Department of Health and Human Services
SHARED SERVICES - ASSET MANAGEMENT SERVICES

Tasmania

Repatriation Centre Redevelopment

SUBMISSION TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

August 2017

EXECUTIVE SUMMARY

The purpose of this document is to inform the Parliamentary Standing Committee on Public Works of the need for the proposed project and how the design of the works will address this need.

The Repatriation Centre is a Crown owned facility that currently provides approximately 40 sub-acute inpatient beds for transition to care and rehabilitation services, together with 10 palliative care beds. The Tasmanian Health Service (THS) also operates a range of speciality clinics and community services from the site.

On the 28 May 2017, the Minister for Health announced the development of a new 22 bed ward at the Repatriation Centre to be opened in time to meet the peak load in winter 2018.

The redevelopment of Level I of the Peacock Building at the Repatriation Centre into a 22 bed sub-acute ward is required to meet current demands on bed space at the Royal Hobart Hospital (RHH) in the short term, and will be part of the THS longer term bed strategy, consolidating a sub-acute hospital off the RHH site.

The Repatriation Centre Redevelopment Program consists of two inter-related projects:-

Project 1:

Provision of a 22 bed sub-acute ward on Level 1 of the Peacock Building at the Repatriation Centre. The new ward will house patients requiring ongoing multidisciplinary, holistic inpatient chronic diseases management and care planning, but do not need or no longer need to be in an acute hospital bed. There will need to be access to aged care, rehabilitation, palliative care and allied health services. The project is a re-fit of an existing floor at the Repatriation Centre.

This ward is required to meet current demands on bed space at the RHH in the short term, and will be part of the THS longer term bed strategy, consolidating a sub-acute hospital off the RHH site. Cost $5,025,000.

Project 2:

Upgrade of the Peacock Building HVAC plant and site infrastructure. Currently the space including wards is only heated, with the heating system at end of life (i.e. wall mounted convection radiators with rusted pipework leaking, poor controllability, no cooling during hot weather etc.). Other infrastructure such as the emergency generator set and medical gas supply will also be upgraded.

This work is necessary to maintain the existing sub-acute services on site, as well as to support the increased servicing load of Project 1. Cost $1,975,000

The total project cost is estimated at $7.0 million. The above works will be in full compliance with contemporary standards and building codes.

Both projects in this program, whilst separate, are strategically important to consolidating the Repatriation Centre in the long term as a sub-acute centre for Southern Tasmania. Project 1 provides an actual ward, and Project 2 ensures that key building services can continue to meet both the current and future loads on HVAC servicing and other supporting infrastructure required to consolidate the Repatriation site as a sub-acute centre, and overcomes existing deficiencies in the rest of the site

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1. DOCUMENT PURPOSE

The purpose of this document is to inform the Parliamentary Standing Committee on Public Works (PSCPW) of the needs for this project and to explain the processes undertaken during the design phase to maximise the delivery of the desired outcomes.

The document includes the following:

- Confirmation that the proposed investment in infrastructure is the most appropriate means to support improved health services delivery.
- Confirmation that the project is consistent with the Department of Health and Human Services (DHHS) Strategic Asset Management Plan
- Evaluation of the suitability of the proposed Design
- Discussion of 'value for money issues' relating to the design and construction of this project.

Approval by the Parliamentary Standing Committee - Public Works (PSCPW) is required prior to selection of a contractor and is now a critical path issue for the project to enable construction tendering for the new 22 bed ward.

2. PROJECT DEFINITION

Primary Objective

Provision of a 22 bed sub-acute ward on level one of the Peacock Building at the Repatriation Centre. This ward is required to meet current demands on bed space at the Royal Hobart Hospital in the short term, and will be part of the THS longer term bed strategy, consolidating a sub-acute hospital off the RHH site.

