSF	Proceed to CSF	Proceed to CSF

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Investment Objective Assessment Rationale

Table 39: Summary of Investment Objective Assessment Rationale

IO Scoring Scale	Does Not Meet	Partially Meets	Meets
Investment Objective	**Rationale on rating**		
	Option 1 - Meets	**Option 2 - Meets**	**Option 3 - Meets**	**Option 4 - Meets**
IO1: Māori health needs are met in order to improve equitable health outcomes	**All options 'Meet'** this Investment Objective as each option has been designed to provide space to improve Māori health needs. These include the following elements across the new ASB, new IPB (where relevant), and existing IPB: • Large whānau room and supporting amenities will provide a space for whānau to gather outside the individual clinical areas. Possibility for connection to the outside to enable people to connect with the whenua • Entry and exit pathways shall have appropriate taonga determined by the Mana Whenua Representatives such as carvings, and Māori artwork. Creating an environment that is responsive to the needs of whānau is important as Māori often feel uncomfortable in mainstream environments • Whānau support spaces could be provided in the mortuary area in the form of a large Tūpāpaku viewing room with storage for mattresses and blankets as needed Additionally, the facilities in each option will provide the opportunity to implement MoC changes and incorporate design features that are culturally responsive and adhere to tikanga guidelines.			
IO2: Critical health services can continue to be provided in the event of a significant seismic or other catastrophic event	**Option 1 - Meets**	**Option 2 - Partially Meets**	**Option 3 - Meets**	**Option 4 - Meets**
	Across all options, all critical health services are moved into the new ASB (IL4) thereby ensuring post-disaster resilience. However, for Option 2, the Cath Lab/Interventional Suite is located away from the ASB in the existing Theatres building, adjacent to George Manson. These two buildings are not rated at IL4. This presents a risk following a significant seismic or catastrophic event, as this service is relied upon by other services and staff in the ASB (such as ED). This reduces the ability to provide rapid intervention. Accordingly, **Options 1,3 and 4 'Meets'** this Investment Objective whilst **Option 2 'Partially Meets'** it.			
IO3: Facilities are responsive to changing demographics, contemporary Models of Care and Kaupapa Māori Models of Care, now and in the future	**Option 1 - Partially Meets**	**Option 2 - Partially Meets**	**Option 3 - Partially Meets**	**Option 4 - Meets**
	Across all options, the new ASB and Inpatient Building(s) (either a separate new and/or existing IPB) design: • Maximises flexibility, enables management of different patient cohorts, and supports implementation of MoC changes • Have carefully planned collocations that support integrated functioning, contemporary MoC, and enhance patient flows e.g. position of the helipad on top of the ASB increases ability to manage trauma and use of a transit lounge provides appropriate waiting space for patients • Spaces will be tailored to reflect demographic needs and will help manage different patient cohorts, complexities, age and gender. For example, spaces for Child & Youth will be designed to reflect the varying physical and psychological needs of this age group • Helps respond to major events, such as the recent COVID-19 pandemic. The provision of inpatient rooms with ensuites, greater access to single patient bays in the Acute Assessment Unit, as well as sufficiently sized waiting room spaces will help prevent and control infection risks. • Enhanced digital connectivity will help respond to changing health needs and enable "digitally enhanced" MoC to be implemented. Examples of this include ensuring the spaces are optimised to support telehealth consultations by having hospital-grade Wi-Fi and the privacy to accommodate monitors that display private information. Additionally, the responsiveness of facilities will continue to be improved in the latter phases of the Programme. This will be through the delivery of refurbished existing facilities that will enhance their capabilities to respond to changing demographics, contemporary MoC and Kaupapa Māori MoC. However, **Options 1, 2, and 3 are rated as 'Partially Meets'** because only critical health services are moved into the ASB whilst remaining inpatient and outpatient services are retained in their existing buildings which do not fully meet modern clinical expectations that are responsive to changing MoC. **Option 4 is rated as 'Meets'**, as the delivery of the new and modern Inpatient Building better meets clinical expectations for care delivery.			
IO4: Health services are delivered using staffing and resources appropriate to the level and setting of care, and which prioritise Māori health equity	Option 1 - Meets	Option 2 - Partially Meets	Option 3 - Meets	Option 4 - Meets
	For all options, the new ASB and new IPB (Option 3 and 4 only) will support the sustainable provision of services through: • Appropriate design and sizing to support staffing levels, efficiency gains and service sustainability • Consideration of clinical work processes to inform the adjacencies and connections of services, which allows for effective deployment of staff, integrated functioning and multi-disciplinary team discussions • Delivery of an Integrated Operations Centre (centrally located in the public lobby of the ASB) to improve patient flow throughout the hospital, an Acute Assessment Unit to assess and plan the patient pathway, and sufficiently sized spaces for all members of the multi-disciplinary team to participate in patient care discussions With regards to the existing buildings across all options: • All Inpatient Services are located in adjacent buildings, that are connected via a link bridge • The Outpatient Department (OPD) (largely located in Percy Brunette) will be directly connected to the ASB via a link bridge • The circulation strategy and access point locations have been designed to provide clarity for different types of flows (patient, staff, public/visitation, logistics/services etc.). A general strategy employed is the clustering of lifts, allowing flexible arrangement of clinical/patient vs public corridors on different levels to access the different types of lifts • All patient spaces will be designed for ease of accessibility and assistance by clinical staff Accordingly, **Option 1 is rated as 'Meets'.** For Option 2, the location of the Cath Lab/ Interventional Suite away from critical services in the ASB may require duplication and more resources located there to ensure minimal disruption to patient care in times when rapid acute intervention is required. Additionally, as noted in the Strategic Case Problem Statement 3, cardiovascular disease is a large issue for Māori in Nelson Marlborough, and this may impact Māori Health Equity. **Option 2 is rated as 'Partially Meets'**			

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Te Whatu Ora
Health New Zealand
Nelson Marlborough

IO Scoring Scale	Does Not Meet	Partially Meets	Meets
Investment Objective	**Rationale on rating**		
	For Options 3 and 4, while the number and mix of staff will be appropriate for the level and setting of care, AT&R services will be delivered across multiple buildings. The buildings will be connected via links and this may have some minor impact on providing efficient patient care with staff being scattered through various sites. This 'dislocation' is very minor, and the impact is consequently trivial. Accordingly, **Options 3 and 4 are rated as 'Meets'.**		

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Critical Success Factor Assessment Results

The CSFs set out the essential attributes for the successful delivery of the Programme in terms of delivering the benefits set out in the Strategic Case. The categories, criteria, weightings, and scoring scale have been confirmed with key stakeholders from Te Whatu Ora – Health New Zealand (IIG) and Te Whatu Ora – Nelson Marlborough.

The summary of this assessment is shown in the table below, with detailed rationale in Table 42 - Table 47.

Table 40: Critical Success Factor Scoring Summary

Critical Success Factors		Option 1 Intermediate	Option 2 Minimum New Build	Option 3 Intermediate, Phased approach	Option 4 Do Max
1. Patient and population outcomes	25%	Good	Poor	Average	Good
2. Māori health equity	15%	Good	Good	Good	Good
3. Adaptability	10%	Very Good	Average	Good	Good
4. Viability	15%	Average	Average	Poor	Poor
5. Potential Affordability	10%	Good	Good	Average	Very Poor
6. Seismic Resilience	25%	Good	Average	Average	Good
Total Unweighted Score		6	1	1	1
Rank (unweighted)		=1	=2	=2	=2
Total Weighted Score		0.95	0.00	0.10	0.40
Rank (weighted)		1	4	3	2
Progress to MCA		YES	NO	YES	YES

Table 41: Critical Success Factor Scoring Scale

Very Poor	Poor	Average	Good	Very Good
-2	-1	0	+1	+2

Through the CSF assessment, **Option 1, Option 3 and Option 4 have been carried through to further assessment in the MCA. Option 2 has been discarded from further consideration**. Te Whatu Ora – Health New Zealand consider Option 2 unviable. It carries unacceptable clinical risks, given the dislocation of the Cardiac Cath Lab from the balance of the ASB.

Option 2 does not have all the essential services co-located in the new ASB but rather has the Cardiac Cath Lab/Interventional Suite located in the existing Theatres Building. The existing Theatres Building will be rated IL3 at the end of the Redevelopment which exposes the Cardiac Cath Lab/Interventional Suite to operational continuity risk following a significant seismic event.

It is recommended that the Cardiac Cath Lab is co-located with services that must be contained in an IL4 facility. This will ensure critical services are seismically resilient (services includes radiology, see Figure 29 for the functional relationships matrix). Locating this service in the existing Theatres Building would risk quality and safety of care to patients if the building is not operable following an earthquake. In addition, given cardiac illness is predominant in the Māori population, option 2 does not contribute to improving health equity as well as the other options.

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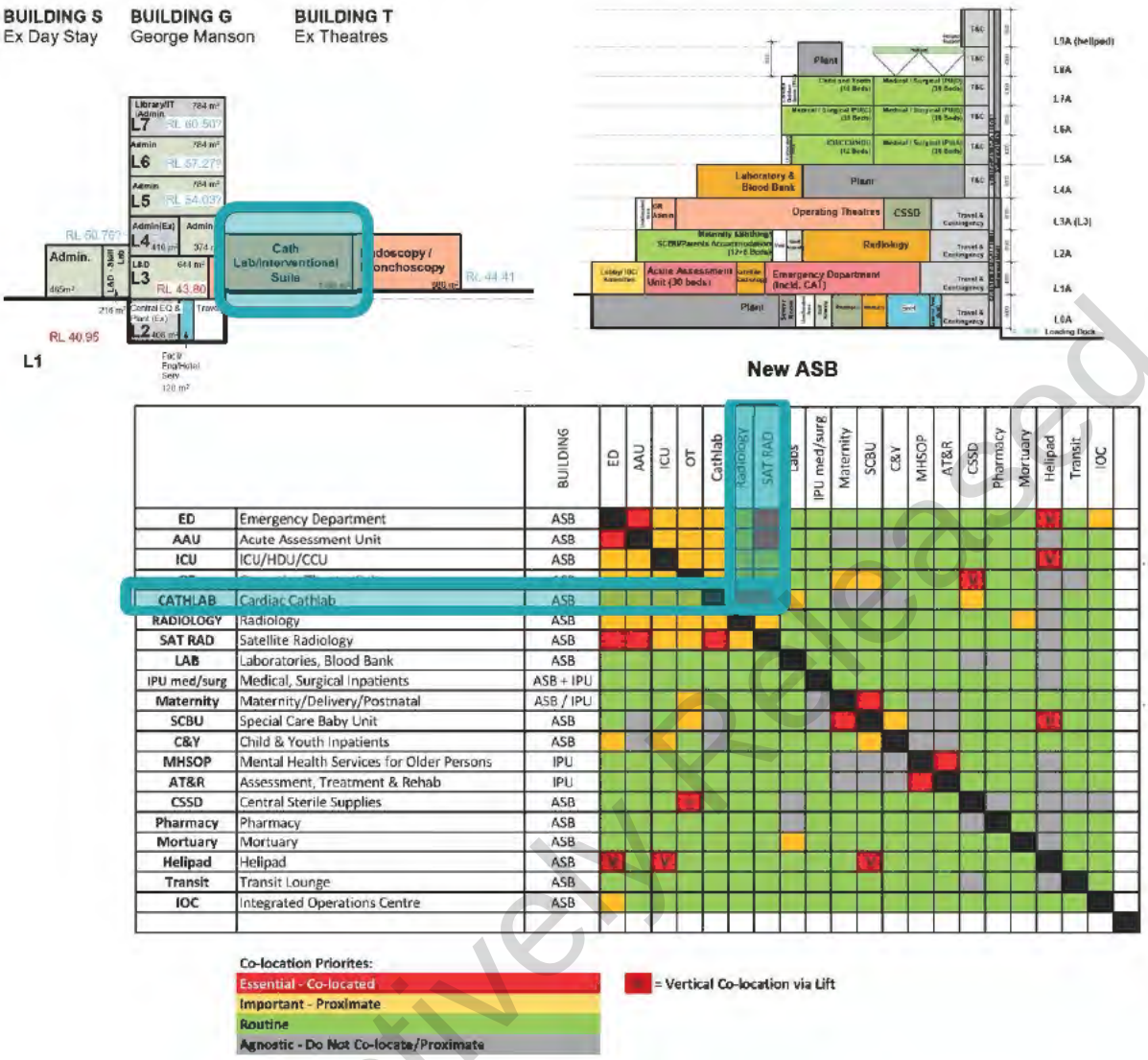
Figure 29: Location of Cath Lab/Interventional Suite in existing Theatres Building is not clinically ideal. Stacking Diagram c/o Klein. Functional Relationships Matrix of Nelson Hospital c/o Te Whatu Ora (2022)



		BUILDING	ED	AAU	ICU	OT	Cathlab	Radiology	SAT RAD	Labs	IPU med/surg	Maternity	SCBU	C&Y	MHSOP	AT&R	CSSD	Pharmacy	Mortuary	Helipad	Transit	IOC
ED	Emergency Department	ASB																				
AAU	Acute Assessment Unit	ASB																				
ICU	ICU/HDU/CCU	ASB																				
CATHLAB	Cardiac Cathlab	ASB																				
RADIOLOGY	Radiology	ASB																				
SAT RAD	Satellite Radiology	ASB																				
LAB	Laboratories, Blood Bank	ASB																				
IPU med/surg	Medical, Surgical Inpatients	ASB + IPU																				
Maternity	Maternity/Delivery/Postnatal	ASB / IPU																				
SCBU	Special Care Baby Unit	ASB																				
C&Y	Child & Youth Inpatients	ASB																				
MHSOP	Mental Health Services for Older Persons	IPU																				
AT&R	Assessment, Treatment & Rehab	IPU																				
CSSD	Central Sterile Supplies	ASB																				
Pharmacy	Pharmacy	ASB																				
Mortuary	Mortuary	ASB																				
Helipad	Helipad	ASB																				
Transit	Transit Lounge	ASB																				
IOC	Integrated Operations Centre	ASB																				

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The post-earthquake operational risks presented by Option 2 could be mitigated by using temporary structures or transporting patients to other facilities. However, the ability to transport patients in the weeks following a moderate earthquake are highly uncertain. There could be significant roading damage around Nelson and the airport and port sit on liquifiable soils that may fail following a seismic event.

CSF 1: Patient and Population Outcomes

Table 42: CSF 1 - Detailed Rationale

CSF 1: Patient and population outcomes How well does the option facilitate the delivery of health services in terms of: Equity, quality, safety, experience, and family/whānau integration? How effectively does the option provide the appropriate level of capacity to meet demand over time				
	Option 1: Intermediate	**Option 2: Minimum New Build**	**Option 3: Intermediate, Phased Approach**	**Option 4: Do Maximum**
Overall rating	**GOOD**	**POOR**	**AVERAGE**	**GOOD**
Rationale Advantages (+) & Disadvantages (-)	+ Delivery of a single ASB incl. inpatient wards provides capacity on time e.g. Child & Youth + Delivery of a single building is less likely to be delayed compared to phased delivery of an ASB and new IPB (delays may still occur due to market conditions) – reduced risk of operating at a shortfall + Single build phase ensures that the current and future clinical demand are met. Other options rely on a second phase (new IPB) to do this. + Single build phase = earlier capacity delivery to meet clinical demand + Space available for future inpatient expansion + Inpatient services predominantly located in consolidated ASB – Some services housed in existing facilities creating minor inefficiencies due to distance from ASB + Locating inpatient wards in the ASB is more efficient + Creation of a "Rehabilitation Hub" in the existing IPB – means AT&R is closer to radiology than current – Poorer collocations between certain services due to reuse of existing facilities – Endoscopy / Bronchoscopy in existing Theatres Building poses operational risk post-earthquake – CSSD not on Operating Theatres floor	+ Delivery of a single ASB incl. inpatient wards provides capacity on time e.g. Child & Youth + Delivery of a single building is less likely to be delayed compared to phased delivery of an ASB and new IPB (delays may still occur due to market conditions) – reduced risk of operating at a shortfall + Single build phase = earlier capacity delivery to meet clinical demand + Space available for future inpatient expansion – Cardiac Cath Lab is located in existing Theatres Building – poses clinical and operational risk post-earthquake – High acuity patients are dispersed across the site (e.g., Cath Lab) – increases clinical risk + Inpatient services predominantly in consolidated ASB + Locating inpatient wards in the ASB is more efficient + Creation of a "Rehabilitation Hub" in the existing IPB – means AT&R is closer to radiology than current – Poorer collocations between certain services due to reuse of existing facilities – Endoscopy / Bronchoscopy in existing Theatres Building poses operational risk post-earthquake + CSSD on the same level as Operating Theatres	– Fewest inpatient wards collocated in ASB, but strong links with proposed Inpatient Unit remain – Phased build increases risk of bed shortages, particularly given the rapid phasing required to meet demand – Separate Inpatient Building uses space that could have been used for future expansion – There are risks that the second stage may not proceed – leading to longer term capacity shortages and increased clinical risk – Two new builds + refurbishment of existing IPB increases clinical impact of any delays + Creation of a "Rehabilitation Hub" in the Ex. Inpatient Building – means AT&R is closer to radiology than current + Endoscopy / Bronchoscopy in new ASB which is a clinical preference – CSSD not on same floor as Operating Theatres + Child & Youth located in ASB, so capacity is delivered sooner than Option 4 – Key clinical inpatient services spread across three different buildings	+ Central hub created with links between ASB, new IPB, and existing buildings – Phased build increases risk of bed shortages, particularly given the rapid phasing required to meet demand – Risk second stage may not proceed – leading to longer term capacity shortages and increased clinical risk – Two new builds increase the clinical impact of any delays – Separate Inpatient Building uses space that could have been used for future expansion + Most services in ASB, which provides seismic resilience and good collocations between services + AT&R in new IPB– better collocation with radiology / diagnostic services + Greater number of inpatient wards in ASB than Option 3 – CSSD not on the same level as Operating Theatres – Child & Youth located in the Inpatient Building, and will therefore be delivered later than all other options, prolonging and exacerbating the bed deficit

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CSF 2: Māori Health Equity

Table 43: CSF 2 - Detailed Rationale

CSF 2: Māori Health Equity How well does the option address Māori health equity in Nelson Marlborough, support Kaupapa Māori approaches and provide benefits to whānau and communities				
	Option 1: Intermediate	**Option 2: Minimum New Build**	**Option 3: Intermediate, Phased Approach**	**Option 4: Do Maximum**
Overall rating	**GOOD**	**GOOD**	**GOOD**	**GOOD**
Rationale Advantages (+) & Disadvantages (-)	+ Uses space more efficiently than Options 3 and 4 (smaller new build area) but fewer opportunities to incorporate spaces that accommodate whānau / cultural support – Limited ability for future expansion within existing footprint – restricts service flexibility incl. those for Māori health + Vacant spaces identified in Site Masterplan (Appendix I) – could be used for onsite whānau accommodation in the future	– Smallest new build area – fewer opportunities to incorporate spaces that accommodate whānau / cultural support – Limited ability for future expansion within existing footprint – restricts service flexibility incl. those for Māori health + Vacant spaces identified in Site Masterplan (Appendix I) – could be used for onsite whānau accommodation in the future	+ Second largest new build area + Provides space for future flexibility, including for spaces that better deliver on Māori health equity through the presence of vacant space + Future Inpatient Building on Site Masterplan (Appendix I) precludes use of available space for future onsite whānau accommodation	+ Largest new build area and ability to accommodate whānau / cultural spaces – Little future ability for expansion within the existing build footprint – restricts service flexibility incl. those for Māori health + Future Inpatient Building on Site Masterplan (Appendix I) precludes use of available space for future onsite whānau accommodation
	+ All options will include features to help ensure Māori health needs are met, such as appropriate taonga at entry and exit pathways, a large whānau room and supporting amenities in the main entry area of the new ASB, provision of whānau space in every department/service near the entrance of the unit, area for Māori Health Offices, as well as a large Tūpāpaku Viewing Room in the Mortuary area + Inclusion of whānau in the care pathway has been incorporated into design e.g., inpatient bedrooms are designed to accommodate "rooming in" + Spaces provided for karakia / faith / prayer			

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CSF 3: Adaptability

Table 44: CSF 3 - Detailed Rationale

CSF 4: Adaptability How efficiently is the option able to respond flexibly to changing health needs and contemporary MoC, including integration of family and whānau within the care team?				
	Option 1: Intermediate	**Option 2: Minimum New Build**	**Option 3: Intermediate, Phased Approach**	**Option 4: Do Maximum**
Overall rating	**VERY GOOD**	**AVERAGE**	**GOOD**	**GOOD**
Rationale Advantages (+) & Disadvantages (-)	+ Efficient use of existing space compared to Option 4 (retention of existing space) + Some ability to expand within build footprint (future flexibility) + Modest collocation and operational benefits of staff working across only two buildings (compared to Options 3 and 4). + Vacant space in existing Radiology and Theatres buildings provides future flexibility – limited by seismic resilience + Inpatient wards are adjacent to each other in new ASB	+ Smallest new build area – Least space for future expansion within existing built space – limited flexibility + Fewer staff movements required due to better collocations (compared to Options 3 and 4) + Vacant space in existing Radiology Building provides future flexibility – limited by seismic resilience + Inpatient wards are adjacent to each other in new ASB	+ Second largest new build area + Greatest unallocated area for future expansion and flexibility – There are modest disbenefits in having greater staff movement due to decreased collocations (relative to Options 1 and 2) with staff spread across the ASB, new IPB, and existing IPB + Vacant space in existing Radiology and Theatres buildings provides future flexibility – limited by seismic resilience – Inpatient wards spread across multiple buildings creating the potential for inefficiencies + Direct clinical link between Child & Youth, Maternity and Birthing, SCBU, and Parents' Accommodation Services	+ Largest new build area – Little future flexibility to expand within existing footprint – There are modest disbenefits to fewer collocations and greater staff movement due to reduced collocations compared to Option 1 and 2 (inpatient wards spread across ASB and new IPB) + Vacant space in existing Radiology provides future flexibility – limited by seismic resilience + Inpatient wards spread across multiple buildings creates the potential for inefficiencies + Direct clinical link between Child & Youth, Maternity and Birthing, SCBU, and Parents' Accommodation Services
+ For all options, the new ASB (and Inpatient Building where applicable) will be designed to AusHFG and NZDGN standards + All options provide enhanced digital connectivity, infection control, cultural and family spaces, covered outdoor space, and accommodate capacity future capacity requirements for the next 15 years				

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CSF 4: Viability

Table 45: CSF 4 - Detailed Rationale

CSF 4: Viability How well the option is able to be delivered given: the organisation's ability to respond to the changes required, the level of available skills, workforce, and supplies required for successful delivery, socioeconomic, political, environmental, cultural impact and community acceptability. How well does the option support a sustainable workforce through facilitating interdisciplinary functioning, provide appropriate clinical support and L&D opportunities leading to higher levels of employee attraction, engagement and retention, and in turn improved service delivery?				
	Option 1: Intermediate	**Option 2: Minimum New Build**	**Option 3: Intermediate, Phased Approach**	**Option 4: Do Maximum**
Overall rating	**AVERAGE**	**AVERAGE**	**POOR**	**POOR**
Rationale Advantages (+) & Disadvantages (-)	– Fewer phasing opportunities for Phase 1 and 2 (ASB and Inpatients) which could negatively impact funding allocation within a constrained environment + Building retention is an efficient use of space and has sustainability benefits but does not release clinical utility in the long-term + Second lowest total Phase 1 build area + Single ASB construction = construction efficiencies, reduced operational cost, energy savings + Single ASB construction = decreases decanting flexibility + Combined ASB and Inpatient = reduced build interface risks + May be more acceptable to community but could be offset by build height + Centralised staff amenities = better operational workforce connection – Minimises staff movement between facilities for operational efficiency	– Fewer phasing opportunities for Phase 1 and 2 (ASB and Inpatients) which could negatively impact funding allocation within a constrained environment + Building retention is an efficient use of space and has sustainability benefits but does not release clinical utility in the long-term + Lowest total Phase 1 build area + Single ASB construction = construction efficiencies, reduced operational cost, energy savings + Single ASB construction = decreases decanting flexibility + Combined ASB and Inpatient = reduced build interface risks – May be more acceptable to community but could be offset by build height + Centralised staff amenities = better operational workforce connection – Staff and services are spread across a greater number of buildings than in Option 1 increasing duplication, operating costs, clinical load, inefficiencies, reduces staff interaction, and could lead to reduced quality of care	+ Phased construction potential + Building retention is an efficient use of space and has sustainability benefits but does not release clinical utility in the long-term – Does not achieve construction efficiencies associated with a single build + Phasing increases build flexibility – improved decanting opportunities – Two phases presents opportunity to bring on a new contractor, but this could introduce interface risks – Community acceptability may be lower due to multiple large new builds (more disruption) – New ASB and Inpatient Building requires greater footprint, foundations, façade, greater operational cost, and reduced energy savings – Greater staff movement – operational inefficiencies. Staff and services are spread across multiple buildings (greater extent than Options 1 and 2) – increases duplication, operating costs, clinical load, inefficiencies, reduces staff interaction, and could lead to reduced quality of care	+ Phased construction potential + Building demolition releases clinical utility in the long-term and creates space for future construction – Largest new build GFA – less efficient use of resources to remediate current site issues – Likely to have highest operational costs – Does not achieve construction efficiencies associated with a single build + Phasing increases build flexibility – improved decanting opportunities – Two phases presents opportunity to bring on a new contractor, but this could introduce interface risks – Community acceptability may be lower due to multiple large new builds (more disruption) – New ASB and Inpatient Building requires greater footprint, foundations, façade, greater operational cost, and reduced energy savings – Greater staff movement – operational inefficiencies. Staff and services are spread across multiple buildings (greater extent than Options 1 and 2) – increases duplication, operating costs, clinical load, inefficiencies, reduces staff interaction, and could lead to reduced quality of care

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CSF 5: Potential Affordability

Table 46: CSF 5 - Detailed Rationale

CSF 6: Potential Affordability How well the option can be met from likely available funding, and how well the option matches other funding constraints				
	Option 1: Intermediate	**Option 2: Minimum New Build**	**Option 3: Intermediate, Phased Approach**	**Option 4: Do Maximum**
Overall rating	**GOOD**	**GOOD**	**AVERAGE**	**VERY POOR**
Rationale Advantages (+) & Disadvantages (-)	• Total capex: $1.098b or $692m (real, PV) (PV of capital cost, discounted at 5%[59]) • Total cost of Phase 1 (Design, Enabling Works, Infrastructure, and Energy Upgrades): $98.0m or $90m (PV) • Total cost of Phase 2 (ASB): $838.0m or $630m (PV) • Total cost of Phase 3 (New IPB): N/A • Total cost of Phase 4 – 9 (Refurbish and repurpose existing buildings): $162m or $108m (PV) + Maximises use of existing buildings – Initial investment in Phase 1 (combined ASB and Inpatient Building) is larger than in Options 2 or 3 + Total build cost is 2nd cheapest as no separate IPB is required – Lack of phasing for Phase 1 and 2 could affect affordability given other competing projects across the Te Whatu Ora portfolio	• Total capex: $1.070b or $806m (PV of capital cost, discounted at 5%) • Total cost of Phase 1 (Design, Enabling Works, Infrastructure, and Energy Upgrades) $95m or $88m (PV) • Total cost of Phase 2 (ASB): $799m or $601m (PV) • Total cost of Phase 3 (New IPB): N/A • Total cost of Phase 4 – 9 (Refurbish and repurpose existing buildings): $176m or $117m (PV) + Maximises use of existing buildings – Initial investment in Phase 1 (combined ASB and Inpatient Building) is larger than in Option 3 + Total Phase 1 & 2 build cost is lowest cheapest as no separate ASB is required, and the total developed area is least – Lack of phasing for Phase 1 and 2 could affect affordability given other competing projects across the Te Whatu Ora portfolio	• Total capex: $1.144b or $871m (PV of capital cost, discounted at 5%) • Total cost of Phase 1 (Design, Enabling Works, Infrastructure, and Energy Upgrades): $102m or $94m (PV) • Total cost of Phase 2 (ASB): $769m or $585m (PV) • Total cost of Phase 3 (New IPB): $141m or $103m (PV) • Total cost of Phase 4 – 9 (Refurbish and repurpose existing buildings): $132m or $88m (PV) – Utilises existing building space well, but leaves existing Theatres Building vacant + Initial investment in Phase 1 is lowest of all options, due to smallest build area of the ASB – Second highest overall cost due to inclusion of a second building (Inpatients Building) and later delivery of that building + Phasing means there is less investment up-front, releasing some capital for other projects across the Te Whatu Ora portfolio	• Total capex: $1.275b or $940m (PV of capital cost, discounted at 5%) • Total cost of Phase 1 (Design, Enabling Works, Infrastructure, and Energy Upgrades: $110m or $101 m (PV) • Total cost of Phase 2 (ASB): $850.3m or $640m (PV) • Total cost of Phase 3 (New IPB): $190m or $126m (PV) • Total cost of Phase 4 – 9 (Refurbish and repurpose existing buildings): $125m or $74m (PV) – Demolition of GM and Theatres does not maximise reuse of existing facilities – Highest Phase 1 investment as it represents the largest build area to prepare for the demolition of facilities – Overall cost is also highest as it represents the largest new build area to accommodate services from the demolished buildings, and due to the phasing of two buildings

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[59] Treasury NZ discount rate for Hospitals obtained from Discount Rates (treasury.govt.nz), accessed 13 April 2023

CSF 6: Seismic Resilience

Table 47: CSF 6 - Detailed Rationale

CSF 6: Seismic Resilience How effectively does the option address known seismic risk				
	Option 1: Intermediate	**Option 2: Minimum New Build**	**Option 3: Intermediate, Phased Approach**	**Option 4: Do Maximum**
Overall rating	**GOOD**	**AVERAGE**	**AVERAGE**	**GOOD**
Rationale Advantages (+) & Disadvantages (-)	– George Manson repurposed to IL2 – residual risk remains to administrative and L&D functions – Retention of existing Theatres Building represents higher seismic risk than demolition + Critical post-disaster services located in new IL4 ASB + Delivery of a single new ASB (incl. inpatient wards) reduces the time in which critical clinical services are housed in Earthquake-prone / risk buildings + All medical and surgical wards are housed in an IL4 building thus increasing post disaster functionality and service resilience	– George Manson repurposed to IL2 – residual risk remains to administrative and L&D functions – Retention of existing Theatres Building represents higher seismic risk than demolition + All medical and surgical wards are housed in an IL4 building thus increasing post disaster functionality and service resilience – Cardiac Cath Lab is housed in existing Theatres Building – seismic risk for clinical service + Delivery of a single new ASB (incl. inpatient wards) reduces the timeframe critical clinical services are housed in earthquake prone / risk buildings	– George Manson repurposed to IL2 – residual risk remains to administrative and L&D functions – Retention of existing Theatres Building represents higher seismic risk than demolition + Critical post-disaster services located in new IL4 ASB + Delayed new IPB construction could lead to critical services being housed in earthquake prone / risk buildings for longer than desired	+ George Manson repurposed for administrative functions – demolition of floors 4-7 mitigates residual seismic risk + Demolition of the existing Theatres Building further addresses seismic resilience issues + Critical post-disaster services located in new IL4 ASB – Delayed new IPB construction could lead to critical services being housed in earthquake prone / risk buildings for longer than desired

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Multi Criteria Analysis Results

Some costs and benefits cannot be quantified due to the associated complexities of quantifying and attributing such outcomes to a particular intervention. Multi Criteria Analysis (MCA) is an economic analysis tool used to assess those costs and benefits that cannot be reliably or efficiently quantified in monetary terms. The relevant and appropriate categories, criteria, weightings, and scoring scale used in the DBC have been used in this PBC for the option assessment.

A summary of the resulting MCA scores is shown in the table below. For more information surrounding the score and rationale refer to the tables in subsequent pages.

