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INFRASTRUCTURE
COMMISSION
*Te Waihanga*

# New Dunedin Hospital Review: Independent Expert Readiness Review 30 May 2024

## Proactive Release

Updated in June 2026 (original proactive release date was 26 September 2024)

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## June 2026 Update

This document was originally proactively released subject to redactions in September 2024. Given the passage of time some of the information that was previously withheld can now be released. The web address for this report on the New Zealand Infrastructure Commission website is: https://tewaihanga.govt.nz/our-work/reviews/dunedin-hospital-independent-review

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# New Dunedin Hospital Review

## Independent Expert Readiness Review

**30 May 2024**

# Foreword

In recent times development and delivery of major projects in most sectors and jurisdictions in New Zealand and Australia have suffered significant cost and time overruns because of COVID and the associated lockdowns, ongoing disruption, and shortages and cost increases in both materials and skilled labour.

Governments have had to choose between either reducing the output they provide or increasing the budget for the same output. This is particularly so for projects that had Business Cases developed pre-COVID.

The New Dunedin Hospital (NDH) project is no different, and these issues have been exacerbated by the fact that it is a regional facility and hence was always going to need to carefully manage availability of the appropriate labour given its location.

The New Dunedin Hospital remains an exciting project which should deliver a world class facility to Dunedin and the Southern Region. However, as is outlined in our report, it would benefit from more rigorous scope definition, a reconfirmation of the true cost of delivering the facility in the current infrastructure environment and understanding how those services not incorporated into the new facility can continue to be provided effectively and efficiently in the Dunedin City Health Campus going forward.

The Final Detailed Business Case identified two distinct but complementary aspects to the New Dunedin Hospital – a broader system-wide transformation and a new-build. The project would benefit from a better understanding of how the new facility can serve as an effective enabler for the desired wider system-wide transformation. Properly managed, New Dunedin Hospital has sufficient critical mass to drive genuine reform in the broader delivery of services.

In making my comments I am relying on the experience I gained in 5 1/2 years in Health Infrastructure New South Wales managing the executive steering groups that provided governance across all major hospital developments, including four Public Private Partnership (PPP) projects. NSW had its share of problem projects, and they provided valuable lessons in how good governance is necessary for good outcomes.

I've been supported by Rawlinsons and Rubix, both of whom have the thorough and in-depth local knowledge necessary to be able to review with authority, the costings and programmes.

## The Reviewers

### Robert Rust

Robert is a Civil Engineer with an MBA and has spent the majority of his 40-year career working on major projects in both the private and public sectors within Australia. He has been involved in and taken lead roles in project development, procurement and delivery on both the client and contractor sides. He was the inaugural Chief Executive of Health Infrastructure in New South Wales.

Robert led a review into New Zealand's Health infrastructure on behalf on the New Zealand Infrastructure Commission in 2021, has previously advised Health NZ on their operating model as part of their Independent Working Group and was also a member of the New Dunedin Hospital Executive/Project Steering Group for 2 years.

## Rawlinsons

Powered by construction market intelligence, Rawlinsons purpose is to provide innovative and sustainable cost solutions for New Zealand.

Established in 1982, Rawlinsons is a prominent cost management and quantity surveying company operating within the construction and infrastructure sectors across New Zealand. With over 40 years of experience and a well-established national network of offices in Auckland, Wellington, Christchurch, Dunedin and Central Lakes, they offer the full suite of independent and innovative financial and commercial management services and contract administration expertise nationwide.

The Rawlinsons engagement on this review has been led by Lawrie Saegers (Managing Director), supported by Julian Donald (Director), Andy Tiplin (Senior Commercial Advisor) and Charles Loomans (Quantity Surveyor).

## Rubix

Rubix is an independent project management consultancy with offices throughout New Zealand, providing comprehensive project management services to both the Public and Private sectors.

Rubix was established in 2018 following the merger of three established project management consultancies (The Project Office, N-Compass, and Peak Projects) that had been operating as early as the 1980s. Today Rubix employs over eighty project professionals across eight offices.

This review has been led on behalf of Rubix by Sam Davis and Simone Sharp. Sam is a Director of Rubix with a Master's degree in Engineering Management, and almost 25 years industry experience in both New Zealand and overseas. Simone is also a Director and Rubix's National Health Sector Lead. Starting her career as a registered pharmacist, Simone has 25 years of health and construction industry experience both in NZ and overseas.

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# 1 Executive Summary

## 1.1 The Review

The purpose of the Review was to provide assurance to key Ministers about:

- the cost and feasibility of the NDH programme as currently presented by Health NZ;
- the preparedness of Health NZ to successfully move into the next phase of the NDH project, in particular reviewing the interim Implementation Business Case prior to the execution of the construction contract for the Inpatient building; and
- any recommendations or actions that can be taken to improve preparedness and/or mitigate identified/potential risks and issues.

As a secondary purpose, the Review would also provide project-specific, forward-looking, operational-level advice to Health NZ, and would inform the Ministry of Health (MoH) and the Treasury (as monitors).

Detailed Findings and Recommendations can be found in Section 3 of the report below and are summarised in Section 1.2 Summary of Findings and Section 1.3 Summary of Recommendations below.

The review finds:

- the approved budget is probably not sufficient at this stage, but over the next few months the project will (or at least should) receive three key cost related deliverables which will provide greater cost certainty against budget:
    1. A developed design estimate, from Health NZ's Quantity Surveyor, which will update and supersede the current "hybrid" cost estimate.
    2. The Target Total Cost 2 Tender Submission for the Inpatients construction cost from the Contractor, and
    3. A robust Quantitative Risk Assessment (QRA) outlining appropriate levels of contingency.
- it may be preferrable to require that the Interim Implementation Business Case incorporates this level of detail on costs before making a final commitment on the Inpatient Building (noting that Health NZ will have to make further work and materials commitments to maintain programme); and
- the governance is adequate to deliver the Inpatient Building provided there is no further material change to project scope but needs resetting to fully deliver the benefits outlined in the Final Detailed Business Case.

## 1.2 Summary of Findings

Our findings are summarised as follows:

**Governance**

The current project governance structure should be appropriate for the proposed managing contractor model[1] where Health NZ is required to be an active client, subject to:

- there being active and fast-tracked management of design finalisation involving Health NZ, the Contractor and the Designer;
- the delegations allowing for timely and effective administration of the contract;
- client-side obligations in relation to design approvals, client supplied items and key decisions being properly met within the anticipated timeframes; and
- no material change in scope being necessary during design development and/or construction.

The governance structure should have a greater focus on operational readiness moving into the next phase of the project. This will help to ensure that all required capability will be in place to support hospital operations and delivery of services.

The current role of the Project Steering Group Chair as SRO is inconsistent with the structure as approved by the Cabinet Priorities Subcommittee where there is a clear separation between the SRO and an Independent Chair, which I believe to be far more appropriate. This should be clarified.

The Project Steering Group should only need to satisfy itself that those parts of the workforce/system and digital transformation that are necessary for the facility to operate effectively on opening have been provided, or a work-around is in place. Responsibility for the wider workforce/system transformation and digital transformation should be clearly identified as being the responsibility of Hospital and Specialist Services (HSS) and Digital and Data senior management within Health NZ.

Management roles & responsibilities, including accountabilities for decision-making and delegated financial authorities, appear to be clear and adequate, except in the case of HSS, where there is uncertainty as to the source of funding for the transitional activities, which is becoming critical.

The fact that this review was requested should be evidence enough that the reporting that has been provided to date has not been to the appropriate standard necessary to reassure Government as to the true status of the project. This has already been recognised in briefings to the Minister of Health but must be immediately implemented and monitored.

**Scope**

There is alignment between the current scope and capital budget. The current scope is as per Business Case and includes the Facilities, Data and Digital and Transformation workstreams.

However, from the most recent Project Steering Group papers it is apparent that there are a number of outstanding issues relating to services which, if actioned or agreed to, would involve changed or additional scope. This continues to leave the impression that scope is fluid and will make it hard for the team to obtain the necessary signoffs as designs are finalised. These issues need to be resolved as soon as practicable.

For the entirety of the programme of works, the Final Detailed Business Case makes it clear that there are several items that are not included, and subsequent decisions have added to these omissions. More recently, these have been summarised as:

1. Pathology laboratory development (approx. $45 million required by 2025).
2. Additional carparking beyond the currently agreed (approx. $25 million, required by 2027).

[1] For the proposed Inpatient Building construction contract.

3. Reuse/decommissioning buildings at former hospital site (approx. $325 million required by 2029).

It is noted that these costs are indicative only and that Health NZ has indicated it will continue to investigate options to reduce these costs and investigate alternative funding sources.

No corresponding operational cost impact of these additional items has been provided.

These potential gaps have only been partially signalled/communicated to Government. A paper on cost pressure funding provided to Government identified these additional items but was entirely focussed on capital.

It may be much that of this additional capital can be avoided. A detailed Business Case should be developed, which focusses on, at a minimum:

1. A proper analysis of the different ways in which Pathology support can be provided, including:
    - Should NDH be responsible for providing space for community pathology?
    - Should NDH be providing space for outsourced hospital pathology – can the Service Provider provide their own space?
    - The benefits of retendering of pathology services where Service Providers provide their own facility.
2. The evidence basis for the need for 250 additional carparks and alternative methods of providing what is needed.
3. The justification to part-refurbish the Clinical Services Building (described as life-expired in the Final Detailed Business Case), an assessment of the cost to the district of keeping it open, and an investigation as to whether it can be sold as is?

Internal work has been done producing a Detailed Budget Bid to obtain the necessary budget for transitional activities, but it does not appear to have been included in any current approvals nor brought to the attention of Government as a matter that will require further funding.

A New Dunedin Hospital Workforce Planning document outlining the financial impact of workforce changes associated with the ongoing operations of the New Dunedin Hospital has been developed by HSS, who consider the allocation of such funding to be a business-as-usual decision to be made as part of determining the broader allocation of funding for health services across the region. This appears a reasonable approach providing budgets keep pace with activity and escalation of labour costs.

**Programme**

As far as we are aware, there is no comprehensive overall development programme that encompasses the three NDH workstreams (Facilities, Data and Digital, Transformation), nor is there a single party responsible for preparing and maintaining an overall development programme.

Whilst the contractor programme is at a good level of detail and complexity for a tender programme, it needs further development to be an acceptable 'comprehensive construction programme'. The contractor is aware of this, and this work is underway. It is not uncommon for the comprehensive construction programme to be submitted after the contract is executed.

The client and Inpatient contractor programmes are aligned. On a regular basis, the client programme is updated by the client-side programmer to reflect approved changes to the contractor's programme. Milestone dates across the three NDH workstreams are noted in the construction programmes.

The duration of the contractor's construction programme is 59 months. Putting aside any project specific challenges, when compared to the other major vertical build projects recently completed or underway in the South Island, 59 months would appear to be an ambitious target. However, one of the key reasons that the contractor is confident in a 59-month programme is the extent of off-site manufacture and fabrication proposed. This also goes a long way to addressing key concerns around the availability of sufficient local resource.

**Costs**

The approved budget for the NDH Facilities is $1,880m. In addition, there is an approved Data and Digital Budget of $225m[2] as we understand it. Ongoing operating and maintenance costs associated with the NDH Facilities (Outpatients, Inpatients and other related site-wide costs) are outside of the approved budget.

The scope of the NDH Facilities budget covers all expected cost centres within a capital cost estimate. Exclusions to the scope of the NDH Facilities budget are specifically noted and are reasonable as part of a capital cost estimate, including for a large public sector health project.

The Outpatient Building currently has approximately 26 months of construction to complete, and contingency of s9(2)(b)(ii), s9(2)(j) appears robust to cover remaining risks until final completion. However, this is predicated on all substantive issues being addressed within the recent "project reset", such that the Outpatient Building is in a relatively settled commercial state until completion. This has been the position taken by relevant interviewees.

In relation to the Inpatient Building, our view is that there is significant risk and uncertainty in the current "hybrid" cost estimates and the contingency and risk allowances for the Inpatient Building at the time of this review.

The current total contingency and risk allowance would be exhausted, or very close to it, once standard contingency percentages are applied (principally for design development and management) and a prudent escalation allocation is made.

However, there are still other risks that need to be addressed through the contingency and risk allowance as identified above (and as would become clearer in a full, robust QRA process), but there are no allowances remaining to address these risks.

In addition, professional fees remain a relatively high-risk budget item given the propensity of variations associated with design development and scope changes on most major, complex projects in particular the Inpatient Building.

In short, our conclusion is the delivery of the project as currently scoped and planned is probably not achievable within the approved budget.

However, we note that within three months, the current forecast cost to complete will be more certain than at the time of writing, noting the following "cost milestones":

- Late May / early June – Submission of the Quantity Surveyor's (RLB) Developed Design Estimate, which will update and supersede the current "hybrid" cost estimate,
- 31st July 2024 – Submission of the Contractor's Target Total Cost 2 tender s9(2)(b)(ii) , and

[2] We understand that $83m of the approved funding is allocated to Outpatients.

- Before 31st August 2024 – Completion of a full, robust QRA process, as (strongly) suggested by RLB following completion of Developed Design (and by extension RLB's Developed Design Estimate), and following receipt and initial review of the Contractor's Target Total Cost 2 tender.

The above three-month period would also provide more time to firm up on other programme budgets concurrently with the NDH Facilities (Outpatients, Inpatients and other related site-wide costs) and decisions could be made on a far more informed basis.

## 1.3 Summary of Recommendations

Our recommendations are summarised as follows:

| Area of Focus | Recommendation |
|---|---|
| **Governance** *Refer to Section 3.2.3 for further recommendation details* | **Recommendation 1:** The scope of the New Dunedin Hospital Inpatient and Outpatient Buildings, including Data and Digital, should be fixed as a matter of urgency and no further changes should be considered unless they are matters which would render the facilities no longer fit-for-purpose. |
| | **Recommendation 2:** The role of the Project Steering Group Chair should be made genuinely independent and that they be empowered by a requirement from the Capital and Infrastructure Committee that all significant decisions be endorsed by the Project Steering Group before being approved/ submitted for approval. |
| | **Recommendation 3:** The role of Senior Responsible Owner be confirmed as separate to the Project Steering Group Chair and an appropriate Health NZ employee appointed. |
| | **Recommendation 4:** The scope and composition of the Project Steering Group should be reviewed to ensure a focus on both construction and future operation of the hospital. |
| | **Recommendation 5:** Responsibility for the wider workforce/system transformation and digital transformation should be clearly identified as being the responsibility of HSS and Digital and Data senior management under a broader system-wide transformation initiative as originally contemplated. |
| | **Recommendation 6:** Funding should be approved for the Transition Programme as a matter of urgency. |
| | **Recommendation 7:** The arrangement whereby the Head of Infrastructure Delivery sits off to one side answering to the Chief Infrastructure & Investment Officer with a dotted line report from the Programme Director Facility Workstream should be revised so as to provide a more conventional hierarchical reporting and delegation structure and to clarify responsibilities and accountabilities. |
| | **Recommendation 8:** The quality of the reporting needs to be raised to an appropriate standard sufficient to reassure Government as to the true status of the project. The improved project reporting outlined in the NDH Briefing to Minister of Health of 8th March 2024 should be implemented immediately, using the information provided in this review as a basis. |

| Area of Focus | Recommendation |
|---|---|
| **Scope**<br>*Refer to Section 3.3.3 for further recommendation details* | **Recommendation 9:** The management of the remainder of the services not incorporated into the New Dunedin Hospital should be the subject of a further detailed Business Case which properly examines the need for additional or refurbished facilities, outsourcing options and the whole of life impacts of each of the options. |
| | **Recommendation 10:** Funding approval and the release of tagged funds for Data and Digital Implementation Business Cases (both Digital Infrastructure and Software) should also be progressed. |
| **Programme**<br>*Refer to Section 3.4.3 for further recommendation details* | **Recommendation 11:** A single party should be made responsible for preparing and maintaining an overall development programme, that includes information across all the whole NDH scope of works (project workstreams) to an appropriate level of detail. This role would also oversee and guide the programming output and reporting from the various project workstreams to ensure a consistent level of detail and rigour is being applied. |
| | **Recommendation 12:** Consideration should be given to requiring the contractor to self-audit and demonstrate compliance with an industry standard. This would provide an additional level of quality assurance. |
| | **Recommendation 13:** Consideration should be given to reviewing the contractor programme to breakdown the required resourcing down to a more granular individual trade level particularly the architectural finishing trades, that have not yet been secured for the Project and have therefore not contributed to the programme. This will identify if there are resourcing issues with any specific trades and enable solutions to be developed. |
| **Cost**<br>*Refer to Section 3.5.3 for further recommendation details* | **Recommendation 14:** Carefully consider a delay to the execution of the construction contract in order to obtain stronger cost certainty at an appropriate level to execute a construction contract. This would enable Health NZ to review and action the following activities:<br>1. Preparation of a developed design estimate by Health NZ's Quantity Surveyor<br>2. Submission of Target Total Cost 2 (for the majority of the construction cost of the Inpatient building) by the Contractor<br>3. Completion of a full, robust Quantitative Risk Assessment (QRA) process outlining appropriate levels of contingency.<br>These activities are expected to be completed within the next three months.<br>Consideration should also be given to the various options to maintain the programme pending contract execution. |

# 2 Introduction

## 2.1 Background - The New Dunedin Hospital Project

The New Dunedin Hospital is currently the largest vertical infrastructure project in New Zealand, with a current approved budget of $1.88b. The new hospital will be a modern, efficient and patient-centred teaching hospital that will benefit generations of people across the Southern region. The hospital is being built in two stages:

1. Outpatient Building – outpatient services, clinic rooms, day surgery facilities and planned radiology.

2. Inpatient Building – emergency department, Intensive Care unit (ICU), operating theatres, inpatient wards and other services including a dedicated primary birthing unit.

The Outpatient Building is under construction and will be operational in late 2026. Health NZ is now seeking approval to enter a construction contract for the Inpatient Building which is due to be completed in mid-2029.

## 2.2 Background – The Review

The New Zealand Infrastructure Commission, Te Waihanga (the Commission) was directed by the Minister of Finance, the Minister for Infrastructure, the Minister of Health and the Minister for Regional Development (Joint Ministers) to facilitate an independent review of the readiness of Health New Zealand (Health NZ) to progress into the next phase of delivery of the New Dunedin Hospital (NDH). The New Dunedin Hospital Independent Review (the Review) has been led by an expert independent reviewer, supported by other expert reviewers as required, to be engaged by the Commission.

The purpose of the Review was to provide assurance to key Ministers about:

- the cost and feasibility of the NDH programme as currently presented by Health NZ;
- the preparedness of Health NZ to successfully move into the next phase of the NDH project, in particular reviewing the interim Implementation Business Case prior to the execution of the construction contract for the Inpatient Building; and
- any recommendations or actions that can be taken to improve preparedness and/or mitigate identified/potential risks and issues.

As a secondary purpose, the Review would also provide project-specific, forward-looking, operational-level advice to Health NZ, and will inform the Ministry of Health (MoH) and the Treasury (as monitors).

