

Redevelopment

Design Development Executive Summary Updated October 2016



Update October 2016

The completed developed design for RHH Redevelopment's K-Block was finalised in June 2015.

The executive summary was subsequently produced to provide information to stakeholders and the community about the project.

It was subsequently updated in October 2016 to include approved variations in the blocking and stacking of K-Block – specifically the relocation of the:

- therapy gym from level 10 to level 2
- acute dialysis unit from lower ground J-Block to level 10 and
- the Hyperbaric Unit from F-Block to Level 3, K-Block.



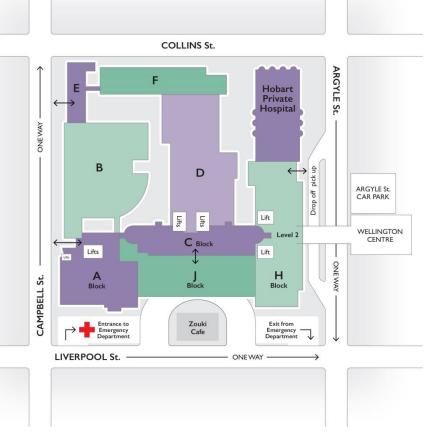


Background

The RHH is Tasmania's only tertiary hospital. The RHH currently has 411 operational beds and provides a range of statewide services as well as a comprehensive suite of acute care services for southern Tasmania.

The RHH has operated from its current location since 1820, and some existing buildings date back to 1939. The site has an extensive history of redevelopment. The resultant disjointed configuration of buildings limits the ability of the RHH to provide efficient service delivery and implement contemporary models of clinical care. These conditions are also not conducive to attracting and retaining high quality staff.

Many of the buildings are reaching the end of their economic life and the need to upgrade, redevelop and expand the RHH has been acknowledged for some time by clinicians, members of the public and State and Commonwealth Governments.



Current Royal Hobart Hospital Campus



Background

In 2009, the previous State Government committed to redeveloping the RHH on the existing site due to insufficient available funds to invest in a greenfield development.

In 2010, \$100 million was provided for early works due to the state of the ageing infrastructure on the site and in recognition that 'keep safe and operational works' would be needed before any major redevelopment could commence (Phase I).

In 2012, \$20 million was received from the Commonwealth Government for the Tasmanian Cancer Care Project (Phase 2).

However, it was the Health and Hospitals Fund (HHF) bid completed in late 2010 that had the single largest influence on the project's scope.

The application for, and receipt of, inter-governmental funding since 2010, has established the scope of the current project.

The multiple funding sources have been pooled to allow for the redevelopment of the existing site as a single, large redevelopment.

In June 2011, at the request of the Commonwealth Government, Tasmania signed the initial *Project Agreement for the Redevelopment of the Royal Hobart Hospital* (IGA).

The August 2013 IGA requires delivery of key outputs including the following:

- a. approximately 50 000 m² of floor area
- b. a Women's and Children's Hospital, including a dedicated Adolescent and Mental Health Unit
- c. 195 new overnight, on campus beds (increasing capacity from 371 to 566 beds)
- d. 7 additional operating and procedure rooms
- e. a surgical intervention and diagnostics area
- f. an Assessment and Planning Unit adjacent to the Department of Emergency Medicine
- g. a 23 hour unit for patients that require a maximum of one overnight stay
- h. a Patient Transit Lounge
- i. provision of infrastructure and engineering services that meet current building code standards and have the flexibility to cope with growth or emergency and
- a design and layout for flexible utilisation of beds and colocation of functional services.



The Business Case for the RHH Redevelopment Project (November 2010) informed the development of a sitewide Master plan completed by the Lyons in 2011. The Master plan provides a strategic and long term vision for the progressive redevelopment of the entire RHH site contingent on receipt of future, funding investments.

Stage I of the Master plan is the inpatient precinct known as K-Block. K-Block is a ten storey tower constructed on the site of the current B-Block.

There are significant benefits of the proposed K-Block. Consistent with contemporary health services delivery models, improved patient care and operating efficiencies will result from bringing together services in 'precinct' areas such as women's, adolescents and children's services; mental health services; medical services; and surgical services.

It will also allow for increased flexibility in the use of the facilities. These new precincts will be located in close proximity to the Tasmanian Health Service Southern Region Cancer Centre. New models of clinical care have been developed with clinicians to reflect contemporary service attributes, and improve the pathways for patients from, and back to, community settings.



Stage I RHH Master Plan Completed K-Block

Stage I of the Master Plan requires the demolition of B-Block and the construction of K-Block and new Campbell Street drop-off.



Stage 2 of the RHH Master Plan involves the decanting and demolition of E-Block. A new building is constructed on Campbell and Collins Streets to accommodate the relocated Hyperbaric Medicine unit.

F-Block is vacated and demolished and a new Mental Health building overlooking the rivulet is constructed. New Pathology and Pharmacy units are constructed.

Fit-outs for the new ICU, Education Centre/Clinical Directorate and remainder of operating theatres suite also occurs.

Stage 2 is currently unfunded.



Stage 2 RHH Master Plan
Mental Health Precinct, Pathology and New
Undercroft



The Long Term Vision for the RHH Site

Completion of Stage 3 of the Master Plan involves the decanting and demolition of D-Block and construction of a new D-Block to accommodate new loading docks, a new section to the Emergency Department, expanded operating theatre suite, office accommodation and part of a new inpatient ward tower.

The loading docks and Emergency Department are then relocated. The 2011 Master Plan included installation of the helipad on the roof of K-Block in this stage however this has been brought forward to Stage 1.



Stage 3 Master Plan
Central Services Building and
Stage 2 Inpatient Building



Completion of Stage 4 of the RHH Master Plan involves the demolition of H-Block and the construction of the new ambulatory care building on Argyle Street with the second inpatient ward tower built on the upper levels. A canopy is completed linking the cancer centre and main hospital entrance to the new ambulatory care building.