Table 48: MCA Scoring Scale

Very Poor	Poor	Below Average	Average	Above Average	Good	Very Good
-3	-2	-1	0	+1	+2	+3

Table 49:Summary of MCA Assessment

Criteria	Weight	Option 1 Intermediate	Option 3 Intermediate, Phased	Option 4 Do Maximum
1 Flexible, fit-for-purpose facilities	**20.0%**			
1.1 Ability of facilities to respond to changing health needs	6.7%	3	3	3
1.2 Ability of facilities to flexibly manage different patient cohorts	6.7%	3	3	2
1.3 Ability of facilities to enable contemporary MoC e.g. virtual care, supporting Multidisciplinary (MDT) functioning	6.7%	3	3	3
2 Continuity and resilience of service delivery	**22.0%**			
2.1 Minimised complexity and disruption to site, services, and patients through programme delivery	4.0%	0	0	1
2.2 Speed of programme delivery and therefore reduction of seismic / resilience and clinical risk	5.0%	2	2	1
2.3 Retention of critical service capacity following a major seismic event following programme delivery	8.0%	3	3	3
2.4 Resilience of core services provision following a major seismic event following programme delivery	5.0%	1	2	2
3 Quality of service provision	**23.0%**			
3.1 Access to care: facilitated by capacity, location, and configuration	7.7%	2	2	2
3.2 Equity of care: access, diagnosis, intervention, and outcome	7.7%	2	2	2
3.3 Patient experience, including involvement of family / whānau in delivery of care	7.7%	3	3	3
4 Sustainability service provision	**26.0%**			
4.1 Proximity of core hospital facilities: impacting on effective Multidisciplinary (MDT) functioning and the provision of appropriate clinical support	13%	3	3	3
4.2 Optimising economic life of existing facilities	13%	3	2	0
5 Externalities	**9.0%**			
5.1 Impact on surrounding residential community	4.5%	-1	-1	-2
5.2 Environmental impact for whole-of-life e.g. creation of waste materials	4.5%	2	2	1

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Criteria	Weight	Option 1 Intermediate	Option 3 Intermediate, Phased	Option 4 Do Maximum
Total score (unweighted)		**29**	**29**	**24**
Rank (unweighted)		=1	=1	3
Total score (weighted)		2.29	2.22	1.80
Rank (weighted)		**1**	**2**	**3**

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MCA 1: Flexible, fit for purpose facilities

Table 50: Detailed Rationale for the MCA 1

MCA 1: Flexible fit-for-purpose facilities	
Criteria	**Commentary**
1.1 Ability of facilities to respond to changing health needs	**Option 1: Very Good** **Option 3: Very Good** **Option 4: Very Good** **Options 1, 3 and 4 score 'Very Good'** as the size and layout of the new ASB (Option 1, 3, 4) and new IPB (Options 3 and 4 only) have been designed to AusHFG standards as well as the NZ DGN and are designed to maximise flexibility. These options have the following features: • There are significantly more single inpatient rooms with ensuites than in the current state, which does reduce risk of nosocomial infection. • The AAU is extended, providing greater access to single patient bays which are essential for preventing and controlling infection risks. • The facility design allows for sufficiently sized waiting room spaces to separate patients and control transmission of infection. • The new ICU/HDU/CCU and ED will be designed to manage a significant infection outbreak or pandemic with areas able to be separated and provision of adequate air handling and isolation rooms. • Digital connectivity on the site will be enhanced as part of Project Whakatupuranga, which is crucial for responding to changing health needs or major events as was seen during the recent pandemic. • The proximity of the helipad on the roof of the ASB and a critical patient lift from the helipad which will have priority call control for the rapid transfer of critically unwell patient particularly during major trauma events • All options allow for additional capacity to be delivered as per the Site Master Plan in alignment with the projected bed model requirements (15-year horizon for capacity demand). The options will also provide excess capacity for pandemic resilience or other major health events.
1.2 Ability of facilities to flexibly manage different patient cohorts, complexities, age, and gender	**Option 1: Very Good** **Option 3: Very Good** **Option 4: Good** Options 1, 3 and 4 initially all receive at least a 'Good' score because: • The location of the helipad increases Te Whatu Ora – Nelson Marlborough's ability to manage trauma. There is a dedicated elevator to directly connect the helipad to a trauma/resuscitation room, with efficient access to imaging with satellite radiology located adjacent to the ED. • ED will accommodate patients who require additional observation and assessment in emergency department observation beds, reducing the need to utilise AAU or inpatient beds. • Spaces for Child & Youth will be specifically designed to reflect the varying physical and psychological needs of this age group. The design will enable adolescents to be separated in the ward, whilst younger children will be able to be grouped in an area better suited to their needs. The ED will also provide a separate treatment zone for paediatric patients enabling the separation of Child & Youth from adult patients. • There is a direct link between Child & Youth and Maternity & Birthing / SCBU and parents accommodation allowing staff and patients to move between these services easily

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MCA 1: Flexible fit-for-purpose facilities	
Criteria	**Commentary**
	• The facility will be designed to ensure spaces are accessible as prioritising disability in service planning and commissioning is a priority within the Te Pae Tata Interim New Zealand Health Plan 2022. • The facility design will provide sufficiently sized waiting room spaces to separate patients by age, for noise control, and to control transmission of infection. • However, in all options, Percy Brunette has limited flexibility to manage Outpatients with differing needs due to its existing configuration and size. Option 1 and 3 have additional features that elevate the score to **'Very Good':** • AT&R services are located in the existing IPB. This provides a 'Rehabilitation Hub' experience as it is adjacent to Allied Health Therapy located in Percy Brunette. • The layout in these options provides for better connection to outpatient services, the hydrotherapy pool and Radiology. This experience is not available in Option 4. Therefore, **Option 1 and Option 3 receives a** whilst **Option 4 scores 'Good'.**
1.3 Ability of facilities to enable contemporary MoC e.g. virtual care, supporting MDT functioning	**Option 1: Very Good** **Option 3: Very Good** **Option 4: Very Good** **Options 1, 3 and 4 score 'Very Good'** as all critical inpatient services are accommodated in the new ASB, and the layout and stacking has been designed to offer the best opportunities to collocate services across the care continuum and promote seamless journeys. The design of the new ASB (for all options) and new IPB (for Option 3 and 4 only) will offer the following: • The Integrated Operations Centre (IOC) is intended to provide integrated admissions, bed management, and nursing flow management services which will significantly improve patient flow throughout the hospital. Investment in Data & Digital will further improve this experience in the future. • The expansion of the AAU, located adjacent to the ED, will receive, assess, and plan patient treatments early in their admission period, reducing the pressure on the hospital inpatient wards. • A transit lounge which provides a clinically appropriate space to wait following discharge will improve patient flow as inpatient beds will no longer be occupied by discharged patients awaiting pick up, final medications, or paperwork. This will also improve efficiency of the inpatient service and should reduce waiting time in ED. • Spaces for MDT discussions will be designed to be of sufficient size to be functionable for all members of the MDT team, to ensure confidentiality, and privacy from the patient and visitor areas. • As set out in the Project Whakatupuranga Digital Blueprint, all options include funding for digital infrastructure packages to enhance the digital connectivity of the hospital. The ongoing funding and implementation of the NMH Digital Strategy and Roadmap must continue in parallel to Project Whakatupuranga if new "digitally enhanced" MoC are to be implemented. • In all options, Percy Brunette is refurbished and repurposed which provides less opportunity to fit the space for contemporary MoC.

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MCA 2: Continuity and resilience of service delivery

Table 51: Detailed Rationale for the MCA 2

MCA 2: Continuity and resilience of service delivery	
Criteria	**Commentary**
2.1 Minimised complexity and disruption to site, services and patients through programme delivery	**Option 1: Average** **Option 3: Average** **Option 4: Above Average** All options scored at least 'Average' for the following reasons: • All options will have a significant programme length (of at least 10-years) to deliver the proposed hospital redevelopments. This will be complex and disrupt the Nelson Hospital site, services and level of patient care compared to status quo. • All options will have dedicated construction zones for new build and demolition areas (latter is only applicable to Option 4). Accordingly, disruption will largely be limited to specific areas of the campus at each time particularly with the phasing of the options. However, there will still be periods of significant disruption to patients and staff at certain points (e.g., decanting of services into the New ASB). This can be mitigated with an appropriate decanting strategy and site planning. In Options 1 and 3, more existing buildings will be refurbished compared to Option 4. The refurbishment of these buildings will take place when facilities are still operational, which means contractors and staff will have to manage works in a live hospital environment. These will create disruption (e.g. noise, dust, and vibration) that will be complex to manage for periods between 5 to 10 months depending on the building (as noted below). Accordingly, **Option 1 and 3 score 'Average'**, but **Option 4 is 'Above Average'** reflecting the relatively more straightforward decant strategy. There are also minor differences between Options 1 and 3, with Option 1 requiring further refurbishment of the Theatres building, as it will be reused for Endoscopy / Bronchoscopy. In Option 3, the building is left for future expansion space.
2.2 Speed of programme delivery and therefore reduction of seismic / resilience and clinical risk[60]	**Option 1: Good** **Option 3: Good** **Option 4: Above Average** There is a risk that the current programme timeframes may not be met as this PBC progresses through approvals. However, a key assumption underpinning MCA scoring is that each option will be delivered to the timeframes indicated in their programmes. Seismic and clinical risk is significantly reduced as soon as the ASB is operational, as well as incrementally as the programme progresses through its phases. The timing for each option is listed below: • 'Go live' date of ASB ○ Option 1: November 2031 ○ Option 3: May 2031 ○ Option 4: November 2031 • 'Go live' date of new IPB where required: ○ Option 1: N/A ○ Option 3: February 2032 (new IPB) ○ Option 4: April 2034 (new IPB) • End date of programme: ○ Option 1: November 2033 ○ Option 3: June 2033 ○ Option 4: May 2036 Option 3 delivers the ASB and the overall programme the earliest. Therefore, Option 3 is initially rated as 'Very Good'. Option 1 and 4 are initially rated as 'Good' as they deliver the new ASB and overall programme later than Option 1. Further reduction in risk is provided by Option 3 and 4 but they are also dependent on the delivery of the latter phases of its programme, such as that provided by the new IPB. Therefore:

[60] Excludes delivery of radiation oncology as this out of scope

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MCA 2: Continuity and resilience of service delivery	
Criteria	**Commentary**
	• **Option 1 remains rated as 'Good',** as it delivers the new ASB providing needed bed capacity and seismic resilience by November 2031. • **Option 3 is rated lower at 'Good';** it delivers the ASB at approximately the same time as Option 1, mitigating seismic risk. The IPB which is needed to meet bed demand, is delivered on approximately the same timeline as the full ASB build for Option 1 (3-months later). • **Option 4 is rated lower as 'Above Average',** it delivers the new ASB, new IPB and overall programme later than Options 1 or 3 meaning that seismic risk and clinical demand will not be met as quickly.
2.3 Retention of critical service capacity following a major seismic event following programme delivery	**Option 1: Very Good** | **Option 3: Very Good** | **Option 4: Very Good** **All options score 'Very Good'** as all critical health services are moved into the new ASB thereby providing the best possible post-disaster resilience.
2.4 Resilience of core services provision following a major seismic event following programme delivery	**Option 1: Above Average** | **Option 3: Good** | **Option 4: Good** **Option 1 is scores 'Above Average'** and **Option 3 and 4 scores 'Good'**. This is because: • In Option 3 and 4 a greater proportion of all clinical services are located in new buildings. Endoscopy/Bronchoscopy and AT&R are located in seismically appropriate buildings (IL3 and/or IL4). This provides resilience for key clinical services following a major seismic event. • Option 1 is scored 'Above average' as there are core services such Endoscopy / Bronchoscopy and AT&R that will be located in existing buildings. Although operational continuity can be maintained after a major seismic event (e.g., through temporary facilities, transporting patients to other hospitals and/or postponing non-critical appointments), there may be a period of time where these services are not operational until remediation is complete. This does not contribute to resilience of core services following a major seismic event. Overall, a 'Very Good' score is not warranted for any of the options due to the functional recovery time for the following core services: Endoscopy/Bronchoscopy, AT&R, Day Stay, Food Services, Central Equipment, Administration and L&D, and Outpatients (Percy Brunette) facilities are poor following a major seismic event. The hospital will likely need to reduce overall capacity for a period of time due to some existing buildings being unsafe to use. It should be noted that, as Project Whakatupuranga is delivered under all of these options, the seismic resilience of core services will continue to improve over time with the new sitewide infrastructure, partial demolition of George Manson (for Option 4 only), and strengthening of George Manson and Percy Brunette links. The new sitewide infrastructure incorporates resilience elements and backup connections to help improve long-term maintainability and flexibility. It also reduces downtime, enabling works, and results in an improved risk profile through and following Project Whakatupuranga.

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MCA 3: Quality of service provision

Table 52: Detailed Rationale for the MCA 3

MCA 3: Quality of service provision assessment rationale			
Criteria	**Commentary**		
	Option 1: Good	**Option 3: Good**	**Option 4: Good**
3.1 Access to care: facilitated by capacity, location and configuration	Overall, **Option 1, 3, and 4 score 'Good'** because capacity Is aligned with demand projects across all services until 2038. Compared to the current state, access to care will be improved in all options. For example: • The circulation strategy and access point locations have been designed to provide clarity for different types of flows (patient, staff, public/visitation, logistics/services etc.). Clustering of lifts allows for flexible arrangement of clinical/patient vs public corridors on different levels to access the different types of lifts. • The expansion of the AAU, located adjacent to the Emergency Department will receive, assess, and plan patient treatments early in their admission period, which will reduce the pressure on the hospital inpatient wards. • All patient spaces will be designed for ease of access and assistance by clinical staff. • AusHFG and NZ DGN has informed new facility design • Functional relationships between services have informed adjacencies and connections. Examples include the ED collocated with satellite radiology and AAU, Maternity collocated with SCBU and in proximity to Child & Youth Services, and a medical ward (Med/Surg Wards) providing step-down high acuity care adjacent to the ICU/HDU/CCU. • There is clear clinical and non-clinical site zoning, as well as clear inpatient and outpatient zoning, promoting better access to care and seamless patient journeys. • Access is also improved through new central access points and adjacent parking for visitors. • Accessibility will also be improved following the delivery of Project Whakatupuranga. All options will be designed to provide sufficient disabled car parking, drop off/pick up parking spaces as well as accessible toilets. Te Whatu Ora will engage an independent accessibility advisor/auditor for the design development who will review and provide quality assurance for the architectural design of the facilities. • The dedicated access for selected outpatient activity including Renal, Medical Day, and future Oncology is also optimal, with proximity parking and drop off which is separate to the primary hospital arrival activity. • Within the site, the proposed layout has routes for both active modes and vehicles and has been designed to separate public vehicles from service and staff movements where possible. The introduction of access points on Motueka Street and Tipahi Street, which shifts the focus of access away from Waimea Road, is a positive move, as Waimea Road is generally at capacity and can be difficult to access.		
3.2 Equity of care: access, diagnosis, intervention and outcome	**Option 1: Good**	**Option 3: Good**	**Option 4: Good**
	Options 1, 3 and 4 each receive a score of 'Good' as they offer the opportunities to collocate services across the care continuum, promote integrated care and seamless patient journeys, offer more whānau rooms, offer areas that reflect Kaupapa Māori approaches, and to tailor physical spaces to reflect patient ethnicity, age, religion, gender, and conditions. The options do not score higher because the		

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MCA 3: Quality of service provision assessment rationale	
Criteria	**Commentary**
	improved infrastructure delivered as part of Project Whakatupuranga is only one component to Nelson Marlborough's overall strategy to provide equity of care (e.g. through CSP and MoC).
3.3 Patient experience, including involvement of family/whānau in delivery of care	**Option 1: Very Good** **Option 3: Very Good** **Option 4: Very Good** **Options 1, 3, and 4 score 'Very Good'** as compared to current state, and will improve the patient experience as: • Project Whakatupuranga will be designed to enable seamless patient journeys through better clinical/non-clinical zoning, clearer entry points and clearer wayfinding (in both Te Reo Māori and English). • Inpatient bedrooms have been designed so they do not preclude the rooming-in of family members, particularly for Child & Youth, Maternity, ICU, and end of life care. • There is additional family/whānau/visitors space in ICU/HDU/CCU which will improve the patient experience. • Child & Youth settings will have dedicated amenity spaces that are tailored to these patient's needs. • Single inpatient rooms with ensuites and double rooms with additional toilet facilities will improve patient privacy. • Whānau spaces have been provided in all clinical areas. The whānau spaces provided will be larger than the AusHFG recommendations, to provide space to support potentially large groups of whānau whilst in the hospital. • Entry and exit pathways shall have appropriate taonga determined by the Te Aka Whai Ora / Mana Whenua Health Representatives such as carvings, and Māori artwork. Creating an environment that is responsive to the needs of whānau is important as Māori often feel uncomfortable in mainstream environments. • Whānau support spaces will be provided in the mortuary area in the form of a large Tūpāpaku Viewing Room with storage for mattresses and blankets as needed. Access to the outside from these spaces will enable people to connect with the whenua.

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MCA 4: Sustainability of service provision

Table 53: Detailed Rationale for the MCA 4

MCA 4: Sustainability of service provision			
Criteria	**Commentary**		
	Option 1: Very Good	**Option 3: Very Good**	**Option 4: Very Good**
4.1 Proximity of core hospital facilities: impacting on effective MDT functioning and the provision of appropriate clinical support	**Options 1, 3 and 4 each receive a score of 'Good'.** Compared with the current state, all options provide for better proximity of core facilities. For example: • All Inpatient Services are located in adjacent buildings, connected via a link bridge. • The Outpatient Department (OPD) in Percy Brunette will be directly connected to the ASB via a link bridge. • There is more space within the ASB and new IPB for storage and non-clinical functions. • Maternity and SCBU are collocated under all three options which promotes efficient staff sharing and MDT functioning. In Option 1 they are collocated in the ASB, whereas in Option 4, there is a link bridge that connects these services. These options do not score 'Very Good' as there is theoretically more scope for improved collocation. In all three options, the main food preparation kitchen and central equipment unit are located in the old Radiology Building and George Manson, respectively. These are not adjacent or connected to the ASB and new IPB (for Option 4 only). This creates inefficiencies as a transfer system will be required to move food and materials to main clinical buildings.		
	Option 1: Very Good	**Option 3: Good**	**Option 4: Average**
4.2 Optimising economic life of existing facilities	Although Options 1 and 3 reuse all existing buildings onsite, Option 1 maximises the current space available as it leaves only a minor vacant space remaining across the existing Theatres building and existing Radiology site. Conversely, Option 3 leaves the existing Theatres Building predominantly vacant and unallocated. While these vacant spaces haven't been allocated yet, there is an opportunity to use these for other services which will further optimise the building's economic life. However, as Percy Brunette undergoes cosmetic refurbishment, the extension to the useful life of this building is lower than if full seismic strengthening works were carried out to achieve 100% NBS (IL4). As Option 3 requires the construction of a new IPB, **Option 3 scores lower at 'Good'** and **Option 1 scores 'Very Good'.** Option 4 retains the fewest existing buildings and demolishes usable – if suboptimal – space such as that within George Manson and the entire existing Theatres building. The scope is partially mitigated by the fact that George Manson has limited economic life left. As such, **Option 4 scored lowest at 'Average'.**		

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MCA 5: Externalities

Table 54: Detailed Rationale for the MCA 5

MCA 5: Externalities			
Criteria	**Commentary**		
	Option 1: Below Average	**Option 3: Below Average**	**Option 4: Poor**
5.1 Impact on surrounding residential community	**All options initially score 'Below Average'.** While this project is a catalyst for wider urban design opportunities (e.g., cycleways, pathways, retail), Project Whakatupuranga is likely to have both short-term and long-term adverse environmental effects on the surrounding residential area. In the short term, the construction period is likely to be disruptive, and result in adverse noise, dust and vibration impacts as well as an increase in heavy vehicle movements on the surrounding road network. The new loading area (which will be accessed from Tipahi Street), and ambulance entry and exit (on Motueka Street) is also expected to change and increase the vehicle movements on the surrounding road network to the detriment of the neighbouring residents. These effects will be most discernible to the neighbours on Tipahi Street (and in particular numbers 60-72 Tipahi Street), Motueka Street, and, to a lesser extent the public users of Broadfield playing fields. Additionally, Broadfields playing fields will be disrupted as it will house temporary parking for Nelson Hospital until the new carpark building has been constructed as part of a latter phase of the programme. **Option 4 scores lower at 'Poor'** as the requirement to demolish part of George Manson and the existing Theatres Building will cause more disruption to the neighbouring residents.		
	Option 1: Good	**Option 3: Good**	**Option 4: Above Average**
5.2 Environmental impact for whole-of-life e.g. creation of waste materials	All options initially receive a score of 'Good' as although there are long term environmental benefits, there are short-term negative impacts as a result of the construction works. The new central plant within the ASB and new builds significantly improve environmental whole-of-life impacts. The new central plant means on-site fossil fuel combustion will be avoided (excluding emergency power generation). Additionally, the new builds significantly improve the efficiency of potable water and energy consumption on the site, will have 'low carbon' design for both construction and operation, and will facilitate operational waste sorting and recycling and low carbon forms of transport for staff and visitors. Construction and demolition waste will be diverted from landfill targeting a minimum 70% diversion rate. Peak stormwater discharge rate and quality from stormwater leaving the site will be improved via the use of raingardens. A 'low damage' structural design approach is being adopted for the new buildings meaning reduced risk of material replacement will be required during a seismic event over the life of the building. In Option 1 and 3, the majority of existing buildings are retained and re-used which is a positive environmental outcome reducing demolition waste and embodied carbon associated with rebuild. For buildings that are demolished (Theatres and part of George Manson within Option 4) a substantial amount of waste will likely be generated. However, opportunities to recycle and divert demolition from waste to landfill will be reviewed and up to 90% of the demolition materials could potentially be recycled. Option 4 has a greater negative environmental impact in the short-term due to demolition requirements. As such the score for **Options 1 and 3 remain at 'Good'** and the score for **Option 4 score lowers to 'Above Average'.**		

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2.5.1 Quantitative Assessment

Capital Costs

The estimated capital costs associated with each option are presented in the table below. The QS estimates have been prepared utilising a combination of elemental and gross floor area rates held on the s 9(2) database, which includes cost data from current and other recent New Zealand health projects. These rates have then been adjusted to reflect the current market. For further detail, refer to Appendix P for the Quantity Surveyor s 9(2)(b)(ii) estimates and the assumptions to date. These costs have been developed in accordance with the Te Whatu Ora Cost Estimating Guidelines.

The focus of this PBC is to obtain funding to carry out the packages (1a, 1b and 1c) noted in Phase 1. However, the latter phases have been included to provide a whole of programme overview of costs. It is intended that each subsequent phase/package will have a DBC to support the funding request for its delivery. The Financial Case will detail the funding request of this PBC as well as the total cost of the Preferred Option. As shown in the table below, the magnitude of the funding request increases commensurately with the size of the build for each option.

Table 55: Estimated capital cost requirements for Options 1 – 4. Totals may not sum due to rounding

s 9(2)(b)(ii)

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s 9(2)(b)(ii)

[redacted]

Discounted Capital Costs

The Net Present Cost (NPC) for each option was calculated applying a real discount rate 5.0% over 13 years.[62] As the PBC focusses on a more constrained set of options, the discounted operating costs have not been presented. This is because the differences between the options is not expected to have a material impact on the present value operating costs over the period in which the capital costs are incurred.

Table 56: Comparison of discounted capital costs for Options 1 – 4

s 9(2)(b)(ii)

[redacted]

s 9(2)(b)(ii)

[redacted]

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Whole of Life Cost

The Whole of Life Costs (WOLC) for the top two options, Option 1 and Option 3, are summarised below. The capital and operating costs are in real terms and have been discounted at 5%[63] over an assessment period of 20 years. The incremental costs of delivering the option relative to business-as-usual (BaU) are shown. These are the additional costs generated by investing each option.

Table 57: Whole of Life Costs Summary for Option 1 and Option 3. Values are real / present value, and totals may not sum due to rounding.

Summary of PBC funding – Capital Costs ($ m, Present Value, discounted at 5% over 20 years)	Option 1	Option 3
Total capital cost	s 9(2)(b)(ii)	
Total incremental operating cost		
Total incremental depreciation (as a proxy for ongoing facilities and asset maintenance)		
Total whole of life cost (incremental, additional to BaU)		

PBC Funding request - Phase 1

The focus of this PBC will be to request funding for Phase 1 which comprise of the sub-phases noted below across all subprogrammes of Project Whakatupuranga.

- Phase 1a – Enabling works
- Phase 1b – Design of new Energy Centre, ASB, Civil Works and IPB (where relevant)
- Phase 1c – Site wide infrastructure (new) including Energy Upgrades

This phase will also focus on establishing Programme Management Office (PMO) Shared Support Services; the WST Design and Specialist Team; and the Digital Design and Specialist Team. These will be in place for the life of Project Whakatupuranga.

The funding this PBC seeks for each programme within Phase 1 and the activities it will support are summarised in the tables below.

The purpose of this early funding request is to develop the Preferred Option to preliminary design for the Detailed Business Case, and commence site works so that when the Detailed Business Case is approved the first phase of this project can be completed in time to meet anticipated clinical demand. Refer to the Commercial Case and Financial Case for a comprehensive description of the scope and costs within each package.

As shown in Table 58, the magnitude of the funding request increases commensurately with the size of the build for each option.

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[63] https://www.treasury.govt.nz/information-and-services/state-sector-leadership/guidance/financial-reporting-policies-and-guidance/discount-rates, accessed 5 May 2023

Table 58: Phase 1 scope for each Subprogramme in which this PBC is requesting funding for. The start and end date for Phase 1a-1c for all Options are the same. Note totals may not sum due to rounding.

($m, nominal)		Option 1 Intermediate	Option 2 Minimum New Build	Option 3 Intermediate phased	Option 4 Do Maximum
1a	Enabling Works, s 9(2)(b)(ii)	s 9(2)(b)(ii)			
1b	Design of Energy Centre, ASB, Civil Works (and new IPB where relevant)				
1c	New Site-wide Infrastructure and Energy Upgrades				
	Sub-Total Phase 1				
	Ranking of cost (from lowest to highest)				
s 9(2)(b)(ii)					

Proactively Released

s 9(2)(b)(ii)

Proactively Released

2.5.2 Identifying the Preferred Option

s 9(2)(b)(ii)

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2.6 Conclusion

This Economic Case shows that there are a narrow set of acceptable options for the redevelopment of Nelson Hospital. Circumstance has meant that this programme has been subject to a level of testing and rigour uncommon for a PBC. This added time has allowed for refinement, and for questions about clinical need and facility condition to be tested. In turn, this level of testing has enabled the development of options that are cost-effective, meet Investment Objectives, and maximise value for money.

The analysis shows that there are several feasible options that meet seismic, clinical, and operational needs (Options 1, 3, and 4). Option 1, however, performs best when considering the Critical Success Factors and MCA criteria. It mitigates seismic risk earlier, provides for the most integrated clinical space across the options, and does this at the lowest overall capital cost.

Option 1 – Intermediate is therefore the Preferred Option of this business case.

Option 3 does not meet clinical expectations with respect to collocation, takes longer, and is more costly. It provides a phased option for the redevelopment, but the phasing requires overlapping builds (i.e., the construction of the new IPB needs to be planned and built in parallel with the ASB) to meet bed demand. This option is not clinically preferrable, the first phase of capital delivery (ASB building) significantly outweighs the costs of the IPB by a factor of about 5:1, and investment remains heavily front-weighted.

This business case requests money for Phase 1 only – for Option 1 this amounts to $98.0m to progress early and enabling works and design of the ASB. This work will provide further evidence and greater confidence that this programme will deliver on the Investment Objectives. The design will also provide opportunities to detail more thoroughly how the facility will operate in practice and identify clinical and operational efficiencies. This information will support the production of a Detailed Business Case, in which the second phase of capital for this project will be requested s 9(2)(b)(ii) There are stage-gates in the decision-making process: Ministers will have choices presented by the Detailed Business Case around how and whether to proceed to the main build, and ultimately to future stages.

It is important to emphasise that the viability of Option 1 is time limited. Detailed Business Cases and Implementation Business Cases for the Programme will need to be commenced as soon as possible following the approval of this PBC. This will allow for the first phase of works (enabling works and completion of design) to commence. Additionally, any delays in the approval of this PBC will impact the delivery of dependent projects such as those within the Data & Digital and MoC workstream.

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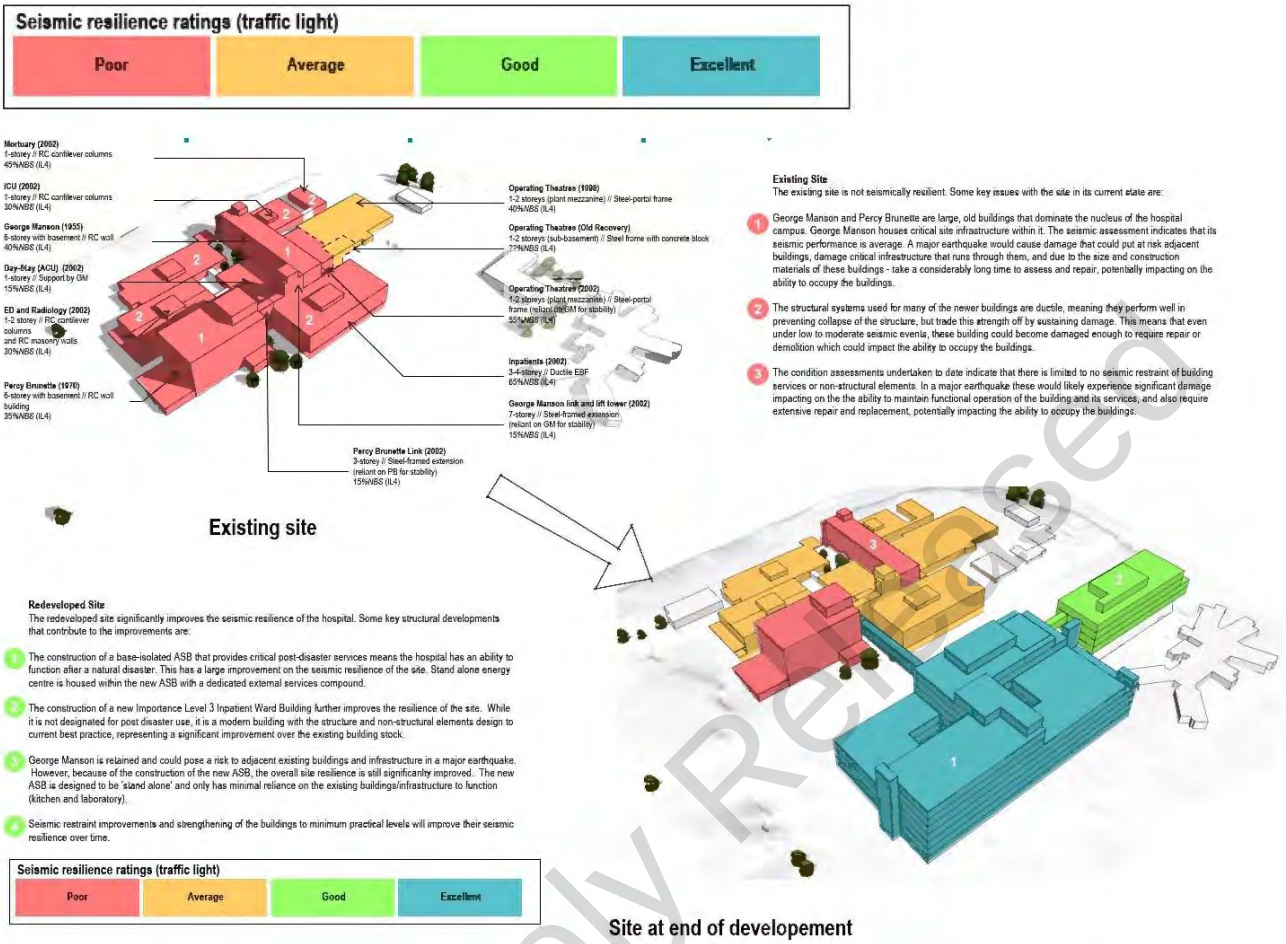
Figure 32: Nelson Site at end of redevelopment vs site at end of Phase 1 c/o Beca, 2023



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3 Commercial Case

3.1 Introduction

This Commercial Case describes the procurement approach for delivering the Preferred Option as described in the Economic Case. Broadly, this Commercial Case seeks to:

- Reflect on previous work and market engagement for Project Whakatupuranga undertaken between December 2021 to June 2022
- Explore the national and local market context for delivering the Preferred Option
- Provide confidence that Project Whakatupuranga is commercially viable
- Recognise challenges associated with the depth of the Te Tau Ihu supplier market
- Explore opportunities to work collaboratively and innovatively with industry
- Describe the required scope of services and initial packaging approach
- Describe and assess potential procurement options to deliver each package
- Outline initial thinking on the Procurement Plan

3.1.1 Commercial Case Scope

The Preferred Option is comprised of nine phases over the next 13 years. This Commercial Case focuses on the commercial approach for the first two phases given the early stage of design and Te Whatu Ora's desire to retain flexibility to respond to changes and/or new information as Project Whakatupuranga progresses.

While the overall Procurement Strategy is still in development, this PBC confirms the Preferred Procurement Approach for Phase 1.

s 9(2)(b)(ii), s 9(2)(f)(iv)

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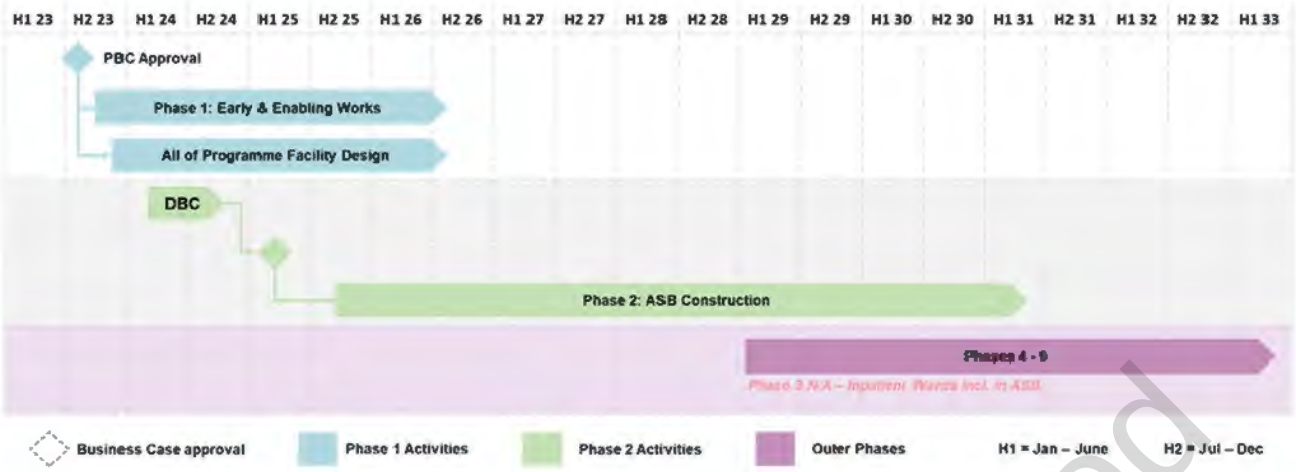
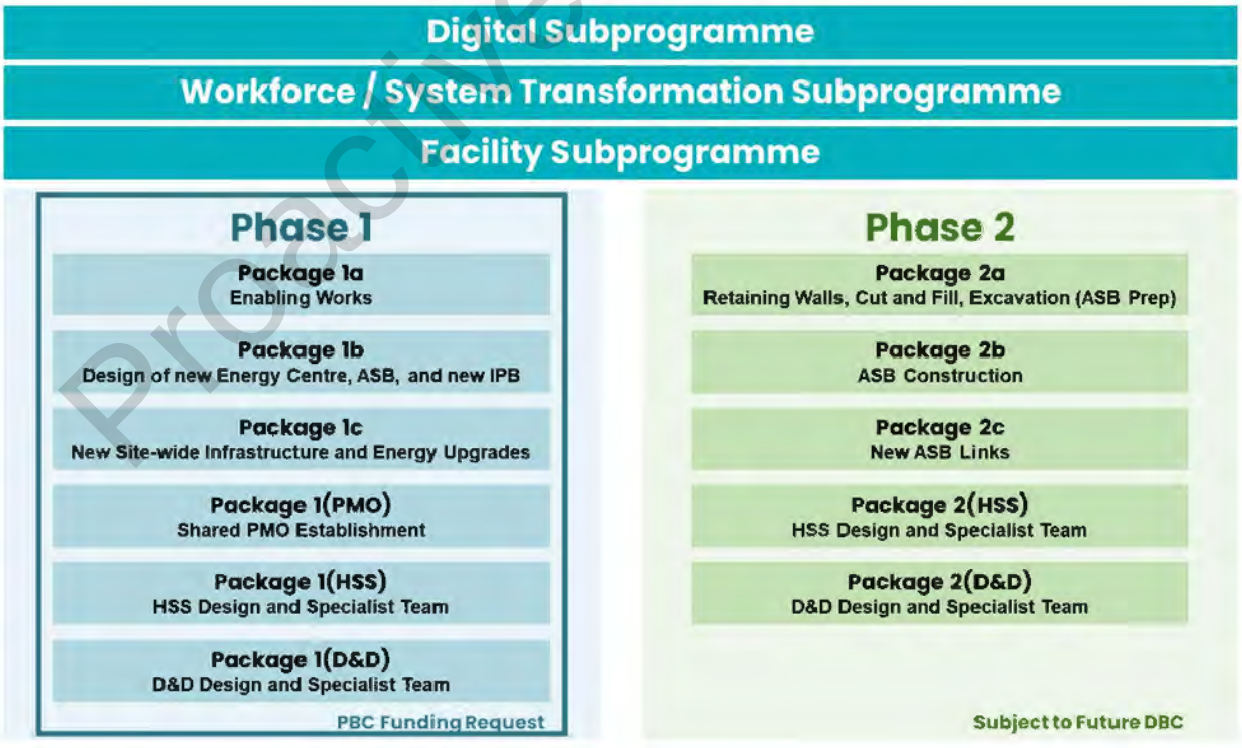
Figure 33: Illustrative timing



As noted in the Strategic Case, Project Whakatupuranga is comprised of three Subprogrammes: Facility, Digital and WST. As such, the Procurement Strategy is presented in three parts to reflect the "three-pronged" approach that Te Whatu Ora will take across the Programme to enable greater cohesion and integration across the workstreams.