The Commission would *not* as part of the Review:

- review the need for a new hospital, its proposed design or its fitness for purpose
- review the current delivery of the Outpatient Building
- assess the procurement process to date or the suitability of planned contractual arrangements
- review the constructability of the NDH or the planned construction approach
- be providing a "go/no-go" decision regarding Health NZ entering a main contract for the Inpatient Building.

The full Terms of Reference for the review can be found in Appendix A: New Dunedin Hospital Independent Review - Terms of Reference.

## 2.3 Review Scope

The Review has investigated the following areas. Findings and recommendations specific to each of these areas are detailed in Section 3: Findings.

1. **Governance**

    - Is the current governance structure appropriate (sufficient and suitable) for a managing contractor model where Health NZ is required to be an active client? Will this structure be appropriate moving into the next phase of the project?
    - Are the governance and management roles & responsibilities clearly defined, communicated and understood? This includes accountabilities for decision-making and whether delegated financial authorities (DFA) are suitable.
    - Is the project reporting (including cost reporting) sufficient for this project? In particular, does it ensure that all layers of governance are appropriately aware of project status and key risks/issues, including across all project workstreams and interdependent initiatives?

2. **Scope**

    - Is there alignment between the current scope and budget and are they complete? In particular, does the budget allow for the entirety of the programme of works, for example any future decommissioning activity?
    - If there are potential gaps, have these been appropriately signalled/communicated?

3. **Programme**

    - Is the proposed client programme (overall development programme) complete and feasible? Does it include the full programme of works?
    - Is the proposed contractor programme for the Inpatient Building (construction) complete and feasible?
    - Are the client and contractor programmes aligned?
    - Does the logic of the programme appear robust and achievable? For example, are the durations and overlapping of tasks realistic, is there alignment with the capacity of trades, and is the planned spend profile feasible?

4. **Costs**

    - Are the total programme and out-turn costs (including Opex) complete and feasible? Do they include the full programme of works and ongoing operating and maintenance costs?
    - Do the costs reflect the full scope of works required?
    - Are the cost assumptions and sequencing reasonable?
    - Do the programme costs reflect the current approved Business Case?
    - Is the project, as currently scoped and planned, achievable within the approved budget?

## 2.4 Review Approach

The Review was conducted using the high-level approach below:

1. Examination of documentation made available from Health NZ. The types of documents that informed the review are listed in Appendix C: Document Types.

2. Interviews of key individuals involved in the governance and delivery of the programme including relevant stakeholders, delivery partners/contractors as appropriate, Health NZ, the Ministry of Health, the Treasury and the Commission. The list of organisations that were interviewed to inform the findings of this review are detailed in Appendix B: Interviewees.

3. The lead expert reviewer also undertook a site visit.

# 3 Findings & Recommendations

## 3.1 Introduction

This section details the Findings & Recommendations of the review. These represent the opinions of the Lead Expert Reviewer supported by Rawlinsons and Rubix as subject matter expert reviewers.

***Terminology Notes:***

*For the purposes of this review, the term 'programme' refers to the schedule of tasks and activities (often represented in a Gantt Chart). Reference to the 'programme of works' refers to the 'scope' of the broader NDH Project. The broader scope of the NDH programme of works is described in Section 3.3.*

*This report uses the terms "Senior Responsible Owner" and "Senior Responsible Officer" interchangeably. This generally reflects the underlying source material especially with respect to direct quotes or document names. There is however no distinction in the meaning, or the roles represented.*

## 3.2 Governance

### 3.2.1 Findings

***General Governance Findings***

Before addressing the specific questions identified in the Terms of Reference, I believe that it is important to provide some additional context about the broader NDH project and the environment in which the governance mechanisms have been established and operate. These findings contribute to the detailed findings against the specific questions posed.

**The Final Detailed Business Case**

The Better Business Cases Framework[3] indicates that a Business Case should present a "complete understanding of the capital, revenue and whole-of-life costs of the proposed initiative".

However, the NDH Final Detailed Business Case[4] principally relates to the detailed design, construction and building commissioning of the NDH, comprising an Inpatient Building and an Outpatient Building.

It also identifies that Southern DHB (SDHB) is undertaking a Change Management Programme including:

- the Primary and Community Healthcare Strategy; and
- the Workforce Strategy

which are critical to the NDH functioning as anticipated. The signed-off costs and benefits of achieving these dependencies are noted as being part of other business cases and plans.

[3] Better Business Cases Framework
[4] NDH Final Detailed Business Case

It identifies that there is also, in parallel, an indicative business case being prepared for ICT developments, which are a necessary feature of NDH. It notes Southern DHB will likely be seeking funding from the Crown for ICT projects, and a proportion of the spending in ICT will be necessary for NDH to deliver on its promise as a digital hospital.

It notes that Southern DHB will continue to make capital investments in other areas to ensure that it is able to continue to provide services, and that there are material areas of spending on clinical equipment and other buildings that are assumed in the business case but for which funding will be sought in other business cases.

It states: "The arrangements also link operationally with Southern DHB to ensure there is smooth commissioning and decanting of services from the current facilities to, first, the Outpatient Building, and then also to the Inpatient Building." However, there is little in the Business Case to ensure that this linkage can be funded and actioned, and it notes that Southern DHB has not made an explicit allowance for the DHB commissioning costs of the new hospital.

Appendix F contains detailed financial statements. However, it states in the "Estimating the Costs" section against operating expenses that "the expected efficiency gains of the new hospital are recognised in the benefits analysis. Otherwise, the simplifying assumption is that the operating expenses would be broadly similar, given the future budget constraints faced by SDHB." This does not appear to provide a firm basis to assess future operating costs and the impact of change. Classically because new facilities are much bigger, lighting and power costs increase, staff efficiency reduces and activity increases when the new facility opens.

It also states that life-cycle maintenance costs are assumed to be 1% per annum of the value of the capital stock, which sounds optimistic relative to other jurisdictions.

All of these matters are fundamental to the successful opening and ongoing operations of the Inpatient and Outpatient Buildings, and the continued provision of the services which are not housed in the new buildings but are still required to be provided. The business case should properly have encompassed all activity necessary to successfully complete the development and provide some indication of cost and timeframe to the extent that such matters are not part of the proposed build.

Noting that these matters will be resolved by submission of further business cases and hence funding approvals, the Detailed Business Case simply does not give a comprehensive understanding of the extent of work necessary, its timing or its cost. It is also likely to lull Government into believing the cost of the development is substantially less than the true cost.

It also introduces a high risk of disruption because subsequent business cases will likely be delayed or rejected due to the inevitable scarcity of capital that all jurisdictions face and competing demands for that capital.

This is now playing out as further calls on capital are being identified.

**The Governance Structure**

The Governance Structure outlined in the Final Detailed Business Case responds to the scope of work outlined in that document, and in particular to the two distinct but complementary aspects to the New Dunedin Hospital outlined – a wider system-wide transformation and a new-build.

The broader system-wide transformation is summarised as - "The DHB's Change Management programme that has Investment Objectives requiring system-wide change. That system-wide change requires integration of primary and secondary care and optimisation of patient pathways, as well as supporting enablers such as facilities and IT. This comprehensive plan and its associated Change

Management Plan need to be successfully executed to meet the design assumptions underpinning the New Dunedin Hospital."

In relation to the new-build, it notes "The NDH Programme Director has full responsibility for construction of both the Outpatient Building and the Inpatient Building, working closely on all design and construction matters with the Southern DHB's Programme Director and CLG[5]."

Unfortunately, as identified previously, the Final Detailed Business Case falls well short in its analysis of the costs of transitioning from the old to new facilities, the uplift in operational costs associated with a new facility and new services, the cost of proper asset management, how services currently located in the existing facility but not provided for in the new facility are to be managed, and the demolition, in part or in full, and/or continued use of the existing facility.

This in turn complicates the issue of Change Management, as it is difficult to assess the impact of change on the whole of life costs of the facility, which is the basis on which decisions should be made.

Prior to the release of the Final Detailed Business Case the Governance had already been changed with the Southern Partnership Group being disestablished and an Executive Steering Group appointed to oversee the delivery of the project.

The Southern DHB had established a formal DHB Transformation Programme and Transformation Programme Board to oversee the delivery of the models of care, service delivery and ICT components of the investment. The Local Advisory Group were providing the Executive Steering Group with local advice and insights into the project and the joint Ministers were receiving independent assurance and advice on the project from the Capital Investment Committee and from Southern DHB's Crown Monitors on the DHB Transformation Programme. This approach appears to have lost momentum in the broader Health system reconfiguration where the DHBs were disestablished.

A December 2021 Treasury Mid-Stage Gateway Review[6] had recommended again revisiting governance arrangements, clarifying roles, responsibilities, and accountabilities, and integrating the infrastructure, ICT and Transformation Programmes into a single coherent programme of works, overseen by a single governance group and Senior Responsible Owner (SRO).

On 2 May 2023, the Cabinet Priorities Subcommittee approved a new Governance Framework for Health Infrastructure Projects and Programmes[7]. On the New Dunedin Hospital Project, it confirmed the disestablishment of the New Dunedin Hospital Executive Steering Group, and that the majority of the New Dunedin Hospital Executive Steering Group members and the independent chair should move to the new Project Steering Group (PSG).

The paper noted that, in respect of the New Dunedin Hospital:

> *"The new governance arrangements for the New Dunedin Hospital Project will align with the new framework with some modifications to ensure clear accountability lines. The Executive Steering Group will be disestablished, and a new project steering group will be constituted."*
>
> *"The independent Chair [of the new project steering group] will be accountable to the Te Whatu Ora Board Chair through the Committee as opposed to a Senior Responsible Owner being accountable directly to Te Whatu Ora Chief Executive Officer."*

[5] Clinical Leadership Group
[6] Gateway Review Report; New Dunedin Hospital; Mid-Stage Gateway Review 0; December 2021
[7] Cabinet Priorities Committee; Minute of Decision; New Governance Arrangements for Health Infrastructure; 2 May 2023

*"The terms of reference for the project steering group will provide for oversight of three workstreams required to deliver the New Dunedin Hospital Project:*

- *construction of the facility*
- *workforce/system transformation*
- *digital transformation."*

*"Each workstream will have a senior leader, appointed by the Chief Executive of Te Whatu Ora or delegate. The three senior leaders of each workstream will be included in the project steering group as members. Each workstream will also have a project director/workstream lead who will report to the project steering group. This will ensure that all workstreams are aligned and delivered at the same time. Once developed, the terms of reference for these roles will clearly set out the responsibilities and new lines of accountability."*

The intent of this arrangement is clear – the project steering group is intended to be a body that sits across the workstreams and acts in the interests of the whole-of-project rather than of an individual workstream.

It also aligns with an important governance principle as outlined in the Investment & Infrastructure Group (IIG) Major Infrastructure Project Governance Guidance - Senior Responsible Officer and Project Steering Group[8], where it notes that "Under the Crown Entities Act, decision-making authority can in most cases only be delegated to individuals, not committees. This means that the PSG does not itself have authority to make decisions on behalf of Te Whatu Ora. The SRO, as the holder of delegated authority, makes decisions with the agreement of the PSG".

The arrangements contemplate a Senior Responsible Owner as well as an Independent Chair but there is little detail on the anticipated split of responsibilities.

I note other jurisdictions do not necessarily use the term Senior Responsible Owner. It is described in the Te Whatu Ora Infrastructure Programme and Project Governance Framework as the position in the cascading delegation arrangements sitting below the Chief Executive, and is often known as Chief Operating Officer, Regional/Area Director, Senior Project Director or a variety of other titles.

However, the New Dunedin Hospital Project governance has transitioned to the approach where these roles are combined, and a former independent member has been appointed to both roles. Following the resignation of the former Chair, at the 27th of June 2023 meeting it was noted that one of the former independent members has been selected as the interim Chair of the Project Steering Group and was also the Senior Responsible Officer for the New Dunedin Hospital project"[9].

Recognising that the term "Independent" has not been used, it is clearly not tenable to have an individual acting as both an independent chair (as approved by the Cabinet Priorities Subcommittee) and as an SRO, and this has the potential to cause confusion should they ever choose to exercise the SRO delegations.

Such an arrangement also calls into question how the contrary views of the independent members of the project steering group can be properly represented if they must be fed through a chair who is also the SRO, and potentially with whose views the independent member disagrees.

I believe the governance arrangements as approved by the Cabinet Priorities Subcommittee, that is a separation of Senior Responsible Owner and Independent Chair, to provide a more robust oversight of

[8] Investment & Infrastructure Group (IIG) Major Infrastructure Project Governance Guidance - Senior Responsible Officer and Project Steering Group 12 Dec 22
[9] Project Steering Group Papers - 25 July 2023

the New Dunedin Hospital Project than the current arrangements, and that this approach should be reinstated. Independent chairs are used in steering groups in other jurisdictions and sectors and have been used successfully within the health sector in New Zealand previously, and so, properly constructed, this approach works.

Equally, I have seen the equivalent of the combined SRO/Chair role operate effectively, and it was the way in which I used to manage projects in NSW Health Infrastructure. However, I was an employee with the appropriate delegations, and we did not have independent members on the steering groups, but rather obtained that input via our internal assurance processes. In such a case it is vital the appointed SRO/Chair takes a whole-of-project approach, often at the expense of their own workstream.

Individuals with the necessary experience to act as an independent Chair or SRO of a complex health infrastructure build are few and far between, so I believe it would be wise for the broader Framework/Guidance documents to contemplate either approach.

**Confidential Information**

I was certainly unaware, in my time as a Project Steering Group member, of the extent of or details about discussions that were happening at Government level on the final cost of the New Dunedin Hospital. It is of little value being on a peak body if you are not provided with such information, notwithstanding its sensitive nature. I also witnessed firsthand the dislocation that occurred when observers were denied access to certain financial information.

I am advised this has been rectified and certainly support this transparency.

**Extent of Project Governance Responsibilities**

The New Dunedin Hospital Project Governance Framework requires the project steering group provide oversight of what it describes as workstreams, including workforce/system transformation and digital transformation. However, both are initiatives that are much broader that just the New Dunedin Hospital and arguably extend to the broader Dunedin City Health Precinct, Southern Region and nationally.

It is a significant ask to expect that a facility build can drive fundamental change in the way in which health services are provided, and to burden the project with the responsibility of overseeing that broader transition. The Project Steering Group should only need to satisfy itself that those parts of the transformation that are necessary for the facility to operate effectively on opening have been provided, or a work around is in place.

Responsibility for the wider workforce/system transformation and digital transformation should be clearly identified as being the responsibility of HSS and Digital and Data senior management under a broader system-wide transformation initiative as originally contemplated.

To the extent that the required transformation has not occurred, the district will be burdened with the additional costs of inefficient operation, but I would anticipate that services should still be able to be provided, particularly given the new facility is sized to accommodate growth. It would then be up to the district to continue to make the necessary changes so that it is able to deliver the services required efficiently under the appropriate models of care, workforce reforms and within the proposed digital environment. This may take some time.

**Terms of Reference of the Project Steering Group**

There are two areas included in the Terms of Reference of the Project Steering Group that I believe should not be within their role description:

- "Endorsing contingency drawdown … in line with the decision-making authorities set out in Appendix 1 of these Terms of Reference" (which I note were, to my knowledge, never provided by Health NZ to members); and

- "Escalating to the Chief of Infrastructure and Investment risks or issues which the PSG and Independent Chair are unable to prevent, mitigate or resolve, including any significant concerns about feasibility, value for money, resourcing or propriety. This includes recommending the pause or termination of the project if appropriate".

I would not have the Project Steering Group endorse the use of contingency. If contingency is required to resolve an issue that is indispensable or necessary to enable the completion of the project, that should remain with the individual with the appropriate delegated authority within the workstreams and particularly the Investment & Infrastructure Group. There should be no delegated authority to use contingency for matters which are optional or nice-to-have.

I would also not allow the project steering group to concern themselves with feasibility, value for money or resourcing. These are matters that should properly have been dealt with in the business case. Their task, as should have occurred on the New Dunedin Hospital, would be to alert Health NZ and Government (to the extent that it has not already been alerted via the project reporting) of potential overruns in time and/or cost. It is for Health NZ and Government to determine the response, including whether to pause or terminate of the project.

I would be far more overt in requiring that the New Dunedin Hospital project be developed strictly in accordance with the Final Detailed Business Case as approved by Government and in accordance with any subsequent amendments. Once the size and service mix of the facility has been determined, I would not allow any changes without a detailed and proper change management process.

I would require Health NZ to ensure (either by oversight or a role on the Project Steering Committee) that the facility service mix and throughput remains consistent with the Final Detailed Business Case which should be in accordance with the requirements of the New Zealand Health Plan.

Lastly, I would require Health NZ Southern to have a far more hands-on approach to monitoring design development to ensure it remains able to staff and fund the operations and maintenance of the new facilities.

**Lack of effective Governance**

The reason I do not consider the current structure is appropriate for further refinement of scope or moving into the next phase of the project is that there are two things that the Project Steering Group is not doing which I believe are necessary going forward.

First is that they should continually test the new design against the operating costs and maintenance costs outlined in the business case as it develops. In particular, any changes that are made to the proposed facility need to be tested to ensure that:

- the facility remains capable of providing the services required in the Final Detailed Business Case (and no more); and

- the impact on the cost of operations, directly or indirectly and/or the impact on the cost of asset management are understood and, if additional funding is required, this is factored into any decision-making process.

A good example of where this has not occurred is the decision around pathology. A decision has been made to remove a component of pathology from the new facility without proper consideration of the ongoing costs of maintaining or relocating those services, particularly as they currently sit within the

condemned Clinical Services Building. At the very least this decision should not have been made without a comprehensive whole-of-life analysis of the various options for the delivery of this service.

Second is they should ensure that the services provided at the broader Dunedin Hospital city campus, and specifically those not included in the new Inpatient and Outpatient Buildings, are able to operate effectively, and as far as practicable efficiently, so as to ensure a reasonably seamless approach to the provision of health services across the city campus. Success in the mind of the public will be based not only on how well the new buildings perform, but also how well the remaining services perform.

Finally, it is apparent from the most recent Project Steering Group Papers that the Clinical Transformation Group still has a number of "on-going areas of concern" including:

- Pathology Services
- Pet Scanning Services
- a reduction in the number of Inpatient Beds
- a reduction of two Operating Theatres
- the removal of the Interprofessional Learning Centre; and
- the delay in approval of resources for Transition Operational Planning for the Outpatient Building.

Except for the last item, these omissions were generally made in response to the largely COVID inspired hyper-escalation of construction costs and the need to reduce the scope of the facility to fit within a budget that only went part way to offsetting the cost increases. The Project Steering Group is not the appropriate forum to re-prosecute arguments for their inclusion and will detract from the effectiveness of the forum if it continues to be debated. All participants should respect the limitations to the scope of the works and operate within those parameters to deliver the best outcome.

***Is the current governance structure appropriate (sufficient and suitable) for a managing contractor model where Health NZ is required to be an active client? Will this structure be appropriate moving into the next phase of the project?***

The current governance structure should be appropriate for the proposed managing contractor model where Health NZ is required to be an active client, subject to:

- there being active and fast-tracked management of design finalisation involving Health NZ, the Contractor and the Designer;
- the delegations allowing for timely and effective administration of the contract;
- client-side obligations in relation to design approvals, client supplied items and key decisions being properly met within the anticipated timeframes; and
- no material change in scope being necessary during design development and/or construction.