Stage 4 Master Plan
Ambulatory Care Centre and New Entry to Hospital
View from Collins Street (LHS) and Liverpool Street (RHS)



The RHH Redevelopment Project

There are three phases of the RHH Redevelopment project:

Phase I Infrastructure and Essential Capital Works
This included works to reduce ongoing maintenance
requirements and support future redevelopment opportunities
by upgrading hospital infrastructure such as replacing electrical
switchboards and power generators. It also included the
refurbishment of a number of areas such as Medical Imaging
and the Department of Critical Care Medicine.

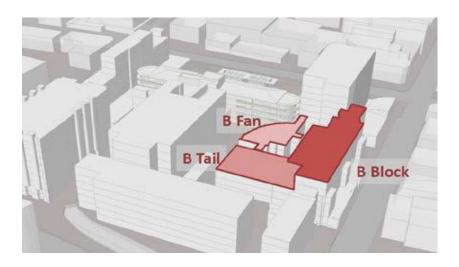
Phase 2 Cancer Centre

The Cancer Centre has provided improved amenity and services to Tasmanians who require cancer treatment. It includes the new support centre for people affected by a cancer diagnosis.

Phase 3 Inpatient Precinct (K-Block) (Stage I Master plan) Stage I was the commencement of the Managing Contractor and the delivery of the Guaranteed Construction Sum (GCS). Stage 2 is the construction of K-Block which could commence once a GCS is accepted.

The construction of K-Block requires the demolition of B-Block which compromises three sections: B-Fan, B-Tail and B-Block). The process is as follows:

- refurbish numerous sites to support decanting of B-Block
- decant all services from B-Block (including some offsite decanting of acute services)
- demolish B-Block
- construct the two towers of K-Block concurrently and
- decant services into K-Block.





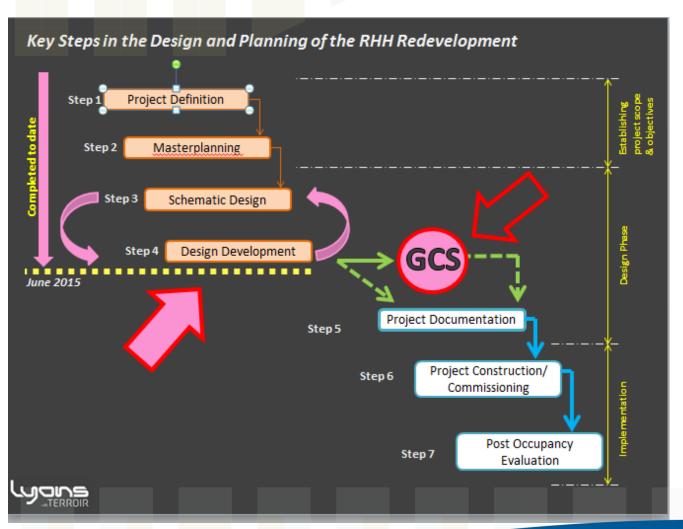
Design and Planning Process

- K-Block design work started in 2012 and was later revised in 2013 with the value management exercise which reduced the floor plate of K-Block by 2 400 m².
- The former Executive Steering Committee (ESC) for the project commissioned a Project Status Report (April 2014) to provide advice to the current Government about the status of the project including key risks that needed to be addressed going forward.
- The Minister for Health, the Hon. Michael Ferguson MP commissioned the Royal Hobart Hospital (RHH)
 Redevelopment Rescue Taskforce (the Taskforce) to undertake an independent investigation and provide recommendations on how to best continue the RHH Redevelopment project; reporting to Government by the end of November 2014.
- The scope of these recommendations included the: capital and operational risk profile of the project and the RHH; construction methodology; decanting requirements; governance and management; Guaranteed Construction Sum (GCS) presented by the Managing Contractor; and other related matters.

- The Rescue Taskforce recommended a small number of design changes as a result of specific design concerns raised by clinicians during the investigation.
- These design changes have now been finalised with user groups input and include:
 - a fully functioning helipad
 - the reorientation and extension of the floor plate on levels two and three, allowing for an improved mental health design
 - the installation of the temporary Liverpool Street forecourt facility to support the decanting plan and
 - a small number of blocking and stacking amendments.
- The Taskforce also noted numerous detailed design issues that needed clarification which have now also been finalised.



Design and Planning Process



The RHH Redevelopment project reworked elements of the schematic and detailed design between 2012 and 2014.

The reset RHH Redevelopment project, which commenced in January 2015, has now finalised the design development phase.

Design development is a key stage.

It provides information the Managing Contractor needs to build K-Block.

It includes where each room sits in a floorplan, what goes into each room and what materials are used to build each room.

It was completed and issued to the Managing Contractor along with the request for the Guaranteed Construction Sum at the end of June 2014.