Figure 34 illustrates the interaction between the three Subprogrammes and project phases and provides a high-level summary of the packaging approach (further detailed in Section 3.3.2). The Subprogrammes sit across all project phases, and packages for all Subprogrammes have been defined within phases to align with overarching Programme sequencing and Business Case requirements. Detailed Business Cases (DBCs) will be required to progress through future phases of Project Whakatupuranga. The process for Phases 1 (Early and Enabling Works) through to Phase 9 is presented in Figure 33.

Figure 34: Overview of Subprogramme interaction with project phases and packages



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3.2 Context

3.2.1 National Context

New Zealand Government Procurement Rules

The New Zealand Government Procurement Rules[64] (the Rules) set out the good practice standards for Government procurement and guide public agencies to procure responsibly and achieve public value. The Rules promote alignment with the Government's expectations for how projects should achieve Broader Outcomes.[65]

As a Crown Agency, it is mandatory that Te Whatu Ora applies the Rules and abides by the Principles of Government Procurement (even where the Rules do not apply).

The five overarching Principles of Government Procurement are outlined below:

1. Plan and manage for great results
2. Be fair to all suppliers
3. Get the right supplier
4. Get the best deal for everyone
5. Play by the rules

The Project Whakatupuranga Procurement Strategy will be guided by the Rules and overarching principles to ensure transparency, fairness, competition, and public value throughout the procurement. Project Whakatupuranga will also strive to achieve as many of the following expectations as set out in the Government Procurement Charter as practicable:

1. Seek opportunities to include New Zealand businesses
2. Undertake initiatives to contribute to a low emissions economy and promote greater environmental responsibility
3. Look for new and innovative solutions
4. Engage with businesses with good employment practices
5. Promote inclusive economic development within New Zealand
6. Manage risk appropriately
7. Encourage collaboration for collective impact

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[64] MBIE, Government Procurement Rules: https://www.procurement.govt.nz/assets/procurement-property/documents/government-procurement-rules.pdf

[65] Broader Outcomes are the secondary benefits generated due to the way goods, services, or works are produced or delivered. They include economic, environmental, social, and cultural outcomes

Construction Sector Accord

Launched in 2019, the Construction Sector Accord (the Accord) is a shared commitment between Government and the construction industry to work together to create a thriving, fair, and sustainable construction sector. Critically, the Accord recognises the need to drive change towards greater collaboration across the sector.

The Accord recognises the need to change how things are done across the industry to meet key sector challenges, including:

- Skill and labour shortages
- Climate change
- Unclear regulations
- Lack of coordinated leadership
- Uncertain pipeline
- "Risk shifting" culture

The Accord has set six mid-term goals to meet these challenges and achieve the vision of "*a thriving, fair, and sustainable construction sector for a better Aotearoa New Zealand.*"

1. Increased capabilities of leaders to drive change
2. A more skilled and diverse workforce that is future ready
3. More thriving people and organisations
4. Greater Māori construction economy
5. Reduced waste and embodied and operational carbon
6. Increased productivity through innovation, technology, and an enabling regulatory environment

A key priority of the Accord particularly relevant to Te Whatu Ora as the organisation matures in its capability, "*Procurement and Contracting: To drive better outcomes through improved planning, procurement, and delivery practices achieved through more collaborative behaviours*." As such, to support achievement of the goals above, and to demonstrate client leadership, Te Whatu Ora is considering more collaborative procurement approaches for significant health infrastructure investments.

3.2.2 Health System Context

Health Infrastructure Review

In December 2020, the Ministry of Health (MoH) requested the New Zealand Infrastructure Commission – Te Waihanga (Te Waihanga) undertake a review of Health Infrastructure New South Wales (HINSW) and the Victorian Health Building Authority, henceforth referred to as the Health Infrastructure Review. The review considered best practice aspects of the function and structure of these organisations and recommendations from the previous Health and Disability System Review to inform and recommend the following changes to address the significant health infrastructure challenges across the New Zealand health system:[66]

1. Changes to the health infrastructure system, in line with observed best practice
2. The most effective function and structure of the Health Infrastructure Unit (HIU) (now IIG) within the reformed health system

[66] Ministry of Health, Health and Disability System Review Final Report, dated 16 June 2020, accessed from: https://www.health.govt.nz/publication/health-and-disability-system-review-final-report

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Based on the review findings, the Health Infrastructure Review ultimately noted:

> *Projects and programmes will need to be thought about in new ways, with transformational change only achieved by systematically and collaboratively approaching risk, sustainability, and innovation across portfolios of projects and programmes, not just project by project. If this doesn't happen, the desire to build better, quicker, and greener will not be possible. A partnership with the construction sector that addresses strengthening the health of the sector will be vital, including addressing low levels of productivity and skills shortages.*

To address the challenges identified throughout the review process, the Health Infrastructure Review detailed 25 recommendations spanning across five categories:

1. Asset Management and Maintenance
2. Capital Planning and Investment Management
3. Project Delivery
4. Infrastructure Deficit of Hospital Estate
5. Health Infrastructure Unit Operating Model

Most relevant to Project Whakatupuranga is *Recommendation 25: The HIU develops and maintains a national project delivery framework*, which is to be mandatory for the delivery of all Health NZ infrastructure projects.

Te Whatu Ora has since developed a Project Investment Delivery Framework to support successful delivery of significant health infrastructure investments. Project Whakatupuranga will align with this framework, which is described below.

Programme Delivery Strategy

The programme delivery strategy for Project Whakatupuranga aligns with the IIG Investment Delivery Framework (Figure 35). The Investment Delivery Framework process comprises five sequential and interconnected phases. Each of these phases produces defined deliverables, which are refined to achieve the best possible outcomes. Following this framework will provide consistency in delivery across the programme and in the following delivery phases:

- **Phase 1 | Identify:** Complete
- **Phase 2 | Define:** This PBC completes the Define stage as the problem statement and the proposed solutions are specified
- **Phase 3 | Design:** In this next phase the three Subprogrammes will design their solution in detail ready for implementation. In the case of the Facility Subprogramme there will also be some enabling construction works to facilitate the main construction phase.
- **Phase 4 | Deliver:** All three Subprogrammes will deliver their solutions
- **Phase 5 | Debrief:** This completes the project lifecycles and includes lessons learned, post occupancy evaluations, and benefits realisation

This Commercial Case will focus on the Design and Deliver phases.

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Figure 35: IIG Investment Delivery Framework

The Regional Hospital Redevelopment Programme

Approved by Joint Ministers in April 2021, the Regional Hospital Redevelopment Programme (RHRP) was developed to respond to the infrastructure investment deficit and meet the future healthcare needs of New Zealand's regional communities.

Led by the IIG, the RHRP allows capital expenditure to be phased while still addressing urgent clinical and seismic needs across core secondary and tertiary care providers. The RHRP comprises the phased delivery of five hospital redevelopment projects over the next 15 years.

The RHRP is divided into two tranches: Tranche 1 consists of Project Pihi Kaha (Whangārei hospital redevelopment) and Project Whakatupuranga; and Tranche 2 includes hospital redevelopments in Tauranga, Hawke's Bay, and Palmerston North.

As the second campus scheduled for investment, Project Whakatupuranga has the opportunity to leverage lessons learned from Project Pihi Kaha. Additionally, Project Whakatupuranga (and Project Pihi Kaha) present opportunities to share knowledge create efficiencies, develop skills and grow capability in the regions to support innovation in later RHRP projects. There is an opportunity to create efficiencies across various RHRP projects in design and delivery through standardised designs, shared supply chains and construction methodologies (including opportunities for off-site manufacturing) across projects.

Broader Outcomes Strategy

Objectives within the Te Whatu Ora Broader Outcomes Strategy have been derived from Te Pae Tata and the New Zealand Health Facility Design Guidance Note (DGN). In addition (and to meet Crown Agency obligations), the Te Whatu Ora Broader Outcomes Strategy has been based on guidance developed by the Construction Sector Accord and references the Broader Outcomes requirements detailed in the Government Procurement Rules.

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The Procurement & Supply Chain (P&SC) team within Te Whatu Ora currently leads the Broader Outcomes Strategy work, which has been developed in consultation with partner agency Te Aka Whai Ora - Māori Health Authority.

Other stakeholder organisations included:

- Construction Sector Accord
- Te Waihanga
- New Zealand Government Procurement team within the Ministry of Business, Innovation, and Employment (MBIE)

Extensive engagement with internal stakeholders was undertaken including but not limited to: P&SC (equity and sustainability), the Facilities and Design Team and Project Management Office.

The Te Whatu Ora Broader Outcomes Strategy will continue to evolve as Te Whatu Ora develops and matures as an organisation. Currently, core objectives of the Te Whatu Ora Broader Outcomes Strategy are to facilitate internal alignment within Te Whatu Ora and ensure the appropriate policy and strategic objectives are considered throughout procurement.

s 9(2)(b)(ii)

Proactively Released

[67] Collaborative delivery models refer to the range of models that seek to better integrate all parties throughout planning and delivery, recognising the mutual benefits to a project of a more collaborative, cooperative relationship. This is a broad spectrum and can range from a Traditional Model with collaborative principles through to an Alliance approach.

3.2.3 Market Context

National Context

There is an unprecedented level of infrastructure investment expected across New Zealand in the coming years. The National Construction Pipeline Report published by MBIE expects horizontal infrastructure activity to increase steadily year on year between 2022 to 2027, reaching an annual peak of $11.5 billion in 2027.[68] Non-residential building activity also remains relatively steady, peaking at $11.1 billion in 2023 and slowly reducing to $10.7 billion by 2027.

The stability of this expenditure will mean that contractors working at scale will continue to have limited capacity, where they primarily work in the non-residential markets. The easing pressure in residential markets, however, may make some trades easier to acquire. How this plays out geographically will be variable, and further market sounding to be undertaken as part of the DBC will seek to better understand the local dynamics for contractors and sub-trades in the Te Tau Ihu region.

Ongoing labour force shortages and supply chain risks – partly attributable to disruptions related to the COVID-19 pandemic – remain, and this has introduced additional resourcing, timing, and cost escalation risks. Nelson Hospital's regional location and relative geographic isolation introduces greater exposure to these risks. However, providing the market with a visible, reliable pipeline can increase market certainty and confidence to build capacity and capability.

Previous Market Engagement

Market Engagement was carried out in early 2022 to seek feedback on Project Whakatupuranga and Project Pihi Kaha (Whangārei hospital redevelopment) – the first two projects in the RHRP. The process was led by MoH with support from Nelson Marlborough Te Whatu Ora – Health New Zealand Tai Tokerau (formerly Northland DHB), and Te Waihanga.

The process comprised a virtual market briefing, questionnaire, and virtual one-to-one meetings covering the following topics:

- Market capacity and capability
- Workforce
- Supply chain
- Innovation
- Broader Outcomes
- Risks and lessons learned
- Packaging and procurement
- The RHRP

A summary of key themes from the market engagement is presented in Figure 36. As noted in (Section 3.5), market engagement will be carried out following approval of this PBC, including international engagement.

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[68] MBIE National Pipeline Construction Report 2022: https://www.mbie.govt.nz/dmsdocument/23241-national-construction-pipeline-report-2022

Figure 36: Project Pihi Kaha and Project Whakatupuranga Market Engagement Themes

Reflections and Understanding of Current Market Conditions

Te Whatu Ora held a workshop on 2 March 2023 where representatives from IIG, Nelson Marlborough, and industry Subject Matter Experts (SMEs) reflected on the previous market engagement and discussed any key changes with respect to current market conditions.

The project team considers that the basic contours of market conditions have not changed considerably since the initial market engagement was carried out in 2022, with capacity, supply chain constraints, and cost escalation highlighted as ongoing concerns. However, this will need to be verified and further tested following approval of this PBC. Further market engagement (including international market engagement) for Project Whakatupuranga will be carried out following approval of this PBC as part of the DBC development process. It will predominantly focus on the ASB design and construction.

An additional consideration noted during the workshop was the effect that Cyclone Gabrielle has had on the Hawke's Bay and Tairawhiti regions, and the associated pressure that repair works may place on the market in the short and medium-term. As Project Whakatupuranga progresses, procurement processes must remain cognisant that the Hawke's Bay rebuild / remediation process may compete for resources – particularly with respect to specialist subtrades (e.g., finishing trades) – and mitigation strategies may be required to prevent project delays.

Nelson-Marlborough Region Labour Supply and Demand Gap

Figure 37 illustrates the estimated supply / demand gap (i.e. the difference between the number of workers required to carry out planned construction work and the estimated available workforce) across Te Tau Ihu (including the Nelson City, Marlborough, and Tasman regions) over the next three years.

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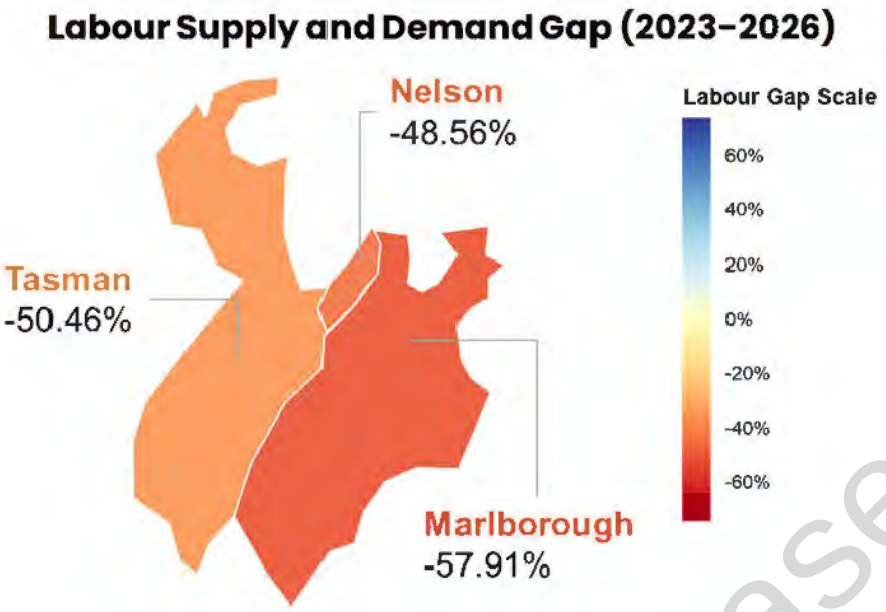
Figure 37: Labour supply and demand gap in Nelson and surrounding regions over the next three years[69]



New Zealand is experiencing unprecedented levels of construction demand, and Nelson, Tasman, and Marlborough regions are no exception. These regions have insufficient labour supply to meet projected demand over the next three years. Given the large scale of works required for Project Whakatupuranga, Te Whatu Ora will look for opportunities to mitigate supply shortage risks, including to take a programme-wide view across the RHRP to leverage efficiencies and work more collaboratively with the market where possible, e.g., standardised design and off-site manufacturing across both projects.

Market engagement following approval of this PBC (as part of DBC development) will test this understanding of current market constraints and focus on ways in which this could be addressed.

s 9(2)(b)(ii)

Proactively Released

[69] Image adapted from the Workforce Implementation Plan Regional View for Nelson, Tasman, and Mar borough over the next three years. Accessed at https://wip.org.nz/ on 13 April 2023

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

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s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

[71] DBC drafting is expected to commence in August 2023, with approval anticipated in March 2025

s 9(2)(b)(ii)

s 9(2)(b)(ii), s 9(2)(f)(iv)

Proactively Released

[72] Refer Section A Clause 90, Cabinet Office Circular CO(19)6), 10, Oct 2019

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

[73] As inpatient wards are included in ASB construction in Option 1, there is no 'Phase 3' for this option, and therefore no "Package 3"

s 9(2)(b)(ii), s 9(2)(f)(iv)

Proactively Released

s 9(2)(b)(ii)

s 9(2)(b)(ii), s 9(2)(f)(iv)

Proactively Released

s 9(2)(b)(ii), s 9(2)(f)(iv)

Probity Management

As per the New Zealand Government Procurement Guide, probity principles include acting ethically, fairly, transparently, lawfully, and confidentially where necessary to ensure all potential suppliers are given impartial and equitable treatment. Probity management and the upholding of probity principles is necessary to support ethical conduct, encourage participation and protect the Government from legal risk.

A supplementary Probity Plan will be developed for Project Whakatupuranga in alignment with the New Zealand Government Procurement Guide and IIG's overarching Probity Plan. An independent probity advisor (Bell Gully) may be used to provide independent assurance that all procurement decision-making processes are equitable and consistent with the applicable policies / processes.

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3.5 Next Steps

Future Market Engagement

As part of the next stages in Project Whakatupuranga, Te Whatu Ora will determine the appropriate level of future market engagement (likely jointly with Project Pihi Kaha), including international market engagement, to inform the DBC and the Programme more broadly. Te Whatu Ora will carry out any further market engagement in collaboration with Te Waihanga.

s 9(2)(b)(ii)

Proactively Released

4 Financial Case

The Financial Case provides an initial assessment of the overall affordability and potential financial implications for investing in the **Preferred Option 'Option 1 – Intermediate'**, in particular its first phase. In doing so, this Financial Case sets out the funding requirements including impact on capital expenditure and operational costs.

4.1 Affordability

4.1.1 Key assumptions

The Financial Case outlines cost, revenue and funding assumptions and estimates based on information from Te Whatu Ora, s 9(2)(b)(ii) and the NZ Treasury. The key assumptions underpinning the case are summarised in the table below. The DBC's developed following the approval of this PBC will re-confirm the Preferred Option and the assumptions that have informed this Financial Case. These DBC's will thus provide more granularity and certainty over the associated capital and operating costs.

Table 64: Financial Case Assumptions

Assumption	Value	Source and Commentary
Real discount rate	5.00%	Treasury discount rate for Hospital infrastructure[74]
Inflation	2.00%	Treasury[74]
Wage growth	3.00%	Te Whatu Ora
Demographic increase	1.00%	Te Whatu Ora
Appraisal period	20 years (Financial Year, FY24 to FY43)	Treasury / Project Team
GST and tax	Excluded	Treasury BBC guidance
Capital Charge	Assumed funded (no incremental impact)	Te Whatu Ora / Project Team
Depreciation – physical infrastructure (used as a proxy for asset maintenance and replacement costs)	2.5% of capital costs per year over appraisal period. Straight line	Te Whatu Ora
Depreciation – digital investment (used as a proxy for asset maintenance and replacement costs)	10% of capital costs per year over appraisal period. Straight line	Te Whatu Ora
Total employed workforce	FTE and salary amounts based on FY23 budgeted figures, with wage growth applied for all staff and demographic growth applied for non-admin H&SS only	Te Whatu Ora
Total outsourced workforce	Based on FY23 budgeted figures with inflation applied across all workforce costs and demographic growth applied for clinical services only	Te Whatu Ora

[74] https://www.treasury.govt.nz/information-and-services/state-sector-leadership/guidance/financial-reporting-policies-and-guidance/discount-rates, accessed 5 May 2023

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Assumption	Value	Source and Commentary
Outsourced services	Based on FY23 budgeted figures with inflation and demographic growth applied	Te Whatu Ora
Clinical supplies	Based on FY23 budgeted figures with the inflation rate applied to all functional areas and bed growth rate applied to Theatres, ED, IPU, Pharmacy only	Te Whatu Ora
Non-clinical supplies	Based on FY23 budgeted figures with the inflation applied across all functional areas and bed growth rate applied to Food costs only	Te Whatu Ora
R&M	Based on FY23 budgeted figures with the inflation and bed growth rate applied	Te Whatu Ora
External provider payments	Based on FY23 budgeted figures with inflation rate and demographic rates applied	Te Whatu Ora

4.1.2 Summary

The financial summary of the total costs of delivering Option 1 – Intermediate and the operating costs of the hospital following delivery over 20-years are set out in Table 65. The incremental costs of delivering the option relative to business-as-usual (BaU) are also shown. These are the additional costs generated by investing in Option 1.

This business case requests the release of $98m from an existing appropriation for Project Whakatupuranga. This will progress the activities noted below which involve early and enabling works, progressing design of the ASB, integrated energy centre, and civil works as far detailed design.

- **Phase 1a** – Enabling works, s 9(2)(b)(ii)
- **Phase 1b** – Design of new Energy Centre, ASB, Civil Works
- **Phase 1c** – New site wide infrastructure including Energy Upgrades

These activities will support on-site progress needed to maintain project momentum and bring design initially to preliminary design for the DBC for Phase 2 – new ASB, while retaining sufficient funding flexibility to continue through to detailed design. This funding will also support the establishment of a PMO that will be shared across all three workstreams; the WST Design and Specialist Team; and the Digital Design and Specialist Team.

Table 65: Financial Case Summary[75]

Summary of PBC funding – Capital Costs (nominal)	s 9(2)(b)(ii)
Funding request (see Phase 1 in Table 66)	
Total capital cost of Option 1	
Total incremental operating cost	
Total incremental depreciation (proxy for ongoing asset maintenance and replacement)	
Total whole of life cost (incremental, additional to BaU) (nominal)	
Total whole of life cost (incremental, additional to BaU) (Present Value)	

[75] WOLC have been included for comparison. These are not part of the funding request. WOLC are in present value and have been discounted at 5% each year. Depreciation has been included in WOLC as it is a proxy for ongoing asset maintenance and replacement). Interest has been excluded according to Treasury guidance. The Treasury, Whole of Life Costs Guidance, dated 30 June 2015, from https://www.treasury.govt.nz/publications/guide/whole-life-costs-guidance, date accessed 15 May 2023

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Table 66 provides a breakdown of the total capital cost of Option 1 – Intermediate. It is intended that the funding to support the latter phases (Phase 2 to 9) will be sought through subsequent DBCs.

Table 66: Capital costs of Option 1 - Intermediate Note totals may not sum due to rounding

s 9(2)(b)(ii)

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4.1.3 Operating Costs

Table 67 reflects the additional operating costs (relative to BaU) incurred by investing in Option 1. Overall this investment will result in a s 9(2)(b) incremental increase of operating costs over 20-years. The majority of these costs s 9(2)(b) are driven by increases in workforce, which is required to meet the clinical demand enabled by the new facility.

s 9(2)(b)(ii)

The key drivers for the forecast increase in operating expenditure include:

- Timing of Project Whakatupuranga
- Inflation
- Real wage increases
- Population growth
- Increased inpatient and outpatient capacity supporting greater patient volumes
- Higher utilities, maintenance and other running costs associated with an increased GFA with the new ASB

4.2 Cash flow

The annual cashflow for the Preferred Option are outlined in this section as follows:

- **Capital funding** – includes a detailed breakdown of nominal capital costs of the Preferred Option that requires funding.
- **Whole of Life costs** – presents the Whole of Life cost of the Preferred Option. This separately identifies the capital, operating and depreciation costs over the appraisal period in nominal terms. It is assumed that the depreciation costs represent the hard and soft facilities maintenance costs within the WOLC.

It is intended that these cashflows will be further refined as this PBC progresses through approvals and Project Whakatupuranga commences the DBC for each phase.

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s 9(2)(b)(ii)

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[76] WOLC are in present value and have been discounted at 5% each year. Depreciation has been included in WOLC as it is a proxy for ongoing asset maintenance and replacement). Interest has been excluded according to Treasury guidance. The Treasury, Whole of Life Costs Guidance, dated 30 June 2015, from https://www.treasury.govt.nz/publications/guide/whole-life-costs-guidance, date accessed 15 May 2023

4.3 Funding the Preferred Option

Te Whatu Ora seeks the release of funding for the first Phase of this project, **$98m** from existing appropriations made for the Nelson Marlborough Hospital Redevelopment in the Budget 2022 Health Capital Appropriation. This will fund the capital costs of **Phase 1 of Option 1 – Intermediate.**

The total programme is anticipated to have a capital cost of **$1.098b for Option 1 – Intermediate,** with **Phase 2 (the first substantive build phase of the ASB) anticipated to cost** s 9(2)(b) Subsequent DBCs will be completed to support the drawdown of the capital required to support the latter phases. The DBC will contain more detail about the capital, operating, and maintenance costs, and will also provide a quantitative risk assessment outlining the cost risks associated with the level of design to which the Preferred Option in the DBC is progressed. The cost to develop these business case will be funded by the Regional Hospital Redevelopment Programme and sits outside of this funding request.

For the purposes of this PBC, it is assumed that the **incremental operating costs (relative to BaU) of** s 9(2)(b) (nominal, over 20 years) that will be incurred following the redevelopment (should it proceed in full) will be **funded through baseline operating costs of Te Whatu Ora.**

The Te Whatu Ora Board will have opportunities to re-evaluate this project following the completion of preliminary design at which point s 9(2)(b)(ii) will have been spent on design and a total of s 9(2)(b)(ii) on design and early and enabling works.[77] If the DBC does not progress, this is sunk expenditure that cannot be recovered.

4.4 Next steps

Following the approval of this PBC, the following activities will commence:

- **Phase 1a –** Enabling works, s 9(2)(b)(ii), s 9(2)(f)(iv)
- **Phase 1b –** Design of new Energy Centre, ASB, Civil Works
- **Phase 1c –** New site wide infrastructure including Energy Upgrades
- **Phase 1 (PMO) –** Establishment of Programme Management Office Shared Support Services across the life of Project Whakatupuranga
- **Phase 1 (WST) –** Establishment of the WST Design and Specialist Team
- **Phase 1 (Digital) –** Establishment of the Digital Design and Specialist Team

A DBC for Phase 2 – New ASB will also commence in parallel. It is intended that the design completed as part of Phase 1b will inform this DBC. The Phase 2 DBC (and subsequent DBCs for the latter phases) will confirm the Preferred Option and provide more granularity and certainty over the associated capital and operating costs.

[77] Source: RLB estimates, email from Te Whatu Ora 9 May 2023

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5 Management Case

5.1 Introduction

This Management Case sets out the delivery requirements for Project Whakatupuranga and outlines a plan to support successful implementation of Phase 1 and subsequent phases. It serves the dual purpose of providing transparency (including adequate assessment of concerns / risks) to support Phase 1 approval, and to provide a 'head-start' to those with a key role in delivering subsequent Business Cases and Project Whakatupuranga as a whole.

This PBC assumes that Te Whatu Ora will be the lead agency and that IIG will lead delivery of Project Whakatupuranga. The programme / project management practices throughout the Management Case are aligned to the IIG delivery frameworks and associated templates and procedures. This Management Case is supported by the following documents contained in the appendices:[78]

- **Appendix Q | Master Programme:** Sets out Project Whakatupuranga timing and key milestones with respect to the Preferred Option
- **Appendix Y | Programme Management Plan:** Sets out the proposed programme, overall management structure, delivery framework, CSFs, and management processes for delivering Project Whakatupuranga
- **Appendix Z | Stakeholder Engagement and Communications Strategy:** Defines the framework to enable effective stakeholder engagement and communication for Project Whakatupuranga, outlining how the programme team will engage with stakeholder groups and how information flows will be established and maintained throughout the programme.
- **Appendix AA | Change Management Plan:** Addresses change from the perspective of identifying, assessing, and managing the business changes required to achieve the programme's objectives and realising the benefits Project Whakatupuranga is designed to deliver
- **Appendix CC | Risk and Issue Management Plan:** Ensures levels of risk and uncertainty are properly managed in accordance with IIG requirements, establishes the required activities and responsibilities for Project Whakatupuranga risk management
- **Appendix DD| Programme Risk Register:** Records risks across each of the three Subprogrammes. This categorises the risk, records any potential failures, causes, effects, and describes any mitigations / treatments
- **Appendix EE | Dependencies Register:** Details key Project Whakatupuranga dependencies and mitigation approaches
- **Appendix FF | Programme Assurance Plan:** Details the quality assurance control processes to ensure outputs and outcomes are fit for purpose, the governance and management aspects of the programme are working appropriately, and the programme stays on target to achieve its objectives.

The Programme Management Plan (PMP) sets out the detailed suite of plans and control documents that will be produced following PBC approval and as Project Whakatupuranga progresses through Detailed and Implementation Business Cases. The PMP is a live document and will be regularly updated and maintained throughout Project Whakatupuranga. As an example

[78] Note that all management documents will be updated and finalised following Cabinet approval of the PBC.

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this PMP will include a Benefits Management Plan, Dependency Management Plan, and Quality Management Plan.

Subprogramme Project Directors will regularly review the PMP. Significant changes will be submitted to the Programme Board (PSG) for approval. Annex(es) of this PMP will be maintained by the Programme Office under the oversight of the Programme Manager, and any changes notified to the PSG.

Refer to the section below and Section 5.2.2 for a description of the programme structure with respect to the three Subprogrammes.

Programme scope

As noted previously, Project Whakatupuranga is comprised of the following Subprogrammes:

1. **Facility Subprogramme (Facility):** The physical redevelopment of the Nelson Hospital campus, and the predominant focus of this PBC
2. **Data & Digital Subprogramme (Digital):** Supports virtual care and base IT functionality for the new facility. It is a key enabler of the facilities Subprogramme, and focuses on advancing Nelson Marlborough's digital maturity to help deliver and meet modern MoC
3. **Workforce / System Transformation Subprogramme (WST):** Supports the facilities Subprogramme by implementing the Models of Care needed for the facility to meet patient demand, but also is supported by the new facility in delivering new more effective MoC

Figure 39: Subprogrammes of Project Whakatupuranga Nelson Hospital Redevelopment Programme.

Table 71 summarises the scope of each Subprogramme noted in the PMP with respect to the Preferred Option (Option 1 – Intermediate) phases (illustrated in Figure 39) **Note: Phase 3 is not included as part of Option 1 as inpatient services will be included in the new ASB.** For the Master Programme, refer to Appendix Q.

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Table 71: Project Whakatupuranga programme - Subprogramme scope and key activities within each milestone of Option 1

s 9(2)(b)(ii)

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s 9(2)(b)(ii)

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5.2 Programme Management Strategy and Framework

5.2.1 Programme Delivery Framework

Project Whakatupuranga will be delivered in line with the IIG Investment and Delivery Framework (IIG IDF) guidance, process and templates. As shown in Figure 40 below, The IDF comprises five sequential and inter-connected phases. Each phase produces defined deliverables, which can be refined to achieve the best possible outcome.

Figure 40: IIG Investment and Delivery Framework

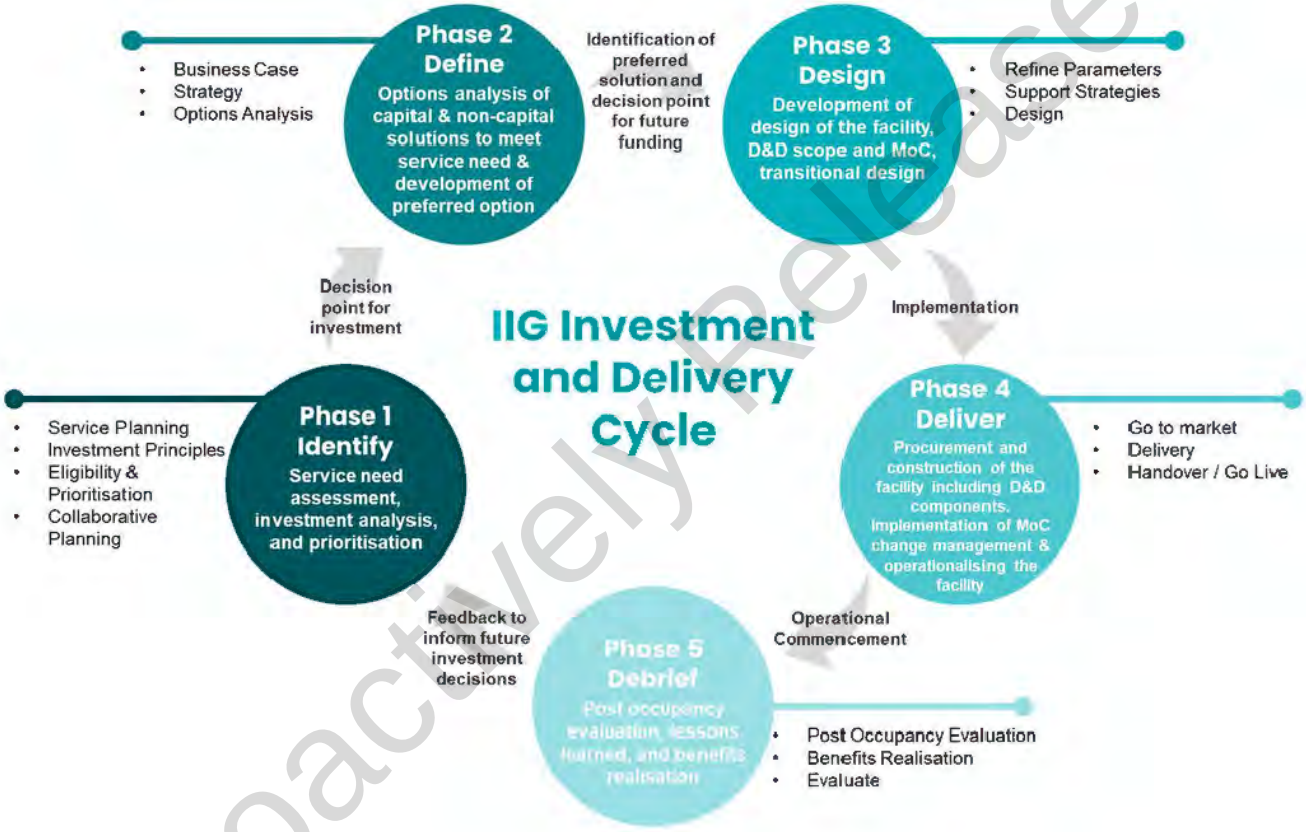

Table 72 summarises the scope of each Subprogramme at each phase of the IIG IDF.

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Table 72: Programme delivery by Phase

IIG IDF Phase	WST	Facility	Digital
Phase 1 - Identify	Complete Programme Business Case (for Phase 1), Complete DBC or Implantation Business Case for remaining phases		
Phase 2 - Define	Project Whakatupuranga scope, programme, resources, and budget have been defined through the 2022 DBC and updated in this PBC. Following the approval of the PBC and appropriation of funds for Phase 1, Project Whakatupuranga will progress to **'Phase 3 – Design'** of IIG's IDF.		