The governance structure should have a greater focus on operational readiness moving into the next phase of the project. This will help to ensure that all required capability will be in place to support hospital operations and delivery of services.

Note that some of the findings included in the General Governance Findings section above are also relevant here.

***Are the governance and management roles & responsibilities clearly defined, communicated and understood? This includes accountabilities for decision-making and whether delegated financial authorities (DFA) are suitable.***

Putting aside my concerns about the combined Chair/SRO role and the scope of the Project Steering Group, including the absence of input on operations and maintenance costs and the operation of the wider Dunedin City Health Precinct, the governance and management roles & responsibilities appear to be reasonably well defined, have been appropriately communicated and are generally understood.

The Cabinet Priorities Subcommittee approval of the revised governance structure states "Each workstream will have a senior leader, appointed by the Chief Executive of Te Whatu Ora or delegate. The three senior leaders of each workstream will be included in the project steering group as members. Each workstream will also have a project director/workstream lead who will report to the project steering group. This will ensure that all workstreams are aligned and delivered at the same time." This requirement appears to have been effectively met.

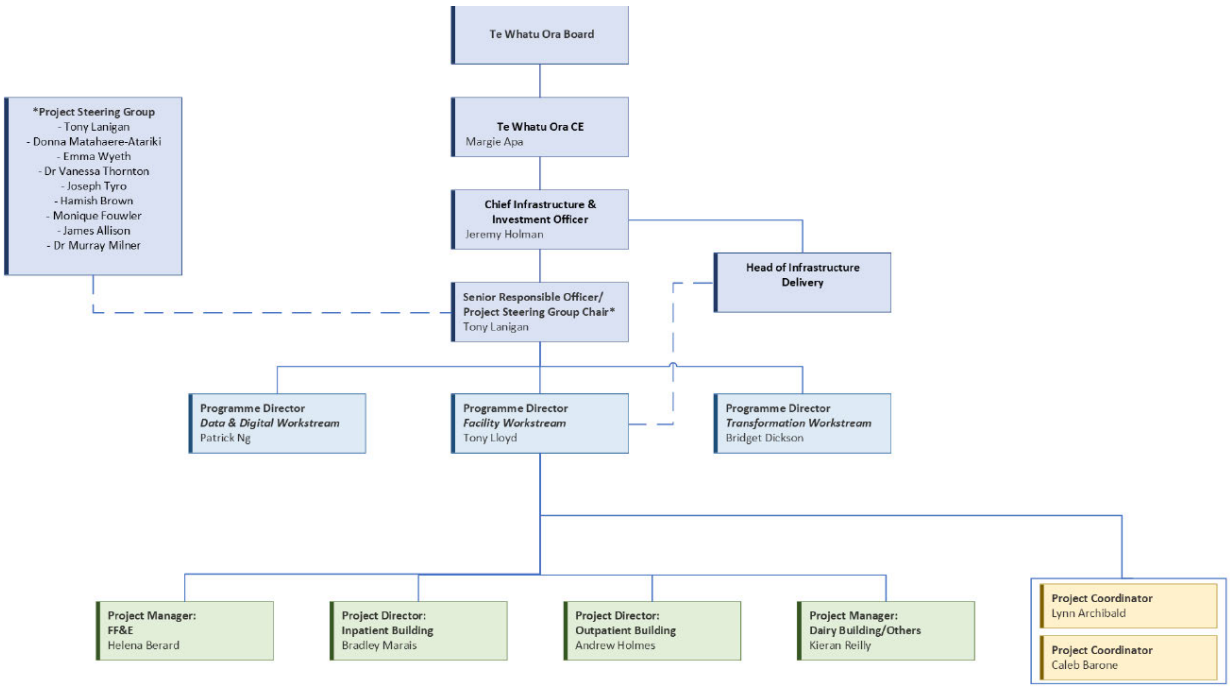
In relation to accountabilities for decision-making and whether delegated financial authorities (DFA) are suitable, this appears to be clear and adequate, except in the case of HSS, where there is uncertainty as to the source of funding for the transitional activities, which is becoming critical.

**Health New Zealand**

I have been provided with the Te Whatu Ora Health New Zealand Organisational Structure of 24th January 2024. It deals with the Delivery and Enabling functions at an executive level and in some instances dropping to a regional level – described as Tiers 1-3.

**Infrastructure & Investment Group (IIG)**

I was provided with an Organisation Chart for Infrastructure & Investment Group in relation to the New Dunedin Hospital Project as follows:




The governance structure in the draft "Major Infrastructure Project Governance Guidance: Senior Responsible Officer and Project Steering Group" issued by the Investment & Infrastructure [sic] Group and in the "Major Infrastructure Project Governance Guidance" issued by the New Zealand Infrastructure

Commission in October 2019 both show a hierarchy of cascading delegations with various advisory and assurance groups reporting in at various levels.

The Organisation Chart above is not consistent with either document in that it has the Head of Infrastructure Delivery off to one side answering to the Chief Infrastructure & Investment Officer with a dotted line report from the Programme Director Facility Workstream, rather than that position sitting within the hierarchy. It's not clear what this is trying to achieve and certainly makes it difficult for the Head of Infrastructure Delivery to be held responsible for the performance the project.

I am aware that currently the Independent Chair has delegated authority. However, the issue of him not being an employee may go some way to explaining why the organisational structure contemplates a role for the Head of Infrastructure Delivery as proposed.

Irrespective I believe the current arrangements could be confusing and should be clarified, and as noted previously, is inconsistent with the structure as approved by the Cabinet Priorities Subcommittee, where there is a separation between SRO and Independent Chair, which I believe to be far more appropriate. Authority can be provided to the Project Steering Group by way of a requirement by the Capital and Infrastructure Committee that all material recommendations be accompanied by an endorsement from the Project Steering Group before they will be actioned.

I note the Investment & Infrastructure [sic] Group (IIG) Major Infrastructure Project Governance Guidance for the Senior Responsible Officer and Project Steering Group appears to have been developed based on the arrangements at NDH and so carries forward what I consider to be a flawed approach.

Otherwise, the governance and management roles & responsibilities for the Infrastructure and Investment Group in respect of the New Dunedin Hospital appear to be clearly defined, communicated and understood.

The recent limitations on decision making and spend are entirely appropriate given the extent of the overrun that existed prior to the latest approved increase in funding. When the Implementation Business Case is approved and the additional funding released, I would recommend that the standard delegations be re-applied, and no additional constraints be imposed on the use of contingency.

**Hospital & Specialist Services**

I was provided with a Hospital and Specialist Services - Regional Leadership Organisational Chart from 24th January 2024

The DRAFT HNZ Southern Outpatient Transition PMP - April 2024 outlines the governance arrangements that operate within Hospital and Specialist Services in respect of the New Dunedin Hospital

Whilst the governance and management roles & responsibilities for HSS in respect of the New Dunedin Hospital appear to be clearly defined, have been communicated and are understood, the only issue seems to be a lack of understanding as to the mechanisms to obtain funding for the transition works.

These costs can be fairly described as a one-off costs to open the Outpatient Building and to operate it prior to the opening of the Inpatient Building and have been assessed at $33.3m including CPI for the three years between 2024/25 – 2026/27 covering three areas, being:

- Migration costs, including existing PMO costs;
- Models of Care change costs; and
- Capacity Uplift costs.

Clearly certainty will be required on the timing and extent to which this funding is to be provided.

**Data and Digital**

The governance and management roles & responsibilities for the Data and Digital Group in respect of the New Dunedin Hospital appear to be clearly defined, communicated and understood.

I was not provided with an organisation chart for the Data and Digital Group but in discussions all members appeared clear on their roles, delegations and funding in respect to NDH.

***Is the project reporting (including cost reporting) sufficient for this project? In particular, does it ensure that all layers of governance are appropriately aware of project status and key risks/issues, including across all project workstreams and interdependent initiatives?***

The fact that this review was requested should be evidence enough that the reporting that has been provided to date has not been to the appropriate standard necessary to reassure Government as to the true status of the project.

The NDH Briefing to Minister of Health of 8th March 2024[10] recognises this deficiency and states

*"Improved project reporting*

*55. The current reporting provided by Health NZ to you and the Ministry is high-level. The Ministry recommends that you make clear your expectations regarding the timeliness and quality of future reporting for this project.*

*56. This includes the need for Health NZ to provide a clear baseline of scope, milestones, budget and benefits to monitor progress against. The reporting should also cover all elements of the investment, which include physical infrastructure (Outpatient and Inpatient Buildings and sitewide works) and the wider programme (Data & Digital, change management / service models of care).*

*57. Reporting should include:*

- *confirmation of project costs against the approved budget including a project cashflow and supporting Quantity Surveyor (QS) and project Director reports*
- *risk register - Notification of significant and/or material risks and how these are being managed*
- *QS and Quantitative Risk Assessment at key design and decision points, including once developed design for the Inpatient Building is complete; and when the total outturn cost estimate is completed."*

The level of detail in this report should provide a sound basis on which to benchmark for subsequent reports.

### 3.2.2 Risks & Issues

Having an independent member of the Project Steering Group as both the interim Chair and the Senior Responsible Officer for the New Dunedin Hospital project has the potential to cause confusion should they ever choose to exercise the SRO delegations.

The arrangement whereby the Head of Infrastructure Delivery sits off to one side answering to the Chief Infrastructure & Investment Officer with a dotted line report from the Programme Director Facility Workstream, rather than that position sitting within the hierarchy may cause further confusion in terms of responsibilities and delegations.

[10] NDH Briefing 2024036928_HNZ00040051

The lack of understanding as to the mechanisms for HSS to obtain funding for the transition works may delay this activity and therefore result in a suboptimal transition process or even delay to the opening of the Outpatient Building.

The inadequacy of the project reporting may continue to cause confusion within Government as to the true cost and time associated with the delivery of the New Dunedin Hospital and the further development of the wider New Dunedin City Health Campus.

### 3.2.3 Recommendations

**Recommendation 1:** The scope of the New Dunedin Hospital Inpatient and Outpatient Buildings, including Data and Digital, should be fixed as a matter of urgency and no further changes should be considered unless they are matters which would render the facilities no longer fit-for-purpose.

**Recommendation 2:** The role of the Project Steering Group Chair should be made genuinely independent and that they be empowered by a requirement from the Capital and Infrastructure Committee that all significant decisions be endorsed by the Project Steering Group before being approved/ submitted for approval.

**Recommendation 3:** The role of Senior Responsible Owner be confirmed as separate to the Project Steering Group Chair and an appropriate Health NZ employee appointed.

**Recommendation 4:** The scope and composition of the Project Steering Group should be reviewed to ensure a focus on both construction and future operation of the hospital.

In particular the scope of the Project Steering Committee should:

- in relation to workforce/system transformation and digital transformation be reduced to "insofar as is necessary to allow the successful opening of the New Dunedin Hospital".
- be increased to actively monitor operating and maintenance costs and staff and equipment availability, and to ensure all decisions which impact on capital costs also identify the impact on such matters and that in any approvals/ submission for approval be based on whole-of-life costings.
- be increased to actively monitor the arrangements to ensure continued effective provision of the remainder of the services not located in the New Dunedin Hospital and, to that end, oversee the development of a comprehensive Business Case by the Infrastructure & Investment Group for the whole-of-life costings associated with such service provision.

Importantly all Project Steering Group participants should respect the limitations to the scope of the works imposed on the project and operate within those parameters to deliver the best outcome.

**Recommendation 5:** Responsibility for the wider workforce/system transformation and digital transformation should be clearly identified as being the responsibility of HSS and Digital and Data senior management under a broader system-wide transformation initiative as originally contemplated.

**Recommendation 6:** Funding should be approved for the Transition Programme as a matter of urgency *Refer also to Section 3.3.3 (Scope findings) and Section 3.4.3 (Programme findings).*

**Recommendation 7:** The arrangement whereby the Head of Infrastructure Delivery sits off to one side answering to the Chief Infrastructure & Investment Officer with a dotted line report from the Programme Director Facility Workstream should be revised so as to provide a more conventional hierarchical reporting and delegation structure and to clarify responsibilities and accountabilities.

**Recommendation 8:** The quality of the reporting needs to be raised to an appropriate standard sufficient to reassure Government as to the true status of the project. The improved project reporting

outlined in the NDH Briefing to Minister of Health of 8th March 2024 should be implemented immediately, using the information provided in this review as a basis.

## 3.3 Scope

For the purpose of this review, the term 'programme' refers to the schedule of tasks and activities (often represented in a Gantt Chart). Reference to the 'programme of works' refers to the 'scope' of the broader NDH Project.

The broader scope of the NDH programme of works includes:

1. the NDH Facilities (Outpatients and Inpatients) and Data and Digital as defined in the Final Detailed Business Case; and
2. The future funding requirements, that is items that are not part of the original NDH business case but are important to project completion, such as the pathology laboratory development, additional carparking and the reuse/decommissioning of buildings at the former hospital.

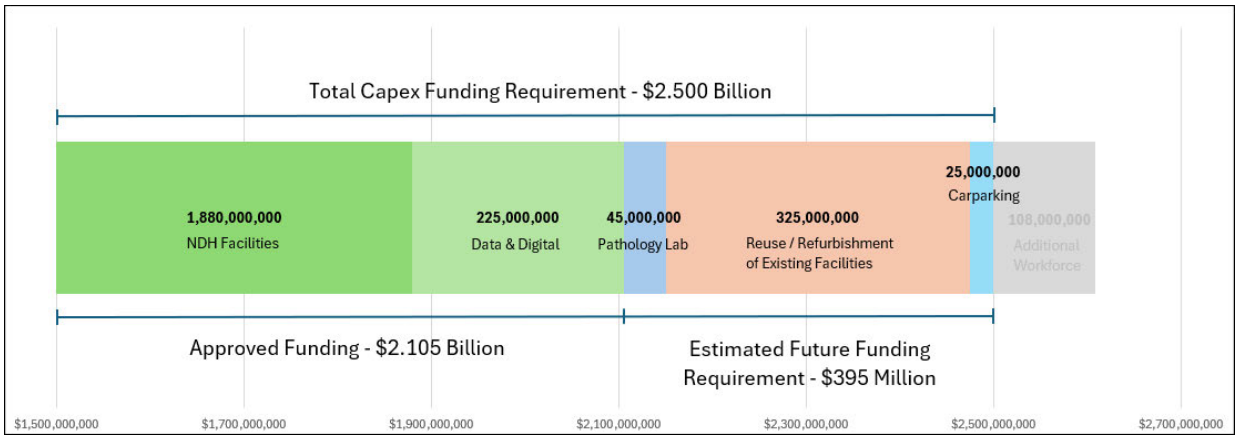
This is the interpretation of the broader programme of works that our review has been based on.

| | Approved Funding[11] | Estimated Future Funding Requirements[12] |
|---|---|---|
| NDH Facilities (Outpatients and Inpatients) | $ 1,880m | |
| Data and Digital[13] | $ 225m | |
| Pathology Lab | | $ 45m |
| Refurbishment/Demolition existing facilities | | $ 325m |
| Carparking | | $ 25m |
| **Total - $ 2,500m** | **$ 2,105m** | **$ 395m** |

| | Estimated Annual Additional Future Workforce Requirements[14] |
|---|---|
| Additional Workforce | $ 108m[15] per annum |

This is represented graphically as:

[11] This funding has been agreed but may not have been released in full.
[12] These are current high-level estimated costs only as signalled in the *Cost pressure funding* Cabinet Paper of March 2024 signalled in the briefing *Options relating to the continued delivery of New Dunedin Hospital* of 26 January 2024.
[13] This funding is for the NDH project and for some wider digital transformation solutions for the Southern region.
[14] These are current high-level estimated operating costs as signalled in the briefing *Options relating to the continued delivery of New Dunedin Hospital* of 26 January 2024.
[15] These costs will be opex rather than capex.




The Transition Programme also requires $33.3m of funding. While these costs are not capital costs, they are an essential component for the full programme.

The scope of the programme of works is understood to exclude:

- the Interprofessional Learning Centre (ILC) - however the $17m contribution to the interprofessional learning space remains within the current scope.

### 3.3.1 Findings

***Is there alignment between the current scope and budget and are they complete? In particular, does the budget allow for the entirety of the programme of works, for example any future decommissioning activity?***

There is alignment between the current scope and capital budget. The current scope is as per Business Case and includes the Facilities and Data and Digital.

From the most recent Project Steering Group papers it is apparent that there is broad but reluctant acceptance of the changes introduced previously to reduce cost, however there are a number of items "carried forward for resolution" and "unresolved and new issues" which would, if actioned or agreed to as a result of further reviews (funding unknown), involve changed or additional scope. This continues to leave the impression that scope is fluid and will make it hard for the team to obtain the necessary signoffs as designs are finalised. These issues need to be resolved as soon as practicable.

**Facilities Workstream**

The facilities workstream generally consists of the Outpatient and Inpatient Buildings plus the Bow Lane Energy Centre. The scope of this workstream is well developed and is at a mature and detailed level (captured in design documentation), compared to the other workstreams and unfunded aspects of the Project. At the time of writing, Outpatients is in construction and so scope is well defined. However, Inpatients has only just completed Developed Design and cost estimates are being updated. It is understood that the end of phase design reviews and stakeholder endorsement process have been refined as the design has developed, and endorsement of developed design has been received from clinical services and the Early Contractor Involvement (ECI) contractor. The formal Health NZ Design Guidance and Assurance Framework process has not been used as it was issued after the project was initiated (approved by Te Whatu Ora Executive Leadership (ELT) in March 2023).

Please note - the planning for Furniture, Fixtures and Equipment (FF&E) is part of the Facilities Workstream. However, some related IT 'equipment' will be delivered as part of the Data and Digital Workstream. FF&E planning and procurement is being managed by a contractor separate to the design team with inputs shared utilising dRofus software.

Further commentary is provided in Section 3.5.

**Data and Digital Workstream**

It is understood that data and digital was originally excluded from the NDH Project; however, a business case was developed and approved for the Data and Digital Workstream in 2022. A tagged contingency of $225m was established in Budget 2022, including an operating contingency of $64m over the four years from 2022/23 to 2025/26 and a capital contingency of $161m in total. This represents funding for NDH and digital solutions across the wider Southern health system.

The scope of the preferred option was much broader than what was approved, with the approved option being the 'minimum viable solution'.

The focus of the workstream to date has been on the Outpatient Building and it is understood that this is well developed and keeping pace with required progress. However, the scoping for Inpatients is less well developed, and will benefit from Outpatient Building reviews, issues resolution, and lessons learned. Delay to funding of the Transformation workstream is impacting development of service readiness and commissioning plans.

We understand that drawdown of $83m of the tagged contingency has been approved and is allocated to Outpatients. It is not clear whether the remaining $142m (which is tagged for release following approval of separate Implementation Business Cases for Digital Infrastructure and Software) is sufficient for Inpatients or not.

Health NZ advised that costs for the Data and Digital Workstream were reviewed and benchmarked as follows:

1. Digital Infrastructure – Initial estimates were provided by an external consultant based on recent digital projects within Australian hospitals, which were reviewed and validated by a "Digital Infrastructure Design Consultant" Consortium, and

2. Software Solutions – Initial estimates were developed by the Southern Data and Digital team and were validated and updated by a worldwide accounting firm.