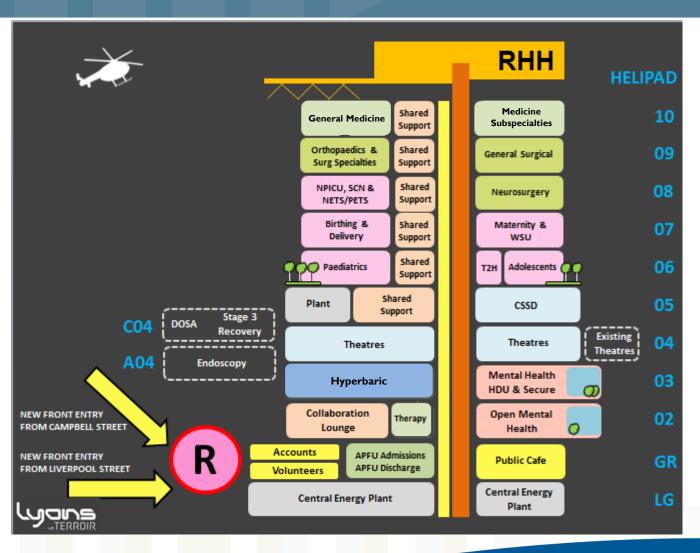
Design Development Principles

- To develop design development scope consistent with the RHH Master Plan, the project's schematic design reports and the directions of the RHH Redevelopment project.
- To describe the architectural, engineering and performance scope of the design development.
- To address the expectations of the Managing Contractor in the design development process.
- To work with user groups to detail room layout sheets for clinical/operational areas including showing fixed and loose furniture and equipment on floor plans.
- To prepare schedules of accommodation and departmental areas in relation to the project's schematic design reports and the Australasian Health Facility Guidelines.
- To prepare 1:100 scale plans and elevations and 1:50 scale sectional studies of the buildings, typical constructional details and sketches showing internal treatment of spaces.
- To prepare a schedule of the proposed materials and finishes.

- To address relevant local authority requirements.
- To develop procurement/project delivery with the Managing Contractor.
- To implement the recommendations of the Rescue Taskforce.
- To include the additional scope included in a number of variations including those resulting from the Rescue Taskforce and the outstanding detailed design issues.
- To provide advice on project risks.



Approved Block and Stack



The following amendments were approved to the K-Block blocking and stacking:

- relocation of T2H from level 7 to level 6
- three more single bedrooms on level 7
- 'swap' locations of parent room/write up/store on level 7
- 'swap' location of interview room and office, modify staff base and provide ensuite facilities adjacent the family room on level 8 (NPICU) provide additional three single bedrooms on level 2 (MHS)
- Hyperbaric medicine unit included in level 2
- relocation of acute dialysis to lower ground J-Block and
- allied health gym (therapy) move from level 10 to 2.

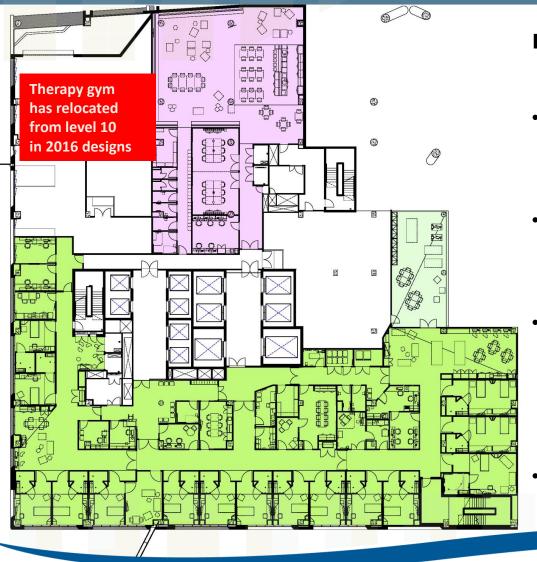


K-Block Design Scope – Ground floor



- Admissions and patient flow unit a 'one stop' arrival and departure point for patients.
- Reception and cashier.
- Café and retail space.
- East-west and north-south hospital street/ galleria which include a glazed atrium roof and a three level high vertical glazed wall which creates an outdoor landscaped space between A, C and K-Blocks.
- A back of house link connecting K-Block to D, C and H-Blocks.
- New main Liverpool Street entrance connected to K-Block and including waiting area/taxi pick up.

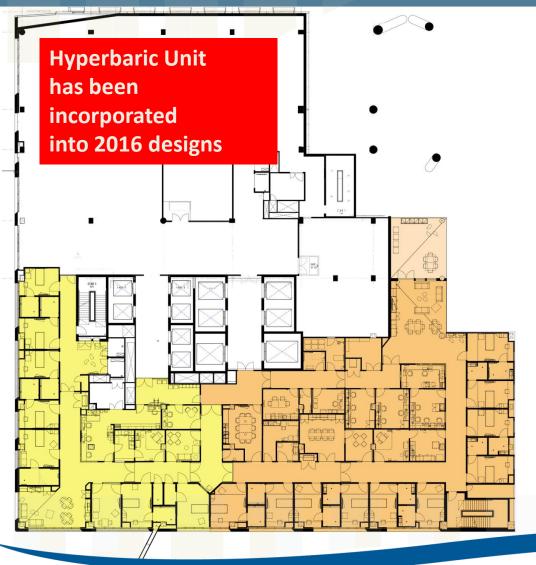




Mental Health Services, Staff Resource Area and Other

- Mental health ward with 17 bed capacity:
 - 13 single bedrooms
 - 2 single beds in two bedroom capacity rooms.
- Includes patient spaces eg recreation and dining areas and clinical support and staff areas.
- Staff resource area incorporating meeting and resource spaces, shared office space, collaboration lounge with kitchenette and staff amenities including toilets, showers and lockers.
- Shell space.





Mental Health Services and Other

- 16 bed mental health unit:
 - specialised seclusion room.
 - de-escalation space
 - flexible areas that can be used for vulnerable patients
 - patient spaces eg dining and recreational spaces and
 - clinical support and staff areas.
- Other:
 - plant room and
 - shell space.