Phase 3 - Design	• Governance and working groups will be established to facilitate the Subprogramme design and endorsement of it.
	• Resources will be employed or procured in line with the resourcing plan for Stage 1.
	• The Programme Management Office (PMO) will be stood up to support the three Subprogrammes and provide consistency in controls and monitoring of the entire programme. The programme approach is designed to incorporate the Managing Successful Programme (MSP) Principles as shown on the figure to the right.
	• MSP is a best practice programme management framework developed by Axelos (5th edition) that provides a structured approach for delivering complex programmes of work that involve multiple interrelated projects in accordance with long term strategies. As shown below, the MSP framework defines a set of principles, themes and processes that will enable the successful delivery of the Project Whakatupuranga programme with a focus on achieving strategic objectives.
	• Each Subprogramme will develop the design of the workstream ready for procurement and implementation. Programme, scope, and budget are further refined for implementation approvals.
	• A "Soft-Landing Strategy" will be developed to capture the activities, roles, and responsibilities across both the programme workstreams and the existing campus operational teams to facilitate activities for building and operational commissioning in the delivery phase.
	• It is assumed a DBC will be completed following the Preliminary Design phase and approved prior to the Developed Design phase being complete to maintain momentum and programme.
	• MoC, transitional plans and change management plans will be developed alongside the other Subprogrammes to produce an integrated and aligned range of activities to facilitate the workforce readiness for a new facility, technology, and ways of working.
	• Working groups and committees will be stood up to define the decanting plan and facilitate services migration where this is required to support enabling works and site clearance of the ASB footprint.
		• As noted in the Commercial Case, this PBC seeks funding for Phase 1, comprised of the activities noted below. Although the focus of this will be to support Phase 1, planning for Phase 2 and Phase 3 will continue. Phase 2 and Phase 3 will be subject to future Business Case processes, however an initial recommendation for delivery of these phases is provided in the Commercial Case. This will inform subsequent DBCs and enable Te Whatu Ora to develop internal capacity and capability in the interim.
		  • Package 1a – Enabling Works
		  • Package 1b – Design of new Energy Centre and new ASB
		  • Package 1(PMO) – Shared PMO establishment
		  • Package 1 (WST / Digital) – Design and specialist team to support Subprogrammes
		• A roll-wave methodology will be used for future design stages and services migration to develop the required detail and obtain approvals to procure the works in the preceding phase to maintain programme momentum
			• Design of the approved scope will be developed and endorsed and cost estimates will be refined to inform approvals for services and FF&E procurement in the IDF Delivery Phase.

Phase 4 - Deliver	• Following approval, Project Whakatupuranga will be delivered with each Subprogramme working to a Master Programme to ensure alignment across activities and a continuous review of dependencies, risks, and progress. • Activities in this phase are closely intertwined and require collaborative and agile management to achieve a smooth transition to a new facility and operational environment. • The 'Soft Landing' Strategy will be implemented at this phase of the programme. • Change management will be implemented and new ways of working integrated where possible into the existing environment. Training and migration will be implemented, and the new facility operationalised	• New infrastructure will be constructed, integrating the Data & Digital infrastructure and fit out. The buildings will be completed and certified ready for occupation and operationalising.	• Services and FF&E will be procured. Integration into each facility will be managed in coordination with the facility team. All services and equipment will be commissioned and tested ready for operationalising. Software and systems will be integrated into the existing hospital as part of the change management process to test and integrate new ways of working prior to migration into the new facilities (where viable and feasible to do so).
Phase 5 - Debrief	All three Subprogrammes will undertake various activities in response to the Soft Landings strategy and to manage the Defect Notification Period • Ongoing training and continuous improvement will occur • IIG will lead lessons learned and post occupancy reviews	• The programme will monitor and report on benefits realisation • Outputs and outcomes will be recorded and used to inform future Work Programmes and Business Cases	

Figure 41: MSP Principles

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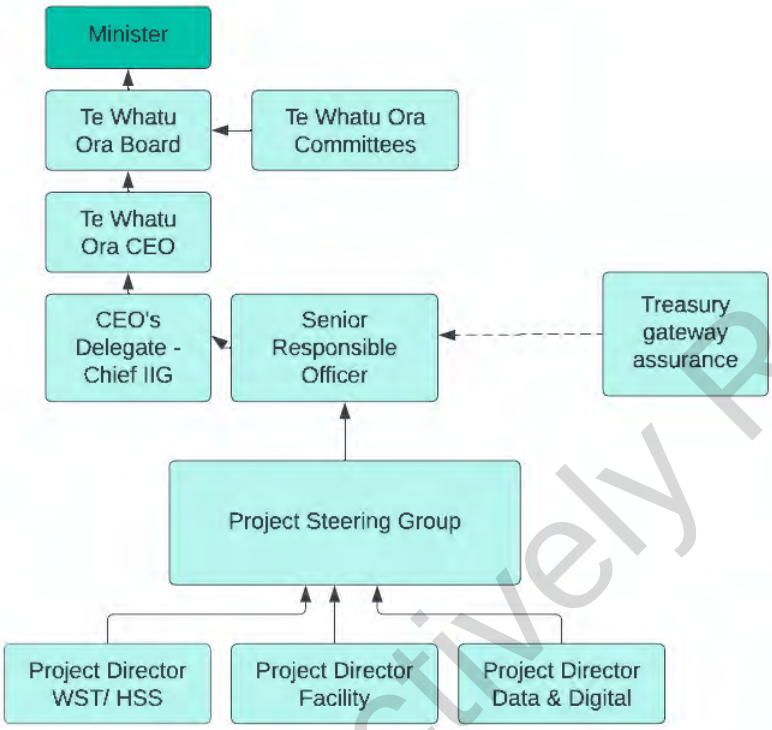
5.2.2 Programme Structure

The organisational structure proposed in the Project Whakatupuranga PMP (Appendix Y) is illustrated in Figure 42.

Governance of the Facility, Digital and WST Subprogrammes will be structured within a single major programme led by a Senior Responsible Owner (SRO) and a Programme Steering Group (PSG). The PSG (Chaired by the SRO) will oversee delivery and provide direction and guidance for all stages of the programme. The group will meet monthly to provide direction, monitor progress, support decision making, execute change control, and resolve issues and risk as escalated by the Subprogrammes.

Figure 42: Project Whakatupuranga Organisational Structure



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Wider Te Whatu Ora Organisational Structure Context

Project Whakatupuranga is led by the IIG, a function under the 'Enabling' division of Te Whatu Ora. IIG is overseen by the Chief Infrastructure and Investment Officer, a member of the Executive Leadership Team (ELT).

Project Whakatupuranga is being delivered for the benefit of Nelson Marlborough, under the Te Waipounamu region of Te Whatu Ora. The *Lead – Hospital and Specialist Services*, for Nelson Marlborough, reports to *Regional Director – Hospital and Specialist Services*, who in turn reports to the *National Director – Hospital and Specialist Services*, a member of the ELT.

5.2.3 Governance Arrangements

As depicted in the Programme Structure in Section 5.2.2, Project Whakatupuranga has a clear programme organisation structure with defined roles, responsibilities, and lines of accountability.

The organisational structure is intended to facilitate appropriate tolerances, delegations, risk escalation and contingency for each layer of governance to enable agile and best practice programme delivery. This allows for faster project / programme decisions to be made and helps ensure each layer is focused on the right level of decisions.

Table 73 provides a high-level summary of the governance roles within the programme organisation structure outlined in Figure 42.

Table 73: Programme governance roles and groups

Role/Group	High-level Overview
Minister and Cabinet	The Crown provides funding for infrastructure investment through Cabinet and Minister decisions. For major projects, key investment decisions (e.g. approval to proceed with an investment) are reserved for Cabinet or Ministers as escalated by the governance structure in Figure 42.
Board and Chief Executive	Governance of all Te Whatu Ora infrastructure investment activity is the responsibility of the Te Whatu Ora Board (the Board). The Board has established a Capital and Infrastructure Board Committee that assists the Board to oversee and monitor capital spending and infrastructure delivery. With the assistance of the Capital and Infrastructure Committee (CIC), the Board exercises high level governance of infrastructure investment, including by setting the overarching strategy, objectives, and expectations for Te Whatu Ora. Some investment decisions (such as approval to proceed with an investment, or to enter contracts over a specified value) will be reserved for the Chief Executive or the Board. Decisions reserved for either the Chief Executive or the Board are escalated for approval via the governance structures shown in Figure 42.
Senior Responsible Officer (SRO)	The SRO is an individual senior leader with overall accountability for ensuring that the project is delivered to schedule, meets its objectives, delivers the projected outcomes, and realises the required benefits within the approved budget. The SRO reports directly to the Chief Executive or their delegate. To summarise, the SRO role comprises: • Being the senior decision-maker for the project, with support and oversight from the PSG (noting that final approval of some decisions will be escalated to the Chief Executive, the Board, Ministers, or Cabinet). • Chairing the PSG. • Establishing project organisation and overseeing project management, including delegation to Project Directors (lead day-to-day delivery on behalf of the SRO) • For major projects, the SRO oversees all three Subprogrammes – Facility, WST, and Digital. A separate Project Director will be appointed for each Subprogramme, and an important part of the SRO's role is to ensure the coordination and integration of the different Subprogrammes.

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Role/Group	High-level Overview
Programme Steering Group (Programme Board)	The role of the PSG is to oversee the project, and to monitor, challenge, advise, and support the SRO in fulfilling their role. Like the SRO, the PSG oversees all three Subprogrammes – Facility, WST and Digital. The role of the PSG is set out in full in the terms of reference for the PSG. To summarise, the PSG role comprises: • Endorsing key project documents and decisions • Monitoring and confirming the project is 'on track' and appropriate project structures, resources, practices, and processes are in place • Providing strategic direction and contributing to risk and issue management. In carrying out its role, the PSG has the same overall objective as the SRO; to ensure successful project delivery.
Project Directors: • **WST Director** • **Facility Director** • **Digital Director**	A Project Director is responsible for leading the project on a day-to-day basis for each Subprogramme. All Project Directors will report to a shared Programme Control Group (PCG). As noted above, major projects will have separate Project Directors for each Subprogramme. An important part of Project Directors' role is therefore to coordinate with and work alongside the other project directors to ensure the workstreams are integrated effectively. Project Directors jointly agree PSG meeting agendas and prepare the PSG meeting papers (with support from the SRO as required).
Project Assurance	One of the SRO's responsibilities is to ensure that appropriate assurance is planned, resourced, and undertaken, including Gateway Reviews. Gateway Reviews are an independent peer review, facilitated by Treasury and undertaken at key project milestones, that provides advice and support to the SRO.
Iwi-Māori Partnership Boards (IMPB)	Iwi-Māori partnership boards (IMPBs) are a key feature in the new health reforms, with decision making roles at a local level, and jointly agreed local priorities and delivery with Te Whatu Ora. Currently, 11 iwi-Māori partnership boards have been formally recognised under the Pae Ora (Healthy Futures) Act 2022. Further boards are working through the formal legislatively process, including those in the Nelson Marlborough region. Once established, the IMPB will nominate representatives for the PSG, PMO, and project working groups
Stakeholder and User Groups	The PSG is not intended to be used as a stakeholder engagement forum. Instead, stakeholder and user groups will be formed and input throughout the programme as required.

Subprogramme governance

Each Subprogramme has its own governance function and structure to the wider Te Whatu Ora Commissioning and Enabling leadership team.

The key governance roles at a Subprogramme governance level are the Project Directors:

- Workforce/System Transformation (WST) Director
- Facility Director
- Digital Director

The scale of Project Whakatupuranga indicates a single combined PCG will manage and control the day-to-day activities, programme, scope and budget. Given the dependencies and alignment between Subprogrammes it is essential that a single forum is used to monitor, control – and most importantly – provide transparency and collaboration between all programme activities.

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Cost and programme consultants will be shared between the Subprogrammes, providing an overarching view of the programme. Change Management will be managed as noted below:

1. At a Subprogramme level
2. At the combined PCG
3. At the PSG
4. Escalated to the CIC, ELT, Board and Ministers

Further detail is provided in Section 5.4.1. For delegations and tolerances refer to the PMP in Appendix Y.

5.2.4 Programme Reporting Requirements

The Te Whatu Ora Board will set Project Whakatupuranga reporting requirements, with additional requirements set at the discretion of the SRO or PSG.

The PCG will report to the PSG. IIG will manage reporting above the PSG; Project Directors may be required to provide input.

IIG will provide standard reporting templates, and reporting will occur monthly to PSG and IIG for capital assurance reports.

The table below outlines reporting expectations.

Table 74: Project reporting requirements

Reporting Type	Expectations
Project Status Report	The monthly project status report must be clear as to whether the project is on track or at risk. The report should be focused on providing the PSG with the ability to identify issues and risks and how they are being managed. It should append a milestone tracker, budget report, and a register of at least the top 10 risks. The report should include a current assessment of the project's ability to deliver the intended outcomes and benefits.
Meeting Papers	Meeting papers must identify: • The decision or action sought from the PSG, and how it fits within the project's decision-making authority • Options considered and issues / risks associated with the course of action • Extent to which any decision or course of action aligns with intended outcomes and benefits, including any trade-offs
Documents for Formal Endorsement / Approval	Any document required for approval or endorsement must be provided in full, with sufficient time for reading prior to the meeting.
Minutes	Minutes provide evidence of the PSG discussions and decisions. They support accountability and transparency.
PSG	The template PSG terms of reference include requirements as to PSG minutes.
Other Decision-Making Groups	Other project groups (such as workstream level control groups, user groups or advisory groups) must also keep minutes of meetings and decisions. Requirements for minutes must be included in terms of reference for other governance groups. The PSG should be provided with copies of the minutes of other governance groups within each workstream, The PSG may specify which groups it expects to receive minutes for.

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5.2.5 Programme Management - Key Roles and Responsibilities

Project Whakatupuranga will be managed by a team of dedicated leaders with experience in key disciplines. This team will be supplemented by project management and technical / commercial / financial expertise as required.

Key Programme Management Roles include:

- Programme Manager | Facility Director
- Business Change Manager | WST Director
- Project Directors
- Programme Management Office

s 9(2)(b)(ii)

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In summary, the dual functions of the PMO are to:

- Take in and collate information from projects and the organisation to assess the state of the programme
- Provide shared resources, and project management and control functions across the Subprogrammes as a service

Some individuals in the PMO will undertake multiple support services within their role, and some roles may be shared broadly across Project Whakatupuranga (i.e., across Subprogrammes) to provide consistency and efficiency.

Te Aka Whai Ora – Māori Health Authority

Te Aka Whai Ora representatives will be embedded across the PMO, governance groups, and working groups to provide guidance to Project Whakatupuranga to uphold and honour Te Tiriti o Waitangi and give expression to and practical effect to all four articles:

- Embed Te Tiriti o Waitangi in the entire health system as its foundation
- Ensure iwi, hapū, and whānau can exercise Tino rangatiratanga in their decision-making authority over matters of importance to them
- Taking a Te Tiriti o Waitangi approach to identifying and tackling factors within the health system that contribute to inequities, including racism and bias

To realise this, Te Aka Whai Ora will:

- Guide and lead the hauora health system to give full effect to Te Tiriti o Waitangi and bring Tino rangatiratanga, equity and evidence to the heart of decision-making
- Connect with iwi, hapū, and whānau to create wellbeing supporting environments, improve service quality, whānau service experiences and outcomes
- Monitor system performance on whānau health and outcomes

Once established the IMPB will work with Te Aka Whai Ora to nominate representatives to governance groups, working groups, and the PMO.

Te Whatu Ora

Te Whatu Ora will support Project Whakatupuranga with administrative and operational support, including Human Resources and recruitment, legal, financial management and reporting, facilities and information technology, and Board support.

Infrastructure and Investment Group

IIG will provide centralised guidance, advisory services, and approvals to Project Whakatupuranga throughout the IDF lifecycle. Assurance activities are included in the Master Programme (Appendix Q). Table 76 outlines the support IIG will provide in addition to the activities IIG supported throughout development of this PBC.

Table 76: IIG Support

Activity	Timing	Owner
Governance All policy including SRO and PSG appointments, delegations, and contingency	Business Case	s 9(2)(b)(ii)
Procurement Advisory Review and approval of procurement plans, RFPs, GETS procurement, guidance and templates	Prior to all procurement activities	
Probity Advice and Auditing by external providers	Advice throughout the programme Auditing and live auditing through procurement	

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Activity	Timing	Owner
Legal Contract templates, scope of services, guidance, process, and templates	Prior to and during all procurement activities	s 9(2)(b)(ii)
Health and Safety IIG expectations, guidance and templates	Prior to all procurement activities and throughout construction	
Technical Advisory Policy, guidance and live advisory	Design and Procurement Strategy development	
Design Assurance Review of facility design documentation	End of Concept, Preliminary, and Developed Design stages	
Investment Advisory and Assurance DBC and investment gateways	Investment Approval Gateways	
Reporting	Programme Lifecycle	
Lessons Learned Framework, guidance and templates	Following Go Live	

5.2.6 Stakeholder Engagement and Communication

The programme Stakeholder Engagement and Communications Strategy provides a framework and methodology for managing the project's engagement with key stakeholders, to ensure that communication activities are targeted and relevant, and that responsibilities are clear. The framework sets out how Project Whakatupuranga will engage with all stakeholder groups and the information flows to be established and maintained during the programme.

Stakeholder Engagement

Accessing and utilising expert knowledge is critical to Project Whakatupuranga success. Ongoing and meaningful engagement with our stakeholders to learn from their wisdom and experiences is a key driver for the Project Team. This will be achieved by engaging with a wide range of stakeholders.

The programme stakeholder engagement objectives are to:

- Obtain influential support and advocacy from senior clinical leaders for the redevelopment.
- Instil staff with confidence about programme.
- Proactively and positively manage public expectations of programme.
- Proactively and clearly set expectations and guidance for logistic changes.
- Closing the loop – reporting progress and changes based on engagement.

Key programme stakeholders have been identified and categorised by type and level of influence/importance within the PMP in Appendix Y.

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Table 77: Stakeholder categories

Stakeholder Categories	
Stakeholder Category	
Level 1	• Consultation based stakeholders. • Will be significantly impacted by the project and/or will have direct involvement and contribute to the project. • Some stakeholders in this category will have a lot of influence and are likely to be decision makers.
Level 2	• Information requiring stakeholders. • Will be operationally impacted by the project and will have the ability to influence the development process.
Level 3	• Update requiring stakeholders. • Not necessarily affected but have an interest in the project or aspects of it.
Influence / Importance	
D	• Decision Maker • Key players: those making the investment or direct involvement in developing the recommendations to the investors.
H	• High • Strong buy-in those with a lot of influence or importance in the success of the project.
M	• Medium • Active consultation: those with some influence and expected to contribute towards the success of the project.
L	• Low • Informed to maintain interest: those with an interest in the project.

Table 78 shows a high-level summary of the key stakeholders that Project Whakatupuranga will need to communicate and / or engage with throughout the various stages of decision-making and building the Nelson Hospital. For further detail, please see the Stakeholder Engagement Strategy within the PMP in Appendix Y, and Stakeholder Engagement and Communications Strategy in Appendix Z.

Table 78: Key stakeholders

	Stakeholder Group and Approach	Stakeholders
Internal	Staff will be involved at different levels in the planning of the programme, including participation in the working groups or other project advisory groups. Staff not part of a working group will be encouraged to provide feedback to and seek information from members of a user groups, advisory groups, or Project Team members directly. Staff will also have the opportunity to participate as 'Change Champions' and/or as 'Super Users' to smooth the change to the redeveloped facility, new technologies and new ways of working.	• IIG Chief Infrastructure and Investment Officer • IIG people leaders, project leads, and SROs • Te Whatu Ora Chief Executive, Margie Apa • Capital and Infrastructure Committee (CIC) • Te Whatu Ora Board • Te Whatu Ora Comms / Media team • Hospital Specialist Services within Te Whatu Ora – key partner • Project Whakatupuranga team • Te Whatu Ora Nelson and local clinical/operational staff (project consultation) • Te Aka Whai Ora

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Stakeholder Group and Approach		Stakeholders
Iwi – Māori Engagement	The programme will engage with Iwi and Māori health expertise: • At a treaty partnership level, the programme will engage Te Aka Whai Ora and Mana Whenua Health Representatives and the Iwi Māori Partnership Board (IMPB). • At a local level Te Whatu Ora Nelson Marlborough have established a Māori Expert Advisory Group, that consists of staff from Te Waka Hauora (Māori Health team), as well as other Māori staff that are employed locally. • The IMPB will nominate representatives for governance and working groups. • A Te Aka Whai Ora project manager is planned for in the PMO resourcing plan to facilitate and guide stakeholder engagement.	• Iwi and Māori Partnership Board • Te Aka Whai Ora • Mana Whenua Health Representatives • Māori Expert Advisory Group
External	This group will have various levels of interest in and influence over the project. Strategies for this group will be aimed at: • Getting an understanding for the need for the change. • Managing public expectations of what might be possible or intended. • Pre-empting controversy over the need for the investment or change. • Use of local suppliers and access. • Consumer specific consultation and feedback.	• Minister of Health • Minister of Finance (as required) • Government agencies (Waka Kotahi, Treasury) • Nelson City Council, Mayor of Nelson Nick Smith, and Marlborough region • Mana whenua / iwi • Specific community groups e.g. Disability, Pasifika, LGBTQIA+ • Community health providers in the region • High needs Mental health residential provider • Nelson Tasman Kindergartens CE • Infrastructure workforce • Nelson Regional Development Association • Media • Public – patients and consumers

Communications Plan

The Communications Plan will be a live document. It will be updated throughout Project Whakatupuranga to reflect the communications needed to support the programme's transformational nature, and appropriately communicate the associated complexities and risks.

The programme Communications Plan will be reviewed quarterly or at key project milestones. The review will be carried out by the programme Communications Lead with the support of the programme team. The updated Communications Plan will be approved by the SRO and shared with Governance.

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5.3 Programme Plan

This section details the programme and key milestones for Project Whakatupuranga. Granularity is provided for Phase 1 as this PBC is requesting funding to support the activities within this phase. Accordingly, this phase consists of the following activities:

- **Phase 1a** – Enabling works
- **Phase 1b** – Design of new Energy Centre, ASB, and Civil Works
- **Phase 1c** – Site wide infrastructure (new) including energy upgrades
- **Phase 1 (PMO) –** PMO Shared Support Services across the life of Project Whakatupuranga
- **Phase 1 (WST)** – WST Design and Specialist Team
- **Phase 1 (Digital)** – Digital Design and Specialist Team

The Project Team has worked with specialist programmers from s 9(2)(b)(ii) to develop a realistic and achievable Master Programme for the design, consenting, and construction phases to deliver the Project Whakatupuranga programme. Key deliverables and milestones are contained in the table below. However, it should be noted these are all subject to change until final Cabinet approval is received. Refer to Appendix Q for the Master Programme.

Table 79: Option 1 Key milestones and estimated start and end dates

Key milestones	Start date	End date
s 9(2)(b)(ii)		

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Key milestones	Start date	End date
s 9(2)(b)(ii)		

Following Ministerial and Cabinet approval of the PBC, and prior to the design work beginning, it is expected that an establishment phase will get underway to:

- **Establish PMO shared support services** which includes establishing the items noted in Table 79 to support the delivery of the entire programme.
- **Complete the client-side team** consisting of both Te Whatu Ora staff and required external advisers, including legal, commercial, and any project management assistance.
- **Establish governance groups and develop and finalise the Terms of Reference**, including for the Project Board, Project Control Group, Project User Group, Clinical Reference Group and Project Working Group.
- **Develop the Programme Brief**, and given the urgent redevelopment needs, Te Whatu Ora intends to begin this work ahead of PBC approval.
- **Develop the Programme Management Plans,** which are the documents that have been used to inform this Management Case as noted in Section 1.1. Nelson Marlborough will continue to implement the Stakeholder Communications and Engagement and Change Management Plans. This will enable early stakeholder understanding, support high engagement from day one, and allow business impacts due to changes associated with Project Whakatupuranga to be well understood.
- **Engage consultants/contractors** to proceed with Phase 1a, 1b and 1c.

Following PBC approval, the Project Director will be responsible for establishing and managing a formal delivery schedule with the appropriate scheduling tools. For scheduling and reporting purposes, progress will be tracked in terms of major milestones relative to the current stage, phase, and investment gate.

The Project Director will also progress work on delivering the latter phases (Phase 2 onwards) as the programme progresses and through subsequent DBCs. This approach:

- Provides the opportunity for further work to be done on the best procurement and delivery model for the construction of the main works in Phase 2 (new ASB)
- Enables Te Whatu Ora to balance the need to make progress and demonstrate commitment to the programme with ensuring rigour around decision making processes.

A summary of the programme plan is shown in the figure below. Refer to Appendix Q for the Master Programme.

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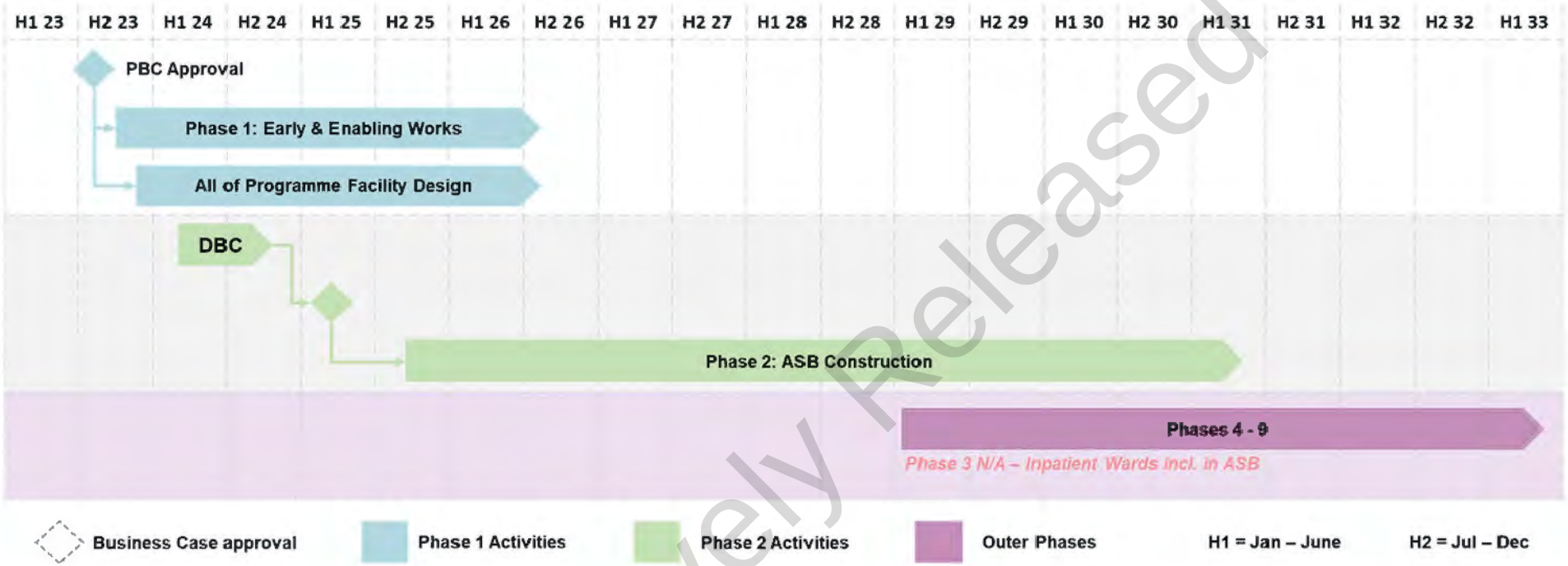
Figure 43: High level programme plan for Option 1



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5.4 Change, Benefits, and Risk Management

5.4.1 Organisational Change Management

The Change Management Plan (CMP) addresses change from the perspective of identifying, assessing, and managing the business changes required to achieve Project Whakatupuranga objectives and realise anticipated benefits. The full CMP is contained in Appendix AA and includes the approach for managing change i.e. how to approach change, change objectives, stakeholder engagement, and activities to support change management.

Change Leadership and Governance

The CMP sets out clear roles and responsibilities at Te Whatu Ora to deliver the change. Key roles are shown in the table below.

Table 80: Change leadership

Role	Responsibility
SRO	Provides project leadership, owns the business case and is responsible and accountable for the project's success. Has the authority to make decisions. Is the link between the organisation's senior executive body and the project. The SRO chairs the Project Control Group
Business Change Manager	Creates the benefit profiles and the benefits map. They are also responsible for ensuring the creation of new business structures, processes and working practices as well as ensuring the business units are prepared for the change. For Project Whakatupuranga the Business Change Manager could be a combined role with the WST Director.
Hospital and Specialist Services Team (Nelson Marlborough)	Core users of the facility, those affected by the change, leadership will be responsible for supporting the implementation of any changes.
PCG members	Understand the investment context and support the SRO to make required decisions. Can hold the SRO to account in fulfilling their role. Provide strategic direction, monitor the project, and make key decisions and/or recommendations.
Project Team	Responsible for completing tasks and activities required for delivering project objectives against the approved project scope and delivering input into project reporting.

Change Control Process

The CMP does not cover programme change control process, such as the policies, procedures, and tools that are used to manage changes to the programme.

Programme change control procedures are detailed in the PMP and are concerned with ensuring that changes are managed effectively and do not negatively impact the programme objectives, schedule, or budget. The full PMP is in Appendix Y.

Any change likely to alter scope, time, cost or benefits outside of agreed tolerance must follow the change control process. The Change Control Process, approval, and documentation will be managed on Procore to provide a robust and transparent method of assessment, decision making, registers, and reports.

Delegations for change assessment and decision making will be issued upon approval of the PBC and appropriation of funds by the Chief Infrastructure and Investment Officer (CIIO). The programme change control process consists of the following steps noted in the table below.

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Table 81: Change Control Process

Change Control Process	
Change identification and assessment	The first step in the programme change control process is to identify and assess the need for a change. This involves determining the impact of the proposed change on the programme's objectives, outcomes, risks, and benefits.
Change impact assessment	The next step is to assess the impact of the change on the programme's scope, schedule, budget, and other key aspects. This involves analysing the potential risks, costs, benefits, and implications of the proposed change and determining whether it is feasible and appropriate
Change proposal	Once the change has been identified and assessed, a change proposal is developed. The change proposal should include a description of the change, its impact on the programme, and any other relevant information, such as costs, risks, and benefits.
Change approval	The change proposal is then reviewed and endorsed (or otherwise) by the relevant governance group, such as the Programme Board or relevant Subprogramme Steering Group. This ensures that all parties are aware of the proposed change and agree that it is necessary and feasible. Urgent change proposals, depending on their nature and level of impact on the programme, may be considered out of cycle and/or by a select group of stakeholders approved by the SRO. Ultimately, the change must be approved by the relevant authority based on the approved delegations and tolerance.
Change implementation	After the change has been approved, it is implemented in a controlled and structured manner. This may involve developing a detailed plan for implementing the change, communicating the change to stakeholders, and monitoring its progress to ensure that it is delivering the intended benefits.
Change evaluation	Once the change has been implemented, it is evaluated to determine whether it has achieved its objectives and delivered the expected benefits. This involves monitoring and measuring the impact of the change, identifying any issues or risks that arise, and taking corrective action as necessary.

Table 82 summarises how the SRO and PMO play an important role in the management of change control processes

Table 82: Management of change control processes

Role	Responsibilities
SRO	Responsible for overseeing the overall delivery of the programme, and as such, plays a key role in managing change control processes. Their specific responsibilities with regard to change control processes include: • Ensuring that the change control process is followed consistently and that changes are evaluated based on their impact on the programme's objectives, outcomes, risks, and benefits. • Providing guidance and direction to the programme team on the management of change control processes. • Endorsing change proposals and ensuring that they are aligned with the programme's objectives, outcomes, and benefits. • Monitoring the implementation of changes and ensuring that they are delivering the intended benefits
PMO	• Developing and maintaining the programme's change control procedures and ensuring that they are followed consistently and recorded. • Providing guidance and support to the programme team on the management of change control processes, including the identification, assessment, and evaluation of changes. • Monitoring the implementation of changes and ensuring that they are delivering the intended benefits. • Reporting on the status of change control processes to the Programme Board and other stakeholders.

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5.4.2 Benefits Realisation Management

This section sets out the key benefits Project Whakatupuranga aims to achieve and summarises the benefits management processes. Te Whatu Ora is currently developing a Benefits Management Plan (BMP) with the intent for this to be continuously updated as this PBC progresses through the approvals process, and in preparation for subsequent DBCs. This section provides an overview of what the BMP will include.

Benefits Realisation Plan

The benefits established in the DBC have been carried through to the PBC BRP and updated to reflect any changes and additional information available as agreed by key Te Whatu Ora stakeholders.

Although this PBC focusses on funding to deliver Phase 1 of the programme, it is important to note that full benefits realisation of Project Whakatupuranga is contingent on the successful delivery of the entire programme.

The updated benefits map, which identifies how the benefits relate to each other and the proposed measures, is included in the figure below. Further information on the baseline and target data is provided in Appendix BB.