**Transformation Workstream**

The transformation of Health NZ Southern's health system needs to be successfully executed to meet the design assumptions underpinning the New Dunedin Hospital, which are a substantial reduction in medical admissions, reduced lengths of stay and increased theatre productivity.

Transformation activities associated with the NDH are funded through the Transition Programme.

**Transition Programme**

Planning for the additional migration costs, model of care changes and capacity uplift requirements is underway, with the Framework for operational commissioning requirements for the Outpatient Building much further advanced than for Inpatients. It should be noted that there are significant overlaps and interfaces between this work and the data and digital workstream.

The necessary budget for transition activities is as outlined in the Te Whatu Ora HSS Detailed Budget Bid - as at 12 April 2024 is as follows:

*"The purpose of this bid is to seek $33.3m inc CPI of operating funding over three years between 2024/25 – 2026/27 to open the New Dunedin Hospital (NDH) Outpatient Building (OB) to the required levels of service without compromising health provision in other parts of the Southern region. This bid is comprised of the following "buckets" over the noted three years:*

- *Migration costs, including existing PMO costs: $8.3m (incl CPI)*

- *Models of Care change costs: $3.7m (incl CPI)*
- *Capacity Uplift costs: $21.3m (incl CPI)"*

There is no approved budget for these transition activities.

A detailed budget bid (for Outpatients only) with associated scaled options to provide a "safe and efficient, competent outpatients" and budget has been developed, and signalled to HSS, but the funding pathway is not yet clear.

**Recurrent**

We understand that workforce planning for the Inpatient Building is currently being undertaken. The Presentation - New Dunedin Hospital Workforce Planning: NDH PMO: Dec 2023 outlines the financial impact of workforce changes associated with the New Dunedin Hospital moving into operation as follows:

| | Workforce Uplift (FTE) | Estimated cost uplift ($2023) |
|---|---|---|
| Outpatient Building - Opening 2026 | 141.1 | $ 18,086,657 |
| Outpatient Building - Full Capacity (Additional to opening, Date TBC) | 55.1 | $ 9,145,378 |
| Inpatient Building - Fitted out capacity 2029 | 671.1 | $ 81,063,274 |

**Recurrent – Life-cycle Maintenance Costs**

The Life-cycle maintenance costs were assumed to be 1% per annum of the value of the capital stock. This should probably be reviewed as it appears optimistic.

**Does the budget allow for the entirety of the programme of works, for example any future decommissioning activity?**

For the entirety of the programme of works, the Final Detailed Business Case is clear that there are a number of items that are not included, and subsequent decisions have added to these omissions.

More recently, these have been summarised in the "Paper to the Office of the Minister of Health and to Cabinet: New Dunedin Hospital – Cost pressure funding: on or before 25 March 2024" as follows:

> *"Future funding requirements*
>
> *32. Completion of NDH is planned for 2028/29 and I anticipate seeking funding through future Budgets over that period for the following additional items (totalling $395 million) that are not part of the original NDH business case, but are important to project completion:*
>
> *32.1. Pathology laboratory development (approx. $45 million required by 2025).*
>
> *32.2. Additional carparking beyond the currently agreed (approx. $25 million, required by 2027).*
>
> *32.3. Reuse/decommissioning buildings at former hospital site (approx. $325 million required by 2029)."*

There is no corresponding operational cost impact of these additional items

The scope of these 'unfunded' aspects of the Project is not yet well defined. Therefore, the required funding costings (included in the table above), are very high level and will, if delivered by Health NZ, potentially be exceeded once a detailed scope is determined.

The team are anticipating all the investments outside the core scope may be provided in part through private sector investment and that the amount Health NZ will pay and how it will make such contributions needs to be worked through in detail considering a range of options. Significantly more work is required in this area.

The current status is as follows:

- **Carparking**

  Additional carparking is seen as an important enabler of the new hospital. The approved NDH business case includes the same level of on-site car parking as is currently available at the existing facility. The $25m allowance is an acknowledgement that it is possible that Health NZ may be required (for various reasons) to do more than has been done in the past.

  The $25m estimate is based on a very high-level metric of $50k per carpark i.e. 500 carparks.

  It is understood that the Project has explored the option of having the private sector build and operate the additional carparking required, but that this was not seen as economically attractive.

- **Pathology Lab**

  The original Business Case included the inclusion of a Pathology Laboratory in the new Inpatient Building. As part of a design re-set, in 2022, some 6,600 sqm (estimated at $90m) was removed from the Inpatient Building scope, of which Pathology Services was the most significant change. A 350 sqm 'stat'[16] laboratory was subsequently included within the Inpatient Building (down from 1300 sqm), with a pneumatic tube from the current facility in the existing building.

  A review of Pathology Services (June 2023) concluded that the 350 sqm 'stat' laboratory would not big enough and that the service would be best delivered from a new standalone facility. The proposed facility would be twice the size of that originally planned to be included in the Inpatient Building and is estimated to cost $45m for a 4000 sqm 'integrated hospital and community pathology lab'. This would be on Health NZ land, and various options are being considered as to how it may be delivered. Pathology is a privately provided service that rents space from Health NZ.

  The Health NZ Board approved the removal of the 'stat' lab from NDH following its August 2023 meeting. How pathology services are provided in the future and where from is yet to be determined. However, until any new facility is designed and built, pathology services will need to continue from the existing facilities. It is not clear how this is proposed to be funded or for how long the service can continue to operate from the existing facility.

- **Refurbishment/Demolition of the existing facilities**

  Following transition to the new Outpatient and Inpatient Buildings in 2029, the remaining clinical service in the old Clinical Services Building (CSB) would be

  - Pathology on L03 of the CSB (circa 1500m2) currently leased by Awanui
  - The building and property workshop in the basement (that currently does not have a future home).

[16] Meaning 'do it now" in this context.

The budget assumes that a mix of refurbishment and demolition will be required. However, there is a significant cost delta between full refurbishment and full demolition.

If the existing facilities were demolished, then the cost would be in the order of $100m, and if they were fully refurbished the cost is estimated at $450m. However, the Detailed Business Case from 2021 noted that neither of the Clinical Services Building (CSB) or Ward buildings are economic to repair or refurbish.

The current $325m estimate is based on very high-level square metre rates for each i.e. no actual or specific scope. The actual cost will depend very much on Health NZ and the Government's plans for the vacated buildings. These cost estimates should be treated as highly indicative.

The old CSB was seen as being of value in the context of the University of Otago's vision for how a broader health education and innovation precinct could evolve, but these opportunities have not been factored into the assessment.

Additionally, many of the building services for the Ward Block, Southern Blood and Cancer and the Children's Pavilion pass under and interface with CSB services so there is likely a significant amount of work to separate and re-establish these to enable CSB to be decommissioned even once the clinical services have left. The dock for the Ward Block is also accessed under the CSB, and the eastern access to the Ward Block is through CSB, so it will require careful planning to detangle the CSB from the existing campus before it is decommissioned.

***If there are potential gaps, have these been appropriately signalled/communicated?***

The "Paper to the Office of the Minister of Health and to Cabinet: New Dunedin Hospital – Cost pressure funding: on or before 25 March 2024" identified the additional items (totalling $395 million) that are not part of the original NDH business case.

The Te Whatu Ora HSS Detailed Budget Bid - as at 12 April 2024 outlines the necessary budget for transition activities, but it does not appear to have been included in any current budgeting nor bought to the attention of Government as a matter that will require further funding

The Presentation - New Dunedin Hospital Workforce Planning: NDH PMO: Dec 2023 outlines the financial impact of workforce changes associated with the New Dunedin Hospital moving into operation.

HSS are aware of the requirement for additional funding for the operation of New Dunedin Hospital and consider the allocation of such funding to be a business-as-usual decision to be made as part of determining the broader allocation of funding for health services across the region.

Other more minor scope items signalled by Clinical Transformation Group (11 April 2024) e.g. removal of PET scanning, reduction in inpatient beds, reduction of two operating theatres, and removal of the Interprofessional Learning Centre – may potentially be less well understood.

### 3.3.2 Risks & Issues

Current risks and issues are as follows:

- The cost estimates reported for currently 'unfunded' aspects of the Project are based on high level square metre rates and not on any defined scope of work. These cost estimates should be treated as highly indicative and subject to change once detailed scope has been undertaken. In particular, the $325m figure for refurbishment of the existing facilities should be treated with a high degree of caution.

- Continuing to provide Pathology services from the existing facility is a short-term solution only. A long-term solution for the provision of pathology services and business case should be developed with urgency.
- Funding uncertainty and/or the timing of funding release is a risk to both the Data and Digital and Transformation workstreams.
- Despite preparing a detailed budget bid, there is no approved funding for Transformation, and it is not clear when funding will be approved.

### 3.3.3 Recommendations

**Recommendation 9:** The management of the remainder of the services not incorporated into the New Dunedin Hospital should be the subject of a further detailed Business Case which properly examines the need for additional or refurbished facilities, outsourcing options and the whole of life impacts of each of the options.

It should include

- An evidence base demonstrating the need for the 250 additional carparks
- A proper analysis of the different ways in which Pathology support can be provided, including:
    1. Should NDH be responsible for providing space for community pathology?
    2. Should NDH be providing space for outsourced hospital pathology, and can the outsourced Service Provider provide their own space?
    3. The benefits of retendering of pathology services where they provide their own facility.
- Proper justification to part-refurbish the Clinical Services Building (described as life-expired in the Final Detailed Business Case) and a proper assessment of the cost to the district of keeping it open.

It is recognised that the imperative to minimise embedded carbon in infrastructure may well work in favour of trying to retain the old Clinical Services Building and find a viable ongoing use for the facility.

It may well be that these future funding requirements can be significantly reduced.

**Recommendation 6:** Also applies.

**Recommendation 10:** Funding approval and the release of tagged funds for Data and Digital Implementation Business Cases (both Digital Infrastructure and Software) should also be progressed.

## 3.4 Programme

As part of this review, we reviewed the current contractor proposed programme. This has been developed over a long period of time (the current version is version 224); however, the programme remains a work in progress.

Like the cost estimate (see Section 3.5) the programme will continue to be a work in progress and will be refined over the coming months following the completion of Developed Design and the development of the contractor's Total Reimbursable Costs (TRC) 2 offer. It is therefore unlikely that the contractor programme will be confirmed until agreement later in 2024.

The programme should be further assessed at that point time.

### 3.4.1 Findings

***Is the proposed client programme (overall development programme) complete and feasible? Does it include the full programme (scope) of works?***

As far as we are aware, there is no comprehensive overall development programme that encompasses the three NDH workstreams, nor is there a single party responsible for preparing and maintaining an overall development programme.

The Facilities workstream has engaged the services of an experienced and capable client-side programming consultancy (Woods Harris) and it is its responsibility to prepare and maintain the client-side programme for the Facilities workstream (Outpatients and Inpatients including FF&E). This programme is well developed, detailed, and what would be expected for a >$1B public sector project.

The client-side programme provided for this review included information from the following input or sub-programmes:

| Programme | File Name | Revision | Date of Issue |
|---|---|---|---|
| Data & Digital | Master Programme RevA6.0 Digital and Commissioning 240308.mpp | RevA6.0 | 8th March 2024 |
| FF&E | Master Programme Rev A4.1 - 9th May 2022 Greg M changes 221209 PT modify 230116.mpp | RevA4.1 | 16th January 2023 |
| Transitional | Developed within the Master Prog, based on workshop inputs with clinical and Hospital PMO team | RevA6.0 | 8th March 2024 |
| OB - Contractor | 240307 - OB - Comprehensive Prog - Rev 10.mpp | Rev10 | 7th March 2024 |
| IB Contractor | NDH CONTRACT_Rev224_Draft_April2024.pp | Rev224 | 16th April 2024 |
| Piling - CERES/March | Ceres NZ NDH Inpatients SP15 04.04.24.mpp | 04.04.24 | 4th April 2024 |
| Arch Detailed Design Prog | NDH - Arch Detailed design prog 240320.mpp | Rev1 | 20th March 2024 |
| Facade | SRG IB Programme rev4 _edited rec 240221.mpp | Rev4 | 21st February 2024 |

As part of the programme management role, Woods Harris is including key milestones related to the Data and Digital and Transformation workstreams within the Facilities client-side programme. However, this is at a much lower level of detail with a series of key milestones noted and updated across Master and Workstream programmes. The information included for the Transformation workstream is at a much more basic level.

Woods Harris is not providing programming services for the Data and Digital, or Transformation workstreams. This programming is and/or will be done by others. Data and Digital has its own workstream programme which is informed by its key consultant (NTT), but this is much more developed for Outpatients than it is for Inpatients.

Anecdotally, we understand that it was only very recently that the Transformation workstream realised that they were responsible for their own programming and that this wasn't being provided by Woods Harris. The Transformation workstream is behind where it needs to be.

Of note, it would be typical to include a 10-week period following the completion of the building commissioning to prepare for operation. There is a concern within the Transformation workstream that external pressure will reduce this timeframe and may impact patient safety and facility function.

The programme for design delivery post-award has been developed by the main contractor with engagement from the designers and interrogation of dependencies across the consultant teams, milestone activities from the separate design programme have been included within the client-side programme.

For clarity, the Facilities client-side programme does not include any information related to:

- Pathology
- Carparking
- Refurbishment/demolition of existing facilities.

***Is the proposed contractor programme for the Inpatient Building (construction) complete and feasible?***

**General**

We have reviewed the contractor supplied construction programme "NDH CONTRACT_Rev224_Draft_April2024".

The programme has been prepared using the software Asta Powerproject. While Microsoft Project (MS Project) is a more common programming software for vertical construction in New Zealand, Asta Powerproject is a more robust and reliable programming software and more appropriate for a project of the size and complexity of NDH. Please note – the programme was accessed through the Asta Powerproject 'viewer'.

The construction programme includes the following 'float' or programme contingency:

- 75 days for "Weather Contingency"
- 20 days "Contractor's Programme "
- 40 days for "Client Programme Contingency".

We assume that these contingencies will be drawn against, the same way that cost contingency is allowed for in the financial budget i.e. Extensions of Time (EOT) claims will be submitted by the contractor and assessed by the Engineer to Contract. Where the claim is accepted, the declared float will be drawn against. It is assumed that the overall programme duration will not increase until such a time that the float has been exhausted. This will need a robust and rigorous EOT process from the beginning to ensure the draw-down is administered correctly.

**Weather Float**

A specific 75-day contingency has been allowed for 'weather'. This is an acknowledgement that there will be programme delays due to poor weather delaying site progress. It is not clear whether this 75 day is to account for all lost days due to poor weather, or an allowance for poor weather over and above that which should be expected. It will be important for the Project to be clear from the outset how this weather float will be administered.

**Contractor/Consultant Contingency**

Over a programme of this duration and complexity and given past performance, 20 days and 40 days, equivalent to 3 calendar months total for Contractor and Client Contingency together seems unrealistically optimistic. However, further discussion is provided on programme confidence in Section 3.4.15.

**Undeclared Float**

Many of the individual tasks in the programme have Total float well in excess of what would typically be expected; for example, line 3086 - Comms Riser 1 (S1-Lo4 to L10) and its subtasks have float of 615 days. This and many other tasks which have more than 200- and 400-days total float have perhaps not been linked into the overall programme network properly. This suggests that currently the programme may not be complete. A structural stress test (such as the CIOB PP21) to establish the robustness of the programme should be conducted before the programme can be considered as being complete.

**Programme Vulnerability**

Construction programmes are most vulnerable where the chains of dependent tasks are longest. The longest chain is the critical path, and the next longest are those which may become critical if delay or disruption are experienced.

Powerproject has a tool which identifies these paths. If all tasks are not linked into their successors (see above), this tool will not be operating to its full extent. However, it is a useful tool and currently it indicates the following:

- The critical path is 1330 days long and runs through (amongst other things) the Structural Procurement-Structure-Mechanical-Fit out-Mechanical Interface to Fire- commissioning-Witness Testing.
- The second-most vulnerable path is 962 days long and runs through- Façade-PR Façade Engineering –Extrusion and glass take-off and order – Fabrication drawings – fabrication and production-façade install-roof and guttering- top out- install major lift shafts – install minor lift shafts.
- This path is worthy of further interrogation and breakdown, particularly the very long duration items which represent entire processes such as the "façade detailed shop drawing approval and IFC issues" currently programmed as a stand-alone 227 days-long item.
- The next longest paths are 297 days long or shorter and (excluding errors in the construction of the network) are unlikely to eclipse the criticality of the activities on the previous two paths.

**Completeness and Feasibility**

In summary, while the contractor programme is at a good level of detail and complexity for a tender programme, it needs further development to be an acceptable 'comprehensive construction programme'. The contractor is aware of this, and this work is underway. This is not uncommon, and it is commonplace for the comprehensive construction programme to be submitted to the Engineer to Contract for acceptance, after the contract is executed (often within 10 days).

The draft NDH Inpatients construction contract contains detailed and onerous requirements of what a comprehensive construction programme is to include, and it is required to be submitted to the Engineer within 10 days as is common.

***Are the client and contractor programmes aligned?***

The client and (Inpatient) contractor programmes are aligned. On a regular basis, the client programme is updated by the client-side programmer (Woods Harris) to reflect approved changes to the contractor's programme. Milestone dates across the three NDH workstreams are noted in the construction programmes.

However, the client programme and the contractor programme have been prepared using different software (Microsoft Project and Asta Powerproject respectively). While the software packages are somewhat complimentary, the complexity of the construction project means that it is a more manual exercise to update that client programme than it could be if both software packages were the same. This may also help to reduce risks related to software issues e.g. risk of crashing.

***Does the logic of the programme appear robust and achievable? For example, are the durations and overlapping of tasks realistic, is there alignment with the capacity of trades, and is the planned spend profile feasible?***

As above, the duration of the contractor's construction programme is 59 months. Putting aside any project specific challenges, when compared to the other major vertical build projects recently completed or underway in the South Island, 59 months would appear to be an ambitious target. While it is a very coarse tool, the following table provides a high-level comparison, based on the indicative average construction spend per month.

| Project | Status | Construction Value ($m) | Prog. Duration (months) | Spend per month ($m) |
|---|---|---|---|---|
| **Te Whatu Ora NDH Inpatients** | **Tender** | **$ 915** | **59** | **$ 15.5** |
| Christchurch Convention Centre | Complete | $ 280 | 70 | $ 4.0 |
| Te Whatu Ora Waipapa (Chch) | Complete | $ 450 | 60* | $ 7.5 |
| Te Whatu Ora NDH Outpatients | In construction | s9(2)(b)(ii) | | |
| Canterbury Museum | In construction | s9(2)(b)(ii) | | |
| Otago University Medical School (Chch) | In construction | s9(2)(b)(ii) | | |
| Te Whatu Ora Taranaki Hospital | In construction | s9(2)(b)(ii) | | |

* Practical Completion Date.

The 59-month programme has been offered by the contractor. Discussions with the contractor suggest that it is comfortable with the programme duration, and that it is confident that it can better the completion date. So the question is, why is the contractor confident with a 59-month programme, when at face value (compared to other significant projects) the duration appears ambitious?