Location

The Peacock Building is shown in red shading on the following plan of the Repatriation Centre:-

General Scope

The Repatriation Centre Redevelopment Program consists of two inter-related projects:-

Project 1

Provision of a 22 bed sub-acute ward on Level 1 of the Peacock Building at the Repatriation Centre. The new ward will house patients requiring ongoing multidisciplinary, holistic inpatient chronic diseases management and care planning, but do not need or no longer need to be in an acute hospital bed. The emphasis will be on the transitional care of people who are frail and aged, or younger people with serious deteriorating chronic disease burden. There will need to be access to aged care, rehabilitation, palliative care and allied health services.. The project is a re-fit of an existing floor at the Repatriation Centre.

This ward is required to meet current demands on bed space at the RHH in the short term, and will be part of the THS longer term bed strategy, consolidating a sub-acute hospital off the RHH site. Cost $5,025,000.

Project 2

Upgrade of Peacock Building HVAC plant and site infrastructure. Currently the space, including wards, is only heated, with the heating system at end-of-life i.e. wall mounted convection radiators with rusted pipework leaking, poor controllability, no cooling during hot weather, asbestos products in the ductwork etc.

In addition, there are potential capacity issues with both the medical gas supply and the supporting emergency generator located in the building, and there are currently two separate access controls systems for the building.

This work is necessary to maintain the existing sub-acute services on site, as well as to support the increased servicing load of Project 1. Cost $1,975 000.

The total project cost is estimated at $7.0 million.

Program

Project 1 - Peacock Level 1, New 22 Bed Ward

As a mechanism to facilitate the accelerated timelines, Departmental approval was provided to undertake a multi stage procurement process. In accordance with Treasurers Instruction 1208 a publicly advertised Request for Expression of Interest was undertaken. The second part of the procurement will require the short-listed (panel) contractors to tender formal prices.

A panel of four (4) shortlisted builders have been approved for pre-selection to reduce project delivery timeframes.

In the meantime, the design of the new 22 bed ward will continue to be developed and a works contract will be issued, subject to PSCPW approval to the panel builders in September 2017.

This project will have a target date for completion of 15 June 2018

Project 2 - Peacock Building HVAC Upgrade and Site Infrastructure

This project is a response to both the poor energy efficiency of the Peacock Building, and the need to provide suitable HVAC systems as part Project 1.

It involves various upgrades to all levels of the Peacock Building and the replacement of the main mechanical heating (HVAC) plant on the rooftop.

As noted above, there are potential capacity issues with both the medical gas supply and the supporting emergency generator located in the building, and there are currently two separate access controls systems for the building, all of which will be reviewed.

This project will have a target date for completion of 14 August 2018.

3. DESIGN APPROACH

The planning approach that has been adopted is based on meeting current and predicted service requirements. Key elements are adaptable to enable the building to meet evolving needs and future changes in service.

The new 22 bed ward will be based on the guidelines contained in the Australasian Health Facility Guidelines, and this has formed part of the architect's design brief.

The Tasmanian Government has set an energy consumption reduction target of 60% across all of its Departments by 2050. This facility has been designed to incorporate integrated low energy consumption and sustainable features to support this aim.

4. NEED FOR THE PROJECT

As noted previously, both projects are inter-related, with the main initiator being the need to provide anticipated additional bed capacity during the winter of 2018, whilst the RHH redevelopment continues.

The project proposal supports existing and new services by providing a number of sub-acute beds off the RHH site, relieving bed block pressures as well as better consolidating staff and ensuring the facility continues to be able to provide health care in the longer term by addressing infrastructure issues.

Implementation of this program will require some temporary changes to practices at the Peacock building and ultimately new staff will be employed to staff the new 22 bed ward project.

Existing client services are intended to be maintained throughout implementation of the program with only minor disruptions to normal service delivery. THS have long experience with these issues and already have developed standard work-arounds and procedure to deal with all envisioned disruptions.

THS will develop a new *Model of Care* for the new ward, as well as review its standard procedures to ensure any changes are identified and addressed. New staff will all receive formal inductions.

A comprehensive project plan will be required to manage overall project outputs with particular focus on the management of community engagement.

When completed, this program will allow for a comprehensive Geriatric / Older persons / Sub-acute precinct off site at the Repatriation Centre.

No legislation, policy and regulatory issues, outside those that already exist for either the site or for the service.