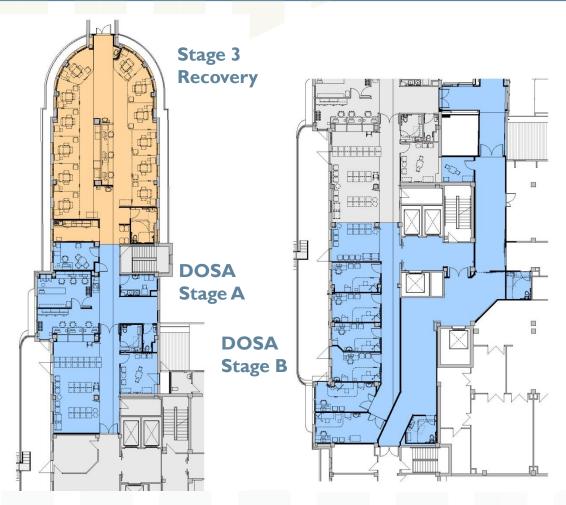




Operating Theatre Suite

- 5 new theatres suites.
- I angio suite and I cardio catheter lab.
- I new procedure/CT room.
- Post-anaesthetic recovery unit including a 25 bay first stage recovery (including 3 S-Class isolation bays) and a 19 bay second stage recovery.
- Holding area.
- Centralised sterile stock store and dirty marshalling area.



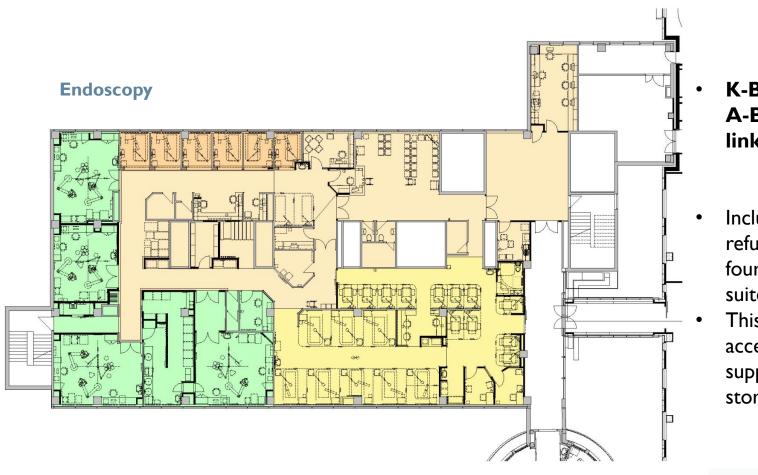


K-Block and C-Block are linked on level 4.

Extended Day Surgery

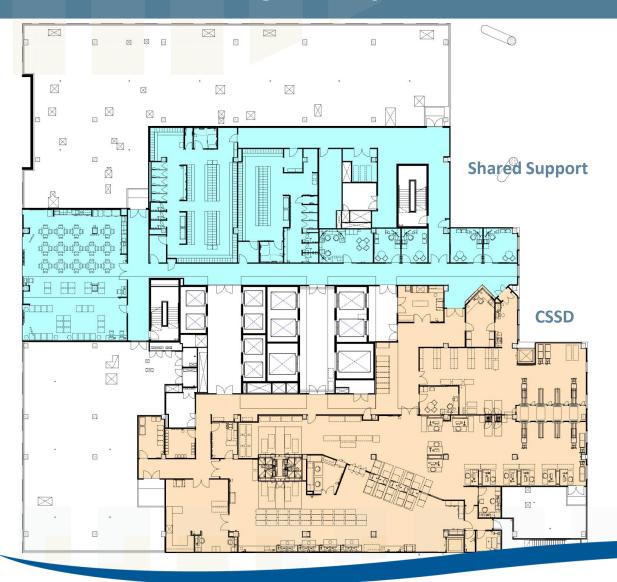
- 12 bays.
- 12 chairs.
- Links between A, C and D-Blocks for access between DOSA, Endoscopy, and the existing and new theatres suites and support functions.
- Admission, consultants' rooms and adult and paediatric waiting areas.





- K-Block and
 A-Block are
 linked on level 4.
- Includes the refurbishment of four endoscopy suites.
- This also provides access to additional support and storage spaces.





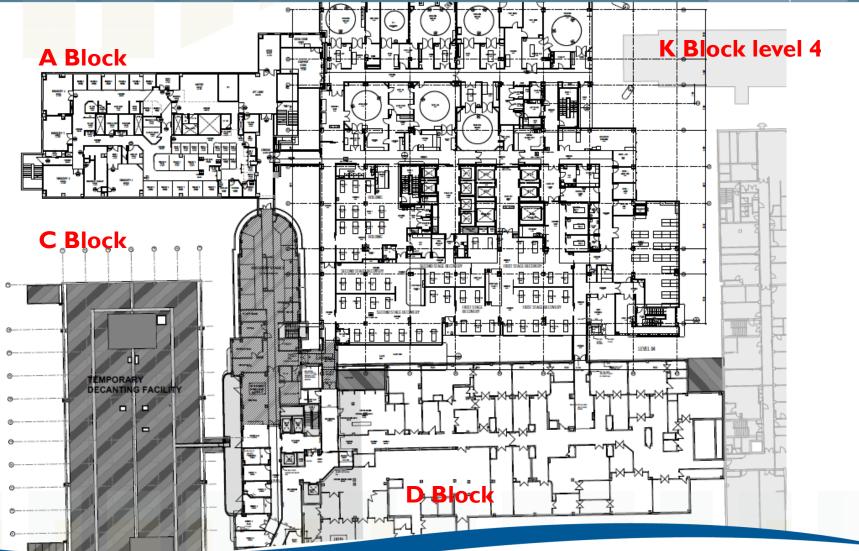
Shared Support and CSSD

- Central Sterile Supply
 Department (CSSD) including
 new clean and dirty hoists to
 the theatre suite below.
- Change rooms (male and female) for peri-operative staff.
- Staff room for peri-operative staff.
- Office space for surgical leadership.
- Plant room areas to service the operating theatres/CSSD/ interventional suites below.