The following are measures that have been adopted by the Project that are expected to mitigate the risk of programme prolongation and go a long way to explaining why the contractor is confident of achieving a 59-month programme.

**ECI Engagement**

The contractor has been involved in the Project on an ECI basis since Preliminary Design. Accordingly, the contractor has contributed to the design from a buildability perspective, and (together with key sub trades), it has developed a very strong understanding of the design. Through this ECI engagement, the contractor has had every opportunity to ensure that any key risks to meeting its programme have been mitigated and addressed.

**The Contracting Model**

The proposed managing contractor model does not incentivise the contractor to commit to a programme that it does not expect to meet, in fact it is incentivised to offer a programme that is conservative. This is because the contractor's fixed fee for P&G and Margin is based on the agreed programme. Further, the most significant opportunity for the contractor to increase its profit margin is by completing the works in less than 59 months.

**Early Subcontractor Involvement**

Just as the main contractor has been involved in the Project on an ECI basis, so too have a number of key subcontractors:

- Building Services (except fire) — VAE et al
- Structural Steel — H&H Steel Construction and John Jones Steel
- Façade — SRG Global.

Together these sub-trades make up circa 60% of the total Inpatients construction cost. The benefit of this is that these key subcontractors have had significant input to the contractor's construction programme mitigating the risk that the contractor's programme is misaligned with subcontractor methodology, capability, and productivity.

A key aspect of this is the subcontractors have been able to plan for how they intend to resource the project and make arrangements in advance of the work for resourcing, accommodation and general logistics.

**Off-site fabrication**

One of the key reasons that the contractor is confident in a 59-month programme is the extent of off-site manufacture and fabrication proposed.

The structural steel contract is circa s9(2)(b)(ii), and the majority of this value is in the materials and fabrication costs, with a relatively small proportion related to the actual on-site construction. Further, the majority of the fabrication will be undertaken outside of Dunedin.

The Building Services contract is circa s9(2)(b)(ii). While a large proportion of this cost is in the materials, traditionally, building services (HVAC, electrical, hydraulics etc) would all be installed on site, typically in the less accessible areas of the building e.g. in-ceiling spaces and plant rooms.

For the NDH Inpatient Building, the Building Services subcontractor (VAE) has designed the key services to be highly modular 'services cradles', which will significantly reduce labour hours on site and speed up building services installation. Further, VAE will manufacture the services cradles outside of Dunedin (in Christchurch) and deliver them to site for installation. Approximately 60% of the work will be done off-site.

Similarly, the façade will be highly unitised (modular) and manufactured in Australia.

This goes a long way to explaining why the contractor is confident of meeting the average monthly spend, that at face value appears high compared to other significant projects. It also goes a long way to addressing key concerns around the availability of sufficient local resource.

**Designers under contractor management**

One of the most significant risks to any construction programme in New Zealand is incomplete or uncoordinated design. On the Waipapa Project, some 70% of all variation and extension of time (EOT) claims were either directly or indirectly due to client-side design issues.

This risk is often mitigated by novating the design team to the main contractor, making the contractor responsible for design completeness and coordination, and this is common with a managing contractor model. Accordingly, the managing contractor is incentivised to make sure that the design is complete and coordinated, as it 'owns' the risk of delays this may cause on site.

The NDH Inpatients Project did not adopt a managing contractor model until relatively recently, and for various reasons the design team could not be novated to the contractor. As a result, the contractor is taking on very little design responsibility. The contractor is however taking on an 'agency' role, where it is responsible for design management (but not for the design itself i.e. completeness and coordination).

The managing contractor's design management team is very experienced and is implementing a robust and methodical construction focused approach to design package delivery. Contractor design elements are well defined with providers engaged to the contractor as sub consultants under the ECI agreement. The contractor's works package managers are involved now during the design phase and will continue as site engineers into the construction phase.

There is some uncertainty regarding the ongoing responsibility for management of the dRofus BIM data tool during the build phase of the project, it is currently manged by the lead consultant. We also note that the main contractor does not yet have full visibility of the design consultants' contracts and the mechanism for incorporation of the ECI contract into the main contractor agreement has not been fully agreed.

The value of this to the Project is that the contractor has the authority and responsibility to direct the design team both during Detailed Design and Construction, to address design deficiencies identified by the contractor. This is expected to result in more complete and more coordinated design documentation than may otherwise have been the case and is expected to provide a more efficient and focused approach to addressing design issues during construction.

**Resourcing**

The contractor programme is 'resourced' i.e. the different tasks have had resourcing applied to them to indicate how many people will be required on site at any one time. This has been done on an aggregated activity basis and indicates that site personnel will peak at 550 during the busiest time (years 3 to 4).

The breakdown is not yet at an individual 'trade' level and so cannot yet be used to identify (for example) how many vinyl layers will be required. This level of detail will be required to fully understand if there are any resourcing issues at a trade level.

It is understood that earlier versions of the construction programme had site personnel peaking at more than 750, and while this resulted in a shorter programme (it is not clear what that duration was), it was deemed too optimistic based on market feedback and market intelligence.

As discussed above, the majority of site personnel during this peak period will be from the key trades already secured for the Project. However, there has been less detailed work on the later 'architectural' finishing trades in terms of the resourcing requirements. As the majority of this resource will be provided by sub trades not yet secured for the Project, this represents a risk.

### 3.4.2 Risks & Issues

Current risks and issues are as follows:

- There is no single 'overall development programme' and there is no entity responsible for preparing and maintaining a single 'overall development programme' for the project as defined in Section 3.3.

- We have not reviewed the programme against the requirements in the draft construction contract for a comprehensive construction programme. However, it appears there is a significant amount of work required to bring the current programme up to this level and there is a risk that the contractor is unable to do this within the timeframe required (within 10 days of contract execution).
- The contractor programme is currently resourced at a high level which is insufficient to identify specific resourcing issues on a trade-by-trade basis.
- The Transformation Workstream is currently unfunded. Transformation would have been a DHB responsibility prior to the creation of Health NZ and so it is understandable why it was not included in the original business case planning; however, the lack of approved funding is now creating a number of issues and stalling progress. It is challenging for this workstream to make significant progress as it is unable to engage any external specialist support. Programming is one example of this. Without funding to progress this workstream with urgency, there is a significant risk that the facilities are not ready to 'go live' when they are completed.

### 3.4.3 Recommendations

**Overall Development Programme**

**Recommendation 11:** A single party should be made responsible for preparing and maintaining an overall development programme, that includes information across all the whole NDH scope of works (project workstreams) to an appropriate level of detail. This role would also oversee and guide the programming output and reporting from the various project workstreams to ensure a consistent level of detail and rigour is being applied.

Woods Harris' role and engagement could be extended to prepare and maintain an overall development programme, that includes information across all project workstreams to an appropriate level of detail. Alternatively, a separate party could be engaged for this role leaving Woods Harris to focus on its area of expertise (being construction). This role would also oversee and guide the programming output and reporting from the various project workstreams to ensure a consistent level of detail and rigour is being applied.

**Contractor Programme**

**Recommendation 12:** Consideration should be given to requiring the contractor to self-audit and demonstrate compliance with an industry standard. This would provide an additional level of quality assurance.

The Chartered Institute of Builders (CIOB) has produced a protocol for construction programmes (CIOB PP2021). CIOB PP21 sets out criteria and associated thresholds that must be applied to the programme to make sure that quality and consistency are achieved. Its principal aim is to aid users in understanding of the requirements of an effective programme and act as planning guidelines which, if followed, allow the thresholds (stress tests) to be met.

**Recommendation 13:** Consideration should be given to reviewing the contractor programme to breakdown the required resourcing down to a more granular individual trade level particularly the architectural finishing trades, that have not yet been secured for the Project and have therefore not contributed to the programme. This will identify if there are resourcing issues with any specific trades and enable solutions to be developed.

**Recommendation 6:** Also applies.

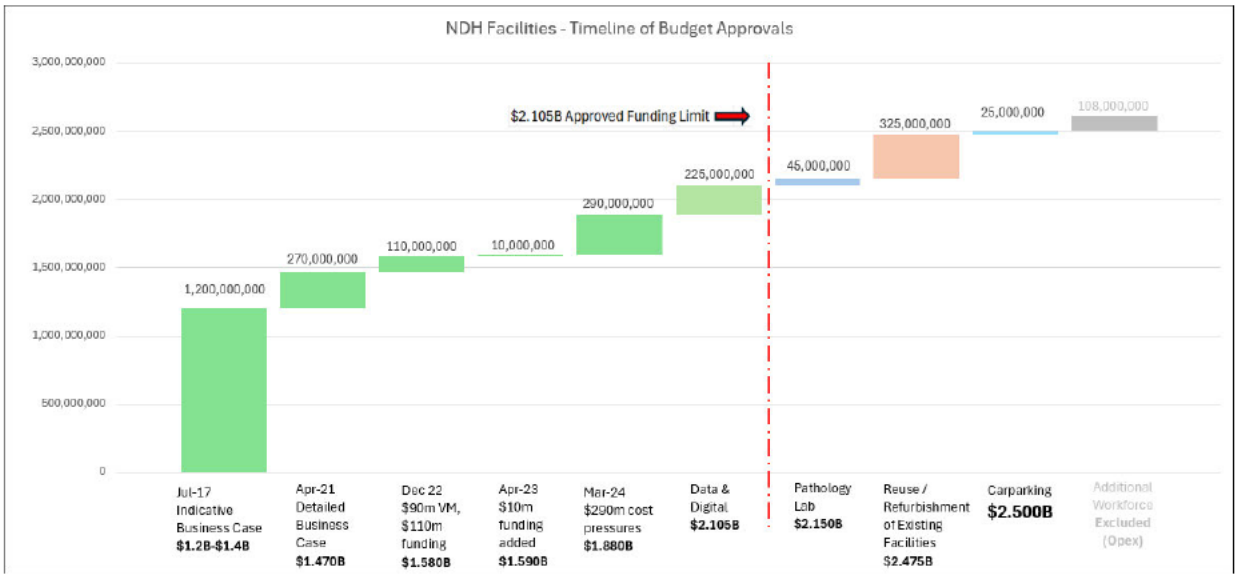
## 3.5 Cost

Section 3.3.1 summarises the six key headings of the broader scope (and budgets) of the NDH programme. This section provides further detailed commentary on the NDH Facilities (Outpatients, Inpatients and other related site-wide costs), as well as high level reviews of the remaining five key headings, due to their relatively low level of cost maturity. Please note that some of the questions in relation to cost are responded to in Section 3.3 Scope, therefore this section focusses primarily on the costs for NDH Facilities (Outpatients, Inpatients and other related site-wide costs).

We outline our detailed findings in Section 3.5.1 below.

**Funding Approvals for NDH Facilities**

For context, below is a graphical representation of the funding approval path that the NDH Facilities has travelled, from the Indicative Business Case to the present day:




The Transition Programme also requires $33.3m of funding. While these costs are not capital costs, they are an essential component for the full programme.

The Additional Workforce costs of approximately $108m per annum noted above are operating costs (opex) rather than capital costs (capex) but are an essential component for the full programme.

***Important Definitions***

***Target Total Cost (TTC):*** *This is the cumulative sum of all* ***forecasted*** *costs payable by Health NZ to the Contractor. The TTC is mutually agreed between Health NZ, CPB and their advisors prior to superstructure (TRC2) works commencing on site.*

***Total Cost:*** *This is the cumulative sum of all* ***actual*** *costs payable by Health NZ to the Contractor. This is progressively verified by Health NZ, CPB and their advisors until Final Completion.*

***Gain Share:*** *If the Total Cost is less than the TTC, 70% of the variance will be for Health NZ's benefit and the remaining 30% is paid by Health NZ to the Contractor.*

***Pain Share:*** *If the Total Cost is more than 10% higher than the TTC, Health NZ pays 70% of this cost to the Contractor and the Contractor is responsible for the remaining 30%.*

### 3.5.1 Findings

***Are the total programme and out-turn costs (including Opex) complete and feasible? Do they include the full programme of works and ongoing operating and maintenance costs?***

**Ongoing Operating and Maintenance Costs**

"Ongoing operating and maintenance costs" associated with the NDH Facilities (Outpatients, Inpatients and other related site-wide costs) are outside of the approved budget of $1,880m.

Relevant interviewees also confirmed that whole of life costing and embodied and operational carbon counting is outside of the current scope of the NDH project team, and we have therefore not sighted or reviewed any costs or supporting information for these aspects.

**NDH Facilities Budget**

The approved budget is $1,880,756,960 (rounded to $1,880m elsewhere in this review), and comprises the following subheadings:


The following key points can be observed for contextual purposes:

- The Outpatient Building ("OB" above) is in the *construction* phase, and the due date for completion of construction works is 31st July 2026.
- The Inpatient Building ("IB" above) has just completed the *developed design* phase, and at the time of this review, the developed design estimate is in the process of being compiled and is due to be submitted to Health NZ in late May or early June 2024.
- In the interim, the budget of s9(2)(b)(ii), s9(2)(j) for the Inpatient Building (is a "hybrid" of different estimates at varying stages of cost maturity, ranging from *preliminary design* level costs to *estimated pricing sourced from the marketplace* through the early contractor engagement process.
- The other broader programme of works ("Sitewide") scope (demolition, enabling works, FF&E, professional fees and all other NHD Facilities costs not specifically assigned to the Outpatient or

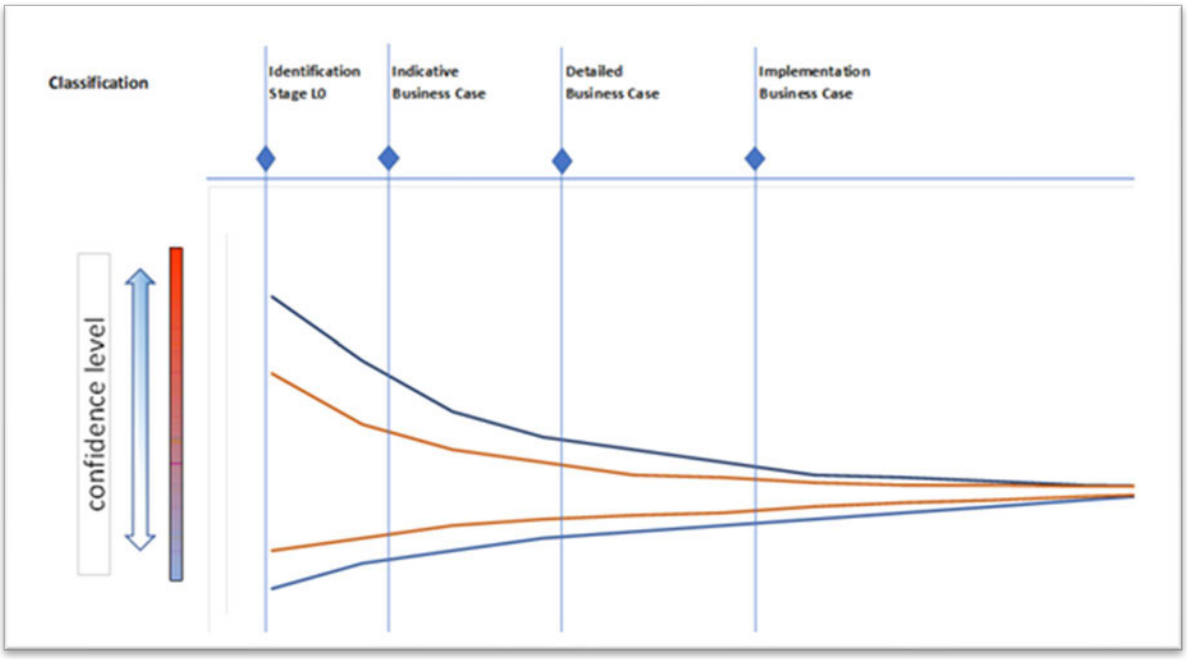
Inpatient Buildings) are generally either budgets, sunk costs, contributions or contingency and risk allowances.

- The combined "contingency" and "risk allowances" equate to s9(2)(b)(ii), s9(2)(j).
- As at 31st March 2024, the forecast final cost is s9(2)(b)(ii), s9(2)(j) higher than the approved budget, albeit the Programme Director for the Facilities Workstream advised us that this deficit can be resolved within the approved budget.

We have noted the various stages of cost maturity above as this is directly related to the confidence level of each of the above budget subheadings.

Generally speaking, the more advanced a project is through design, procurement, consenting and construction, the more certain project budgets become, which in turn affords a higher level of confidence in those budgets.

For context, below is a graphical representation of cost estimate accuracy / confidence ranges, relative to the better business case process (as extracted from Health NZ's Cost Estimating Guideline, published in 2023):



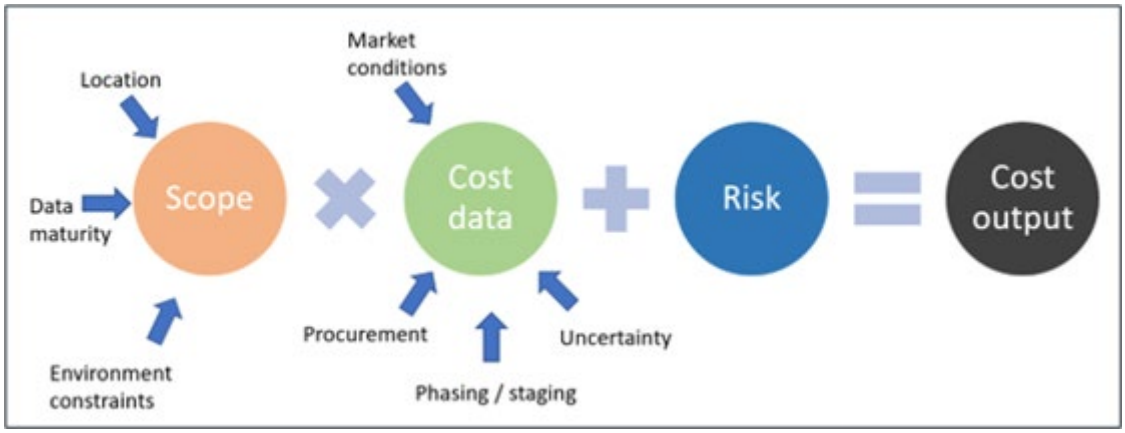

For the Outpatient Building, the confidence level is relatively high within the context of the approved budget, because it is well past the implementation business case stage and is into the construction stage.

For the Inpatient Building, and as noted within the approved budget table above, there are some costs that have been derived from the marketplace through the early contractor engagement process. As such, these costs are "on the path" to becoming substantially fixed prices, but these are not (yet) at the maturity point to be considered bona fide fixed prices sourced from trade sub-contractors.

We comment directly below specifically on the full scope of works (i.e. as it relates to the "full programme of works") along with more detailed commentary on adequacy of the current approved budget and related matters within subsequent responses.

### *Do the costs reflect the full scope of works required?*

Below is a graphical representation of how scope (and cost data and risk) corelate to produce a cost output (as extracted from Health NZ's Cost Estimating Guideline, published in 2023):




This question addresses the "scope" portion of the above, with commentary on inputs to "cost data" and "risk" included below in subsequent questions.