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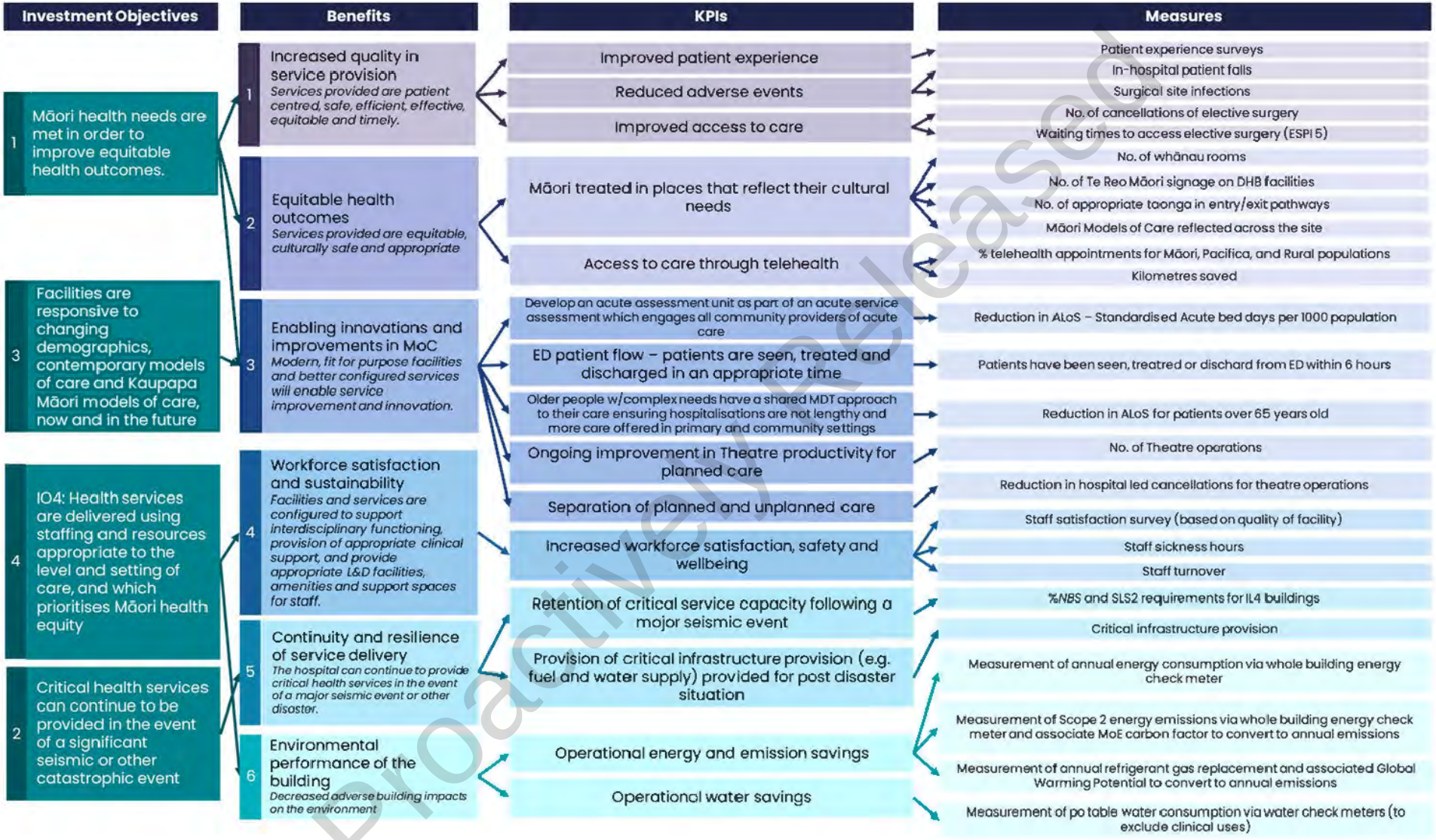
Figure 44: Benefits Realisation Plan (BRP) for the programme



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Monitoring Plan and Management Arrangements

Critical to the successful realisation of benefits through the programme is the identification of clear responsibilities for management and ownership. As shown in the table, the Senior Responsible Owner (SRO), will have overall responsibility for monitoring and managing the benefits to ensure they are realised and reported appropriately.

The Benefits Management Plan in development will provide a complete view of all the benefits. As noted previously, over the life of the programme there are likely to be changes to the way these benefits are monitored, measured, and reported. For the purposes of this PBC, initial roles and responsibilities for monitoring and managing the benefits have been proposed. The benefits realisation plan, as well as the benefits management arrangements will need to be re-visited during the Implementation Business Case. The CMP will consider the business changes required to achieve the benefits as well as any interdependencies between the benefits.

Table 83: Benefits management roles and responsibilities

Role	Description
SRO	• Accountable for ensuring programme realises the planned benefits.
PSG	• Approves Benefits Realisation Plan and approves any variations. • Approves changes to approved benefits within approved delegation.
Benefits Owner(s)	• Te Whatu Ora leaders with ownership of performance drivers that influence a benefit. • Supported to act with authority and to influence the organisation to put measures in place to ensure expected benefits are realised through performance improvement. • Authorises the Benefit Profiles. • Consulted on the Benefits Realisation Plan. • Accountable for the delivery of the benefits. • Monitors business changes. • Approves data to evidence benefits realisation. • Ensures that the measurement and reporting of benefits become embedded in the usual performance management practices (this role should be assumed by senior leaders in the organisation who are already accountable for the performance of the particular area. • Authority to put measures in place to ensure expected benefits are realised through performance improvement. • Respond and influence stakeholder engagement, change management and solutions delivery to achieve benefit outcomes.
Business Change Manager	• Responsible for ongoing delivery of the Benefits Realisation Plan. • Responsible for ensuring the benefits of the programme are defined. • Embeds the capability into the business operations. • Ensures business ownership, understanding, commitment and adoption. • Responsible ensuring stakeholders are engaged with the appropriate information to support benefits realisation. • Execute communications and stakeholder engagement plans to ensure identified benefit owners and clinicians are engaged and consulted.
Project Directors	• Responsible for developing the Benefits Realisation Plan in consultation with the benefits stakeholders. • Responsible for maintaining the Benefits Realisation Plan during the programme's life. • Ensures benefits realisation is adequately planned for within each Subprogramme.

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Role	Description
Benefits Manager / Subject Matter Expert	• Supports other benefits roles with benefits subject matter expertise. • Scrutinises benefit profiles and provides overall sense check of benefits realisation plan. • Mentors staff in best practice of benefits management. • Reviews and facilitates agreement of Benefits Profiles and Benefits Realisation Plans. • Conducts and documents benefits map workshops. • Ensures alignment of benefits to the business case. • Responsible to ensure the plan for ongoing benefits realisation is developed, approved and handed over to the Benefits Owner(s) at programme completion.
PMO	• Ensures effective and appropriate systems are in place for delivery and realisation of benefits. • Responsible for collating benefits reporting and dashboards based on data provided. • Supports other benefits roles with benefits subject matter expertise.

Benefits reporting

Following the Treasury guidance, Te Whatu Ora will report back to Cabinet on the actual level of benefits achieved compared to those outlined in the PBC within a year of completing the ASB and provide updates to Treasury at agreed intervals. A summary of the formal benefits reporting process is outlined in Table 84 below. For further detail on the Benefits Management Plan, refer to Appendix BB.

Table 84: Benefits reporting

Report	Description
Benefits Baseline Report	A report that captures the expected benefits of the programme at the beginning of its lifecycle, serving as a baseline against which actual benefits can be measured and evaluated over time.
Benefits Dashboard	A visual tool that displays key information related to the benefits of a programme, providing stakeholders with a high-level overview of the status of the benefits and facilitating decision-making.
Benefits Tracking Report	A report that is used to monitor and report on the actual benefits achieved throughout the lifecycle of a programme, allowing for corrective actions to be taken if necessary to ensure the programme stays on track to meet its objectives.
Benefits Realisation Report	A comprehensive document that outlines the actual benefits achieved by the programme, as compared to the expected benefits identified in the Benefits Baseline Report, providing insights into the overall success of the programme and identifying areas for improvement in future initiatives.
Cabinet reporting	A report to Cabinet on the actual level of benefits achieved compared with those outlined in the Cabinet-approved investment.
Treasury reporting	Frequency will be as agreed with Treasury.

Benefits Change Management and Reviews

It is expected that this the BRP will be a live document that is tracked as a key milestone and/or phase in the programme is delivered. Should further benefits arise as part of the delivery of later phases, these will be investigated through Benefits Change Process shown below. For further detail on this process, refer to Appendix BB.

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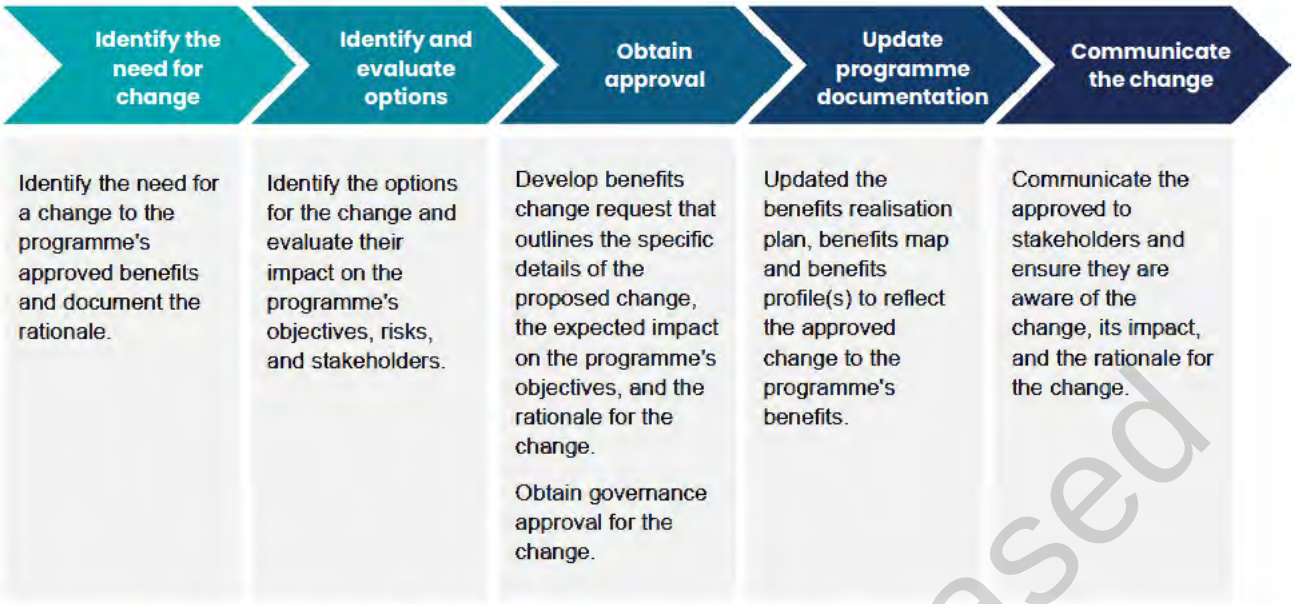
Figure 45: Benefits change process



The Benefits will be reviewed at certain milestones throughout the programme and in response to events that may occur through the programme. These will be defined further following the completion of this PBC. Examples of events that may trigger a review include, but are not limited to:

- Changes in programme scope, requirements, or timeline
- Changes in organisational priorities or operating model
- Budget or resource constraints
- Material issues or risks that have arisen during programme execution
- Significant variances between expected and actual benefits
- Legislative or regulatory changes that impact the programme

Benefits Realisation Handover

At the end of each relevant phase of the programme, and close of the programme at completion, there are several handover activities that must take place to ensure the benefits of the programme are effectively transferred to the benefit owner(s) and other stakeholders. These activities are outlined in Table 85 below.

Table 85: Benefits handover activities

Activity	Description	Timing
Review of benefits realisation plan	This plan is reviewed and updated to ensure it remains current.	• End of phase and/or • Close of programme
Handover of deliverables	Any relevant deliverables, such as reports, documentation, and training materials, are handed over to the benefit owner(s) and other stakeholders.	• End of phase
Transfer of ownership	Ownership of any assets or resources that were acquired during the project should be transferred to the benefit owner(s) or other relevant parties.	• End of phase
Knowledge transfer	Any relevant knowledge, expertise, or best practices that were developed during the programme should be transferred to the benefit owner(s) and other stakeholders. This includes undertaking a lessons learnt workshop and disseminating the learning.	• End of phase and/or • Close of programme

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Activity	Description	Timing
Benefits tracking reporting	Commencement of post-implementation reporting (the Benefits Tracking Report), including establishment of clear roles and responsibility for reporting for the identified duration of benefits tracking.	• End of phase and/or
Evaluation of benefits	Evaluation of benefits realised to ensure that they meet the original objectives and to identify any additional benefits that were not originally anticipated.	• End of phase and/or • Close of programme
Benefits Realisation Report	Production of the Benefits Realisation Report summarising the programme's achievements, benefits realised, and lessons learned, providing a comprehensive assessment of the programme's performance with respect to achievement of the programme's objectives.	• End of phase and/or • Close of programme

Post Closure Benefits Monitoring

The BRP assumes Benefit Owners will be responsible for ensuring benefits monitoring becomes embedded in the usual performance management practices following Project Whakatupuranga delivery. This role should be assumed by senior leaders in the organisation who are already accountable for the performance of the particular area.

5.4.3 Risk Management

Project Whakatupuranga has implemented a risk and issues management approach based on the IIG approved Risk Management Framework. This includes development of a Risks and Issues register, which will continue to be updated throughout the Programme. More detailed information on Risk Management can be found in the Programme Management Plan (Appendix Y) and the Project Whakatupuranga Risk and Issue Management Plan (Appendix CC).

Risk Management Process

The risk and issues approach for Project Whakatupuranga is aligned with the Te Whatu Ora Enterprise Risk Management Policy, and the risk management process is based on the international risk standard AS/NZ ISO 31000: 2018. This approach is illustrated in Figure 46.

Risks will be raised throughout the programme lifecycle – everyone will be responsible for identifying and communicating risks. Once a risk has been raised, it will be entered into the risk register by the risk owner or authorised administrator.

Separate risk tables within the Risk Register exist to capture specific risks as they relate to the:

- **Programme:** Programme-wide risks, or risks that require Programme level intervention to manage / mitigate
- **Facility Subprogramme:** Risks that only threaten Facility Subprogramme objectives, or the success of a project under the Facility Subprogramme
- **Digital Subprogramme:** Risks that only threaten Digital Subprogramme objectives, or the success of a project under the Digital Subprogramme
- **WST Subprogramme:** Risks that only threaten WST Subprogramme objectives, or the success of a project under the WST Subprogramme

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Figure 46: Risk Management Process

A detailed mitigation plan may need to be added and will be assessed by the Risk Management Group at its monthly meeting.

Following identification, risks are subsequently scored against the following three metrics using a 10-point scale (see Table 86).

- **Consequence:** Expected severity of impact if a risk occurs
- **Likelihood:** The chance of an event with consequences occurring
- **Effectiveness of Controls:** The effectiveness of mitigations and treatments put in place

Table 86: Risk Rating Scale

Score	Consequences	Likelihood	Controls
1 – 2	Severe	Almost Certain	Completely Ineffective
3 – 4	Major	Likely	Mostly Ineffective
5 – 6	Moderate	Possible	Moderately Effective
7 – 8	Minor	Unlikely	Unlikely
9 – 10	Minimal	Rare	Very Effective

These scoring scales are used to assign each risk a Risk Priority Number (RPN) on both a pre-treatment (i.e., before implementation of any mitigation strategies or controls) and a post-treatment (i.e., following implementation of mitigation strategies / controls) basis.

The Pre-Treatment RPN (P-RPN) is the product of the Consequence and Likelihood scores. The higher the P-RPN, the riskier the entry and its effects. The P-RPN is used to escalate and aggregate risks in accordance with IIG's Risk Framework.

The Treated RPN (T-RPN) reflects the residual risk based on the effectiveness of identified controls. It is calculated by multiplying the P-RPN by the Controls score and dividing by 10.

A summary of risks being managed in the register is captured (in addition to a list of the most significant project risks and issues) as part of monthly Programme reporting. The summary counts the number of risks in each register using the following classifications.

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Table 87: RPN Ratings and Scores

Rating	RPN Score
Very High	70 – 100
High	45 – 69
Medium	25 – 44
Low	10 – 24
Very Low	1 – 9

Risks will be reviewed at least monthly by the Risk Management Group (comprising Risk Owners and key programme staff). The Facility Director will chair the group and be responsible for the escalation of risks. Risks and Issues is a standing agenda item at PSG and PCG meetings.

Any significant risks that cause concern at the Programme level will promptly be discussed with the Risk Manager to determine the appropriate course of action with respect to risk escalation.

Risk Escalation

Risk escalation is a critical process to ensure that risks requiring intervention from a higher authority are identified promptly. Risk is escalated from one management level to another when the risk size (i.e., RPN) exceeds the criteria for the level threshold. Risk is aggregated by source, type of effect, and impact on objectives (from one or more management levels).

- **Project Risk:** Threats and opportunities below the management level threshold; usually accepted, mitigated, and retained at the project level
- **Risk Escalation:** Large risks that rise above threshold and are therefore escalated to higher management levels. Usually from Project to Subprogramme or Subprogramme to Programme level. If the threat or opportunity exceeds the Programme level, it may be escalated to strategic, Portfolio level risk
- **Risk Aggregation:** Project Risks that are related by source (types or categories), effect, or impact can be grouped and "added up" or aggregated. These may or may not go above their level threshold
    - **Risk Aggregation 1:** Risks of similar sources and different sizes have been aggregated. In one instance the new aggregated risk-size goes over the level threshold criteria, making the process also an escalation
    - **Risk Aggregation 2:** Risks of the same type and size (a recurring operational risk for instance) have been grouped and taken to the next management level

The risk escalation process can also put into effect when a risk update leads to a higher RPN e.g. if mitigation and controls are proving ineffective resulting in a higher 'Controls' score.

The programme uses the following thresholds for escalation of risks.

Table 88: Risk escalation thresholds

Level	Threshold
Subprogramme / Programme Threshold	Subprogramme level risks with a rating of Very High
Project / Subprogramme Threshold	Project level risks with a rating of High or Very High

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Key Risks

The tables below presents the top Programme risks for each of the Subprogrammes for Phase 1 and the Programme as a whole. Refer to Appendix DD for the complete Risk Registers for each.

Table 89: Phase 1 Subprogramme risks

Category	Description	Mitigations & treatments	Risk Treatment Owner	P-RPN	T-RPN
Facility Subprogramme Risks					
Operational (Construction)	**Buildability and co-ordination** - Aspects of the design present buildability and co-ordination challenges	• ECI to inform buildability from main contractor and sub-contractors • Develop a robust QA process, including a buildability review at each design stage. • Clearly defined governance structures, including decision-making and delegated authorities. • Appoint Design Manager to oversee. • Ensure appropriate BIM and coordination, and use of clash detection software. • Utilize a highly collaborative procurement model that encourages integration through planning and delivery. • Scopes of service that clearly articulate and align with expectations regarding design completeness, buildability etc.	**Facility Director**	**80**	**40**
Operational (Scope and design)	**Proposed changes from user groups** - User group consultation introduces new issues and/or considerations	• Robust governance structure and procedures for change control. • Clear communication of role of user group and management of expectations and scope of influence. • Well planned and managed user group involvement. • Clear prioritization of value management areas for consideration. • Use of standards and benchmarks, with departure based on evidence not opinion.	**Facility Director**	**80**	**40**
Operational (Construction)	**Hospital access** - Construction disrupts access to the existing hospital for ambulances, delivery trucks, private vehicles, and pedestrians.	• Robust traffic management plan developed for Phase 1. • Contractor to provide site management plans in tender documentation, with robust client requirement to engage with all potentially affected aspects of the existing hospital operations. • Develop communications strategy so that all affected parties are kept up to date with potential disruptions.	**Facility Director**	**64**	**45**
Digital Subprogramme Risks					
Operational (Scope and design)	**New requirements result in late changes in scope**	• Implement change management process that • Includes thorough impact assessments, stakeholder engagement, and clear communication channels - Main PM - 2023 • Ensure that all changes are documented and approved before implementation - PDs	**Programme Manager**	**54**	**22**
Strategic & Planning	If **Models of Care and Service Profiles are not progressed to a sufficient scope or level of detail** required to inform the digital requirements - the digital systems may not be fit for purpose resulting in adverse patient or financial outcomes.	• Build Care Transformation into Programme Plan and Budget - Facility PM - 1/6/23 • Develop Care Transformation Sub Programme Plan, schedule and Resource Plan - Care Transformation PD - 1/12/23 • Agree dependency dates - Digital PD - 1/1/24 • Include Digital in MQC and Service Planning working groups - Care Transformation PD - 1/1/24	**Care transformation PD**	**35**	**7**
Strategic & Planning	**Digital Programme is poorly planned and/or managed**	• Develop a comprehensive project management plan that includes clear goals, objectives, timelines, and performance metrics - Digital PD - 01/10/23 • Develop resource plan and assign dedicated resources and subject matter experts to key roles and responsibilities - Digital PD - 2023. • Establish a governance structure that includes regular reporting and oversight, and that involves key stakeholders in decision-making processes -Digital PD 1/12/23. • Develop contingency plans for potential risks and issues, and establish a change management process that identifies and addresses scope changes and other issues in a timely manner - Digital PD - 1/1/24	**Digital Director**	**32**	**6**
WST Subprogramme Risks					
Operational (Scope and design)	**Change in strategy** - Regional and National strategy provides a change in direction and therefore priority that is not in scope of PW.	• Develop a contingency plan to account for potential changes and delays • Establish clear communication channels and agree dependencies with national stakeholders • Establish clear communication channels with regional integration teams • Regional representation at PSG level to advocate for PW and update Regional and National priorities. • Smart design to allow future flexibility of spaces	**WST Director**	**70**	**42**
Operational (Scope and design)	**Scope is not encompassing of needs** - Subprogramme scope is poorly defined and does not fully encompass requirements of Models of Care	• Poorly defined requirements. • Consideration of scope across programme, impacts and dependencies. • Monitoring of scope during programme - change control processes. • Early confirmation of scope • Early upward reporting on possible change. • Socialise strategic case upwards. • Incorporate flexibility by design to mitigate future use. • Early availability of CSP/MoC decisions. • Lessons learnt from other projects. • Regional approach. • Identification and management of sub programme dependencies	**WST Director**	**64**	**26**
Operational	**Subprogrammes misaligned** - Responsibilities between Digital, Building, MoC and workforce misaligned	• Establish clear roles and responsibilities for all workstreams • Develop a comprehensive project plan that outlines requirements and timelines • Ensure that all stakeholders are aware of their responsibilities and deadlines • Regularly review progress and adjust plans as necessary	**SRO**	**48**	**14**

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Table 90: Top Risks across the whole programme

Category	Description	Mitigations & treatments	Risk Treatment Owner	P-RPN	T-RPN
Programme Risks					
Operational (Scope and Design)	**Ongoing Clinical / Operational Requirements -** Value management required to meet capital funding constraints focuses principally on cost, rather than considering clinical and/or ongoing operational requirements, reducing the ability to realize clinical and efficiency benefits associated with the redevelopment	• Clinical implications of material scope and/or design changes to be reviewed by Clinical Reference Group. • Operational implications of material scope and/or design changes to be reviewed by regional and IIG stakeholders. • Decisions to consider whole-of-life costs and impacts on equity. • Business case articulates the risks and disadvantages of value management to decision makers. • Change management including value management is assessed at the PMO level to consider programme wide impacts	**WST Director**	90	63
Financial	**Operating costs** - The operating costs (e.g. workforce, energy and maintenance) of the redeveloped facilities are greater than estimated.	• Use of operating and maintenance cost benchmarks from other hospital redevelopments. • Review operating cost assumptions and ranges underpinning the Financial Case. • Inclusion of contingency to cover additional operating costs.	**SRO**	80	56
Financial	**Funding of subsequent phases** - Subsequent phases of the programme are delayed to a later date and/or not funded, thereby reducing access to health care for the Nelson-Marlborough population and increasing seismic, resilience, wellbeing and clinical risk across the site.	• Clear articulation of the impact of not proceeding with subsequent phases to decision-makers. • Seek approval in principle to proceed with future stages through the Business Case process. • Further investment in community MoC to reduce acute demand. • Consideration of the regional MoC and capacity across the hospital region.	**SRO**	80	48
Facility Subprogramme Risks					
Operational (Scope and Design)	**Scope Review -** Cost escalation requires scope review which could lead to further time delays and greater cost escalation	• Provide a clear budget to the Project Team and focus on the collective designing to this. • Consider appropriateness of allocating programme wide contingency, managed by the programme board and management contingency, managed by CIC, in line with IIG Cost Estimating Guidelines	SRO	80	32
Operational (Construction)	**Buildability and Co-ordination -** Aspects of the design present buildability and co-ordination challenges	• ECI to inform buildability from main contractor and sub-contractors • Develop a robust QA process, including a buildability review at each design stage. • Clearly defined governance structures, including decision-making and delegated authorities. • Appoint Design Manager to oversee. • Ensure appropriate BIM and coordination, and use of clash detection software. • Utilize a highly collaborative procurement model that encourages integration through planning and delivery. • Scopes of service that clearly articulate and align with expectations regarding design completeness, buildability etc.	Facility Director	80	40
Operational (Scope and Design)	**Proposed Changes from User Groups -** User group consultation introduces new issues and/or considerations	• Robust governance structure and procedures for change control. • Clear communication of role of user group and management of expectations and scope of influence. • Well planned and managed user group involvement. • Clear prioritization of value management areas for consideration. • Use of standards and benchmarks, with departure based on evidence not opinion.	Facility Director	80	40
Digital Subprogramme Risks					
Operational (Scope and Design)	**New requirements result in late changes in scope**	• Implement change management process that includes thorough impact assessments, stakeholder engagement, and clear communication channels - Main PM – 2023 • Ensure that all changes are documented and approved before implementation - PDs	Programme Manager	54	22
Strategic and Planning	**Digital solutions not implemented into buildings that are not being redeveloped**	• Conduct impact assessments for all new solutions to understand impact of not being deployed into remaining buildings - Digital PD - 1/1/25 • Raise Change Requests to enable decision to fund implementation of new solutions into remaining buildings - Digital PD - 1/7/25	Digital Director	50	15
Strategic and Planning	Current **Te Whatu Ora reforms result in lack of skilled or available resources** able to deliver scope, resulting in risk to redevelopment opening on time/budget	• Develop a resource plan including a comprehensive recruitment and retention strategy that targets the necessary skills and expertise - Digital PD 1/1/24. • Provide ongoing training and development opportunities to ensure that staff have the necessary skills and knowledge to deliver the project - Digital PD - 1/7/24. • Collaborate with other organizations or agencies to share resources and expertise - Digital PD - 1/12/24 • Outsource infrastructure design - Digital PD 1/1/24 • Outsource infrastructure delivery - Digital PD - 1/1/25	Digital Director	35	7
WST Subprogramme Risks					
Operational (Scope and Design)	**Scope is not Encompassing of Needs -** Scope is poorly defined and does not fully encompass requirements of MoC and Digital changes	• Consideration of scope across programme, impacts and dependencies. • Monitoring of scope during programme - change control processes. • Early confirmation of scope • Early upward reporting on possible change. • Socialise strategic case upwards. • Incorporate flexibility by design to mitigate future use. • Early availability of CSP/MoC decisions. • Identification and management of sub programme dependencies	WST Director	64	26
Operational (Commissioning and Handover)	**Primary Care Readiness -** Primary care is not appropriately organized and/or does not have the capacity to respond to and deliver planned MoC changes meaning the facility is unable to meet the needs of the population	• Early engagement and buy-in to Model of Care changes from NMH to support primary care sustainability • Include consultation with primary care in Stakeholder and Communications Plan. • Provide appropriate and timely briefings to Primary Care. • Primary care considerations included as part of the Change Management Plan, to identify how change is best delivered and managed across the system and workforce planning requirements.	WST Director	48	24

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Category	Description	Mitigations & treatments	Risk Treatment Owner	P-RPN	T-RPN
Operational (Resourcing)	**Health Workforce Planning for Future Capacity Requirements:** Failure to appropriately plan for the redevelopment transition, including recruiting the required workforce	• Recruit workforce analyst • Conduct workforce modelling to understand future requirements. • Leverage relationships with training institutes and position Te Whatu Ora as an employer of choice. • Develop change management plans to support transition of the workforce. • Implement different ways of working.	WST Director	48	19
Operational (General)	**Responsibilities between Digital, Building, MoC and workforce misaligned**	• Establish clear roles and responsibilities for all workstreams • Develop a comprehensive project plan that outlines requirements and timelines • Ensure that all stakeholders are aware of their responsibilities and deadlines • Regularly review progress and adjust plans as necessary	SRO	48	14
Commercial	**Phasing of acute hospital services option is chosen and due to financial off ramping the inpatient building is not built; bed numbers do not eventuate (up to 74 bed deficit)**	• Develop a contingency plan to account for potential changes and delays to Master plan • Establish clear communication channels and agree dependencies with national stakeholders	SRO	45	26

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5.4.4 Dependency Management

Dependency management is a critical component of the programme's success, enabling effective coordination and collaboration across multiple Subprogrammes, and their respective projects / workstreams.

As noted in the PMP (Appendix Y), the Project Whakatupuranga will develop a Dependency Management Plan that establishes a comprehensive programme-level framework for managing dependencies throughout the Project Whakatupuranga lifecycle. The plan will define dependency management objectives, outline the roles and responsibilities for dependency management, and identify the processes that will be used for effective dependency tracking and resolution.

The Dependency Management Plan will also provide guidance on the approach to dependency identification, assessment, and prioritisation. This will involve the use of a Dependency Register to ensure that all dependencies are properly accounted for and managed.

The top 3 critical dependencies in the current Programme Dependency Register are shown in the table below. For a full list, refer to (Appendix EE).

Table 91: Top 3 critical dependencies within the Programme Dependency Register

Dependency	Originator	Recipient	Required	Stage	Priority	Owner
Resource Plan	PMO	WST Facility Digital	Prior to	Procurement Stage (Consultant)	Critical	Facility Director
Risk and Issue Management Plan	PMO	WST Facility Digital	Prior to	Procurement Stage (Consultant)	Critical	Facility Director
Stakeholder Engagement Strategy and Communications Plan	PMO	WST Facility Digital	Prior to	Procurement Stage (Consultant)	Critical	Facility Director

5.5 Programme and Business Assurance Arrangements

The Project Whakatupuranga Assurance Plan details the quality assurance and quality control processes implemented to ensure outputs and outcomes are fit for purpose, the governance and management aspects of the programme are working appropriately, and the programme stays on target to achieve its objectives. The plan covers the main programme and three Subprogrammes that comprise Project Whakatupuranga.

A brief overview of the Assurance Plan is provided below. Refer to Appendix FF for the full Assurance Plan.

Methodologies, standards, and guidelines

To ensure quality project management processes are applied, the methodologies, standards and guidelines outlined in Table 92 will be adopted by Project Whakatupuranga.

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Table 92: Methodologies, Standards and Guidelines

Quality methodologies and standards	Description
Cabinet expectations for the management of investments and both physical and intangible assets - Cabinet Office Circular CO (19) 6.	Compliance with Cabinet's expectations for the approval of, and assurances relating to major capital projects. The expectations of different agencies are set out in Cabinet Office Circular (19) 6: Investment Management and Asset Performance in the State Services (October 2019).
MoH, and Central Monitoring Agencies' methodologies and guidelines; • OGC PRINCE2 (Projects in Controlled Environments.) • OGC MSP (Managing Successful Programmes.)	Creation of project management processes and deliverables in accordance with best practice project management methodologies. The Te Whatu Ora Infrastructure and Investment Group (IIG) has established a Project Management Office, which will work along the wider Te Whatu Ora tempo.
Government procurement standards and guidelines.	Preparation of tender documents in compliance with the government procurement standards, in particular the: • IIG's procurement policies • OAG's Procurement guidance for Public Entities • Ministry of Business, Innovation and Employment Government Rules of Sourcing (4th edition takes effect 1 October 2019)
The Treasury's Better Business Cases (BBC) guidelines.	Preparation of Business Cases in accordance with the Better Business Case guidance issued by Treasury.
AS/NZS ISO 31000.	Alignment of the risk management process with this standard
NZ Construction Industry Council guidelines.	Compliance with NZ Industry Council guidelines and principles of best practice in design and construction.
National Digital Facilities Framework	The National Digital Facilities Framework for use in major facility redevelopments and new health facility build programmes provides a guide for planning, designing, building, testing, and transitioning technology into new or major redeveloped health facilities.

Compliance with these methodologies, standards and guidelines will be verified by undertaking independent quality assurance reviews and independent technical reviews throughout the Programme lifecycle.

Three Lines of Defence Model

The Assurance Plan is consistent with the Office of the Auditor General's (OAG's) 'Three Lines of Defence' model, summarised in Figure 47. A key part of the model relies on establishment of an Audit, Risk, and Assurance Committee (ARAC) to monitor, review, and advise on the effectiveness of the policies and frameworks regarding governance, performance monitoring, and risk and assurance management, across the IIG.

In addition to providing oversight and support it is intended to champion risk and assurance activities across the unit and operate as an effective communication channel between governance, senior management, and key external parties (Treasury, MoH, OAG, and external auditors).

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Figure 47: Three Lines of Defence Model

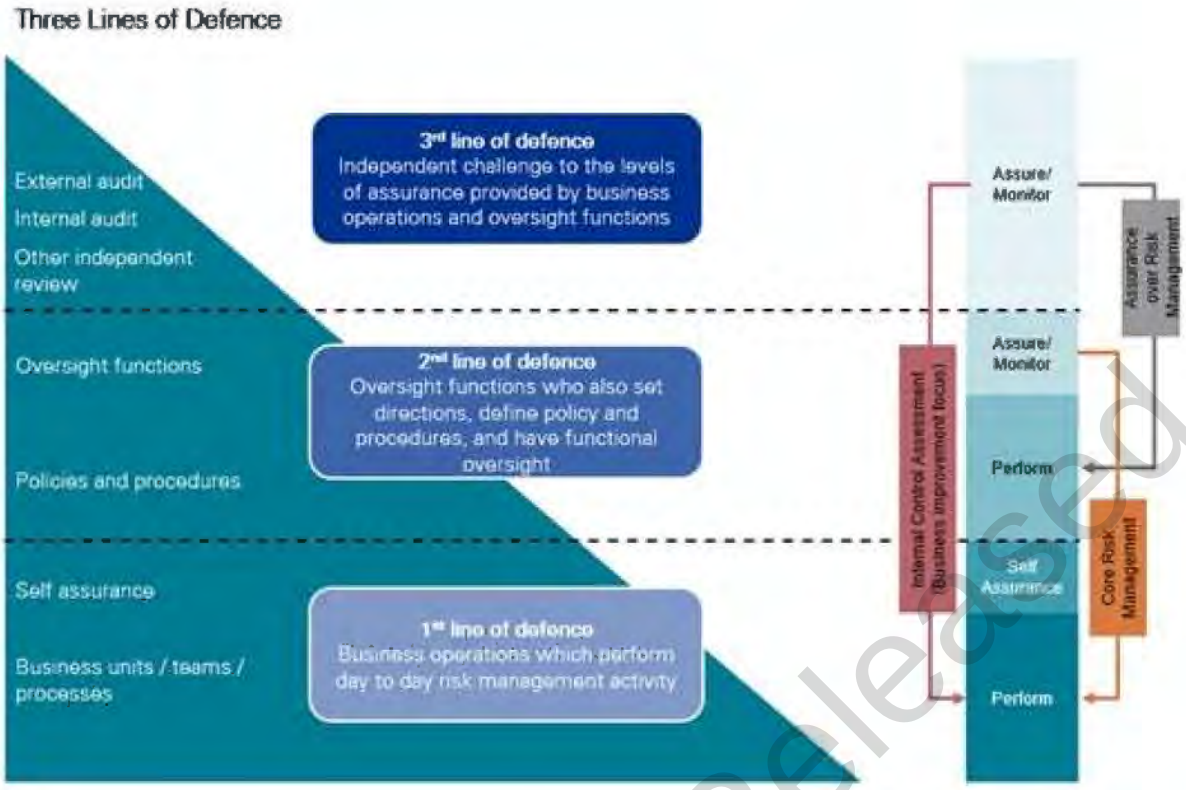

Table 93 outlines how Project Whakatupuranga and IIG will adhere to the 'Three Lines of Defence' model.