Operating Theatres Precinct

Redevelopment







Paediatric, Adolescent and Transition to Home Units

- 25 bed paediatric unit with access to secure rooftop garden (capacity for 30 beds):
 - 10 single bedrooms (incl. 2 x N-class)
 - 5 single beds in two bed capacity rooms
 - I two bedroom
 - I high dependency unit with 4 beds and
 - I nursery with 4 beds.
- 16 bed adolescent unit with access to the secure garden (capacity for 19 beds):
 - 4 two bedrooms
 - 3 single beds in two bed capacity rooms
 - 2 single bed mental health rooms
 - I single bariatric bedroom and
 - 2 single bedrooms (incl. I N-Class).
- Inpatient school with access to the secure rooftop garden.
- 3 single rooms in the transition to home unit.





Delivery/ Birthing and Women's Unit

- 14 bed delivery/birthing suite:
 - 4 delivery rooms incl. 2 N-Class isolation delivery rooms
 - 8 birthing rooms including a family room and collocated lounge and
 - 2 bed high dependency unit.
- Triage area with 3 consultation bays, assessment room and nurse support areas.
- 22 bed women's inpatient unit (can flex to 31 beds):
 - 8 single bedrooms incl. 3 N-Class rooms
 - 9 single beds in two bed capacity rooms
 - 2 beds in two bed capacity rooms and
 - I single bed bariatric room.





Neonatal Paediatric Intensive Care Unit (NPICU)/ Special Care Nursery (SCN) and Neurosurgery Units.

- 28 bed NPICU/SCN unit:
 - 8 NPICU bays incl. 2 N-Class rooms
 - 4 PICU beds incl. 2 N-Class rooms
 - 12 SCN bays and
 - 4 SCN high dependency bays.
- 24 bed neurosurgery unit:
 - 5 single bedrooms incl. I N-Class and 2 PTAs
 - I single bed bariatric room
 - 6 two bed capacity rooms and
 - 6 high dependency beds.





Orthopaedic, Specialty and General Surgical

- 27 bed orthopaedic and specialty surgery unit (with capacity for 33 beds):
 - 6 single bedrooms incl. I N-class room
 - I single bariatric room
 - 6 single beds in two bed capacity rooms and
 - 7 two bedrooms.
- 29 bed general surgical unit (with capacity for 33 beds):
 - 7 single bed rooms incl. 2 N-class rooms
 - I single bed bariatric room
 - 3 single beds in two bed capacity rooms and
 - 9 two bed capacity rooms.



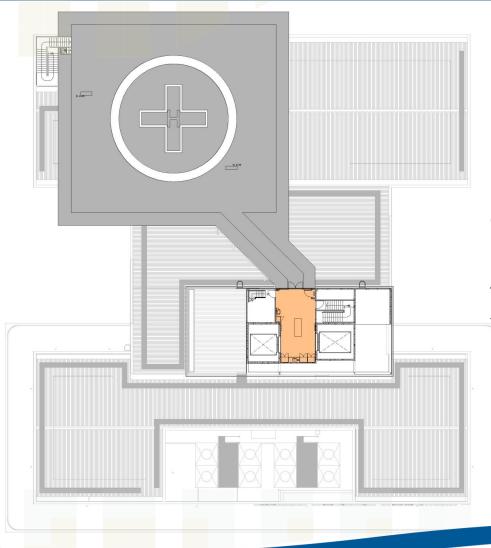


Medical Sub-Specialties and General Medicine

- 24 bed medical sub-specialties unit (26 bed capacity):
 - 6 single bedrooms incl. I N-Class room
 - I single bed bariatric room
 - I single bed in a two bed capacity room
 - 6 two bed capacity rooms
 - 3 single bedrooms (stroke + therapy bay, in a four bed capacity room) and
 - I EEG bedroom.
 - 27 bed general medicine unit (30 bed capacity:
 - 10 single bedrooms incl. 4 N-Class rooms
 - I single bed bariatric room
 - 3 single beds in two bed capacity rooms
 - 5 two bedrooms and
 - I three bedroom (NIV respiratory room).



K-Block Design Scope – Helipad



Helipad deck sized to cater for all current and future helicopter types to be used for medical emergencies.

The helipad is designed to sit on the tower situated on Campbell Street.











The building's façade complements Hobart's natural and built environments, and acknowledges aspects of our local heritage.

The grid of panels in the façade evokes the quilt pattern reminiscent of the Rajah Quilt, hand sewn by female convicts on their voyage to Van Diemen's Land in 1841.

The history and texture of the city can be seen in the ghost printed design of Richard Jarman's 1858 Map of Hobart Town.

The colours of the façade's panels are inspired by our local landscape: sky and water blues, landscape greens and earth tones. The shadow of Hobart's iconic Mount Wellington is reflected in the design.

LHS Tasmanian Archive and Heritage Office: Map of Hobart Town/drawn and engraved by R. Jarman, 1858. Tasmanian Archive and Heritage Office: AUTASOO 113 182 1787

Top RHS Unknown female convicts on board the Rajah, The Rajah quilt 1841 Pieced medallion style unlined coverlet: cotton sheeting and chintz applique, silk thread embroidery, 325 x 337.2 cm, National Gallery of Australia, Canberra Gift of Les Hollings and the Australian Textiles Fund 1989.

Bottom RHS Sampling colour inspiration for façade - Image courtesy of Lyons with Terroir.



K-Block – External Facade

The building facade fulfils a number of purposes including providing weatherproofing, aesthetic appeal, energy efficiency and contributing to patient wellbeing and amenity.

Throughout the design development phase, the design team have developed the facade using the most cost-effective means of achieving the design through smart design, material selection and construction methodologies. Items like the patterns, colours, materiality and scope were further scrutinised to both ensure the design was within budget and to strengthen the design ideals.