We confirm that the scope of the NDH Facilities budget covers all expected cost centres within a capital cost estimate, including but not limited to:

- Demolition and enabling works costs (effectively sunk costs)
- Construction costs (i.e. trade/sub-contractor and supplier costs for the building works)
- Main contractor preliminary and general costs (i.e. their "on-site overheads")
- Main contractor margin (i.e. their "off-site overheads & profit")
- Furniture, fixtures and equipment (FF&E)
- Professional fees
- Client direct costs (to a degree, and we comment further on this below)
- Escalation and contingencies.

Exclusions to the scope of the NDH Facilities budget are specifically noted as:

- Health NZ Southern district costs and other direct costs (e.g. Health NZ staff, transformation costs etc)
- ICT (e.g. including any data and digital costs not part of the construction works)
- Any scope associated with the existing hospital building (covered elsewhere in the NDH programme budgets)
- Any scope associated with the pathology lab (covered elsewhere in the NDH programme budgets)
- Any scope associated with carparking (covered elsewhere in the NDH programme budgets)
- Integrated Learning Centre (noting there is an "Contribution" of $17,000,000 for the ILC within the approved budget)

- Any scope not specifically included in the design documentation, i.e. any future scope changes instructed by Health NZ.

For clarity, the exclusions noted above are reasonable as part of a capital cost estimate, including for a large public sector health project.

***Are the cost assumptions and sequencing reasonable?***

Please refer to the "Is the project, as currently scoped and planned, achievable within the approved budget?" section below, where this is addressed in conjunction with our response to that question.

***Do the programme costs reflect the current approved Business Case?***

Please refer to Section 3.3 above within the "Scope" section of this review.

***Is the project, as currently scoped and planned, achievable within the approved budget?***

Previous sections of this report have addressed scoping, this response addresses "planning". Planning includes all of the inputs noted into "cost data" above, namely:

- Market conditions
- Procurement (and by extension, the conditions of contract)
- Phasing / staging
- Uncertainty
- Risk.

Our view is that "planning" should include the following (as extracted from Section 2.2 of this report) because the approved budget needs to support this position:

*"…the preparedness of Health NZ to successfully move into the next phase of the NDH project, in particular reviewing the interim Implementation Business Case prior to the execution of the construction contract for the Inpatient building"*.

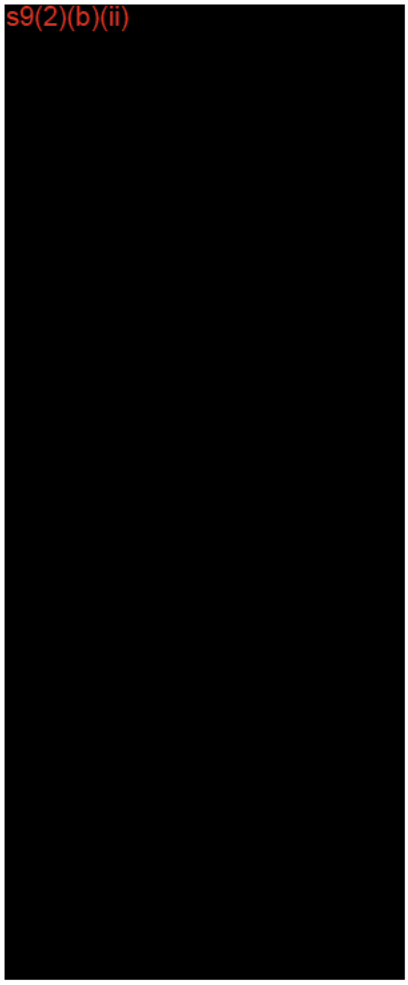
Further, and whilst this review specifically excludes *"…review the current delivery of the Outpatient Building"*, we are required to review the adequacy of the forecast final cost for the Outpatient Building, and in particular the current contingency specifically assigned through the construction phase and beyond. We address this under the "Contingencies" section below.

**Target Total Cost Model**

This review specifically excludes any assessment of *"…the procurement process to date or the suitability of planned contractual arrangements"* for the NDH Facilities.

Therefore, we are not commenting on the procurement process specifically, however in order to understand whether or not the Inpatient Building can be delivered as planned within the approved budget, it requires this review to have a clear understanding of the proposed Target Total Cost Model and the underlying conditions of contract, in response to staging, market conditions and a commensurate procurement approach.

Shown right is a simplified graphical representation of the Target Total Cost Model as proposed, with supporting commentary as follows:




- Fixed Preliminaries Fee – this broadly comprises scope and costs that would normally be allocated to "Preliminary & General" under a more conventional type of contract. The plan is that this fee is fixed for the entirety of the 59-month programme and for all contract works on site (i.e. the TRC1[17] and TRC2 scopes of work)
- Margin Fee, this is split into:
  - First Margin Fee – Equates to s9(2)(b)(ii) of the cost of the TRC1 Works, and will be a fixed amount as the cost of the TRC1 Works is known
  - Second Margin Fee – Equates to s9(2)(b)(ii) of the cost of the TRC2 Works, this is currently an estimated cost as the cost of the TRC2 Works is not (yet) known.
- TRC1 Works – this broadly comprises substructure / foundation works including piling and civil works up to the underside of base isolators on the ground floor, and
- TRC2 Works – the balance of works.

All of the above, once negotiated between Health NZ and CPB, with support from external advisors, will be the Target Total Cost and is the agreed "threshold" for any potential pain or gain sharing.

If the Total Cost (i.e. the cumulative total of all actual costs agreed after final completion of the contract works) is less than the Total Target Cost, then a s9(2)(b)(ii) Gain Share is applied to this variance. In other words, CPB would receive a financial benefit derived from s9(2)(b)(ii) of any such gain.

If the Total Cost exceeds the Total Target Cost, but only up to and including a s9(2)(b)(ii), there is no gain share and no pain share (Cost Threshold A).

If the Total Cost exceeds the Total Target Cost by more than s9(2)(b)(ii) Pain Share is applied to this variance, but only up to the threshold where CPB's s9(2)(b)(ii) reaches the equivalent cost of their Margin Fee (Cost Threshold B). In other words, CPB would receive a financial deficit derived from s9(2)(b)(ii) of any such pain, capped at their Margin Fee.

Based on the current "hybrid" cost estimate, the Total Cost would have to be almost 30% higher than the Total Target Cost to breach Cost s9(2)(b)(ii) combined.

Beyond Cost Threshold B, CPB only receive compensation for their actual reimbursable costs.

**Conditions of Contract**

[17] Total Reimbursable Costs

At the time of the review, the conditions of contract are still under negotiation, however based on interviews undertaken and in particular with Health NZ's legal advisors, we understand that:

- Whilst the Target Total Cost model is a departure from a fixed price lump sum type of contract; the conditions of contract are still "NZS3910:2013 at heart".
- Costs that would otherwise increase a fixed price lump sum will also increase the Total Target Cost, namely:
    - Variations (Cl. 9.3) (including any other matter deemed to be a Variation, but only if the Variation in and of itself costs s9(2)(b)(ii) [redacted]
    - Time related Costs (Cl. 10.3.7), and/or
    - Cost fluctuations (Cl. 12.8).
- There are "regimes" within Schedule 17 for:
    - Agreeing the Total Target Cost (and what this comprises)
    - Competitive Tendering
    - Open Book, and
    - Schedule(s) of Prices.
- There is a proforma sub-contract within Schedule 34A, and engagement protocols within Schedule 34B, and
- CPB's design management scope (from the start of detailed design onwards) within Schedule 35.

We have also reviewed other sections of the proposed conditions of contract however the above are considered the most noteworthy in the context of the approved budget.

**Risk and Uncertainty**

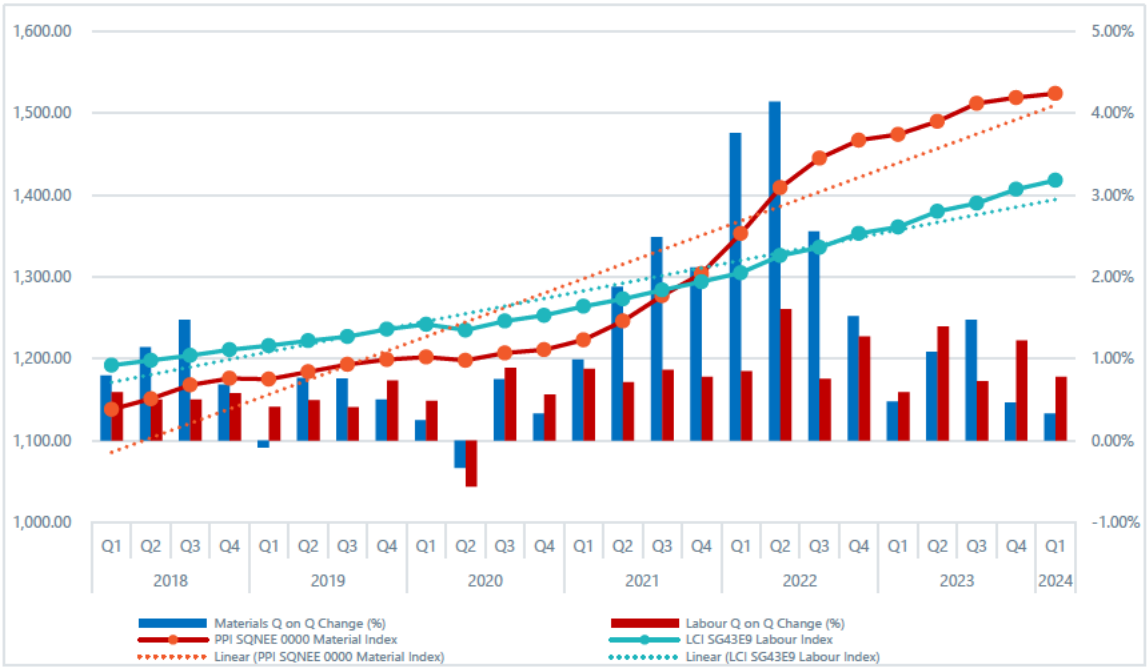
We provide comments on specific risks and issues below in Section 3.5.3, however as a general contextual comment, the contingency and risk allowances within the approved budget need to sufficiently cover risk and uncertainty associated with the NDH Facilities, and primarily the Inpatient Building, including but not limited to:

- Location and environmental constraints - this is New Zealand's largest vertical construction project and will put significant strain on a relatively small market like Dunedin and the South Island.
- Data / documentation maturity – as noted above, developed design has been completed and detailed design has commenced, under CPB's management. Relevant interviewees were clear **that errors, ambiguities, omissions and other inconsistencies within the design documentation remains the biggest risk to the delivery of the Inpatient Building** and this in part, has led to the appointment of CPB to manage design from the start of detailed design and through construction.
- Market conditions – So far, 2024 has seen a return to relative pricing stability within the construction industry after a very volatile period between mid-2021 and mid-2023. Labour costs have remained almost linear (i.e. with relatively consistent quarterly increases up to and

including 01st quarter 2024) and material costs are still increasing, but not to anywhere near the same extent as recent years, and therefore the ability to commit to fixed prices is stronger.

Below is a graphical representation of this, with the vertical bars representing quarterly labour and material movements, and the lines representing cumulative movements between 01st quarter 2018 and 01st quarter 2024:

**LCI SG43E9 Labour & PPI SQNEE 0000 Construction Material Indices Trend 1Q 2018 - 1Q 2024**




- Procurement approach – On 31st July 2024, Health NZ will receive one tender submission from CPB (for "Total Target Cost 2" for the balance of works) in lieu of multiple tenders, including some sub-contractor costs which are effectively nominated (in the sense that there is only one tender per trade).

  There are good reasons for this, however the current approved budget for the Inpatient Building also needs to be sufficient to cover this somewhat limited market for key trades. Also, that the current plan is for Health NZ to receive CPB's submission for Total Target Cost 2 *two months after* signing the contract.

  It should also be noted that Target Total Cost 2 is, within the "hybrid" estimate, s9(2)(b)(ii) [redacted].

- Capital cost estimate - The capital cost estimate is in the process of "catching up" through the developed design estimate to be submitted in late May / early June. At the time of writing, current costs are a "hybrid" of preliminary design, developed design and market sourced budget pricing, therefore the risk and uncertainty attached to this "hybrid" estimate is higher than it would be for a developed design estimate.

- Other key risks:

  - Market pricing risk, including:

        - The extent to which cost fluctuations apply due to the inability to source fixed pricing from sub-contractors for the duration of the 59-month programme,
        - Higher than expected escalation across labour and materials, particularly imported materials, and
        - Foreign exchange risk.
    - Scope change risk, i.e. there is a risk that after the contract is signed that changes are made to the Inpatient Building at a level that materially affect time and cost.
    - Programme risk, i.e. for legitimate extensions of time (and possibly time related costs) awarded beyond the 59-month programme for circumstances which are not the fault of the contractor.
    - Unforeseeable physical conditions (such as ground risks, which have largely been mitigated).

**Quantitative Risk Assessment (QRA)**

By way of background, QRA combines the probability of a risk occurring, with modelling of the costs on an assessment of a Best Case, Most Likely and Worst-Case assessment scenario. These are then run as a Monte-Carlo simulation process, which provides a probability distribution of expected costs, based upon the range of the expected outcomes and probability of occurrence.

This probabilistic approach is considered more robust than other deterministic techniques but does require more resources and information to compile and evaluate the risk register. It does have the advantage of being able to rank the risks to allow for better management and mitigation during the design and construction phases. It also can be adjusted and re-run as risks evolve throughout a project.

For the Inpatient Building, we have reviewed the "Indicative QRA light" exercise undertaken by RLB, dated 16th February 2024. RLB advise that they were instructed to complete this exercise by Health NZ, who in turn were advised that a QRA would be necessary as part of any interim business case submission. Key findings are:

- The "P85" funding requirement (i.e. where there is 85% confidence that the final out-turn cost will not exceed this value) is s9(2)(b)(ii) in addition to the previously approved budget of $1,590,756.960 (or s9(2)(b)(ii) total).
- This explains why there is a circa s9(2)(b)(ii) over-run on the current approved budget of $1,880,756,960, because the current approved budget is based on adding $290,000,000 to the previously approved budget, whereas the "Indicative QRA light" output states s9(2)(b)(ii) is being required. We understand this is primarily a timing issue.
- RLB have been clear that *"…this is not a full QRA…"* because:
    - It is limited to RLB's input in isolation (a full QRA would require input from the NDH project team).
    - It was required within fewer than 10 working days (this duration is too short).
    - Base cost estimates are a hybrid of costs at different stages of design (a QRA would usually be done at the completion of a cost estimate at the end of a design stage), and
    - RLB *"…strongly suggest a full QRA is undertaken post developed design issue."*

- The QRA model follows a standard logic that is used for construction projects and is split into two parts:
    - Part 1 Uncertainty – inputs based on the costs included in the current estimate and the inherent uncertainty in any estimate due to incomplete design, market conditions etc.
    - Part 2 Risk – inputs based on the project risk register and a quantification of key risks using both cost and probability.
- The total level of cost uncertainty in the estimate ranges from $0m (P5) to $27m (P95). This is a surprisingly small number relative to the base estimate value of $1.3bn and the P50 and P85 values are only 1.3% and 2.2% of the base value. The top 3 inputs ranked by regression are:
    - Design fees - $7m,
    - Central plant allowance - $4m, and
    - CPB margin - $3m.

In our experience the general level of uncertainty in the base estimate at the end of developed design on a standard project would be far higher than this and for a project as complex as the Inpatient Building, uncertainty could be as high as 10%.

- 106 risks from the risk register have been reviewed and 18 risks have been quantified and added to the QRA model. There is no right or wrong answer to exactly how many risks need to be included as inputs into the QRA model, but the Australian Guidance on Probabilistic Contingency Estimation suggests 20-40 risks.
- The total level of risk in the model ranges between $102m (P5) and $149m (P95).
    - The top 3 risk inputs ranked by regression are:
        - Insufficient workforce - $12m
        - Structural Design Acceleration - $4m
        - Design scope creep - $4m

With cognisance of RLB's qualifications attached to the "Indicative QRA light" (including the name of the document itself), and in particular that RLB advised that they *"…strongly suggest a full QRA is undertaken post developed design issue",* our conclusion is that the "Indicative QRA light" is insufficient to be relied upon as a robust QRA output at this time to assess the adequacy of the contingency and risk allowances within the approved budgets.

Any robust QRA output is heavily contingent on the quality of the inputs because the QRA modelling itself is computational, and therefore requires human experience and insight into the model inputs.

**Contingency Assessment**

In order to sufficiently respond as to whether the NDH Facilities (Outpatients, Inpatients and other related site-wide costs) as currently scoped and planned is achievable within the approved budget, we have undertaken a high-level contingency assessment, which was discussed with RLB, who did not disagree with our approach and findings for the purposes of this review.

Section 3.5.2.1 includes a table of key sub-headings that comprise the approved budget of $1,880,756,960, and this includes the combined "contingency" and "risk allowances" of s9(2)(b)(ii) .

We therefore need to assess whether s9(2)(b)(ii) is sufficient to address all risks, issues (and any opportunities) associated with the NDH Facilities.

Our starting point for this as to apply industry standard contingency percentages to each key cost subheading, according to the maturity of those numbers, and noting the graphical representation of cost estimate accuracy / confidence ranges provided at the start of this section (Section 3.5.1).

These industry standard contingency percentages are predicated on:

- A fixed price lump sum contract, competitively tendered to more than 1 tenderer
- Bona fide completion of design for that particular stage, using the NZCIC Guidelines as the minimum (not the maximum) threshold of design co-ordination and management
- A "not abnormal" number of variations to the contract price during later stages, i.e. a number of magnitude of variations that would be reasonably expected based on the scope, size, complexity, location and cost of a project (and at the point in time of the contingency assessment), and
- Escalation being considered an allowance outside of contingency, and
- A Contractor who is not adversarial during construction.

Below is an expanded table showing the output of this contingency assessment as a *starting point*:


The above table shows that when industry standard percentages are applied to the key cost headings, this effectively allocates s9(2)(b)(ii) of contingency to estimate *uncertainty* within the total contingency and risk allowance of s9(2)(b)(ii), leaving a *starting point* surplus of s9(2)(b)(ii) to address project *risk*.

We emphasise *starting point* as the above does not (yet) take into account for escalation and other risks such as scope change risk, programme risk, unforeseeable physical conditions, and all other risks, issues

and (opportunities) able to be reasonably identified and costed (either deterministically and/or probabilistically) to test the veracity of contingency.

The above also does not take into account any deviations from the predications above as they apply to the standard industry contingency percentages.