Table 93: Lines of Defence

Line of Defence	Description
First Line of Defence	Requires the Project Team members to understand their roles, accountabilities, levels of authority, reporting lines as well as the standard processes required to deliver their role. Escalation routes and thresholds for action, decision making, and approvals will be in place. Project team members will be suitably qualified and experienced to undertake the role as it has been designed. The quality requirements and the requirement to follow the processes will be made clear to Project Team members as part of their project induction. Project team members will check their own work and obtain approval as required for the role.
Second Line of Defence	Will be defined within the roles of the project management team relevant to their areas of expertise. Most of the first line of defence role requirements apply to the management team that provides oversight to validate that the front-line operational staff are compliant with the projects processes and procedures, and that thresholds for action, decision making, and approvals are being followed.
Third Line of Defence	Will be delivered by an internal audit function to validate that Line of Defence 1 and Line of Defence 2 are operating as planned and that thresholds for actions, decision making, and approvals are being followed. Control weaknesses and/or non-compliance will be reported for improvement through process change and/or training.

The Audit Plan will be reviewed regularly to ensure that coverage is balanced and focussed on the right areas of the project as it moves through the lifecycle and to avoid any unnecessary duplication.

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Risk Profile Assessment

Agencies are required to complete a Risk Profile Assessment (RPA) for all significant investments. This determines the level of assurance applied to the project. The RPA completed for Project Whakatupuranga has been confirmed as **HIGH.**

Key Assurance Activities

Due to the large scale and high-risk rating, Project Whakatupuranga must follow Treasury's Better Business Case processes and comply with Government Rules of Sourcing. Project Whakatupuranga will also be subject to a range of assurance activities (Table 94). Budget has been allocated for these assurance activities.

Table 94: Key Assurance Activities

Assurance Activity	Purpose	Reporting to	Provider	Timing
Gateway™	Gateway is the New Zealand Government's major projects assistance and assurance review process. Each review lasts for a week and the primary review outputs are in-confidence discussions with the Project Sponsor (SRO) and a summary in-confidence report provided at the end of the review week.	SRO	Treasury is the review provider and charges a fee to IIG for each review. Review teams are comprised of highly independent reviewers selected and managed by Treasury.	At each of the major control gate points listed in this document (Section 3). A follow-up review was completed in November 2020 (to review the outcomes from Gate 2 Delivery Strategy held in May 2020). New governance arrangements for the Project were confirmed in April 2023.
Probity Advice/audits	Probity advice/audits are required to provide independent assurance to the Sponsor that all procurement decision making processes are equitable and comply with prescribed practices and directions.	SRO and Programme Director	IIG Probity Advisor	Aligned to major procurement milestones.
Legal Reviews	Independent legal review and advice in respect to contractual documentation.	Project Directors	The Te Whatu Ora independent legal advisors.	Procurement stage and pre-contract signature.
Health Planning Reviews	Peer review of capacity modelling and translation of user requirements into clinical space.	Project Directors	Capacity Modelling - EY (Dec 2017) Schedule of Accommodation - Destravis Schedule of Accommodation - Destravis IIG Design Assurance Review	Indicative Business Case. Detailed Business Case 2022 Detailed Business Case 2022 Detailed Business Case 2022

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Assurance Activity	Purpose	Reporting to	Provider	Timing
Technical Peer Reviews	Independent technical peer reviews in respect to design (including VM), structural engineering (including seismic) and building services, and programme and cost estimates.	Project Directors	Independent external technical specialists.	Programme and cost estimate as part of developing the Detailed Business Case. Design and construction stages.
Internal Peer Reviews	At a minimum, all key project deliverables produced during the Procurement Phase will be subject to at least one level of peer review to ensure that deliverables are of an acceptable quality and comply with the relevant standards.	Project Directors	IIG Commercial and Procurement Team – additional specialists as required.	Procurement stage, and as required.
Independent Quality Assurance (IQA)	IQA reviews are a central agency assurance requirement for high value, multi-year, high risk or complex projects. These reviews will occur at key project milestones and provide assurance of key process and knowledge areas and of the project's overall progress towards success.	SRO with a direct copy being provided to Director-General, as per central agency monitoring requirements.		Following approval of the final Detailed Business Case. Aligned to major project milestones. (at least yearly). Initial focus areas will be on quality management, financial and cost management and stakeholder management and communications.
Clerk of Works and independent commissioning agent reviews (Construction Phase)	The Clerk of Works will monitor the work of companies that carry out contracts on behalf of the client. It is the Clerk of Works' responsibility to make sure that work is carried out to the client's standards, specifications and schedule.	Facility Director	TBC - Will be confirmed as this PBC progresses through approvals	
Post Implementation and Benefits Realisation Reviews	A Post Implementation Review will be performed no sooner than six months after the project's closure to assess Benefits Realisation effectiveness and review operational hand-over of the hospital facilities and other project outputs.	SRO and Project Directors	TBC - Will be confirmed as this PBC progresses through approvals	Twelve months after project closure.

Project Whakatupuranga practices and controls will be complemented by the IIG PMO guidance and templates.

Reporting Methods

Project Whakatupuranga will use various reporting methods, summarised in Table 95, to support quality assurance and control.

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Table 95: Summary of Reporting Methods

Method	Description
Quarterly Reporting	Project Whakatupuranga will report at least quarterly to the Programme Steering Group, Te Whatu Ora Audit, Risk and Assurance Committee, the Capital Investment Committee and Treasury on progress and performance of the delivery of the overall project including any assurance activities undertaken. Treasury collects information about the status of investments from all agencies.
Frequent Reporting	More frequent reporting on assurance activities will occur against significant findings from the assurance activities where immediate action is required to rectify a failing in the governance and controls for key project activities.
Benefits Realisation Plan	A programme wide benefits realisation plan will be developed for the wider transformational change of which the new Nelson Hospital facilities are only a part.
Benefits Realisation Reports	Project Whakatupuranga will make available copies of any benefits realisation reports on the Public Sector Intranet (PSI), taking account of grounds for withholding information under the Official Information Act (OIA).

Audit, Risk & Assurance Committee

The purpose of the ARAC is to monitor, review, and advise on the effectiveness of the policies and frameworks regarding governance, performance monitoring, and risk and assurance management, across IIG. The key objectives of the ARAC are outlined in Table 96.

Table 96: Key Objectives of the ARAC

Key Objective	Description
To provide oversight and support	• Monitor and ensure that current processes and practices are carried out satisfactorily and according to plan; and • Supporting measures which will improve internal controls and management performance.
To be an effective communication channel	• Between governance, (senior) management, and external interested parties (e.g., The Treasury, OAG, other external auditors) regarding risk and assurance matters.
To be the Risk & Assurance Champion	• Provide a safe and constructive forum for the presentation, discussion and management of risks and assurance provision from IIG teams, projects, and programmes.

Detailed Assurance Planning

A Detailed Assurance Plan is in development by Te Whatu Ora (Refer to Appendix FF). This plan will detail the independent assurance and peer reviews planned, underway and completed for Project Whakatupuranga. This plan will continue to develop as this PBC progresses through to Cabinet.

Quality Control

Table 97 summarises various Project Whakatupuranga quality control methods.

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Table 97: Summary of Project Whakatupuranga Quality Control Methods and Processes

Quality Controls	Brief Description
Control Gates	Treasury's Gateway defines Standardised Project Review Stages™, which are also aligned with Treasury's Better Business Cases model. Project Whakatupuranga will use these review stage as the primary control gates for quality assurance. At each control gate the effectiveness of the project's governance, management controls, financial management, risk management, benefits management, resources, and stakeholder engagement will be assessed by the Gateway review panel. Following Cabinet approval of the DBC, IIG will schedule IQA reviews to provide ongoing assurance that the project is on track to deliver the required outputs (refer Section 3 for current schedule).
Quality Control and Acceptance Criteria	The production of project deliverables during the Design and Procurement phases must meet the following quality acceptance criteria: • Contribute to the achievement of the project's outcomes within the required timeframes, • Be consistent with the methodologies, standards and guidelines, • Meet the requirements for quality reviews, • Meet the quality control measures. The quality control requirements and acceptance procedures for the technical quality control of the design products, the implementation works on site, the testing and commissioning of systems and the requirements for technical documentation required to support compliance with health and safety, environmental and other regulations in order to operate and maintain the new facilities is yet to be resourced and developed.
Key Programme Deliverables Controls	Key programme deliverables will be subject to the specified quality controls such as substantive project reports, procurement documents and reports to Ministers to ensure that the deliverable meets the quality acceptance criteria. The person responsible for each deliverable will be responsible for ensuring that the quality measure specified is completed and signed-off.
Project Deliverables Acceptance procedures	All key project deliverables are subject to the following deliverable acceptance procedures: • Evidence of final review and acceptance of outputs by the relevant output owner will be recorded via formal sign-off, as reflected in the relevant deliverable document or by email. • Review and acceptance may require Project Control Group, SRO or Programme Steering Group discussion and sign off. Once the Project Director, SRO, or relevant output owner has confirmed their acceptance of the outputs, Executive Steering Group acceptance or noting of this will be recorded via meeting minutes. • The SRO will be provided with a copy of the Project Control Group minutes for ratification as they need to retain oversight of all decisions.
Document Controls	The Project Directors, Project Control Group and Programme Steering Group will review all key project documents. Diligent is used for governance meetings. Document control is managed through Procore.
Management Controls	Risks and issue management procedures are in place to ensure that any emerging or unanticipated risks and issues are identified, tracked, assessed for their impact on the Project and treated as required. Strict change control procedures will be applied for the Project. If changes do arise, they are required to be approved by the relevant delegated authority holder. Other Management Controls include: • ARAC and the IIG Project Management Office will receive copies of assurance reports produced and will provide additional input into the project processes and controls, as required. • Financial delegations and tolerances as defined in the Te Whatu Ora Delegations Policy.
Escalation Routes	Effective escalation is critical to ensuring that issues requiring intervention from a higher authority are identified promptly, with full details provided in the Risk Management Plan.

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Quality Controls	Brief Description
IIG Lessons Learned Framework	IIG has a framework to focus on the collection of lessons from health infrastructure projects throughout the IIG's Project Delivery Framework. The purpose of the framework is to foster a culture continuous improvement, build maturity and capability within Project Management Office function and save money and time through continuous improvement.

Assurance activities to date

As highlighted previously, assurance activities such as peer reviews are a key mechanism for providing assurance. To date, a number of activities have already been completed, with these shown in the table below.

Table 98: Assurance activities to date

Activity	Indicative timing	Provider	Status
Capacity Modelling - Bed requirements under the Future MoC programme	2020 – During IBC Addendum and CSP production	Sapere and Sophie Nelson	Complete
Procurement Plan Review	April 2020 – during the IBC stage	IIG Commercial Team	Complete
CSP, Demand and Capacity Modelling Outputs, Radiology Modalities, Service Modelling and Capacity Requirements	January – April 2022	Destravis Group	Complete
Schedule of Accommodation	February 2022	Sophie Nelson	Complete
Architectural Peer Review	June 2022	Ron Hicks	Complete
Gateway Review 0 & 2 – Strategic Assessment / Delivery Strategy – Detailed Business Case	October 2022	Treasury Gateway Review Team	Complete
Structural Engineering Report	October 2022 – Feb 2023	Kestrel Group	Complete
Gateway Action Plan Review	May 2023	Treasury Gateway Review Team	Booked

5.6 Conclusion and Next steps

Following the approval of the PBC, the immediate next steps for Te Whatu Ora are to establish a PMO / 'core team' to drive the development of the Programme Brief and begin the procurement of design and consultant services for Phase 1. The key milestones that should occur within the first year of obtaining funding include:

- **Establish the PMO shared support services** to support the delivery of the entire programme.
- **Complete the client-side team** consisting of both Te Whatu Ora staff and required external advisers, including legal, commercial and any project management assistance
- **Establish governance groups and develop and finalise the Terms of Reference**, including for the Project Board, Project Control Group, Project User Group, Clinical Reference Group and Project Working Group
- **Develop the Programme Brief**, and given the urgent redevelopment needs, Te Whatu Ora intends to begin this work ahead of DBC approval

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- **Engage consultants/contractors** to proceed with Phase 1a, 1b and 1c
- **Develop the Programme Management Plans,** which are the documents that have been used to inform this Management Case. In particular, work with Te Whatu Ora – Nelson Marlborough will continue to implement the Stakeholder Communications and Engagement and Change Management Plans. This will help ensure that stakeholder understanding, and engagement is high from day one, and impacts on the business due to changes associated with Project Whakatupuranga are well understood.
- **Engage the required external advisers to** support the team including legal, commercial and any project management assistance.

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Appendix A Ki Te Pae Ora Programme

Reference: Te Whatu Ora – Nelson Marlborough, Ki Te Pae Ora Programme Review, dated February 2023

To preserve file size of this PBC, this has been provided as a separate attachment.

Withheld under section 9(2)(b)(ii)

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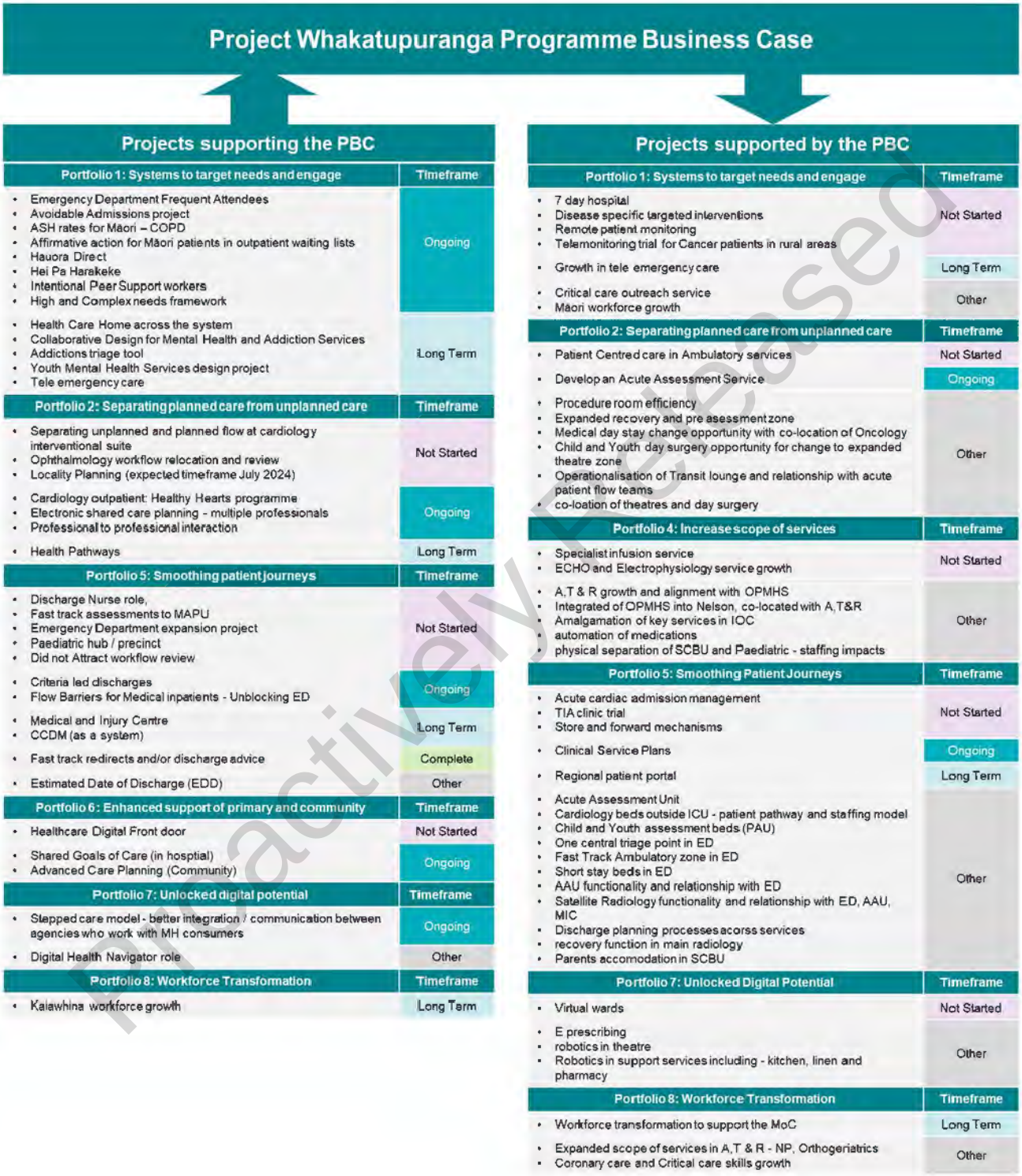
Appendix B Ki Te Pae Ora Projects and Project Whakatupuranga

Figure 48: Relationship between the Ki Te Pae Ora projects and the Project Whakatupuranaga Programme



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Appendix C Model of Care Changes

Table 99: Key Model of Care changes supported by the Nelson Hospital redevelopment

Department	Identified Change Opportunities
Emergency Department	Clinical ED will be divided into 4 areas: resuscitation, work-up/Treatment area, ED observation, and a fast-track zone. This will enhance ED care, and provide a better relationship between the ED and Acute Assessment Unit (AAU)
Acute Assessment Unit	Investment will support: • Progressive operationalisation of additional AAU beds (Capacity & Demand model estimates a total of 30 AAU beds). • Enhanced discharge flow for example utilisation of transit lounge and Resident Medical Officer (RMO) workforce to support discharge
Radiology	Investment will support: • A unit able to respond to pandemics which will be safer for staff and patients • Operationalisation of satellite radiology service delivery • Operationalisation of recovery function in the department
Central Sterile Services Department	Investment will support: • Maximising the use of two-sided accessible major equipment • Maximising automated equipment and processes • Utilising enclosed transfer carts to transfer clean and dirty goods throughout the Operating Theatre suites and to and from the Central Sterile Services Department (CSSD) • Utilising session carts rather than case carts to transfer instrumentation and consumables needed for an operating list from the Sterile Store to the set-up area adjacent to the operating rooms • Utilising wireless electronic equipment tracking systems throughout the reprocessing cycle to match instrument use to individual patients • Implementing a system of performance validation and evaluation • Utilising efficient workflows and the use of mechanical lifting and transfer devices wherever possible • Supporting separate 'clean' and 'dirty' pathways for CSSD supplies.
Maternity	Investment will support: • Addressing increased prevalence of obesity, with associated bariatric requirements • Addressing increased caesarean section rate and associated postnatal stay • Increasing numbers of multiple births, pre-term deliveries and survival of pre-term babies • Demand for midwife led care throughout the pregnancy, birth and post-natal period • Supporting policies to allow partners and/or support persons to stay overnight
Special Care Baby Unit	Investment will support: • Easy access and good clinical flow from Maternity inpatient facility for breast feeding and shared care • Greater parent accommodation

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Department	Identified Change Opportunities
Operating Theatres	Investment will support: • Co-location of operating theatres and day surgery offering more streamlined patient flow, operational and staffing efficiencies • Full functionality of a staged recovery for all day surgery cases • Redirection of flow for minor ops and other procedures from operating theatres to procedure rooms • Operationalisation of operating theatre efficiencies – for example centralised holding bays
Cardiology	Investment will support: • The cardiac catheter labs being collocated with an interventional imaging suite as an extension of the 'interventional floor' incorporating operating theatres with cardiac catheter laboratories. • Non-critical coronary care patients being cared for in dedicated coronary care bedspaces on the medical ward adjacent to the Intensive Care Unit (ICU) / High Dependency Unit (HDU) / Critical Care Unit (CCU).
Inpatient Unit	Investment will support: • Enhanced AAU functionality • Transit lounge functionality, enhancing patient safety and movement through the hospital • The growth of outpatient spaces with increases in infusions and day stay procedures. • Expansion of ambulatory spaces to accommodate the growth in service. • Opportunities around cohorting and configuring various areas for patients being cared for in an outpatient setting in an inpatient area – requiring various monitoring and nursing/specialist cover.
Intensive Care Unit	Investment will support: • Increased demand / flexibility • More flexible deployment of space and provision for future pandemic responses • Amenities for whānau to remain close to the ICU
Child & Youth	The clinical spaces for the proposed Child & Youth service will include inpatient and day stay / assessment beds. Pre-operative care may occur within the main day surgery unit. Suitable Child & Youth recovery space will be provided in the post anaesthetic care unit. This will support changes to day surgery, and provide for better physical wayfinding through the hospital

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Appendix D Digital Strategy and Roadmap

Reference: NMH Digital Strategy & Roadmap 2021-2024

Reference: National Data & Digital Strategy, dated March 2023

Reference: National Data & Digital Horizon 1 Roadmap, dated March 2023

To manage file size, these have been attached separately.

Withheld under section 9(2)(b)(ii)

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Appendix E Clinical Services Plan Key Themes

The Nelson Marlborough population

The CSP provides further detail on the Nelson Marlborough health system and general population used to inform service planning. The Nelson Marlborough population, much like the rest of the country, is growing and aging. Population projections reveal that 23 percent of the total New Zealand population will be aged over 65 by 2048. Tasman district will have the third highest percentage change in population aged 65 and over and Nelson City will have the sixth highest percentage change by 2048 out of New Zealand's Territorial Local Authorities (TLAs).[79] Information on health status, and the Māori and aging population is outlined in Section 1.1.

Demand Projections

A summary of the updated CSP inpatient and outpatient demand projections for Nelson Hospital are provided in Table 100 below.[80] These demand projections reveal that Te Whatu Ora – Nelson Marlborough will require a further: 94 inpatient beds, two operating theatres, and one endoscopy suite / procedure room to meet the projected 2037/38 demand relative to current capacity. This is necessary to ensure equitable access and quality of care for the Nelson Marlborough population. Destravis Group conducted a peer review of the modelling and capacity projections in 2022, which largely confirmed these findings.

Table 100: Demand projections incorporating peer review

Capacity	Current Capacity 2023	Demand 2022/23	Demand 2037/38	Capacity required to meet 2037/38 demand
Inpatient beds	161	195	255	+94
Outpatient clinic rooms	103	93	91	-12
Operating theatres**	6	6	8	+2
Endoscopy rooms	1	3	3*	+2

*Following the 2022 peer review the number of Endoscopy rooms has been reduced from three to two. This is because planned capacity for three Endoscopy rooms likely exceeded the clinical demand due to modelling that used a theatre functional benchmark.
**The peer review noted that the operating theatre modelling was based on the assumption that minor operation procedures would be moved into ambulatory care procedure rooms, reducing the operating theatre demand.

Problem Statement 3 discusses this further. Refer to Appendix F for more detail on the demand projections and Appendix G for the Destravis Peer Review and the Peer Review response.

Workforce Capacity

There are several important factors influencing the size and skillset of the Nelson Marlborough workforce, including an ageing workforce, increasing feminisation, difficulty recruiting certain roles,

[79] Stats NZ, Subnational population projections: 2018(base)–2048 update
[80] Nelson Marlborough IBC Modelling Update, 27 October 2021

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and increasing sub-specialisation. The impacts of these factors on workforce capacity are outlined in Table 101 below.

Table 101: Factors negatively influencing workforce capacity in Nelson Marlborough

Factor	Description
Ageing Workforce	As of 2020, 50 percent of the Nelson Marlborough workforce was aged over 50, which creates a risk of workforce shortages when these professionals reach retirement age within the same period.
Increasing Feminisation	Increased feminisation is linked to increased demand for part-time work. An increased number of part-time staff members means that an increased number of staff are required to service the required capacity.
Recruitment Difficulty	There are some roles that are particularly difficult to recruit for within Nelson Marlborough. These include radiologists, physiotherapists, midwives, mental health workers, nurses, and a number of consultant specialists, among others.
Increasing Sub-Specialisation	The increasing trend towards more specialised rather than generalist roles in the medical profession means that it is harder for smaller hospitals such as Nelson to retain and recruit a workforce as they have reduced demand for these more specialised roles.

Capacity planning must consider these workforce capacity pressures as the size of the workforce impacts the services that Nelson Marlborough can provide.

Future Planning

Strategic trends identified in the CSP (outlined in Table 102)[81] have guided, and continue to guide, Nelson Marlborough.

Table 102: Key strategic trends

Trend	Description
Decentralise where possible, centralise where necessary	Deliver services in the community where possible and when it is not necessary to use a hospital. Services can be designed towards secondary care hospitals focusing on enhancing core clinically viable services.
Transition to a more holistic approach to mental health and addictions	As a result of the recommendations from the Government's National Inquiry into Mental Health and Addiction Services (2018), mental health and addiction services and design has considered the increasing role of primary and community care and placed more emphasis on health promotion and prevention.
Increase emphasis on service provision in community settings through an increased emphasis on health promotion, prevention, and early intervention, and better integrated MoC	Create a more integrated, consumer-focused primary and community health system to deliver services in the right setting, at the right time and by the right people.
The evolution of health service delivery	The trend over time to deliver health services in lover cost and more accessible settings. This is aided by the use of travelling consultants, telehealth and providing the relevant support to clinicians in secondary hospitals.
Digitalisation of health services	In the years to come, new technology will play an increasing role in the health system in terms of what, how, where and when services are provided. For instance, technology will enable people to have more access and control over their health information.

In addition, the CSP identifies some key enablers required to achieve the transformation required in Nelson Marlborough. These enablers include:

[81] Nelson Marlborough Clinical Service Plan, version March 2019, revised April 2020.

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- **Information technology:** required to enable the sharing, access to and capturing of health data and information in the changing health landscape
- **Workforce:** future workforce planning based on projections and Ki Te Pae Ora
- **Education & Research:** increasing the effectiveness and quality of health services requires a health system that learns and innovates over time
- **Partnerships:** external organisations and entities Te Whatu Ora – Nelson Marlborough collaborates with, such as charitable trusts (Care Foundation, Churchill Private Hospital Trust, etc.)
- **Tourism:** Tourist demand is not considered in Stats NZ's population projections but growing tourism in Nelson Marlborough impacts on seasonal demand for services and these tourists have differing needs.

Overall, these key trends and enablers have both influenced the direction of Project Whakatupuranga Clinical Services Planning and will be influenced by the Project Whakatupuranga in turn, as it develops.

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Appendix F Demand and Capacity Modelling Outputs

Reference: NM IBC Modelling Update, dated 27 October 2021

To manage file size, these have been attached separately.

Withheld under section 9(2)(b)(ii)

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Appendix G Demand and Capacity Modelling Peer Review and Response

Reference: Modelling Peer Review Response, dated 6 April 2023

Reference: Modelling Peer Review, dated 1 March 2022

To manage file size, these have been attached separately.

Withheld under section 9(2)(b)(ii)

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Appendix H Further Strategic Alignment

Those strategies that are most important to the Project Whakatupuranga context are provided in Section 1.1.2. This appendix outlines further strategies that Project Whakatupuraga aligns to summarised in Figure 49 and further detailed in Table 103.

Figure 49: Strategic Alignment Summary

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Table 103: Project Whakatupuranga Strategic Alignment

Strategy	Description	Project Whakatupuranga Alignment
National Strategies		
Interim Government Policy Statement on Health 2022 - 2024	This document is the public statement of what the Government expects the health system to deliver and achieve over the next two years, and how success will be measured, monitored and reported.	The statement lists six priority areas that Project Whakatupuranga should align with to produce the best health outcomes for the Nelson Marlborough population and align with Government priorities. For example, achieving equity in health outcomes and laying the foundations for the success of the future health system.
Te Pae Tata Interim New Zealand Health Plan 2022	This strategy sets out the first two years of the health system transformation. The five sections of the report outline the foundational set of actions for achieving the goals of Te Whatu Ora and Te Aka Whai Ora.	Project Whakatupuranga will aid the achievement of the goals and priorities of the plan as it will improve the level of care that Nelson Marlborough can provide to the community through fit for purpose and well-designed facilities that support modern Models of Care.
Te Whatu Ora Statement of Intent 2022 - 2024	This document outlines Te Whatu Ora's intentions for the transitional period 2022 – 2024. It provides insight into the strategic direction of Te Whatu Ora and how the entity will deliver health services.	As a part of Te Whatu Ora, Nelson Marlborough and Project Whakatupuranga need to align with the strategic direction set out in the Statement of Intent. This alignment includes Output Class 5 on Capital Programmes.
New Zealand Health Strategy 2016	This strategy sets the direction of health services in two parts, through the Future Direction and Roadmap of Actions.	Due to the recent health reforms and centralisation under Te Whatu Ora these strategies are aligned to the old DHB based system and are now out of date. However, this strategy still provides useful context on the health system and its challenges and opportunities, as well as the strategic themes that Nelson Marlborough are looking to target through Project Whakatupuranga.
National Digital Facilities Framework	Provides a framework for implementing technology into new, and major redeveloped health facilities. This will help Te Whatu Ora standardise the planning, design, build and technology for new health facilities.	As a new health facility, Project Whakatupuranga will need to align with the framework. The Digital Framework is a mandatory guide for all major redevelopments and should be applied at Phase 0. Identify and followed throughout the full lifecycle of the new facility programme.
National Digital Strategy and Roadmap	Provides a shared direction and plan for the government data system of Aotearoa, New Zealand	At a national level, the Roadmap will ensure alignment with national digital standards and leverage national technologies such as the HIRA electronic health record, corporate system transformation and the national data platform. Fit for purpose digital capability will be delivered through alignment to the national digital facilities framework.
Data Investment Plan	The Data Investment Plan is a prioritised plan to guide government investment in data. This includes prioritised investment opportunity relating to the management of data in the health sector.	Investment in Project Whakatapuranga provide an opportunity to improve Nelson Hospital's data system capabilities. One of the pillars of this plan involves 'centralised primary health care data' to improve health outcomes for New Zealanders. This project presents an opportunity to contribute to consistent data standards nationally to achieve better integration of data across primary and secondary care services.

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Strategy	Description	Project Whakatupuranga Alignment
Portfolio Level Infrastructure Broader Outcomes Strategy	Objectives within the Te Whatu Ora Broader Outcomes Strategy have been derived from Te Pae Tata and the New Zealand Health Facility Design Guidance Note (DGN). In addition (and to meet Crown Agency obligations), the Te Whatu Ora Broader Outcomes Strategy has been based on guidance developed by the Construction Sector Accord and references the Broader Outcomes requirements detailed in the Government Procurement Rules.	Project Whakatupuranga will be required to conform with this strategy once released. It will help to ensure that Broader Outcomes are considered throughout the planning and delivery of Project Whakatupuranga for the benefit of Māori, the Nelson Marlborough community, and the wider Te Waipounamu region.
He Korowai Oranga: Māori Health Strategy	Prior to the health reforms, He Korowai Oranga set the framework to guide the health and disability sector to achieve the best health outcomes for Māori. The overall aim of the strategy is pae ora – healthy futures for Māori	While the new Māori health strategy is in development this is the most recent strategy available and provides useful context for Project Whakatupuranga.
Whakamaua: Māori Health Action Plan 2020-2025	As the implementation plan for He Korowai Oranga: Māori Health Strategy, this document outlines how the former Ministry of Health and the wider health and disability sector can fulfil its stewardship obligations and special relationship between Māori and the Crown.	While this document was also released prior to the health reforms it provides useful context and information that is relevant to Project Whakatupuranga. Four of the high-level outcomes highlighted in the plan that Project Whakatupuranga will contribute to through its prioritisation of Māori health needs and equity include: • Iwi, hapū, whānau and Māori communities exercising their authority to improve their health and wellbeing • Ensuring the health and disability system is fair and sustainable and delivers more equitable outcomes for Māori • Addressing racism and discrimination in all its forms • Protecting mātauranga Māori throughout the health and disability system.
Hauora Māori Strategy to 2025	Currently in development, the Hauora Māori Strategy will be New Zealand's Māori Health Strategy, replacing He Korowai Oranga.	Investment in Project Whakatupuranga will likely support the strategy by engaging with Māori to provide services within Project Whakatupuranga that are responsive to Māori practice, rights, needs and interests, and to ensure the wairua (spiritual), hinengaro (psychological) and tinana (physical) wellbeing of Tāngata Mauiui (patients or service users) and their whānau (family and extended family group).
National Asset Management Strategy	The NAMP is part of a government-wide focus to improve capital funding decisions, capital investment plans and asset management, and to ensure investments deliver the best value for New Zealanders. This strategy has been in development since 2020.	The Ministry of Health is developing a work programme to improve infrastructure delivery and asset management in the sector including a national framework with service design standards, maintenance and renewal strategies, capital planning guidance, and more focus on health equity and sustainability. Delivering Project Whakatupuranga in parallel to the Strategy being developed provides an opportunity for strong alignment.

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Strategy	Description	Project Whakatupuranga Alignment
Carbon Neutral Government Programme	The Carbon Neutral Government Programme (CNGP) has been set up to accelerate the reduction of emissions within the public sector. It includes New Zealand's first emissions reduction plan that sets the direction for climate action over the next 15 years.	All sectors of the economy, including health, needs to align with the Government's emissions targets and priorities as set out in the Programme and Plan. Hence, Project Whakatupuranga will need to align with the priorities set out in the Programme.
Te Waihanga New Zealand Infrastructure Strategy 2022 - 2052	The Te Waihanga New Zealand Infrastructure Strategy 2022-2052 outlines a pathway to transform the country's infrastructure. In particular, the strategy is focussed on challenges related to: New Zealand's continued population growth A change in the demographic profile of residents (i.e. the population is aging) Seismic risk, with a particular focus on the risk of an alpine fault rupture (75% chance of an Alpine Fault earthquake by 2070).	Project Whakatupuranga is well placed to address these challenges by ensuring Nelson Hospital's infrastructure can enable a high quality of care that will meet current and future demands particularly in the event of an earthquake. The latter is critical due to Nelson Hospital's proximity to the Alpine Fault and therefore the Hospital will play a crucial role in providing critical health care services post disaster.
Regional Strategies		
Regional Hospital Redevelopment Programme (RHRP)	The Regional Hospital Redevelopment Programme (RHRP) was developed to respond to the infrastructure investment deficit and meet the future healthcare needs of New Zealand's regional communities.	Led by the IIG, the RHRP allows capital expenditure to be phased while still addressing urgent clinical and seismic needs across core secondary and tertiary care providers. The RHRP comprises the phased delivery of five hospital redevelopment projects over the next 15 years. The RHRP is divided into two tranches: Tranche 1 consists of Project Pihi Kaha (Whangārei hospital redevelopment) and Project Whakatupuranga; and Tranche 2 includes hospital redevelopments in Tauranga, Hawke's Bay, and Palmerston North. As the second campus scheduled for investment, Project Whakatupuranga has the opportunity to leverage lessons learned from Project Pihi Kaha. Additionally, Project Whakatupuranga (and Project Pihi Kaha) present opportunities to share knowledge create efficiencies, develop skills and grow capability in the regions and across the country to support innovation in later RHRP projects. There is an opportunity to create efficiencies across various RHRP projects in design and delivery through standardised designs, shared supply chains and construction methodologies (including opportunities for off-site manufacturing) across projects.
Te Waipounamu South Island Health Services Plan 2019-22	The Te Waipounamu South Island Health Services Plan articulates the regional direction and key principles that inform regional service development, service configuration and infrastructure requirements.	Whilst developed prior to the health reform, this plan provides strategic context and insight into the role of Nelson Marlborough within the wider Te Waipounamu region.