During the design development phase the managing contractor provided more direct feedback and consultation on the build ability of the facade and its related elements. These suggestions and initiatives were incorporated into the current design whilst maintaining the agreed design intent.

With consultation from a facade access consultant, the maintenance requirements of the facade, including roof access, external window and facade access and cleaning, prevention of roosting birds, and longevity of finishes and robustness of construction were investigated and developed in further detail during the design development phase.

The facade is proposed as a two layered system, the first being a waterproof line consisting of a glass and spandrel framed system embedded into a precast skin, the second a series of modular three dimensional panels which form the sun shading/glare control components of the new building. These visible components of the facade are proposed as lightweight aluminium framed system and clad in aluminium to achieve the colour and patterning of the design.





K-Block – External Facade Finish

Redevelopment





K-Block – Campbell Street Entry

Campbell Street is a significant corridor in Hobart and notably provides a direct connection to Sullivan's Cove reinforces the importance of the hospital site in contributing to the public amenity of the area.

The high visibility of the K-Block Campbell Street frontage is an opportunity to open and connect the hospital to the city via the initiatives:

Campbell Street Stairs and Disabled Lift Access

The main ground floor level of the hospital is approximately one storey above footpath level therefore new stairs and an accessible lift have been provided. The generous main entry stair and disabled lift are clearly visible from the street, and are designed to encourage use and be an extension of the new hospital street.

A second set of stairs has been located south of the main entry stair to address pedestrian movement along the southern end of Campbell Street. It promotes activation along the length of the new K-Block and especially at the interface with the terrace cafe.

Campbell Street Terrace Cafe and Balcony

The need to provide increased amenity to the hospital coupled with the desire to create an urban destination point along Campbell Street has resulted in a cafe and terrace being located along its edge.

K-Block has been cut back over these spaces to capitalise on the early morning and early afternoon sun. The orientation and position of the balcony also creates vantage points to Sullivan's Cove and the Theatre Royal.

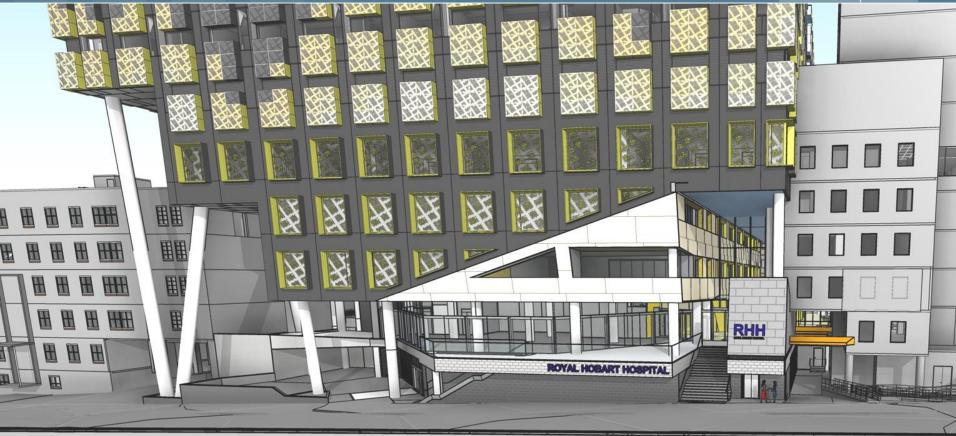
Ambulance Drop Off

The Campbell street frontage has also been designed to include a temporary ambulance drop off. This is intended to service the Access and Patient Flow Unit (APFU) for patient ambulance transfer as well as patient collection through patient transport. The space is set back from the street frontage and the adjoining areas will be treated as landscaped spaces directly connected with the Campbell Street footpath.



K-Block – Design – Ground floor

Redevelopment





K-Block – Interior Design - Concepts

- I. To provide clear and effective way finding.
- 2. To improve patient, visitor and staff experience.
- 3. To create a contemporary environment.
- 4. To create a Tasmanian identity.
- 5. To use robust, practical and easily maintained materials.



K-Block – Interior Design – Ground floor

Redevelopment





K-Block – Interior Design – Ground floor









K-Block – Interior Design – Ground floor

Redevelopment



View into courtyard space, C-Block and link to A-Block





View to admissions and reception









K-Block – Interior Design – Ground floor





View towards Liverpool Street



C-Block – New Front Entry





C-Block Entry

Completed in the 1940s, C-Block is both a significant heritage asset as well as an icon valued by the RHH and the broader community. The primary entry to the hospital will remain the Liverpool Street forecourt through C-Block and is as such, the public face of the RHH.

The design approach has been to respect the heritage significance of C-Block and reinstate, where possible, some of its original setting. Over time C-Block has been progressively enclosed through encroaching developments. Where new works are required, the design strategy is to adopt an architectural language to enhance, but not replicate the original.

The current design development proposes the demolition of the annex (added in the 1960's) to the north of the existing sandstone portico and reinstating the original building footprint via a new glazed wall. The new glazed wall provides a much needed second entry into the hospital. The original building footprint will be reinstated bringing the sandstone portico back to being proud of the building line and further reinforces the 'front door' of Building C as the entry into the RHH.

The existing glazed canopy (constructed in 2005) will be retained and slightly extended to ensure adequate shelter.

A new modest canopy will be added to provide shelter over the new second entry.

The fixed seating and two planter beds surrounding the second entry will be removed to decongest and open up the Liverpool Street forecourt. The skylight servicing the emergency department below will be retained.

Some of the building materials and finishes from C-Block are continued into the new lobby space – sandstone cladding to columns and a brickwork base.

The internal stair will be demolished, to enable separate DOSA lobby accessible from the foyer space.

The rear of C-Block will be opened up. This is achieved through the demolition of B-Block and the new building being held away from the back of C-Block. The spaces between the buildings are proposed as landscaped courtyards which run along, and are accessed from, the new internal street. This treatment not only provides increased amenity to the Hospital but uncovers previously crowded vistas to C-Block.