**Escalation**

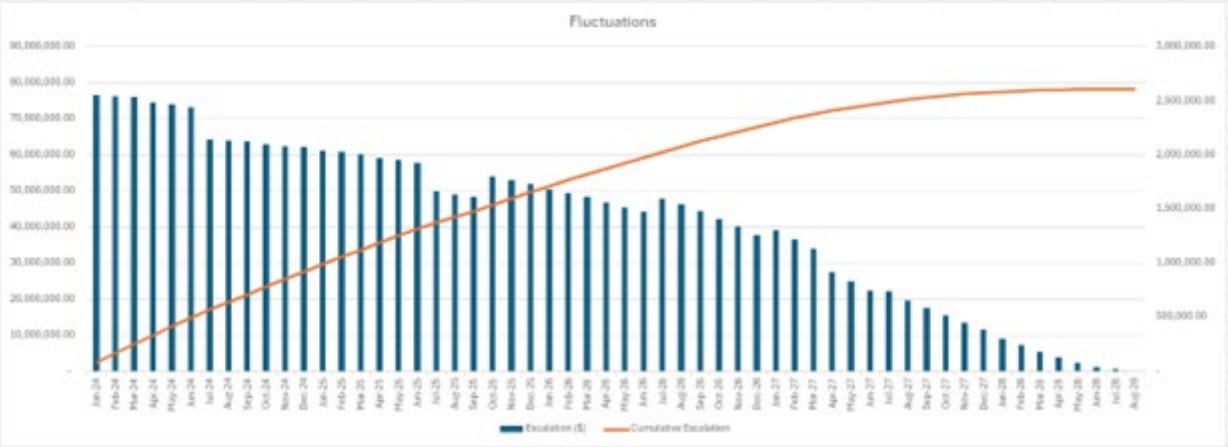
As noted above within "Conditions of Contract", the application of cost fluctuations to the sub-contractor trade costs for the Inpatient Building is still under negotiation.

In any event, escalation is required within the approved budget for:

- Bringing previous estimates and market tested pricing up to the effective date (in this case the date of the developed design estimate to be submitted in late May / early June), and
- Escalation after the effective date for the duration of the 59-month programme.

As for contingency, we have conducted our own high-level review of escalation based on applying stated and extrapolated indices published by the New Zealand Institute of Economic Research (NZIER) to the current "hybrid" cost estimate for Inpatients across the 56 months (we have not accounted for the 40 Working Day Principal Provisional Delay Period) within the 59-month programme).

There are many variables with escalation, but based on the spend profile / cashflow of the Inpatient Building, escalation could be in the order of s9(2)(b)(ii) :




Currently, there is s9(2)(b)(ii) allocated specifically to escalation for the Inpatient Building, and the starting point contingency surplus above is s9(2)(b)(ii) . When added together, this becomes s9(2)(b)(ii) , which is similar to the rough order escalation calculation of s9(2)(b)(ii) .

We hasten to add that some key sub-contracts such as structural steel, façade and mechanical services are well travelled down the path to providing some fixed prices, but it isn't clear what escalation each sub-contractor will apply to their previous estimates within CPB's "Total Target Cost 2" submission on 31st July 2024.

Further, it is clear to us that CPB are incentivised to set the threshold for the "Total Target Cost" (that being "Total Target Cost 1" + "Total Target Cost 2") as high as Health NZ will bear, in order to maximise the opportunity for a higher gain share (should the Total Cost be lower), and simultaneously minimising the risk of any pain share (should the Total Cost be more than the s9(2)(b)(ii)

There will be differing opinions on the above, and cost certainty through fixed pricing of key sub-contract trades is best for the NDH project in principle, but in any event, the approved budget as it

currently stands needs to allow for this risk, albeit temporarily as more will become clear on these aspects on 31st July 2024.

When all of the above is considered, it would be prudent to assume that the s9(2)(b)(ii) cost above will only be sufficient to address market pricing risks (which is substantially escalation, real or otherwise).

Therefore, the total contingency and risk allowance of s9(2)(b)(ii) would be exhausted, or very close to it, once standard contingency percentages are applied (principally for design development and management) and a prudent escalation allocation is made.

Also, there are still other risks to address through the above allowance as identified above (and as would become clearer in a full, robust QRA process), but there is no contingency or risk allowances remaining to address these risks.

**Is the project, as currently scoped and planned, achievable within the approved budget?**

The Outpatient Building currently has approximately 26 months of construction to complete, and contingency of s9(2)(b)(ii), s9(2)(j) appears robust to cover remaining risks until final completion. However, this is predicated on all substantive issues being addressed within the recent "project reset", such that the Outpatient Building is in a relatively settled commercial state until completion. This has been the position taken by relevant interviewees.

Regarding the Inpatient Building, our view is that there is too much risk and uncertainty in the current "hybrid" cost estimates, and the contingency and risk allowances, for the Inpatient Building at the time of this review.

Also, professional fees remain a relatively high-risk budget given the propensity of variations associated with design development and scope changes on most major, complex projects in particular the Inpatient Building.

**In short, our conclusion is the delivery of the project as currently scoped and planned is probably not achievable within the approved budget.**

However we hasten to add that within three months, the current forecast cost to complete will be more certain than at the time of writing, noting the following "cost milestones":

- Late May / early June – Submission of RLB's Developed Design Estimate, which will update and supersede the current "hybrid" cost estimate,
- 31st July 2024 – Submission of CPB's Target Total Cost 2 tender (the scope of which is s9(2)(b)(ii) of the total construction cost of the Inpatient Building), and
- Before 31st August 2024 – Completion of a full, robust QRA process, as (strongly) suggested by RLB following completion of Developed Design (and by extension RLB's Developed Design Estimate), and following receipt and initial review of CPB's Target Total Cost 2 tender.

The above three-month period would also provide more time to firm up on other programme budgets concurrently with the NDH Facilities (Outpatients, Inpatients and other related site wide costs), especially the refurbishment and re-use of existing facilities which as noted elsewhere in this review, is currently an educated guess and could be $325 million +/- 50%.

### 3.5.2 Risks & Issues

We identify or allude to risks and issues within the preceding sections on cost, however, below are the headline risks and issues (and in no particular order):

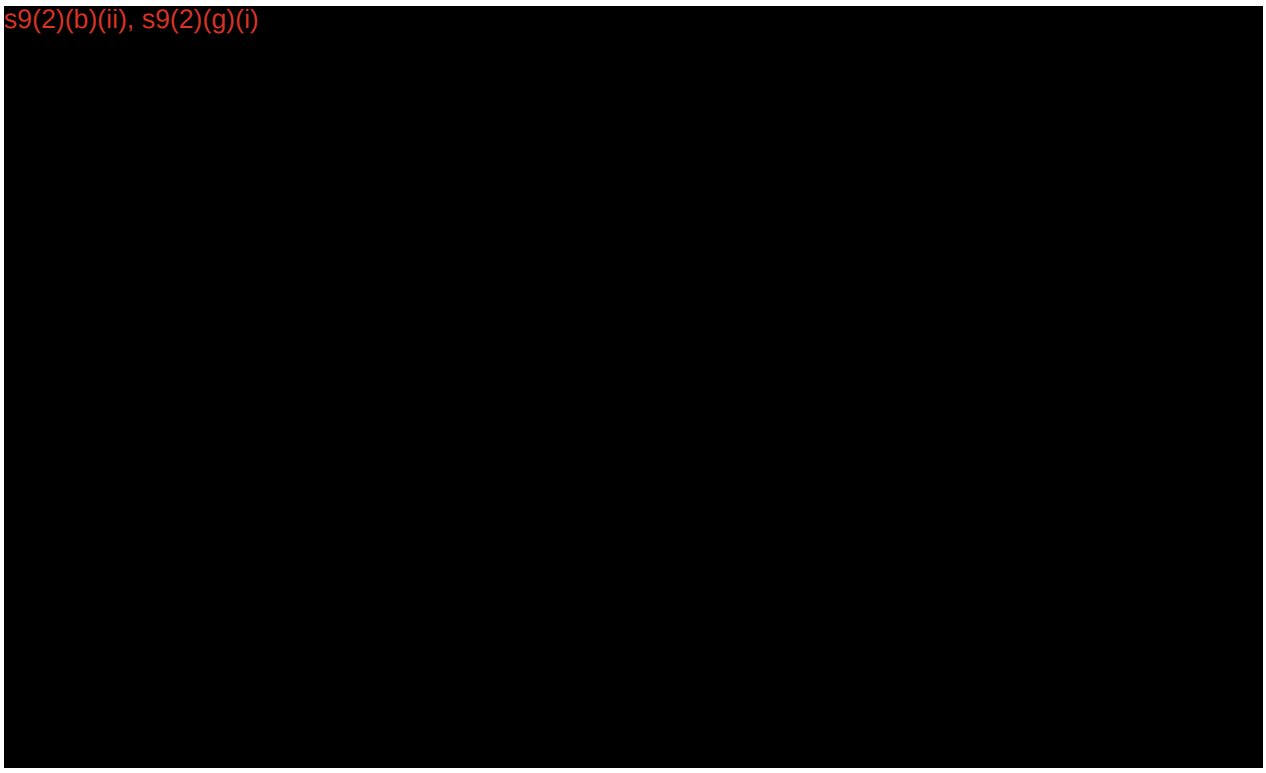
- **Maturity of the "hybrid" cost estimate at the time of writing** – An implementation business case submission prior to executing a construction contract would be based on a developed design estimate at a minimum. This stage will not be reached until late May or early June, which coincides with the plan to execute a construction contract on 31st May 2024.

- **Contingencies to address risk and uncertainty** – As noted above, the total contingency and risk allowance of s9(2)(b)(ii) will likely be exhausted on "business as usual" levels of design development, variations during construction and escalation. There are a multitude of other risks to consider in addition to this, including the risk of an inflated premium being baked into CPB's Target Total Cost 2 submission on 31st July.

- **QRA undertaken to date** – As concluded above, the "Indicative QRA light" is insufficient to be considered as a reliable document to inform decision making.

- **Target Total Cost model** – Whilst the regimes of competitive tendering, open book cost protocols and the NZS3910:2013 form of contract should be reasonably well understood by the construction marketplace, this model is somewhat unique and complex and there is a risk that there will be a lack of understanding and "buy-in" from less sophisticated sub-contractors which could lead to inflated pricing to cover perceived or real risks to them. Incidentally it took a considerable amount of time for even this review team to come to a collective understanding of the Target Total Cost model.

- **Influences on the Target Total Cost –** The Target Total Cost is still subject to change based on variations s9(2)(b)(ii), s9(2)(j), time-related costs (including any Health NZ funded acceleration) and cost fluctuations in the same way as a more conventional fixed price lump sum type of contract. **The biggest risk being errors, omissions and ambiguities within design documentation, particularly post execution of the construction contract,** which can lead to variations s9(2)(b)(ii), s9(2)(j), and possibly extensions of time and time related costs, which *all* increase the Target Total Cost.



- **Cashflow** – We understand that there are substantial off-site fabrication and modularisation components within key sub-contract trades (i.e. more than usual), but the result of expenditure overall is extraordinarily high levels of monthly expenditure within the South Island.

  Our own assessment of total spend per month across materials, plant and labour, supported by a full detailed cashflow of materials and labour is summarised below:

| | | | |
|---|---|---|---|
| | = Monthly expenditure < $12m e.g. BAU | 23 | 41% |
| | = Monthly expenditure > $12m <$25m e.g. Exceptional for NZ SI | 22 | 39% |
| | = Monthly expenditure > $25m e.g. Questionably achievable for NZ SI | 11 | 20% |
| | | 56 Months | 100% |

- **Scope Change** – There is a risk that (unfunded) scope change occurs during design and especially post execution of the construction contract, which materially affects scope, time and cost. Depending on timing of any scope change, this could lead to abortive costs, especially partially completed off-site fabrication and/or modularisation.

- **Overall management of sub-trade procurement** – We understand that CPB will lead this process, with RLB performing more of a review and validation role. However, we have yet to see a work breakdown structure that essentially converts the capital cost estimate into individual sub-contract trade package budgets for procurement.

  The risk here is that without mutual agreement of this between CPB and RLB well in advance of 31st July 2024, there could be gaps or double-ups within the Target Total Cost 2 submission and an overall lack of clarity between packages when these are progressively procured and "bought out". This is analogous to a jigsaw puzzle, whereby all packages / pieces are identified (once) and locked in place to minimise (or eliminate) gaps, double ups and other trade interface risks.

- **Delays to construction and procurement of long lead items –** Less of an issue for the Outpatient Building, but delays with the TRC1 Works for the Inpatient Building, indenting steel and committing to other long lead items until a construction contract is signed for the TRC2 Works (i.e. the balance of the construction work over and above TRC1 for substructure) adds additional time related costs (principally escalation).

  Also, any delay risks the loss of CPB as preferred Contractor and potentially at least one key sub-contractor, who specifically referenced their likely increased workload in the health sector in Australia later in 2024 onwards.

- **Termination** – Clause 14.4.1 of the conditions of contract provided as part of this review includes provision for Health NZ:

  s9(2)(b)(ii) [redacted]

  Therefore, and assuming the above clause survives the final negotiations, s9(2)(b)(ii) [redacted] in the event of (a) above materialising after 31st July 2024.

However, the risk is that by *executing the construction contract two months prior to receiving CPB's submission for Target Total Cost 2*, and then terminating prior to commencing the TRC2 Works in the event of an "uneconomic" submission, the reputation of the Inpatient Building project, CPB and Health NZ would all suffer significantly in the eyes of the construction market and the general public.

Further and as well as paying any compensation due to CPB under the executed contract, even sourcing a credible alternative contractor under this scenario would incur significant time and cost impact.

Finally, other construction contracts for major projects in the South Island *were not executed* due to the inability of the parties to reach appropriate commercial terms. This is quite distinct from *terminating an executed construction contract*, and one that is planned to be executed *prior to receiving a submission* to determine whether commercial terms (principally Target Total Cost 2 in this case) can be reached.

### 3.5.3 Recommendations

In order to address the above risks and issues, we provide the following recommendations from a cost standpoint:

**Recommendation 14:** Carefully consider a delay to the execution of the construction contract in order to obtain stronger cost certainty at an appropriate level to execute a construction contract. This would enable Health NZ to review and action the following activities:

1. Preparation of a developed design estimate by Health NZ's Quantity Surveyor
2. Submission of Target Total Cost 2 (for the majority of the construction cost of the Inpatient building) by the Contractor
3. Completion of a full, robust Quantitative Risk Assessment (QRA) process outlining appropriate levels of contingency.

These activities are expected to be completed within the next three months.
Consideration should also be given to the various options to maintain the programme pending contract execution.

As above, this risks the loss of CPB and potentially at least one key sub-contractor however on balance we do not consider this a high risk in the context of fulfilling the above activities within the three months expected. Also, our view is it would be unreasonable to expect any client to commit to any construction contract (particularly a fixed price lump sum of variant of this type of contract) before sighting, reviewing and negotiating an acceptable, value for money price from a contractor.

This is amplified on the Inpatient Building for a multitude of reasons, and principally where (as noted above) Target Total Cost 2 represents s9(2)(b)(ii) [redacted] ) of the current "hybrid" estimate within the approved budget.

s9(2)(b)(ii), s9(2)(g)(i) [redacted]

Also, any delay would incur additional cost in theory, but we note that:

- CPB's design management services can remain intact and should not be affected by the timing of when the construction contract is executed,
- TRC1 Works could continue to be undertaken on site,

- Indenting of structural steel and procurement of other long lead items should not require commitment from Health NZ to the entire construction contract for the Inpatient Building. Other, non-precedent setting, contractual mechanisms are available to Health NZ for these aspects,
- It would also allow further refinement and confirmation of the programme which would be submitted as part of Target Total Cost 2, and
- The timing of the submission of Target Total Cost 2 should also not be affected by the execution of the construction contract and as above, it is far more conventional (and understandable) for this submission to precede the execution of the construction contract.

**A time required to deliver the three actions noted in Recommendation 14 would also provide:**

- **Higher maturity and confidence of estimated costs for the Inpatient Building, following completion of:**
    - A developed design estimate by RLB – late May / early June 2024,
    - Any value engineering required – June 2024 onwards, and
    - Agreement of an appropriate work breakdown structure and conversion of the developed design estimate into this WBS – June 2024.
- **Submission of Target Total Cost 2 by CPB (on or before 31st July 2024)**
    - This provides an opportunity of one month to initially determine whether commercial terms can be negotiated and concluded, including
        - What proportion of costs are fixed prices,
        - Which costs will incur cost fluctuations going forward, and
        - Which trades are still at an "un-fixed" state (including estimated budgets for future interior finishing trades from 2026 and beyond)
    - This information, together with the WBS and converted estimate above, provides a sounds basis for a full, robust QRA process.
- **Completion of a full, robust QRA process (after the above submission is reviewed)**, including:
    - Re-assessing all the 122 Uncertainty model inputs relative to the current position of trade pricing, completeness of design, current market etc,
    - Grouping some of the uncertainty model inputs to simplify the model,
    - Identify the top 30-40 risks in the risk register that might impact cost,
    - Work with the project team to identify best and worst-case scenarios for each risk and the impact on cost. Document any assumptions and calculations, and
    - Consider using the Triangular distribution in lieu of the PERT distribution whilst the project is still in such an uncertain phase.

- **Additional clarity relating to sub-contractor trade procurement**, in particular:
    - Standardised and clearer narrative in relation to status of trade package budgets, adherence to the competitive tendering and open book regimes, technical, commercial and contractual legal review all supporting an agreed recommendation for sign-off.
- **Scope Change Management,** additional time to review and close out scope changes that could materially affect time and cost (and ideally before 31st July 2024),
- **Increased understanding of the Target Total Cost model** following the conclusion of contractual negotiations, ensuring all parties (in addition to their respective legal advisors, and especially leadership and commercial teams) are clear on what the Target Total Cost model represents, including respective risk allocation between Health NZ and CPB,
- **Better interrogation of other programme costs**, in particular those with a very early level of cost maturity, namely:
    - Pathology lab,
    - Reuse / decommissioning of existing hospital, and
    - Carparking.

  Cumulatively, these costs amount to $395 million within the overall programme and an additional three months provides an opportunity to better assess costs and benefits to the overall programme.

# 4 Conclusion

Health NZ are clearly committed to progressing the development on the New Dunedin Hospital and their dedication and drive is noted. In particular their support and assistance for this review were much appreciated. There are however significant risks that should be understood, considered and appropriately mitigated as the project moves into its next phase. Accordingly, the review finds that:

**Governance**

The current project governance structure should be appropriate for the proposed managing contractor model[18] where Health NZ is required to be an active client, subject to:

- there being active and fast-tracked management of design finalisation involving Health NZ, the Contractor and the Designer;
- the delegations allowing for timely and effective administration of the contract;
- client-side obligations in relation to design approvals, client supplied items and key decisions being properly met within the anticipated timeframes; and
- no material change in scope being necessary during design development and/or construction.

The governance structure should have a greater focus on operational readiness moving into the next phase of the project. This will help to ensure that all required capability will be in place to support hospital operations and delivery of services, and to fully deliver the benefits outlined in the Final Detailed Business Case.

Importantly, as a matter of urgency, funding should be approved for the Transformation Workstream. This should include establishing appropriate delegations, the ability to employ/engage resources, and in particular to appoint an SRO. As noted above the focus on ensuring that a suitable workforce is in place to deliver health services within the new building is critical to the ultimate success of the NDH project.

**Scope**

There is alignment between the current scope and capital budget, with the current scope is as per Business Case and includes the Facilities, Data and Digital and Transformation workstreams.