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Strategy	Description	Project Whakatupuranga Alignment
Te Whatu Ora – Nelson Marlborough Strategies		
Nelson Marlborough Digital Strategy and Roadmap 2021-2024	The Digital Strategy & Roadmap 2021-2024 was commissioned by Nelson Marlborough in late 2020. This document, included in Appendix D for reference, outlines the current state, themes driving change and the investment pathway from 2021 – 2024.	Nelson Marlborough's Digital Strategy & Roadmap has helped inform the development of a Digital Blueprint specific to Project Whakatupuranga, which is provided in Appendix R. The Blueprint is predominantly focused on the hardware and equipment necessary to commission a 'digitally capable' facility, with initial funding for parallel implementation of the future digital strategy enabling a fit for purpose digital hospital, a core component being the new Electronic Medical Record. This is discussed in the Economic Case to determine what is required from a Data & Digital perspective for the Preferred Option.
Nelson Marlborough Statement of Intent 2019/20 – 2022/23	This Statement of Intent articulates Nelson Marlborough Health's strategic intentions and priorities in line with the Crown Entities Act 2004. The statement covers: the nature and scope of Nelson Marlborough Health's functions and intended operations how Nelson Marlborough intends to manage its functions and operations to meet its strategic intentions how Nelson Marlborough proposes to manage its organisational health and capability how Nelson Marlborough proposes to assess its performance.	This Statement of Intent provides strategic context and an insight into the region's recent strategic priorities and direction. While the Statement was released prior to the health reform, the makeup of the region and the challenges it has faced, and continues to face, persist. Therefore, the document provides useful context for Project Whakatupuranga in lieu of an updated document. Project Whakatupuranga will need to align with the functions, aspirations and operations in the Plan.
Nelson Marlborough Annual Plan 2021/22	This document is the most recent Nelson Marlborough Annual Plan and provides strategic context and direction for the region. The plan provides an overview of the region's strategic intentions and priorities, stewardship and performance measures / expectations. The plan was developed in a transitional period and therefore needs to be updated for the Te Whatu Ora context.	This plan gives an insight into Nelson Marlborough's strategic context and therefore can be used to understand how Project Whakatupuranga can align with the region's priorities moving forward. For instance, the Plan outlines the challenges facing the region such as the health inequity between Māori and non-Māori, equity for resettled former refugees, population growth and growth in demand for services.
Local Strategies		
Nelson City's Long-Term Plan 2021-2031	Nelson City's Long-Term Plan sets the Council's vision and outcomes they aim to achieve over the next 10 years in line with the city's vision of 'He Tāone Tōrire a Whakatū Nelson — A Smart Little City' and mission 'We shape an exceptional place to live, work and play'.	Project Whakatupuranga will contribute to the achievement of the following desired community outcomes, as outlined in the Plan: Our infrastructure is efficient, cost effective, and meets current and future needs Our communities are healthy, safe, inclusive and resilient. Project Whakatupuranga will help to futureproof the provision of health services in the region to ensure the community can be as healthy as possible in the years to come.

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Strategy	Description	Project Whakatupuranga Alignment
Tasman District Council's 10-Year Plan 2021-2031	Tasman District Council's 10-Year Plan sets out the Council's activities and priorities to achieve their vision of 'thriving and resilient Tasman communities - Te Manawaroatanga o Te Tai o Aorere kia tupu, kia rea'. Additionally, the Council's purpose is 'Working together for a Tasman District that has a healthy environment, strong economy and a vibrant community'.	Project Whakatupuranga will contribute to achieving better social, economic and cultural outcomes in the region by improving and futureproofing the provision of health services in the region. This aligns with the vision, purpose and strategic priorities of the Tasman District Council. Project Whakatupuranga aligns to local territorial long-term plans as the new infrastructure will be: Modern and culturally considered: enables a high-quality level of care that reflect current and future demands, and contribute to health equity particularly for Māori Seismically resilient: the infrastructure will be designed and built to the appropriate standards required for the hospital to continue providing life-saving services post-disaster Meet future demand: Project Whakatupuranga, in conjunction with changes in Models of Care will meet future demand for health services in the Nelson region and adapt to changing demographics and health expectations.
Marlborough District Council's 2021-2031 Long Term Plan	The plan documents the Council's activities, how they are paid for, how the Council will fulfil its responsibilities and the Council's community outcomes.	The 'Community Outcomes' stated in the plan describe the community Marlborough could be in the future. The two key Community Outcomes that Project Whakatupuranga aligns and contributes to are: **Living** - Marlborough's enviable community facilities, infrastructure, landscapes and climate enables our community to thrive. Life in Marlborough is safe and healthy **People** - Marlborough's communities value our special way of life. We are diverse, inclusive, welcoming and enjoy opportunities to connect, live, learn, work and play in this vibrant place.

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Appendix I Site Master plan

Reference: Long Term Site Master Plan – Design Report Appendix

To manage file size, this appendix has been attached separately

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Appendix J Kestrel Group Technical Report: Seismic Resilience of Hospital Buildings

Reference: Kestrel Group, Understanding and Improving the Seismic Resilience of Hospital Buildings Technical Report, dated 31 March 2022

To preserve file size this has been attached separately.

Withheld under section 9(2)(f)(iv)

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Appendix K Structural Engineering Memo

Reference: Beca Structural PBC Update Summary v2, dated 7 April 2023

To manage file size, this has been attached separately.

This Includes scenario assessments

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Appendix L Benefits

The full list of benefits discussed in the Strategic Case (Section 1.3.2) is shown below.

Table 104: Benefits

Main Benefit	Description	Who Benefits	Direct / Indirect	LSF Domain
Continuity and resilience of service delivery	The hospital can continue to provide critical health services in the event of a major seismic event or other disaster.	• Nelson Marlborough staff, patients and whānau • Te Waipounamu region	• Direct	• Health
Increased quality in service provision	Services provided are patient centred, safe, efficient, effective, equitable and timely.	• Nelson Marlborough staff, patients and whānau • Te Waipounamu region	• Direct and indirect	• Health • Safety
Equitable health outcomes	Services provided are equitable, culturally safe, appropriate and contribute to lifting Māori health outcomes.	• Iwi and hapū • Nelson Marlborough patients and whānau • Te Waipounamu region	• Direct and Indirect	• Health • Cultural capability and belonging
Flexibility and sustainability of service provision	Hospital services will be designed in a flexible way to accommodate future technology and MoC changes.	• Nelson Marlborough staff patients and whānau • Te Waipounamu region	• Direct and indirect	• Health
Enabling innovations and improvements in MoC	Modern, fit for purpose facilities and better configured services will enable service improvement and innovation.	• Nelson Marlborough staff patients and whānau • Te Waipounamu region	• Indirect	• Health
Workforce satisfaction and sustainability	Facilities and services are configured to support interdisciplinary functioning, provision of appropriate clinical support, and provide appropriate L&D facilities, amenities, and support spaces for staff.	• Nelson Marlborough staff, patients, whānau and wider community • Te Waipounamu region	• Indirect	• Health • Work, care and volunteering • Knowledge and skills
Environmental performance of the building	Decreased adverse building impacts on the environment.	• Nelson Marlborough and wider community • Te Waipounamu region	• Direct	• Environmental amenity
Regional employment	Project Whakatupuranga will create regional employment opportunities throughout the construction period.	• Nelson Marlborough and wider community • Te Waipounamu region	• Direct	• Work, care and volunteering • Knowledge and skills

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Appendix M Main Benefits Alignment to LSF Domains

Table 105: Alignment of main benefits to the LSF domains

Main Benefit	LSF Domain(S)	Explanation Of Alignment
Improved Service Provision Quality	**Health**	Improving service provision quality through Project Whakatupuranga will enable better health outcomes for the Nelson Marlborough population, creating a population with better mental and physical health.
	Safety	Improving service provision quality involves creating safer and more efficient service delivery, keeping members of the Nelson Marlborough population (both patients and staff) safe from harm.
Equitable Health Outcomes	**Health**	Providing more equitable health services that are culturally safe contributes to a population with better mental and physical health and lifts the health of priority populations such as Māori who currently have worse health outcomes across a range of indicators compared to non-Māori.
	Cultural Capability And Belonging	Providing more equitable health outcomes by providing more equitable and culturally safe services supports people's cultural participation and sense of belonging.
MoC Innovation and Improvement	**Health**	Enabling innovations and MoC improvements enables the population to have better mental and physical health through the provision of higher quality and smarter healthcare.
Service Provision Flexibility and Sustainability	**Health**	Designing more flexible hospital services helps to accommodate the use of technology and MoC innovations which will enable the population to have better mental and physical health.
Workforce Satisfaction and Sustainability	**Health**	Configuring facilities and services to support staff spaces and learning improves the mental health of staff and thus allows them to provide a higher standard of healthcare to the Nelson Marlborough population.
	Work, Care and Volunteering	Configuring facilities and services allows staff to provide services for the benefit of others (the Nelson Marlborough population).
	Knowledge And Skills	Configuring spaces that support the learning and development of Nelson Hospital staff supports the growth of necessary knowledge and skills and allows staff to continue to learn through both informal and formal channels.
Service Delivery Continuity and Resilience	**Health**	Building a hospital that can continue to provide critical health services in the event of a disaster will support the physical and mental health of the population in the aftermath of a significant adverse event.
Building Environmental Performance	**Environmental Amenity**	Building a hospital that adheres to Environmentally Sustainable Design (ESD) and government environmental priorities allows the Nelson Marlborough population to have access to and benefit from a quality natural and built environment through both the direct design of the hospital and the indirect positive impact this has on the surrounding environment.
Regional Employment	**Work, Care and Volunteering**	Project Whakatupuranga will create regional employment opportunities allowing those employed to produce goods and services (i.e. the hospital) for the benefit of the Nelson Marlborough and Te Waipounamu population.
	Knowledge And Skills	The regional employment opportunities emerging from Project Whakatupuranga will allow the growth in knowledge and skills of those working to build Nelson Hospital.

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Appendix N Previous Options Development

The four options presented in this PBC have been informed by previous work carried out for Project Whakatupuranga which explored and amended a variety of different options. The Strategic Assessment, Indicative Business Case, Indicative Business Case Addendum, Detailed Business Case and Detailed Business Case Gateway Review that informed the development of options have been briefly outlined in the sections below.

2017 Strategic Assessment

Since the late 1990s, a two-stage programme of works was proposed to redevelop Nelson Hospital. The first stage of works was completed between 1996 and 2003 and provided several new facilities. However, over 20 years on, the second stage is still yet to be delivered. In that time, the numerous challenges faced by the Nelson Hospital site have only been exacerbated.

These challenges were highlighted in a Strategic Assessment submitted to the Capital Investment Committee (CIC) in March 2017. The assessment explored how the design of facilities was impacting quality of care, capacity, and ways of working, and Earthquake-prone Buildings were presenting life safety and service continuity risks.

2019 Indicative Business Case

To address the challenges emphasised in the Strategic Assessment, the Nelson Hospital IBC was developed between 2018 and 2019. The main drivers for investment identified in the IBC were:

- Increasing demand and complexity of presentation
- Service delivery lacking behind contemporary best practice
- Need to remedy seismically susceptible and poorly configured buildings and site services.

The IBC had a strong focus on addressing the seismic risks presented by the oldest buildings on site, George Manson (~70 years old) and Percy Brunette (~50 years old), as they were served Earthquake-prone Building notices by Nelson City Council.

As this was an IBC, a wide range of potential long list options were developed including full greenfield through to staged brownfield redevelopment. As a 'do nothing' approach to investment was assessed as inappropriate, the Base Case option for the IBC was designed to re-use as much of the existing infrastructure as possible, including the retention of a strengthened George Manson building.

Of the assessed six options, **Option 1** and **Option 3** were recommended for future consideration, with Option 3 identified as the **Preferred Option**:

- **IBC Option 1 (Clinically Preferred)**: Full greenfield redevelopment on a new, unspecified site. Approximate total GFA of 95,867m^2 (all new).
- **IBC Option 3 (Preferred):** Brownfield redevelopment, including refurbishment of existing Mental Health inpatient unit. Approximate total GFA of 88,474m^2 (new GFA: 79,289m^2, refurbished GFA: 9,185m^2).

Option 1 (full greenfield) was the clinically Preferred Option because it performed strongly on qualitative factors such as long-term site master planning, configuration and design of hospital facilities. However, Option 1 came at the greatest capital, operating and environmental cost compared with other short list options. Option 1 requires the acquisition of a new site, plan

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changes, establishment of site infrastructure and roading networks and does not make use of existing hospital land and facilities which have significant economic life. It also had minimal opportunity for staging the build.

In comparison, Option 3 (brownfield redevelopment) did not perform as well as Option 1 from a clinical perspective. However, Option 3 satisfied all Investment objectives and:

- Provides greater resilience of non-critical services following a major seismic event compared with Option 1
- Delivers a Clinical Services Building (CSB) 2.5 years earlier than Option 1
- Provides a range of staging and master planning alternatives and maintains proximity to vulnerable populations and access to public transport routes.

During the review process, it was requested that Nelson Marlborough address the following points prior to re-submission of the IBC:

- Further examine the CSP assumptions
- Provide more cost-saving opportunities through retention of more existing buildings
- Target a capital cost of $500m over the entire tenure of the redevelopment, with options up to $700m able to be considered, provided they better address long-term site risks.

Options developed for the IBC

Table 106 outlines all long-list options developed for the 2019 IBC.

Table 106: IBC Long-list Options

Option	Reason for Development	Option Variants
Option 1: Full greenfield, including Mental Health, on a new site South-West of the existing Nelson Hospital campus	Existing hospital location is decentralised from the greater Nelson region, creating long journeys from the more remote areas to the west. A new site allows for a blank-canvas approach with optimal hospital master planning.	• A – Richmond • B – Stoke • C - Annesbrooke
Option 2: Greenfield on the Broads Fields, including new Mental Health inpatient unit	Greenfields site to the north-west of the existing main hospital campus is a large sports field known as Broads Field.	• Full greenfield on Broads Fields • Partial greenfield with new acute services block on Broads Fields
Option 3: Brownfield including refurbishment of existing Mental Health inpatient unity	Northern portion of the Tipahi Street and Franklyn Street campus housing single-storey buildings identified as a brownfield site. Assumes refurbishment and extension of the existing mental health inpatient facility and repurposing of current inpatient building.	
Option 4: Staged redevelopment - Strengthen (to 100% IL3) and Retain George Manson and Percy Brunette, refurbish existing Mental Health inpatient unit	Refurbishment and extension of existing mental health inpatient facility and repurposing of the current inpatient building, ED, Day Stay, radiology, George Manson and Percy Brunette for ambulatory care and staff hub.	• A - new ASB, retain radiology and ED in existing location • B – new ASB, including radiology and ED
Option 5: Staged Redevelopment - Demolish George Manson, Strengthen and Retain Percy	Assumes refurbishment and extension of the existing mental health inpatient facility and repurposing of current inpatient building, ED, Day Stay, radiology and	• A – new ASB, retain radiology and ED in existing location

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Option	Reason for Development	Option Variants
Brunette, refurbish existing Mental Health inpatient unit	Percy Brunette for ambulatory care and staff hub.	• B – new ASB, including radiology and ED
Option 6: Staged Redevelopment – Demolish George Manson and Percy Brunette, refurbish existing Mental Health inpatient unit	Assumes refurbishment and extension of the existing mental health inpatient facility and repurposing of current inpatient building, ED, Day Stay and radiology for ambulatory care and staff hub.	• A – new ASB, retain radiology and ED in existing building • B – new ASB, including radiology and ED • C – Retain existing ED and radiology facilities for current use, new ambulatory care centre, new ASB
Option 7: Base Case - Strengthen George Manson (to 67% of IL3), Strengthen Percy Brunette (to 100% of IL3), refurbish existing Mental Health inpatient unit	Counter factual option that retains a strengthened George Manson building.	

Table 107 outlines the short-list options from the 2019 IBC.

Table 107: IBC Short-list Options

Option	Key Features	Gross Floor Area
Option 1: Greenfield on new site	• Includes mental health unit and psychogeriatric services • Staged delivery	Total: 95,867m^2 *New: 95,867m^2* *Refurbished: -*
Option 2A: Greenfield on the Broads Fields	• Includes mental health unit and psychogeriatric services • Non-staged delivery	Total: 87,174m^2 *New: 87,174m^2* *Refurbished: -*
Option 3: Brownfield development on existing campus	• New CSB/wards, incl. psychogeriatric services • New ambulatory care building • Demolition of theatres, George Manson and Percy Brunette • Repurpose existing inpatient unit and adjacent new build for staff hub • Refurbished mental health inpatient unit • Staged delivery	Total: 88,474m^2 *New: 79,289m^2* *Refurbished: 9,185m^2*
Option 5B: Demolish George Manson, strengthen and retain Percy Brunette	• New CSB/wards, incl. psychogeriatric services • New/extend ambulatory care • Demolish theatres and George Manson • Strengthen and retain Percy Brunette and other existing buildings for ambulatory care/staff hub • Refurbished mental health inpatient unit • Staged delivery	Total: 86,534m^2 *New: 66,899m^2* *Refurbished: 19,635m^2*
Option 6B: Demolish George Manson & Percy Brunette	• New CSB/wards, incl. psychogeriatric services • New & refurbished ambulatory care • Demolish theatres, George Manson, Percy Brunette & ICU • Refurbished mental health inpatient unit	Total: 88,004m^2 *New: 74,669m^2* *Refurbished: 13,335m^2*
Option 7 (Base Case)	• New CSB/wards • Strengthen and retain George Manson & Percy Brunette • Retain Alexandra Hospital and Braemar Campus	Total: 78,345m^2 *New: 47,338m^2* *Refurbished: 31,007m^2*

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Option	Key Features	Gross Floor Area
	• Refurbished mental health inpatient unit • Staged delivery	

2020 Indicative Business Case Addendum

Due to the recommendations outlined in the IBC review process, an IBC Addendum was developed for Nelson Hospital. The main driver for the development of the four Addendum options was to meet the required seismic resilience while maximising retention and reuse of the existing facilities to target a capital cost of $500m.

Of the three new IBC Addendum options (Option 8, Option 9 and Option 10) and one reworked IBC option (Option 11), **Option 11** was the clinically Preferred Option. However, because this option had a capital cost significantly over the target threshold and because it provided only marginal additional benefits over Option 10, **Option 10** was recommended to be taken forward for further development in the DBC.

Option 10 was designed to remove the most seismically vulnerable buildings from the Nelson Hospital site while re-using as many existing facilities as possible. Therefore, compromises were made to meet the recommended capital threshold.

Despite endorsement by CIC on 25 May 2020, the IBC was not submitted to Joint Ministers for approval ahead of the finalisation of the Health Capital Envelope (HCE) for Budget 2021.

Options developed for the IBC Addendum

Table 108 outlines the options developed for the IBC Addendum.

Table 108: IBC Addendum Options

Option	Reason for Development	Key Features	Gross Floor Area
Option 8	Designed to re-use the largest number of buildings on the site and retain critical services in their existing buildings (where practical) to limit the cost of refurbishment.	• New CSB, with some ED/Radiology in existing facility • Some new, some existing inpatient wards • Percy Brunette retained and retrofitted • George Manson retained and retrofitted	Total: 52,629 m^2 *New: 27,176 m^2* *Refurbished: 25,453 m^2*
Option 9: Base Case (New)	Re-use and retain as much of the existing building stock as possible, including some buildings with marginal seismic ratings.	• New CSB containing critical services • Some new, some existing inpatient wards • Percy Brunette retrofitted • George Manson retained and retrofitted	Total: 51,833 m^2 *New: 26,080 m^2* *Refurbished: 25,753 m^2*
Option 10	Designed to remove the most seismically vulnerable buildings from the Nelson Hospital site while re-using as many existing facilities as possible.	• New CSB containing critical services • Some new, some existing inpatient wards • Percy Brunette retrofitted • George Manson demolished	Total: 51,704 m^2 *New: 31,265 m^2* *Refurbished: 20,439 m^2*
Option 11	Designed as a revised version of the Preferred Option proposed in the IBC to reflect updated demand and capacity projections and include Percy Brunette.	• New CSB containing critical services • New inpatient wards • Percy Brunette retrofitted	Total: 56,008 m^2 *New: 45,197 m^2* *Refurbished: 10,811 m^2*

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Option	Reason for Development	Key Features	Gross Floor Area
		• George Manson demolished	

2022 Detailed Business Case

Following submission of the IBC Addendum, an exploratory exercise was undertaken to see of the Preferred Option (Option 10) within the desired capital envelope of $500m. It was ultimately confirmed that significant compromises would have to occur for this to be possible, resulting in an unacceptable level of seismic and operational risk. Therefore, when a subsequent Detailed Business Case (DBC) was drafted in 2022, value engineering of the IBC Addendum Preferred Option was not pursued.

The main drivers for DBC options development were:

- Confirmation of the IBC and IBC Addendum seismic constraints encouraging the progression of link strengthening and building demolition options for George Manson and the retention and non-clinical use of Percy Brunette. Updated seismic assessments and analysis only made the case for change even more compelling.
- An increased population projection since the IBC Addendum of 1.4%, resulting in increased demand projections
- Poor configuration and design of existing buildings
- Continued capital constraints, with maximum available capital of $700m (same as Addendum)

As a result of these drivers, four new options (different to the IBCA options) and two value-engineered sub options were developed. DBC Preferred Option, **Option 1**, was designed to provide the best environment possible to support the MoC and benefits that Te Whatu Ora – Nelson Marlborough seeks to deliver, within the capital envelope. This included a new ASB, new IPB, light retrofit of Percy Brunette and partial demolition of George Manson.

However, as this Preferred Option did not fit within the capital envelope, the DBC explored how the option could be phased to meet capital requirements. Two value-engineered "sub-options" (Options 1A and 1B) were therefore developed and considered.

Option 1A was identified as the clinically Preferred Option because it housed the Laboratory and Blood Bank in the ASB, compared to Option 1B that moved this service to another building. However, despite Option 1A being clinically preferred, Option 1B was the only affordable, clinically, and seismically acceptable option and it was ultimately recommended as the DBC Preferred Option.

Options developed for the 2022 DBC

Table 109 outlines the long-list options developed for the DBC and Table 110 outlines the value engineered sub options.

Table 109: DBC long list options

Option	Reason for Development	Key Features	Gross Floor Area
Option 1	Designed to provide the best environment possible to support the MoC and benefits that Te Whatu Ora – Nelson Marlborough seeks to deliver, within the capital envelope.	• New ASB • New IPU • Percy Brunette light retrofit • George Manson partial demolition	Total: 58,013m^2 *New: 47,459 m^2*

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Option	Reason for Development	Key Features	Gross Floor Area
Option 2	Designed to demonstrate the additional benefits that could be created for the Te Whatu Ora – Nelson Marlborough population if a full refurbishment of Percy Brunette was undertaken, rather than the light cosmetic upgrade (as in Option 1). It is important to note that there are no differences between Phase 1 for Options 1 and 2.	• New ASB • New IPU • Percy Brunette structural strengthening and full refit • George Manson partial demolition	Total: 61,713 m^2 *New: 47,018 m^2*
Option 3	Designed to demonstrate how the cost of Option 1 could be reduced while still partially or fully achieving the Investment Objectives. To do so, Option 3 proposes that Maternity, SCBU, Paediatrics and Birthing (known as Women's and Children's Services) are excluded from the ASB in Phase 1 and are relocated from their existing building into a new IL4 IPU in Phase 2.	• New ASB • New IPU • Percy Brunette light retrofit • George Manson partial demolition	Total: 57,201 m^2 *New: 46,647 m^2*
Option 4	Designed to re-test whether George Manson could be retained, and how many of the existing buildings could be retained for their existing purpose if strengthened and extended	• New IPU • Retain and strengthen George Manson with minimum compliance • Extend existing buildings to meet capacity and strengthen to meet IL4 requirements for critical services	Discarded from further consideration due to unacceptable seismic risk. High level design was not conducted and therefor no GFA is available.

Table 110: DBC Value engineered sub options

Option	Key change from Option 1	GFA
Option 1a	Child & Youth services moved to the new IPU in Phase 2	Phase 1 total GFA: 38,690m^2
Option 1b	Services moved to the new IPU (Phase 2) and Laboratory and Blood Bank moved to another building (Phase 6)	Phase 1 total GFA: 37,217m^2

2022 Detailed Business Case Gateway Review

The DBC was developed during a transitory period for the establishment of the new health system through Te Whatu Ora – Health New Zealand. Consequently, as the DBC progressed through the approval pathway, the Gateway Review Report (October 2022) recommended Project Whakatupuranga take a programme approach to assist with incorporating national priorities as they are established by Te Whatu Ora. As such, the DBC was not submitted to the Te Whatu Ora Board, and it was recommended to commence a PBC.

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Appendix O Design Report for PBC Options

Reference: PBC Design Report v4.1, dated 1 May 2023

Reference: PBC Design Report Appendix

Reference: DBC Concept Design Report, dated 8 June 2022

Reference: Options Development Memo PBC v2, dated 24 April 2023

To preserve file size this has been attached as a separate file.

Withheld under section 9(2)(b)(ii) and Withheld under section 9(2)(f)(iv)

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Appendix P Cost Estimate

Reference: PBC Phases Estimates, dated 26 April 2023

To preserve file size this has been attached as a separate file

Withheld under section 9(2)(b)(ii) and Withheld under section 9(2)(f)(iv)

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Appendix Q Programme - Phases under each Option

Reference: Woods Harris, Nelson Hospital - Programme Business Case Version A3.4 full programme, dated April 2023.

Reference: Woods Harris, Nelson Hospital - Programme Business Case Version A3.4 summary, dated April 2023.

To preserve file size this has been attached separately.

Figure 50: Option 1 Phased Programme

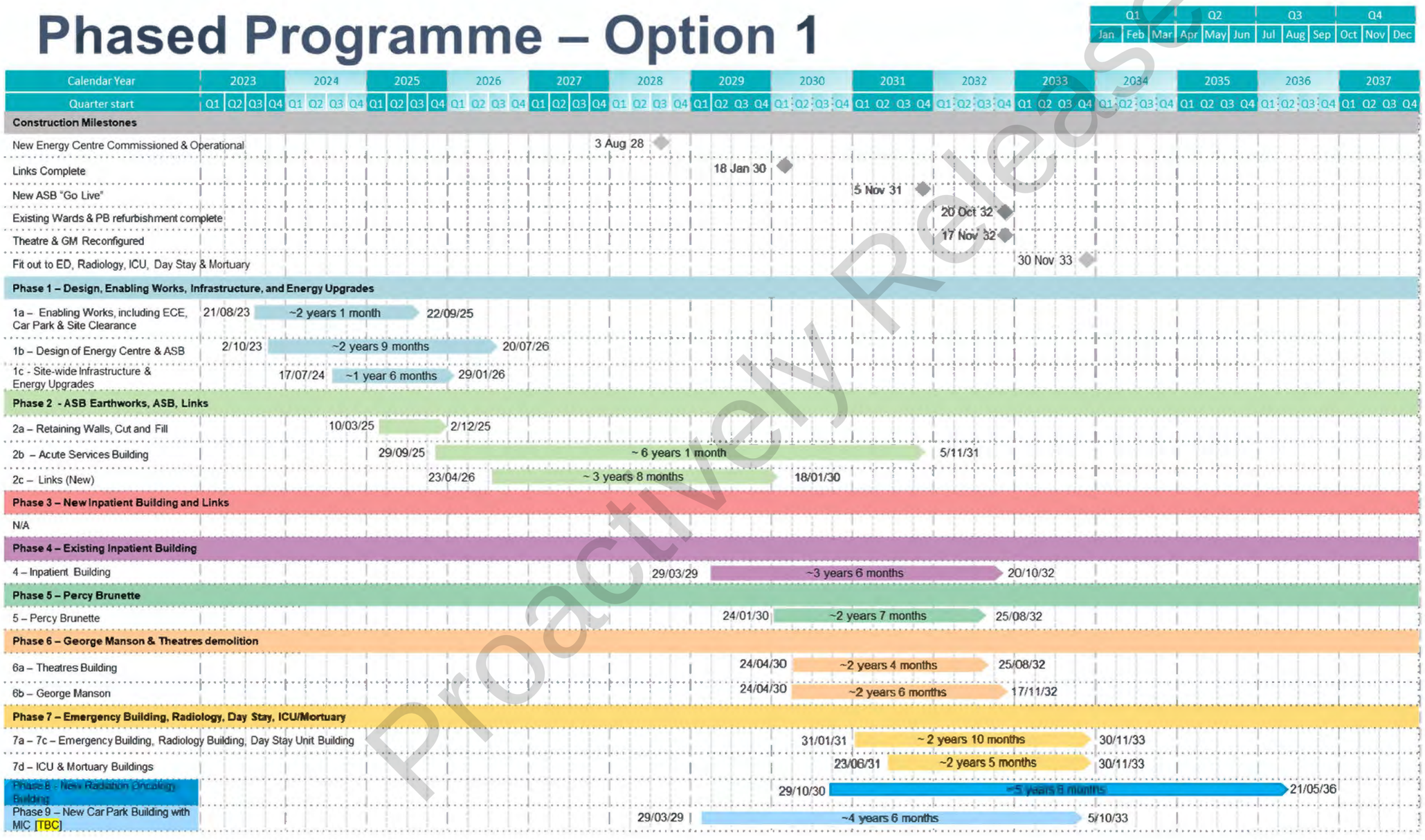

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Figure 51: Option 2 Phased Programme

Phased Programme – Option 2

Q1			Q2			Q3			Q4		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Calendar Year	2023				2024				2025				2026				2027				2028				2029				2030				2031				2032				2033				2034				2035				2036				2037			
Quarter start	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction Milestones Buildings																																																								
New Energy Centre Commissioned & Operational													28 Jun 27																																												
Links Complete																									18 Jan 30																																	
New ASB "Go Live"																													3 Sept 31																												
Existing Wards & PB refurbishment complete																																					18 Aug 32																				
Theatre & GM Reconfigured																																					15 Sept 32																				
Fit out to ED, Radiology, ICU, Day Stay & Mortuary																																									28 Sept 33																
Phase 1 - Design, Enabling Works, Infrastructure, and Energy Upgrades																																																						
1a – Enabling Works, including ECE, Car Park & Site Clearance	21/08/23	~2 years 1 month							22/09/25																																															
1b – Design of Energy Centre & ASB		2/10/23	~2 years 8 months										19/06/26																																												
1c – Site-wide Infrastructure & Energy Upgrades			17/07/24	~1 years 6 months									29/01/26																																												
Phase 2 – ASB Earthworks, ASB, Links																																																						
2a – Retaining Walls, Cut and Fill					10/03/25				2/12/25																																															
2b – Acute Services Building									29/09/25	~ 5 years 11 months																																																
2c – Links (New)									11/07/25				~4 years 6 months																18/01/30																													
Phase 3 – New Inpatient Building and Links																																																					
N/A																																																						
Phase 4 – Existing Inpatient Building																																																				
4 - Inpatient Building																					29/03/29	~3 years 4 months																																			
Phase 5 – Percy Brunette																																																				
5 – Percy Brunette																									24/01/30	~2 years 4 months																																	
Phase 6 – George Manson and Existing Theatres																																																				
6a – Theatres Building																									24/04/30	~1 year 10 months																																	
6b – George Manson																									24/04/30	~2 years 4 months																																	
Phase 7 – Emergency Building, Radiology, Day Stay, ICU/Mortuary																																																					
7a – 7c – Emergency Building, Radiology Building, Day Stay Unit Building																													31/01/31	~ 2 years 8 months																													
7d –ICU & Mortuary Buildings																													23/06/31	~2 years 3 months																													
Phase 8 – New Radiation Oncology Building																													29/10/30	~5 years 6 months																													21/05/36
Phase 9 – New Car Park Building with MIC [TBC]																					2/02/28	~4 years																																	

Proactively Released

Figure 52: Option 3 Phased Programme

Phased Programme – Option 3

Calendar Year	2023				2024				2025				2026				2027				2028				2029				2030				2031				2032				2033				2034				2035				2036				2037			
Quarter start	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction Milestones																																																							
New Energy Centre Commissioned & Operational																28 Jun 27																																								
Links Complete																												18 Jan 30																													
New ASB "Go Live"																																6 May 31																								
New IPB Complete																																				24 Feb 32																							
Existing Wards & PB refurbishment complete																																								8 Feb 33																	
Theatre & GM Reconfigured																																				19 May 32																							
Fit out to ED, Radiology, ICU, Day Stay & Mortuary																																								1 Jun 33																
Phase 1 – Design, Enabling Works, Infrastructure, and Energy Upgrades																																																						
1a – Enabling Works, including ECE, Car Park & Site Clearance	21/08/23	~2 years 1 month																																																					
1b – Design of Energy Centre & ASB	2/10/23	~2 years 7 months																																																				
1c – Site wide Infrastructure & Energy Upgrades	17/07/24	~1 year 6 months																																																				
Phase 2 – ASB Earthworks, ASB, Links																																																					
2a – Retaining Walls, Cut and Fill					10/03/25				2/12/25																																															
2b – Acute Services Building									29/09/25	~ 5 years 7 months																																																
2c – Links (New)									11/07/25	~ 4 years 6 months																																																
Phase 3 – New Inpatient Building and Links																																																					
3a - Existing Building Work																									10/01/29	~ 3 years 10 months																																	
3b - Inpatient Tower 1 (new) & link to ASB													19/08/26	~ 5 year 6 months																																									
3c – Migration of second ATR ward to new IPU tower																																																					
Phase 4 – Existing Inpatient Building																																																				
4 - Inpatient Building																									29/03/29	~ 3 years 10 months																																	
Phase 5 – Percy Brunette																																																				
5 – Percy Brunette																												24/01/30	~2 years 1 month																													
Phase 6 – George Manson and Existing Theatres																																																				
6a – Theatres Building																												24/04/30	~1 year 10 months																													
6b – George Manson																												24/04/30	~2 years																													
Phase 7 – Emergency Building, Radiology, Day Stay, ICU/Mortuary																																																					
7a and 7b – Emergency Building and Radiology Building																																31/01/31	~2 years 5 months																											
7c – Day Stay Unit Building																																13/11/31	~11 months																											
Phase 8 – New Radiation Oncology Building																																29/10/30	~5 years 6 months																											
Phase 9 – New Car Park Building with MIC [TBC]																									29/03/29	~4 years																													

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Figure 53: Option 4 Phased Programme

Phased Programme – Option 4

	Q1			Q2			Q3			Q4		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Calendar Year	2023				2024				2025				2026				2027				2028				2029				2030				2031				2032				2033				2034				2035				2036				2037			
Quarter start	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction Milestones																																																									
New Energy Centre Commissioned & Operational																28 Jun 2027																																									
Links Complete																												18 Jan 30																														
New ASB "Go Live"																																				5 Nov 31																				
New IPB Complete																																																								
Existing Wards & PB refurbishment complete																																																								
Theatre & GM Reconfigured																																																								
Fit out to ED, Radiology, ICU, Day Stay & Mortuary																																																								
Phase 1 – Design, Enabling Works, Infrastructure, and Energy Upgrades																																																								
1a – Enabling Works, including ECE, Car Park & Site Clearance	21/08/23	~2 years 1 month	22/09/25																																																					
1b – Design of Energy Centre & ASB	2/10/23	~2 years 9 months	20/07/26																																																				
1c – Site wide Infrastructure & Energy Upgrades	17/07/24	~1 year 6 months	29/01/26																																																			
Phase 2 – ASB Earthworks, ASB, Links																																																							
2a – Retaining Walls, Cut and Fill	10/03/25	2/12/25																																																				
2b – Acute Services Building	29/09/25	~ 6 years 1 months	5/11/31																																																			
2c – Links (New)	11/07/25	~ 4 years 6 months	18/01/30																																																			
Phase 3 – New Inpatient Building and Links																																																						
3a - Existing Building Work	21/01/31	~ 1 year 9 months	17/11/32																																																			
3b - Inpatient Tower 1 (new) & link to ASB	17/11/28	~ 5 years 5 months	6/04/34																																																			
3c – Migration of second ATR ward to new IPU tower	9/09/33	29/06/34																																																			
Phase 4 – Existing Inpatient Building																																																					
4 – Inpatient Building	2/02/32	~3 years 1 month	22/03/35																																																			
Phase 5 – Percy Brunette																																																					
5 – Percy Brunette	8/11/32	~ 1 years 11 months	6/10/34																																																		
Phase 6 – George Manson and Existing Theatres																																																				
6a – Theatres Building	31/01/33	~1 year, 1 month	10/03/34																																																		
6b – George Manson	31/01/33	~ 2 years 2 months	20/04/35																																																	
Phase 7 – Emergency Building, Radiology, Day Stay, ICU / Mortuary																																																			
7a and 7b – Emergency Building and Radiology Building	24/07/31	~ 4 years 10 months	02/05/36																																																		
7c – Day Stay Unit Building	13/11/31	~3 years 10 months	21/09/35																																																	
Phase 8 – New Ambulatory Oncology Building	5/03/32	~5 years 3 months	18/06/37																																																	
Phase 9 – New Carpark Building with MIC [TBC]	21/08/30	~3 years 10 months	7/07/34																																																	

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Appendix R Digital Blueprint and Budget

Reference: Nelson Programme Whakatupuranga Digital Blueprint V4, dated 28 April 2023

Reference: Nelson Programme Whakatupuranga Digital Budget Estimate V4.0, dated 28 April 2023

To manage file size, this appendix has been attached separately.