C-Block – New Front Entry







C-Block – Ground Floor



Existing front entry retained and operational



C-Block – Ground Floor

Redevelopment



Liverpool Street entry airlock and waiting area



K-Block – Interior Design – Ground floor

Redevelopment



View of admissions and reception to wards



Interiors, Materials and Finishes

The interiors and finishes for the project have been developed with the following objectives:

- to reflect a contemporary and innovative environment
- to assist patient recovery and comfort
- to reinforce the way finding strategy
- comply with safety issues
- · meet clinical requirements and be easily maintained
- · be environmentally sustainable and
- assist the RHH with infection control.

The design development drawings reflect these principles and include the following level of internal finishes:

Ground floor public spaces and foyers - stone flooring, timber panelling to walls, feature ceilings and custom timber joinery.

Inpatient accommodation - vinyl flooring, painted partition walls, flush plasterboard ceilings, acroyvn and laminate bedheads.

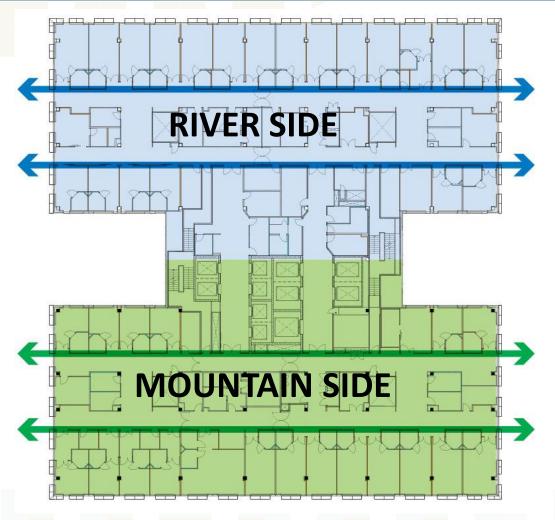
Feature inpatient areas - vinyl and carpet tile flooring, painted partition walls, flush plasterboard and acoustic tile ceilings and laminate joinery.

Staff accommodation (patient accessible) - vinyl flooring, painted partition walls, flush plasterboard ceilings.

Staff accommodation (non patient accessible) - carpet tile flooring, painted partition walls, acoustic tile ceilings.

Over the design development phase the interiors and finishes selections were presented to the relevant RHH project stakeholders. The comments and recommendations arising from those meetings have been incorporated into the current design documentation.





- Bed rooms line the perimeter of the building.
- Views are of the Derwent River indicated by the colour blue or Mount Wellington indicated by the colour green