Importantly however, for the entirety of the programme of works, the Final Detailed Business Case makes it clear that there are several items that are not included, and subsequent decisions have added to these omissions. More recently, these have been summarised as:

1. Pathology laboratory development (approx. $45 million required by 2025).
2. Additional carparking beyond the currently agreed (approx. $25 million, required by 2027).
3. Reuse/decommissioning buildings at former hospital site (approx. $325 million required by 2029).

It is noted that these costs are indicative only and that Health NZ has indicated it will continue to investigate options to reduce these costs and investigate alternative funding sources.

No corresponding operational cost impact of these additional items has been provided, and it is clear that the above costs are very indicative. For example, the indicative costs for the reuse/decommissioning

[18] For the proposed Inpatient Building construction contract.

of the existing buildings are highly volatile. According to the range of options available this activity could currently have a cost latitude of up to +/- 50%.

**Programme**

The programme will continue to be a work in progress and will be refined over the coming months following the completion of Developed Design and the development of the contractor's TRC 2 offer. It is therefore unlikely that the contractor programme will be confirmed until agreement later in 2024.

Importantly we note that as far as we are aware, there is no comprehensive overall development programme that encompasses the three NDH workstreams, nor is there a single party responsible for preparing and maintaining an overall development programme.

**Cost**

The approved budget is probably not sufficient at this stage, but over the next few months the project will (or at least should) receive three key cost related deliverables which will provide greater cost certainty against budget:

1. A developed design estimate, from Health NZ's Quantity Surveyor, which will update and supersede the current "hybrid" cost estimate.
2. The Target Total Cost 2 Tender Submission for the Inpatients construction cost from the Contractor, and
3. A robust Quantitative Risk Assessment (QRA) outlining appropriate levels of contingency.

It may be preferrable to require that the Interim Implementation Business Case incorporates this level of detail on costs before making a final commitment on the Inpatient Building (noting that Health NZ will have to make further work and materials commitments to maintain programme).

**Conclusion**

We believe that the recommendations provided in this report provide Ministers, Health NZ, the Ministry of Health and the Treasury with some critical strong actions to better position Health NZ to successfully deliver this world class facility to Dunedin and the Southern Region.

# Appendix A: New Dunedin Hospital Independent Review - Terms of Reference

## Terms of Reference

The New Zealand Infrastructure Commission | Te Waihanga (the Commission) has been directed by the Minister of Finance, the Minister for Infrastructure, the Minister of Health and the Minister for Regional Development (Joint Ministers) to facilitate an independent review of the readiness of Health New Zealand (Health NZ) to progress into the next phase of delivery of the New Dunedin Hospital (NDH). The New Dunedin Hospital Independent Review (the Review) will be led by an expert independent reviewer, supported by other expert reviewers as required, to be engaged by the Commission.

The purpose of the Review is to provide assurance to key Ministers about:

- the cost and feasibility of the NDH programme as currently presented by Health NZ;
- the preparedness of Health NZ to successfully move into the next phase of the NDH project, in particular reviewing the interim Implementation Business Case prior to the execution of the construction contract for the Inpatient building; and
- any recommendations or actions that can be taken to improve preparedness and/or mitigate identified/potential risks and issues.

As a secondary purpose, the Review will also provide project-specific, forward-looking, operational-level advice to Health NZ, and will inform the Ministry of Health (MoH) and the Treasury (as monitors).

The Commission will *not*:

- review the need for a new hospital, its proposed design or its fitness for purpose
- review the current delivery of the Outpatient building
- assess the procurement process to date or the suitability of planned contractual arrangements
- review the constructability of the NDH or the planned construction approach
- be providing a "go/no-go" decision regarding Health NZ entering a main contract for the Inpatient building.

This Terms of Reference document has been developed with Health NZ, the Ministry of Health and the Treasury. It has also been approved by the Minister of Finance, the Minister for Infrastructure, the Minister of Health and the Minister for Regional Development.

Reporting on the NDH project and progress with this Review will be provided to the Infrastructure and Investment Ministers Group[19].

This Review has been commissioned by the Joint Ministers under Subpart 4 of the New Zealand Infrastructure Commission/Te Waihanga Act 2019. This Terms of Reference and the Review report will be published on the Te Waihanga website.

[19] The Infrastructure and Investment Ministers Group includes the Minister of Finance, the Minister for Infrastructure, the Minister of Transport and Local Government, the State Owned Enterprises Minister, the Regional Development Minister and the Parliamentary Under-Secretary for Infrastructure.

## Background

The New Dunedin Hospital is currently the largest vertical infrastructure project in New Zealand, with a current approved budget of over $1.59B. The new hospital will be a modern, efficient and patient-centred teaching hospital that will benefit generations of people across the Southern region. The hospital is being built in two stages:

1. Outpatient Building – outpatient services, clinic rooms, day surgery facilities and planned radiology.
2. Inpatient Building – emergency department, ICU, operating theatres, inpatient wards and other services including a dedicated primary birthing unit.

The Outpatient building is under construction and will be operational in late 2026. Health NZ is now ready to enter a construction contract for the Inpatient building which is due to be completed in mid-2029.

## Scope

The Review will investigate:

**1. Governance**

- Is the current governance structure appropriate (sufficient and suitable) for a managing contractor model where Health NZ is required to be an active client? Will this structure be appropriate moving into the next phase of the project?
- Are the governance and management roles & responsibilities clearly defined, communicated and understood? This includes accountabilities for decision-making and whether delegated financial authorities (DFA) are suitable.
- Is the project reporting (including cost reporting) sufficient for this project? In particular, does it ensure that all layers of governance are appropriately aware of project status and key risks/issues, including across all project workstreams[20] and interdependent initiatives[21]?

**2. Scope**

- Is there alignment between the current scope and budget and are they complete? In particular, does the budget allow for the entirety of the programme of works, for example any future decommissioning activity?[22]
- If there are potential gaps, have these been appropriately signalled/communicated?

**3. Programme**

- Is the proposed client programme (overall development programme) complete and feasible? Does it include the full programme of works?
- Is the proposed contractor programme for the Inpatient building (construction) complete and feasible?
- Are the client and contractor programmes aligned?

[20] Inpatients building, Outpatients building and sitewide works.
[21] E.g. the data and digital programme of work, Model of Care work, workforce planning activity.
[22] Other potential scope items are requirements for the Interprofessional Learning Centre (ILC), Pathology services, reuse/decommissioning of the existing hospital

- Does the logic of the programme appear robust and achievable? For example, are the durations and overlapping of tasks realistic, is there alignment with the capacity of trades, and is the planned spend profile feasible?

**4. Costs**

- Are the total programme and out-turn costs (including Opex) complete and feasible? Do they include the full programme of works and ongoing operating and maintenance costs?
- Do the costs reflect the full scope of works required?[23]
- Are the cost assumptions and sequencing reasonable?
- Do the programme costs reflect the current approved Business Case?
- Is the project, as currently scoped and planned, achievable within the approved budget?

It is intended that the report will be structured to reflect each of the above headings. Each section will highlight any risks/issues identified in addition to specific recommendations to mitigate these where appropriate.

# Review Process & Approach

## Governance & Progress Reporting

The Review will be overseen by the Infrastructure Commission with direction and progress monitoring being overseen by its Leadership Team. The Commission's Board will be engaged as appropriate.

In addition to the above, the Commission will meet with Health NZ, MoH and Treasury on a regular basis to discuss progress.

Details of agreed Roles and Responsibilities are included in Appendix A.

## Reviewers & Reviewer Engagement

The Commission will source a suitably-qualified independent lead Expert Reviewer to lead the Review. This person will have significant experience, at a leadership level, of the following:

- Development, procurement and delivery of complex vertical infrastructure projects at a significant scale
- Senior level management experience within an infrastructure delivery entity or project, with experience with relevant capital delivery structures and processes.

The Commission will oversee the review, participate in interviews, and provide insight and advice on broader non-technical programme components as appropriate.

Additional expertise will also be directly sourced by the Commission, if required, to provide specialised insight to the review team. The payment for all external resources is detailed in the Funding section.

If the Commission procures additional specialised experts to provide insight to the review team, they should have significant relevant subject matter experience. The following attributes are noted as being important:

- Familiarity with the health sector

[23] E.g. requirements for the Interprofessional Learning Centre (ILC), Pathology services, reuse/decommissioning of existing hospital

- Deep understanding of relationship-based contracting from both a contractual and operational perspective
- Understanding of large-scale vertical infrastructure construction and associated risks
- Understanding of current market conditions.

The Commission will ensure that:

- All reviewers (including internal Commission resources) sign any required Conflict of Interest and/or Confidentiality statements with Health NZ.
- any external Consultant Services Orders (CSOs) or contracts include sufficient protection of intellectual property for the consultants engaged on the NDH project.

The Commission will provide support to the reviewer(s) to assist in the conduct of the Review.

## Approach

The following is the proposed high-level approach for the Review:

4. Examination of documentation made available from Health NZ. This may be supplemented by additional information from the Ministry of Health, the Treasury and the Commission. An indicative list of the types of documents that will need to be supplied is detailed in Appendix B.
5. Interviews of key individuals involved in the governance and delivery of the programme including relevant stakeholders, delivery partners/contractors as appropriate[24], Health NZ, the Ministry of Health, the Treasury and the Commission. An indicative list of organisations to consider interviewing is detailed in Appendix C.

   All interviews will be conducted on a "free and frank" non-attributable basis.
6. The preceding activities may be supplemented by a site visit.

The Commission will agree communications protocols with Health NZ. The Review team will be required to comply with these. Notably Health NZ will facilitate introductions, meetings and site visits with the NDH project team and other Health NZ staff.

## Indicative Timeline

It is anticipated that the Review will take approximately five weeks from the approval of this Terms of Reference document, with a planned completion date (final report) of 31 May 2024. The indicative supporting timeline is:

- Week 1-2 – Documentation review and preliminary interviews with key stakeholders.
- Week 2-3 – Further interviews, gather and review evidence.
- Week 3-4 – Prepare draft report for consultation.
- Week 5 – Review comments and finalise report.

The final report will be provided to the Joint Ministers, the Infrastructure and Investment Ministers Group, Health NZ, Ministry of Health and Treasury before being published on the Te Waihanga website.

[24] As examples, the major designers and sub-trades will have critical insights into risks, completeness, resourcing and deliverability.

The Commission will also share the report with relevant stakeholder Ministers in liaison with Health NZ, MoH and Treasury.

## Funding

The Review will be conducted under a joint funding model whereby the costs of any external resources will be reimbursed to the Commission by Health NZ at Review completion and otherwise as agreed between Health NZ and the Commission. The Commission will be responsible for paying any external resource invoices and expenses during the Review and for presenting an itemised breakdown of these to Health NZ for subsequent reimbursement. The costs will be treated on a pass-through basis i.e. no overhead costs are to be added by Te Waihanga.

This funding agreement will be formally documented between Health NZ and the Commission.

## Assumptions and Dependencies

The timeframe for this Review is highly constrained. In order to meet this requirement, the following assumptions and dependencies are noted:

- The Terms of Reference are approved in a timely manner.
- Health NZ formally agree to fund the external costs prior to any reviewer external engagement.
- A suitably-qualified independent external reviewer can be identified, is available and can be engaged in a timely manner.
- Suitable internal resources are available within the Commission and where they are not, appropriate external resources (including subject matter experts) are available and can be engaged in a timely manner.
- Any changes to the scope of the Review during conduct are formally agreed with the Commission with any time and cost implications clearly communicated to stakeholders.
- Key documentation for the Review can be sourced and made available to reviewers in a timely manner.
- Key interviewees or suitable delegates are available to meet with reviewers in the required timeframe.
- Requests for information/approval/feedback are responded to quickly.

# Appendix A: Review Roles & Responsibilities

| Task | Leads | Notes |
|---|---|---|
| **Review Ownership** | | |
| Terms of Reference | Te Waihanga | Health NZ, MoH, Treasury to be consulted on development. Joint Ministers to approve final Terms of Reference document.<br>The Independent reviewer will be required to agree to this Terms of Reference document. |
| Independent Expert Review report | Expert Reviewer supported by specialist reviewers and Te Waihanga | Health NZ, MoH, Treasury to be consulted prior to finalisation. |
| Funding of Review | Te Waihanga and Health NZ | External consultant costs will be reimbursed to the Commission by Health NZ at Review completion and otherwise as agreed between Health NZ and the Commission.<br>The Commission will be responsible for all internal Te Waihanga resource costs. |
| **Communications, Relationship Management and Progress Reporting** | | |
| Managing communications to Ministers | Te Waihanga | Any communication to Ministers will be discussed with Health NZ, MoH and Treasury as required |
| Managing relationships and communications with relevant Health NZ staff, consultants and/or contractors | Health NZ | Health NZ are to manage this in the first instance with input from Te Waihanga as required |
| Media enquiries, OIAs, any report document release | Te Waihanga | Health NZ, MoH, Treasury to support as required |
| Escalation points for issues (e.g. for delays, cost or resourcing issues) | Te Waihanga | |
| **Review Establishment** | | |
| Confirm/agree funding of review and required mechanisms | Te Waihanga and Health NZ | |
| Identification and engagement of lead and other expert reviewers | Te Waihanga | Health NZ, MoH and Treasury to be consulted |
| Establishment of secure document repository | Health NZ | |
| Engagement of Te Waihanga resources including supporting external resources (if any) (including COI declarations) | Te Waihanga | |
| Management of the lead and other expert reviewers and any additional external resource | Te Waihanga | |
| **Review Conduct** | | |

| Task | Leads | Notes |
|---|---|---|
| Identification of required documentation | Reviewer(s) with Te Waihanga support | With input from Health NZ |
| Identification of interviewees | Reviewer(s) with Te Waihanga support | With input from Health NZ |
| Sourcing and loading of files for review | Health NZ | Documents will need to be available in a timely manner. Will need to consider volume and value of documents |
| Scheduling of interviews as required (including any required meeting rooms, video-conferencing etc) | Health NZ | Te Waihanga |
| Coordination of any site visits (including any briefings or inductions) | Health NZ | |
| Conduct review as per agreed scope | Reviewer(s) with Te Waihanga support | To include specialised external resources if required |
| **Report Preparation** | | |
| Preparation of final report | Reviewer(s) with Te Waihanga support | Health NZ, MoH, Treasury to be consulted |
| Approval of final report | Te Waihanga | Health NZ, MoH, Treasury to be consulted prior to finalisation. |
| Provision of report to Ministers (Joint Ministers and Infrastructure and Investment Ministers) | Te Waihanga | Health NZ, MoH, Treasury to be consulted in the preparation of supporting briefing material |

## Appendix B: Indicative Key Documentation

The following are the key *types* of documents that the reviewers are likely to request to review. The full detailed list will be confirmed during review initiation and may change during the review conduct.

| Document Type |
|---|
| Governance structure (incl decision pathways) and project organisation chart |
| Delegations of Authority policy/frameworks |
| Status reports including financials |
| Recent Health NZ reporting to Ministers |
| Recent Health NZ reporting to the Ministry of Health |
| Risks and Issues register |
| Change management process and register |
| Recent Steering Group reports and minutes |
| Relevant governance body Terms of Reference |
| Project Programme – Client development programme and contractor Inpatient delivery programme |
| Relevant contracts (including draft contracts) |
| Relevant Health NZ Board papers |
| Relevant Ministerial papers |
| Finance and cost reporting (past 3 months) |
| Assurance reports |
| Gateway review reports |
| Business Case(s) |
| Contract management documentation, e.g. roles & responsibilities, governance mechanisms, escalation mechanisms, reporting requirements |
| Change management / transition plans |
| Confirmation of funding approvals |
| QRA analysis |
| Procurement strategy/plan including probity processes, market intelligence, supplier assessment |
| Benefits management/realisation plan |

## Appendix C: Indicative Organisations to Interview

The following organisations will be considered when developing the list of interviewees. The full detailed list will be confirmed during review initiation and may change during the review conduct.

| Organisation | Rationale |
|---|---|
| Health NZ | Responsible for delivering the NDH project. |
| Ministry of Health | Responsible for monitoring Health NZ |
| The Treasury | Responsible for oversight of project funding |
| NZ Infrastructure Commission \| Te Waihanga | Health NZ are to manage this in the first instance with input from Te Waihanga as required |
| Major designers | Will have insights into the design and completeness, in addition to understanding the key risks that the project faces moving into construction |
| Managing contractor (CPB) | To obtain perspective on the proposed contractual arrangements and potential management and delivery risks |
| Key sub-trade contractors | To understand resourcing and deliverability, as examples the availability and storage of material, labour force, burn-rate capability |

# Appendix B: Interviewees

Interviews were held with representatives from the following organisations during the conduct of this review:

| Organisation |
|---|
| Health New Zealand |
| CPB Contractors |
| Rider Levett Bucknall Christchurch Limited (RLB) |
| Resource Co-ordination Partnership Limited (RCP) |
| Woods Harris Consulting Ltd |
| Warren & Mahoney |
| Octa Associates Limited |
| VAE Group |
| D&H Steel |
| Chapman Tripp |
| Ministry of Health |
| Treasury |
| New Zealand Infrastructure Commission, Te Waihanga |
| Other relevant interviewees |

The following organisations were also consulted in preparing the final version of this document:

| Organisation |
|---|
| Health New Zealand |
| Ministry of Health |
| The Treasury |

# Appendix C: Document Types

The Review Team were given access to numerous documents to inform them on the history and status of the Project. The commentary in this report has been informed by the following key document types:

| Document Types - Received |
|---|
| Overview of governance structures and project organisation chart |
| Relevant Ministerial briefings, Cabinet papers and minutes |
| Relevant Health NZ Board papers and minutes |
| Relevant Health NZ Capital and Infrastructure Committee (CIC) papers and minutes |
| NDH Executive Steering Group (ESG) reports and minutes |
| NDH Project Steering Group (PSG) reports and minutes |
| Relevant governance body Terms of Reference |
| NDH business cases |
| NDH Gateway review report |
| Contract management documentation |
| Relevant contracts including draft contracts |
| Project Programmes including those for related workstreams e.g. Data and Digital, Transformation |
| Project Execution Plans |
| Cost estimates |
| Quantitative Risk Assessments (QRAs) |
| Sub-trade procurement documentation |
| Risks and Issues registers |

While the primary documentation focus was on the Inpatient Building workstream, relevant equivalent documents were also received for related workstreams where required to inform the review e.g. for the Data and Digital, Transformation/Workforce workstreams.

# Appendix D: Glossary

| Term | Definition |
|---|---|
| CSB | Clinical Services Building |
| ECI | Early Contractor Involvement |
| EOT | Extensions of Time |
| ESG | Executive Steering Group |
| FF&E | Furniture, fixtures and equipment |
| HNZ | Health New Zealand |
| HSS | Hospital and Specialist Services |
| IB | Inpatient Building |
| IIG | Infrastructure and Investment Group |
| ILC | Interprofessional Learning Centre |
| OB | Outpatient Building |
| PPP | Public Private Partnership |
| PSG | Project Steering Group |
| QRA | Quantitative Risk Assessment |
| SDHB | Southern District Health Board |
| SRO | Senior Responsible Owner/Officer |
| TC | Total Cost |
| TRC | Total Reimbursable Costs |
| TTC | Target Total Cost |