Withheld under section 9(2)(b)(ii)

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Appendix S Data & Digital Investment

The Health Reforms clearly outlined the need for Digital Transformation as one of the five system shifts for realising the reform outcomes and is a key enabler to implementing the Ki Te Pae Ora Programme and therefore Project Whakatupuranga.

The Digital Blueprint (Appendix R) sets out the initial concept design for the digital scope associated for Project Whakatupuranga. It is guided by the themes and initiatives in the National Digital Strategy and Roadmap as well as the Nelson Digital Strategy and Roadmap (2021 – 2024). The delivery approach, including roles and responsibilities are outlined in the Management Case. This section focuses on the scope and investment required across all options. This has been informed by the significant work completed by the Data & Digital team within Te Whatu Ora – Health New Zealand.

Scope description

The scope outlined in the digital blueprint is consistent with the components associated with a capital infrastructure project. Accordingly, the scope is predominantly focused on the infrastructure (hardware and equipment) necessary to commission a “digitally capable” facility and includes an additional allowance to extend existing software systems.

As noted in the Strategic Case, to support the redesign of clinical services and enable new MoC, additional digital scope and investment will be required, specifically new and enhanced corporate, patient support and clinical software systems. The National Digital Strategy and Roadmap as well as the Nelson Digital Strategy and Roadmap (2021 – 2024) articulate many of the new systems required. The ongoing funding and implementation of the National Digital Strategy and NMH Digital Strategy and Roadmap must continue in parallel to Project Whakatupuranga. The status of the parallel programme of work must be monitored closely at each stage of Project Whakatupuranga to ensure progress and ongoing alignment in delivery.

The NMH Digital Strategy and Roadmap is designed to complement regional and national activity. A critical component of this regional activity is the architecture and blueprint developed for Nelson Hospital. This architecture will drive the necessary digital transformation needed to enable the full range of potential benefits from a contemporary new hospital to be achieved, especially the new MoC required to support the hospital configuration. The intent, as expressed by Te Whatu Ora – Health New Zealand, is to scale this out to be a regional rather than local architecture. The formation of Te Whatu Ora – Health New Zealand means the merging of local and regional strategies and activity including funding required for Te Whatu Ora – Nelson Marlborough to adopt the new regional architecture.

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Scope - Budget Estimate assumptions

s 9(2)(b)(ii), s 9(2)(f)(iv)

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s 9(2)(b)(ii), s 9(2)(f)(iv)

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Appendix T Models of Care Summary paper

Reference: Te Whatu Ora – Health New Zealand Models of Care Summary Paper, dated April 2023

To preserve file size this has been attached as a separate file.

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

[82] DBC drafting is expected to commence in October 2024, with approval anticipated in August 2025

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

s 9(2)(b)(ii)

Proactively Released

Appendix V Procurement Models

Table 113: Procurement Models considered

Model	Description
Direct Managed	As the client, Te Whatu Ora will be directly managing all aspects of the full delivery of the project/programme works. Te Whatu Ora will be undertaking and coordinating some (or all) of the design activities, is responsible for all preliminaries and project management, preparation of trade packages, conducts tenders, selects and pays suppliers and subcontractors. Direct managed provides substantial flexibility and control over the project and achievement of outcomes. However, risk transfer is limited as a result.
Construct Only	Te Whatu Ora engages consultants to prepare the design and tender documents. Te Whatu Ora then leads a competitive tender process to appoint a contractor for the construction of the facility. In most cases, the design is fully developed before the construction contract is awarded. However, this method can be varied by overlapping design and construction processes. Operations and maintenance roles are provided in house or sourced by Te Whatu Ora directly, outside the design and construction process.
Design and Build / Progressive Design and Build	The design and construction services are contracted by a single entity via a competitive tender process, creating a single point of responsibility. There are a number of variations: • Competitive – contractors tender on design and construction • Develop and construct – scope design is developed, then tenders are received to complete design and construction • Novation – design is novated to the successful contractor In Progressive Design and Build, there is greater collaboration between the contractor and client to progress towards the project design. Operations and maintenance roles are provided in house or sourced by Te Whatu Ora directly, outside the design and construction process.
Early Contractor Involvement	ECI involves the early engagement of a contractor to benefit from input such as constructability, scheduling, early procurement of long-lead time items, estimating, etc. The model procures an ECI contractor through a qualification-based procurement, with an intention to convert that same contractor into the prime contractor (under Construct Only or Design and Build) once design is sufficiently progressed. Many variants.
Construction Management	Te Whatu Ora – Health New Zealand appoints a Construction Manager who performs a management and coordination role and provides expert advice for design and build issues. The Construction Manager manages the tender process on behalf of Te Whatu Ora but does not enter contracts (contracts are between Te Whatu Ora and sub-contractors). Operations and maintenance roles are provided in house or sourced by Te Whatu Ora directly, outside the design and construction process.
Managing Contractor	Often considered synonymous with Construct Only with ECI. Managing Contractor is similar to Construction Management, but contracts are entered into directly by the Managing Contractor, instead of the Te Whatu Ora. Operations and maintenance roles are provided in house or sourced by Te Whatu Ora directly, outside the design and construction process.
Alliance	Alliance contracting is a relationship-style arrangement that brings together the Te Whatu Ora – Health New Zealand and one or more parties to work collaboratively as an integrated, collaborative team to deal with key project delivery matters, sharing project risks and rewards. Operations and maintenance roles can be included in the Alliance, be provided in-house or sourced by the Te Whatu Ora directly, outside the Alliance.

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Appendix W Collaborative Delivery Model Guidance

Figure 54: Summary of the Collaborative Approaches Guidance

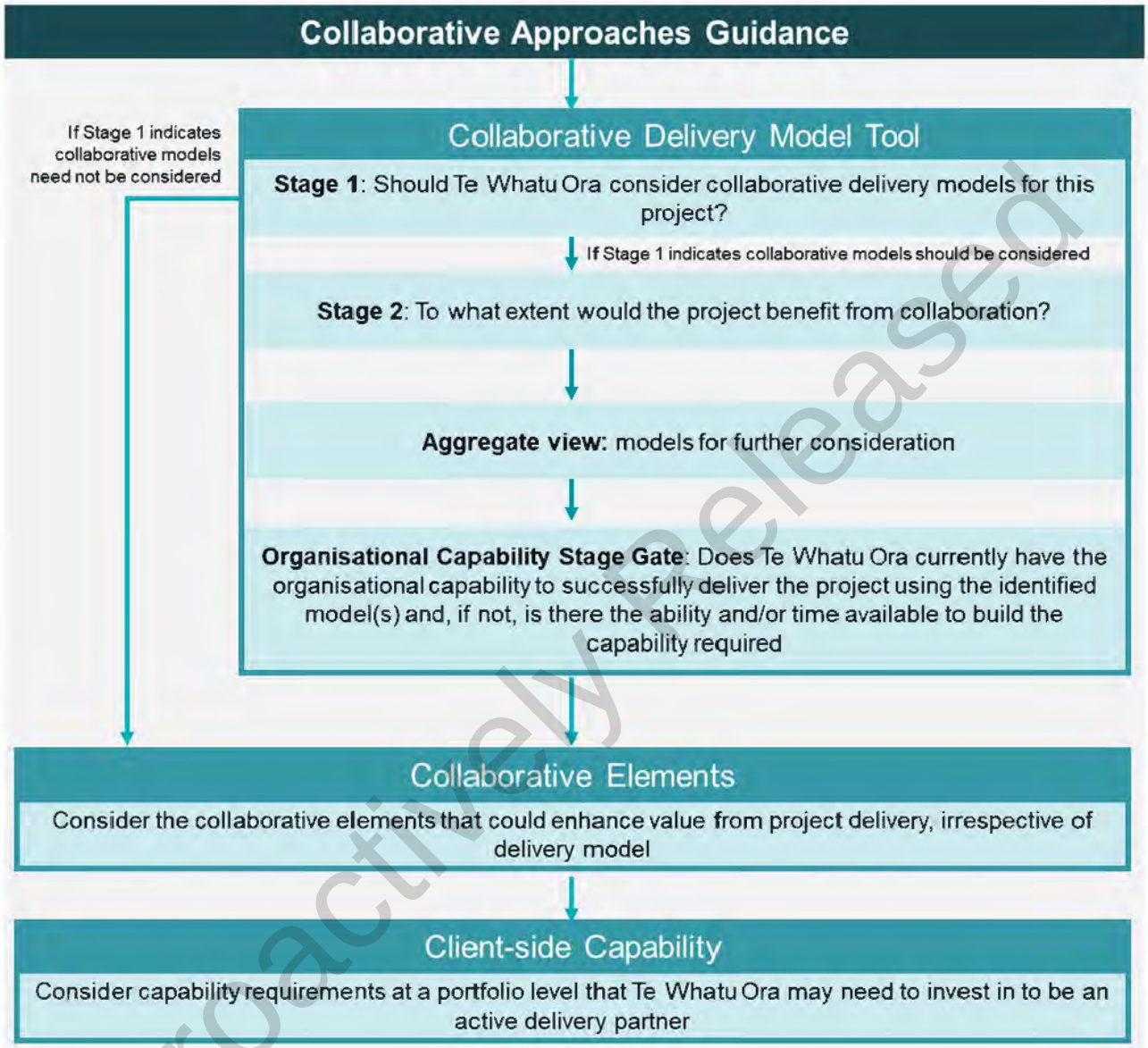

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Table 114: Collaborative Delivery Tool Questions and Response Options

Questions	Response Options
Stage 1 – Should Te Whatu Ora consider collaborative delivery models for this project?	
1.1 Health Services Disruption Is implementation of the project likely to result in severe or significant disruption to the operations and/or clinical services of an existing Te Whatu Ora campus?	A '**yes**' response could be considered when a project is likely to disrupt operations in multiple areas or the entirety of the campus and results in significant degradation to operations and/or services. A '**no**' response could be considered when there is likely to be minor to moderate disruption to either the campus and / or operations. 
1.2 Complexities and Unknowns Are there expected to be material complexities or unknowns present in the design and delivery phases of the project?	A '**yes**' response could be considered when a project has multiple interdependent components or work packages, untested or new technical issues and/or a high level of uncertainty in the methodology and outcomes associated with the project. A '**no**' response could be considered when a project has fewer components or work packages, the technical issues have occurred on other projects and are tested and/or the methodology and outcomes are well-defined and understood. 
1.3 Opportunity for Innovation Does the project offer opportunities for significant innovation in design and delivery, including with respect to high-quality outputs, facilitating timely delivery and/or increasing efficiency?	A '**yes**' response could be considered when the project is large, does not have a well-defined scope, is expected to benefit from new technology or delivery methods, and/or requires an innovative approach that has not previously been delivered in New Zealand. A '**no'** response could be considered when the project is small, has a well-defined scope, and/or limited innovation is required since similar investments have been previously delivered in New Zealand. 
1.4 Market Capacity and Capability Is the project expected to have challenges attracting suppliers (e.g., consultants, contractors and wider supply chain) with the capacity and capability required to deliver the project within the desired timeframes?	A '**yes**' response could be considered when there is anticipated to be insufficient supplier capacity and capability available to deliver a competitive process, due to the project's location, national pipeline and/or other capacity constraints. A '**no'** response could be considered when there is anticipated to be a highly competitive supplier market and the capacity and capability required could be attracted to the project, including where this capacity and capability is available from outside the project's location or from overseas. 
1.5 External Factors Are there external factors present that could have a material negative impact on the project's cost and/or timeframes?	A '**yes'** response could be considered when there are unforeseen or unusual external factors that are likely to have a significant impact on project timeframes and/or cost, such as volatile construction cost escalation, national labour shortages and/or widespread supply chain constraints. A '**no'** response could be considered when external factors are known and/or steady and can therefore be managed and mitigated, and/or the external factors are considered to have a negligible impact on project timeframes and/or cost 
If one or more '**yes**' responses are received the project should move to Stage 2.	

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Questions	Response Options
Stage 2 – To what extent would the project benefit from greater collaboration?	
2.1 Flexibility To what extent is flexibility required to accommodate changes to scope over the lifecycle of the project?	A '**to a large extent**' response could be considered when changes to scope and/or the addition of future phases/stages are expected to have a severe or significant impact on the project cost and/or timeframes. A '**to a small extent**' response could be considered when changes over the lifecycle of the project can be accommodated within the existing cost and/or timeframes
2.2 Management of Risk To what extent does the project's risk profile require Te Whatu Ora to adjust its risk appetite and approach to allocating project risks?	A '**to a large extent**' response could be considered when project risks are unknown and cannot be fully assessed, priced, managed or transferred to the private sector. A '**to a small extent'** response could be considered when risks are better known and able to be effectively allocated to the party best placed to manage them.
2.3 Supply Chain Integration To what extent does the project require greater oversight and integration of the supply chain to manage supplier and interface risks?	A '**to a large extent'** response could be considered when interface risks are not well understood and are expected to present challenges in terms of risk allocation and management, such as the supply of key inputs during volatile market conditions. A '**to a small extent'** response be considered when interface risks are known and expected to be able to be appropriately allocated and managed through contractual arrangements, such as design risk under a Design and Build procurement model.
2.4 Location To what extent is the project's location, in terms of both site-specific features and/or access to supply chains, likely to constrain delivery of the project?	A '**to a large extent**' response could be considered when the location of a project is highly likely to constrain delivery, such as delivering in a more remote regional area or urban areas that have another major infrastructure investment(s) underway or complex operational interfaces. A '**to a small extent'** response could be considered when the location of a project is not likely to constrain delivery, such as delivering a project in a major urban area or a regional area in close proximity to a major urban area.
2.5 Market Appetite To what extent would use of traditional delivery models and/or contracting mechanisms impede contractor market appetite? i.e., if use of a fixed-price lump sum contract would limit contractor market appetite to participate?	A '**to a large extent**' response could be considered when Te Whatu Ora's experience and market feedback indicates that use of traditional approaches would likely limit supply chain participation in procurement activities. A '**to a small extent'** response could be considered when traditional approaches are expected to result in a competitive bidding environment or limited supply chain participation is not related to use of traditional delivery models, such as lack of capacity or the wider pipeline of opportunities.
2.6 Programme To what extent would the project benefit from delivery as part of a wider Te Whatu Ora programme?	A '**to a large extent**' response could be considered when the project is part of, or is suitable for delivery as part of, a wider Te Whatu Ora programme and therefore offers potential efficiency gains, innovations and/or longer-term contracting relationships. A '**to a small extent'** response could be considered when the project is not likely to benefit from delivery as part of a wider programme or where the project's timing and/or phasing does not support this.
Aggregate View	An aggregate view of Stage 2 responses is then formed to give an indication of collaborative models to be considered for the given project. All models to the left of the aggregate view should be considered and all models to the right should be disregarded. 

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The Tool then considers whether the project has the current capability ot potential to develop the capacity to deliver the project by the identified collaborative model(s).

Organisational Capability Stage Gate	
A. Current Capability Does Te Whatu Ora currently have the organisational capability and capacity to deliver the project using the collaborative delivery model(s) identified?	A '**yes**' response could be considered when Te Whatu Ora is considered to have the necessary internal capability and capacity to manage a collaborative delivery model and/or has experience with the potential delivery model(s). A '**no**' response could be considered when Te Whatu Ora does not consider it has the necessary internal capability and capacity to manage a collaborative delivery model and/or has limited to no experience with the potential delivery model(s).
If the answer to the above is '**yes**', all potential collaborative delivery model(s) can be carried forward for consideration as part of Te Whatu Ora's Project Delivery Framework and Business Case process(es), including to consider the pricing and contracting mechanism overlays in the supporting document. If the answer to the above is '**no**', continue to the next question.	
B. Potential to Develop Capability Does Te Whatu Ora have the ability and/or time available to build the capability required to successfully deliver the project using the potential collaborative delivery model(s)?	A '**yes**' response could be considered when the project has time built into the programme to build or outsource the required capability, and/or the recommended delivery model(s) represents a minor or moderate shift from typical delivery models employed by Te Whatu Ora. A '**no**' response could be considered when there is limited time available to build or outsource the required capability, and/or the recommended delivery model(s) represents a significant step change from typical delivery models employed by Te Whatu Ora.

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Appendix X Collaborative Delivery Model Assessment

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Appendix Y Programme Management Plan

Reference: Te Whatu Ora – Health New Zealand, Programme Management Plan (DRAFT) v0.4.1, dated 18 April 2023.

To preserve file size, this has been attached as a PDF

Withheld under section 9(2)(a) and section 9(2)(b)(ii)

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Appendix Z Stakeholder Engagement and Communications Strategy

Reference: Te Whatu Ora – Health New Zealand, Stakeholder Engagement Strategy, v2.0, dated March 2023

Reference: Te Whatu Ora – Health New Zealand, Strategic Communications and Engagement Plan for Project Whakatupuranga: Nelson Hospital, v0.1, dated 20 March 2023

To preserve file size, these have been attached as a PDF

Withheld under section 9(2)(a)

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Appendix AA Change Management Plan

Reference: Te Whatu Ora – Health New Zealand, Project Whakatupuranga Nelson Hospital Redevelopment Programme Business Change Management Plan DRAFT, v0.1.1 dated 19 April 2023.

To preserve file size, this has been attached as a PDF

Withheld under section 9(2)(a)

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Appendix BB Benefits Realisation Plan

The table below sets out the Project Whakatupuranga benefits, including the measures, current state information, targets and timeframe for monitoring the benefit. This register has been developed in consultation with Te Whatu Ora – Nelson Marlborough and key clinical stakeholders. A more detailed Benefits Realisation Plan will be developed to specify purpose, more in depth background to how he benefits are progressing and the key dependencies within scope of Project Whakatupuranga and Te Whatu Ora – Nelson Marlborough.

Increased quality in service provision

Table 118: BRP – Benefit: Increased quality in service provision

Benefit Category	Benefit Owner	KPI	Measure	Current state	Target	Timeframe
Increased quality in service provision Services provided are patient centred, safe, efficient, effective, equitable and timely.	Chief Medical Officer, Te Whatu Ora – Nelson Marlborough	Improved patient experience	Patient experience surveys *Source – CG Consumer council*	• NM contributes to HQSC National Patient experience survey with Quarterly reporting and actionable responses led by Clinical Governance. HQSC also has the intension to enhance patient experience and outcome measures.	**Target(s):** • Survey questions and targets will evolve over the timeframe of Project Whakatupuranga within the direction of HQSC. • Actionable responses specific to PW to be escalated from CG through to Project Whakatupuranga PMO.	For the first 5 years after ASB (2031) & IPU (2032) Go Live.
			In-hospital patient falls *Source – Health Roundtable* *(HQSC QSM falls data available too but only reports on #NOF post fall)*	**2022** • 244 falls equates to 14.7 falls / 100,000 presentations compared with NZ rate 11.1 falls / 100,000 presentations..	**Target(s):** • Alignment with National median (currently 11.1 falls / 100,000 presentations) • Further % reduction TBC, to be reviewed and refined during subsequent design phases • **Rationale:** modern facilities provide for easier observation and enhanced digital surveillance and will better protect from preventable aspects of falls	
			Surgical site infections (SSIs) *Source – Health Roundtable* *(HQSC data available too but only Hip and Knee SSI – small volumes in NM)*	**2021** • 26 SSIs **2022** • 21 SSIs • 24.3 per 10,000 surgical procedures, peer group median is 24.1 per 10,000 surgical procedures	**Target(s):** • Alignment with peer group median • Further reduction in SSI to be reviewed and refined during subsequent design phases.	
		Improved access to care	No. of cancellations of elective surgery *Source – NM TMS*	**2020** • Cancellations: 209 **2021** • Cancellations: 225 **2022** • Cancellations: 213 Total elective surgery 2022 = 3,750. Cancellation rate 5.6%	**Target(s):** • 15% reduction in hospital led cancellations • 15% improvement in theatre productivity • 20% of current day case procedures move to ambulatory care **Rationale:** Increased theatre and ward capacity at opening of ASB will support productivity and Phases 3-6 will support streamlining of planned and unplanned care with dedicated day surgery from theatres to ambulatory procedure rooms	
			Waiting times to access elective surgery (ESPI 5) *Source – NM TMS*	**2022** • Total waitlist admissions: 3,142 • Total waitlist to admit date (days): 411,667 • Average waitlist to admit date (days): 131 • Minimum days waiting: 0 • Maximum days waiting: 1,011	**Target(s):** • Stabilisation of Total Waitlist Admissions and Average Waitlist to Admit date (days). To be further reviewed and refined during subsequent design phases. **Rationale:** Increased theatre capacity and dedicated surgical procedure floor at opening of ASB will produce reduction in wait times, Phases 3-6 with redevelopment of OPD and day procedure space will produce largest impact. Without intervention it is inevitable with increasing population and increasing community need that numbers of people waiting will only increase. The planned interventions can slow waiting list growth and enhance timely care.	

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Equity health outcomes

Table 119: BRP – Benefit: Equity health outcomes

Benefit Category	Benefit Owner	KPI	Measure	Current state	Target	Timeframe
Equitable health outcomes Services provided are equitable, culturally safe and appropriate	Māori Health Led, Te Whatu Ora – Nelson Marlborough	Māori treated in places that reflect their cultural needs	No. of whānau rooms	• Not all patient areas have dedicated whānau spaces	**Target(s):** • Each core health service within the ASB has whānau room capacity	• ASB – 2031 • IPU – 2032 • Refurbishments - 2033
			No. of Te Reo Māori signage (internally and externally) on DHB facilities	• Only some facilities have Te Reo Māori signage	**Target(s):** • Te Reo Māori signage used universally throughout all areas.	
			No. of appropriate taonga in entry/exit pathways (determined by Iwi Health Board)	• Small amount of taonga at main entry point of the Nelson hospital campus	**Target(s):** • Appropriate taonga in all entry/exit pathways and Te Ao Māori reflected throughout buildings across the site	
			Māori Models of Care reflected across the site	• Configuration and layout of current facilities does not allow Māori health providers to provide service that supports Māori models of care.	**Target(s):** • Whānau spaces that incorporate ability to share kai • Māori health team resourced, visible and have dedicated space for whānau in main facility • Functional space for hui, holistic health services	
	Digital Lead – Te Whatu Ora – Nelson Marlborough	Access to care through telehealth specific for Māori	% of telehealth appointments for: • Māori population • Pacifica population • Rural populations *Source – NM Telehealth Dashboard*	2019-Present • Variable measures, average 20%	**Target(s):** Incremental 2% YoY increase of telehealth appointments per year for 30% by 2029/2030 (this number is proposed as it aligns with the overall aim of 30% clinics virtually) for: • Māori population • Pacifica population • Rural populations Increase of access to virtual health realised at opening of ASB, with further increase noted at Phases 3-6 when OPD redevelopment realised. **Rationale:** Enhancement of Data & Digital architecture and the OPD redevelopment will provide more private space and better connectivity for telehealth appointments	For the first 5 years afler Go Live of each phase • ASB – 2031 • IPU – 2032 • Refurbishments - 2033
			Kilometres (Kms) saved *Source – NM Telehealth Dashboard*	2022 • 2,164,510 kms (total) in avoided travel	**Target(s):** • 2% YoY increase of kilometres saved (total 10%). • Kilometres saved remains closely aligned to virtual health access target (currently at 20% - aiming for 30%). • Further targets to be reviewed and refined during future phases.	For the first 5 years afler Go Live of each phase • ASB – 2031 • IPU – 2032 • Refurbishments - 2033

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Enabling Innovations and improvements in MOC

Table 120: BRP – Benefit: Enabling innovations and improvements in MOC

Benefit Category	Benefit Owner	KPI	Measure	Current state	Target	Timeframe
Enabling innovations and improvements in MoC Modern, fit for purpose facilities and better configured services will enable service improvement and innovation.	Chief Medical Officer, Te Whatu Ora – Nelson Marlborough	Develop an acute assessment unit as part of an acute assessment service which engages all community providers of acute care.	Reduction in inpatient Average Length of Stay (ALoS) Standardised Acute bed days per 1000 population *Source – NM Data and Analytics*	2022 MAPU ALOS • 44.7 hours • 257 acute bed days / 1000 (lowest rate in NZ)	**Target(s):** • 2% YoY improvement in ALoS for patients with a 48-72 hr LoS (10% in total) • 2% YoY improvement in ALoS for patients with a <48 hr LoS and triage code of 3 (10% in total) • Incremental improvements with largest impact seen on opening of ASB / opening of AAU • Remain in top 10% of NZ hospitals with low acute bed days.	For the first 5 years after ASB Go Live
		ED patient flow – patients are seen, treated and discharged in an appropriate time	Patients have been seen, treated or discharged from ED within 6 hours. *Source – EDaaG*	2022 ED 6-hour target data • 15.86% outside of 6-hour target	**Target(s):** • 95% of ED patients are seen, treated and discharged / admitted within 6 hour	
		Older people with complex needs have a shared MDT approach to their care ensuring hospitalisations are not lengthy and more care offered in primary and community settings	Inpatient ALOS for patients over 65 *Source - NM Data and Analytics*	2022 ALOS for 65+ • 71.76 hours	**Target(s):** • 2% YoY improvement in ALoS for all patients over 65 (10% in total)	Some initial benefit from opening of ASB – as all acute presentations regardless of age occur in general wards. More benefit realised in the first 5 years after AT&R wards go live.
	Chief Medical Officer, Te Whatu Ora – Nelson Marlborough	Ongoing improvement in Theatre productivity for planned care	No. of theatre operations *Source – NM TMS*	2022 theatre usage • 7489 procedures	**Target(s):** • 3% YoY increase in planned theatre operations (15% in total)	For the first 5 years after ASB Go Live
		Separation of planned and unplanned care	Reduction in hospital led cancellations for theatre operations *Source – NM TMS*	2022 % of theatre cancellations • 5.66% of cancelled procedures	**Target(s):** • 3% YoY improvement in hospital-led cancellations for theatre operations (15% in total, applies to all specialties for elective theatre operating only)	

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Workforce satisfaction and sustainability

Table 121: BRP – Benefit: Workforce satisfaction and sustainability

Benefit Category	Benefit Owner	KPI	Measure	Current state	Target	Timeframe
Workforce satisfaction and sustainability Facilities and services are configured to support interdisciplinary functioning, provision of appropriate clinical support, and provide appropriate L&D facilities, amenities and support spaces for staff.	People and Capability Lead, Te Whatu Ora – Nelson Marlborough	Increased workforce satisfaction, safety and wellbeing	Staff satisfaction survey (based on quality of facility)	• Baseline will be set in 2023/24 when new survey process is implemented • Not currently measured; previous staff surveys have not captured facility satisfaction	*Questions to be added to either the national pulse survey, or a specific Nelson Marlborough facility survey.* *The questions in the survey will be used to baseline and set the target.*	For the first 5 years after ASB Go Live
			Staff sickness hours	• Sick hours: 64,026.25 • Worked Hours: 1,587,972.87 • Sick hours as a % of worked hours = 4%	**Target(s):** • Maintain no higher % of staff sickness. than baseline. • Further targets to be reviewed and refined during phases of the project	
			Staff turnover	• Staff turnover rate to be determined for DBC	*Targets to be developed during later project phases.* *Staff turnover targets to be developed per discipline.*	

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Continuity and resilience of service delivery

Table 122: BRP – Benefit: Continuity and resilience of service delivery

Benefit Category	Benefit Owner	KPI	Measure	Current state	Target	Timeframe
Continuity and resilience of service delivery The hospital can continue to provide critical health services in the event of a major seismic event or other disaster.	Hospital Specialist Services Regional Lead, Te Whatu Ora	Retention of critical service capacity following a major seismic event	%NBS and SLS2 requirements for IL4 buildings *DSA Reports for Nelson Campus*	• None of the existing buildings that currently house critical post disaster hospital functions meet current code requirements for an Importance Level 4 facility. They do not meet %NBS and operational continuity (SLS2) requirements.	**Target(s):** • New ASB to be designed to Importance Level 4 requirements, including post disaster operational requirements (SLS2) • New ASB to have additional seismic protection to structure and contents by limiting accelerations and building displacements, in line with international guidance. • Functionally operational immediately after a major seismic event (this means some damage expected but not enough to stop the building being functionally operational). • Existing buildings no longer used for critical post disaster services.	ASB Go Live
	Facilities Management, Te Whatu Ora – Nelson Marlborough	Provision of critical infrastructure provision (e.g. fuel and water supply) provided for post disaster situation	Critical infrastructure provision	Some critical infrastructure provision is not seismically resilient and/or passes through seismically vulnerable buildings	• 3 days of critical infrastructure provision provided (such as fuel for generators, potable water etc).	

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Environmental performance of the building

Table 123: BRP – Benefit: Environmental performance of the building

Benefit Category	Benefit Owner	KPI	Measure	Current state	Target	Timeframe
Environmental performance of the building **Decreased adverse building impacts on the environment**	Facilities Management, Te Whatu Ora – Nelson Marlborough	Operational energy and emissions reductions	Measurement of annual energy via whole building energy check meter. NABERSNZ for Hospitals star rating to be used to assess and compare energy performance (when available to NZ market).	• Total energy = 23,800 MWh/yr - Average of the data collected between 2019 and 2021	• Reduced energy consumption compared to the existing site (when normalised on a floor area basis). Concept stage performance target represents a 30 to 40% reduction target. This will be refined during subsequent design stages and during post occupancy based on the actual as-built building and usage profiles • Reduction in annual energy cost for NMH	
			Measurement of Scope 2 energy emissions via whole building energy check meter and associated MoE carbon factor to convert to annual emissions. NABERSNZ for Hospitals star rating to be used to assess and compare energy performance (when available to NZ market).	Average of the data collected between 2019 and 2021 • Total Emissions = 2,600 Tonnes Carbon/yr • Breakdown per year • Coal = 5,700MWh, 1,850 Tonnes Carbon • Landfill Gas = 11,900MWh 100 Tonnes Carbon • Electricity = 6,200MWh, 650 Tonnes Carbon	• Reduced Scope 2 GHG emissions associated with energy consumption compared to the existing site (when normalised on a floor area basis). Concept stage performance target represents an estimated 50 to 60% reduction target. This will be refined during subsequent design stages and during post occupancy based on the actual as-built building and usage profiles • Reduced carbon offset costs for Health NZ/MoH	
			Measurement of annual refrigerant gas replacement and associated Global Warming Potential to convert to annual emissions.	• Not currently measured	• Reduced Scope 1 GHG emissions associated with refrigerant leakage. This selected refrigerants for new equipment could be in the order of 50-80% less GWP (Global Warming Potential) compared to existing refrigerants • Reduced carbon offset costs for Health NZ/MoH	
	Facilities Management, Te Whatu Ora – Nelson Marlborough	Operational water savings	Measurement of potable water consumption via water check meters (to exclude clinical uses).	• Potable water metering is not collected in isolation, instead, water usage is largely measured through Nelson City Council monthly charges • Total Nelson Hospital usage for FY20/21 = 64,865 m^3	• Reduced potable water consumption associated with non-clinical uses compared to existing site (when normalised on an occupancy basis). Concept stage performance target represents an estimated 40 to 50% reduction target. This will be refined during subsequent design stages and during post occupancy based on the actual as-built building and usage profiles • Reduced potable water costs for Health NZ/MoH	

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Appendix CC Risk and Issue Management Plan

Reference: Te Whatu Ora – Health New Zealand, Project Whakatupuranga Nelson Hospital Redevelopment Programme Risk and Issue Management Plan DRAFT, v0.2.2 dated 19 April 2023.

To preserve file size, this has been attached as a PDF

Withheld under section 9(2)(a) and section 9(2)(b)(ii)

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Appendix DD Programme Risk Register

References: Te Whatu Ora – Health New Zealand, Programme Risk Register.pdf, v0.1, dated 28 April 2023.

Reference: Te Whatu Ora – Health New Zealand, Phase 1 Subprogramme Risk Register.pdf, v0.1, dated 28 April 2023.

To preserve file size, this has been attached as a PDF

Withheld under section 9(2)(a) and section 9(2)(b)(ii)

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Appendix EE Programme Dependency Register

Reference: Te Whatu Ora – Health New Zealand, Programme Dependency Register.xlsx, v0.1, dated 17 April 2023.

To preserve file size, this has been attached as a PDF

Withheld under section 9(2)(a) and section 9(2)(b)(ii)

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Appendix FF Programme Assurance Plan

Reference: Te Whatu Ora – Health New Zealand, Project Whakatupuranga Nelson Hospital Redevelopment Programme Assurance Plan DRAFT, v0.1.1 dated 19 April 2023.

To preserve file size, this has been attached as a PDF

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