Mountain side reception



Public lift lobby



River side reception



Redevelopment



Mountain side bedroom Staff base River side bedroom



Mountain and River Feature Colours









Redevelopment



Public lift lobby

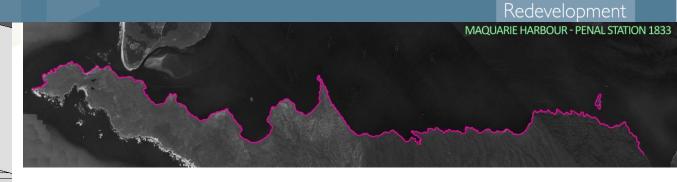


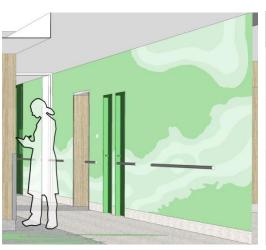
Redevelopment

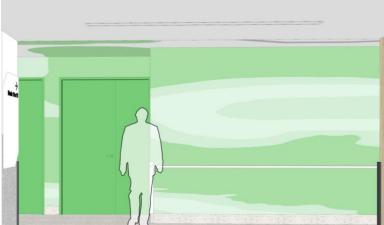


Public lift lobby









Reception and feature wall



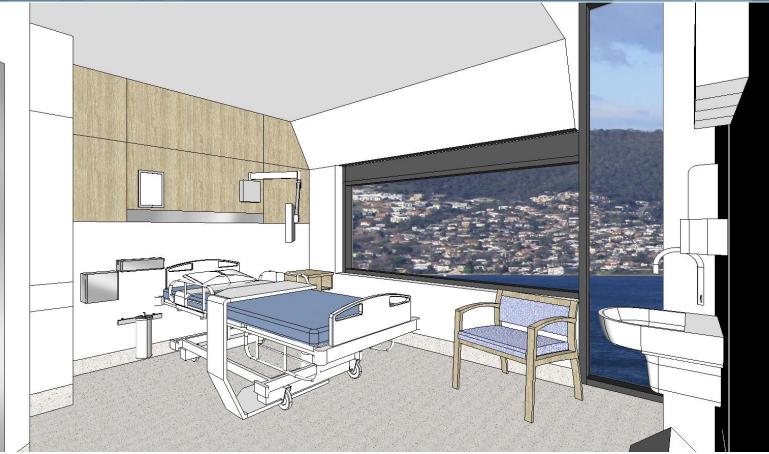




Staff base



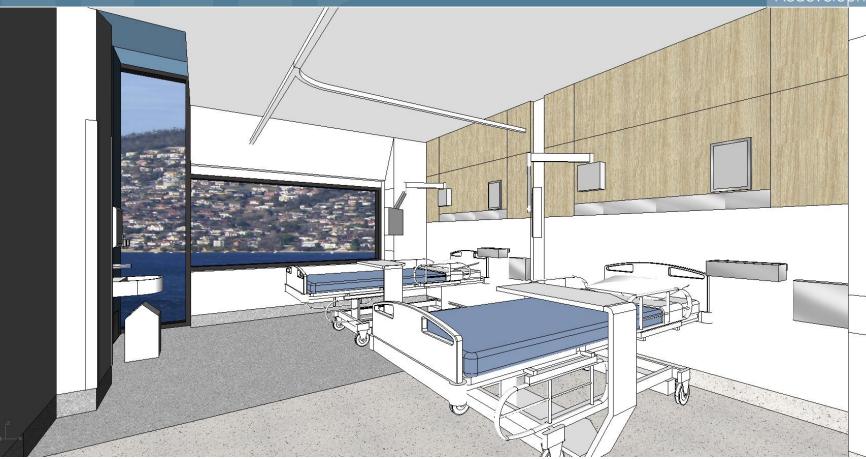
Redevelopment



Single bedroom



Redevelopment



Two bed room



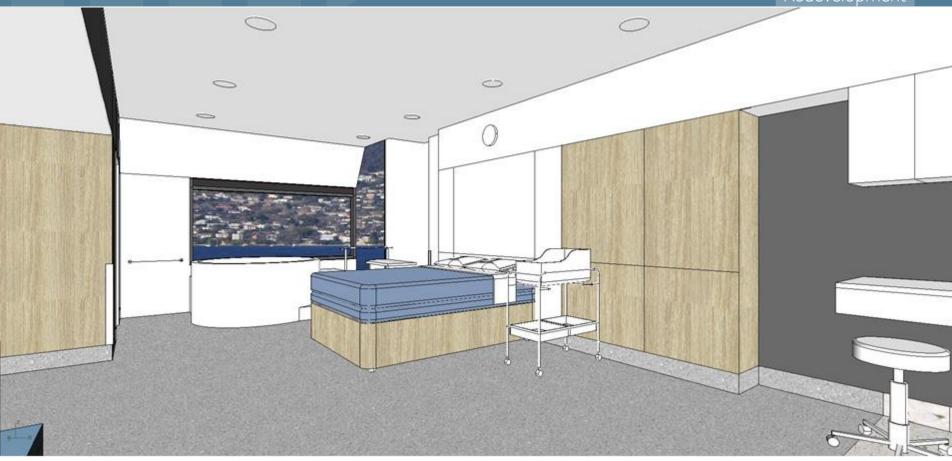
Redevelopment



Neonatal Paediatric Intensive Care Unit

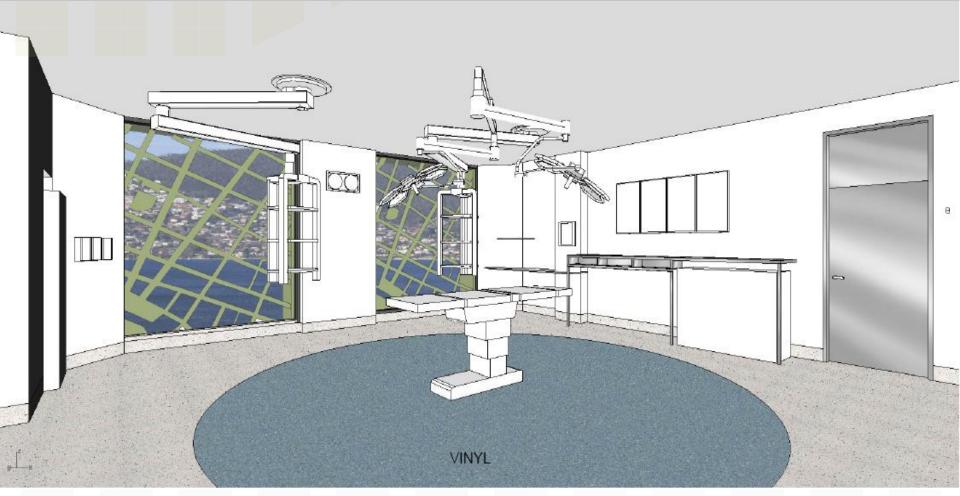


Redevelopment



Birthing room with bath

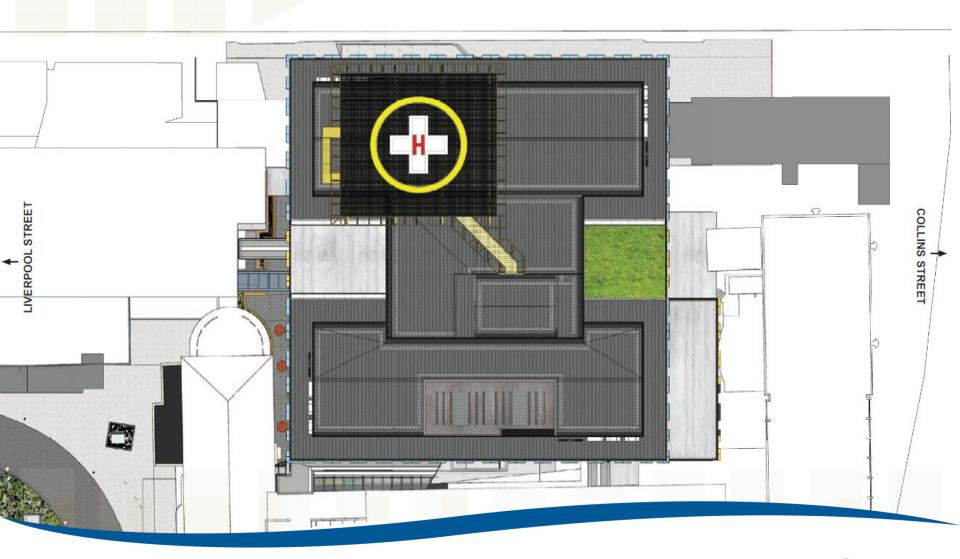




Operating Theatres



CAMPBELL STREET





K-Block – Waterfront View