Change issues identified are an increased need for patient transport, and increased coordination of communications between RHH based staff and new staff at Repatriation site. THS have identified these issues and are developing strategies to address them.

<u>Project 1 - Peacock Level 1, New 22 Bed Ward</u>

The addition of a new 22 bed ward will:

- Provide a critical mass of over 60 sub-acute beds on one site. This critical mass is required to justify additional services such as, out of hours on call cover for medical first response by resident medical officers, registrar and appropriate specialist advice,and nursing flexibility.Full allied health staffing will be required to ensure that the ward meets its objectives, and this need is a high priority. This will allow the Repatriation Centre to become the sub-acute centre for Southern Tasmania for the next 10-20 years and provide more efficiency than a split site, or RHH sub-acute solution.
- A new dedicated medical team will be needed in order to make the unit effective. It may sit within one of our existing units, or be separate. This has yet to be determined.
- There will need to be rapid and smooth access to pathology, radiology, pharmacy and other clinical 'infrastructure' support.

- Due to the rising incidence and prevalence of dementia, drug and alcohol issues and mental illness, the site will need rapid access to orderlies, a lifting team, and security to deal with patients who may become agitated, aggressive and wandering.
- Patients who require a palliative care bed, but are not yet ready for the acute Palliative care Unit (PCU- Whittle ward),and are sometimes known as 'slow hospice' patients, will be admitted to the unit as required. There is strong demand for this type of care.
- Bariatric capacity will be important (minimum two beds) due to the rising incidence of obesity in the community.
- The sub-acute beds will provide for patients that currently occupy acute care beds at the RHH, improving patient flow and delivering a more cost effective service model. The cost per bed is significantly less than that in the level 6 tertiary facility at the RHH.
- The RHH, as well as having improved flow, will have greater flexibility to use existing bed stock more effectively, with improved ward size allocation to better match models of care.
- As the majority of patients transitioning through the Repatriation Centre wards require ongoing community based or aged care support, having the new ward at the Repatriation Centre will provide a closer link to ongoing community services, the majority of which operate out of the Repatriation Centre .

The THS is currently undertaking a major service planning exercise to confirm service requirements over the next 20 years, maximising the use of existing facilities.

Contemporary practice in many jurisdictions is the provision of dedicated sub-acute facilities separated from acute tertiary level facilities, due to the different models of care required. This project will facilitate such a solution for Southern Tasmania, and while the service planning exercise is not yet completed, THS has recognised that consolidating the Repatriation Centre as a sub-acute centre off-site from RHH will be a key component of the long term bed strategy.

Project 2 - Peacock Building HVAC Upgrade and Site Infrastructure

To ensure the comfort and health of all occupants in the building, an upgrade of Peacock Building HVAC plant will provide a more contemporary accommodation with heating and cooling, rather than simply heating as exists now (including to the wards).

This work is necessary to maintain the existing sub-acute services on site as well as support the increased servicing load of Project One - with the heating system at end of life, there is a real risk of shut downs and failures in HVAC decreasing patient and service delivery risks.

The energy efficiency improvements of the HVAC project and replacement of the emergency generator should reduce greenhouse commissions contributing to the achievement of Government's targets set in the Climate Change (State Action) Act 2008.

The rationalisation of two separate access control systems will enable a single system to be used at the Repatriation Centre and will result in greater efficiencies, as it can then be managed from one central location consistent with THS requirements. Staff will only then have to one access card for the entire site resulting in better security for both staff and visitors/clients.

The medical gas supply system will also be reviewed as it is doubtful that the present system has sufficient capacity to accommodate the new 22 bed ward.

5. CONSULTATION AND GOVERNANCE

Consultation

The proposed works will be advertised in the Mercury newspaper on Saturday 5th August 2017 informing the public of the project and calling for submissions.

In addition, on 3 August 2017 all members of the THS – South Consumer Participation Action Group (CPAG) were provided with information on the project proposal to refit Peacock Building level 1 at the Repatriation Centre into a 22 bed sub-acute ward. In summary, information covered the following:

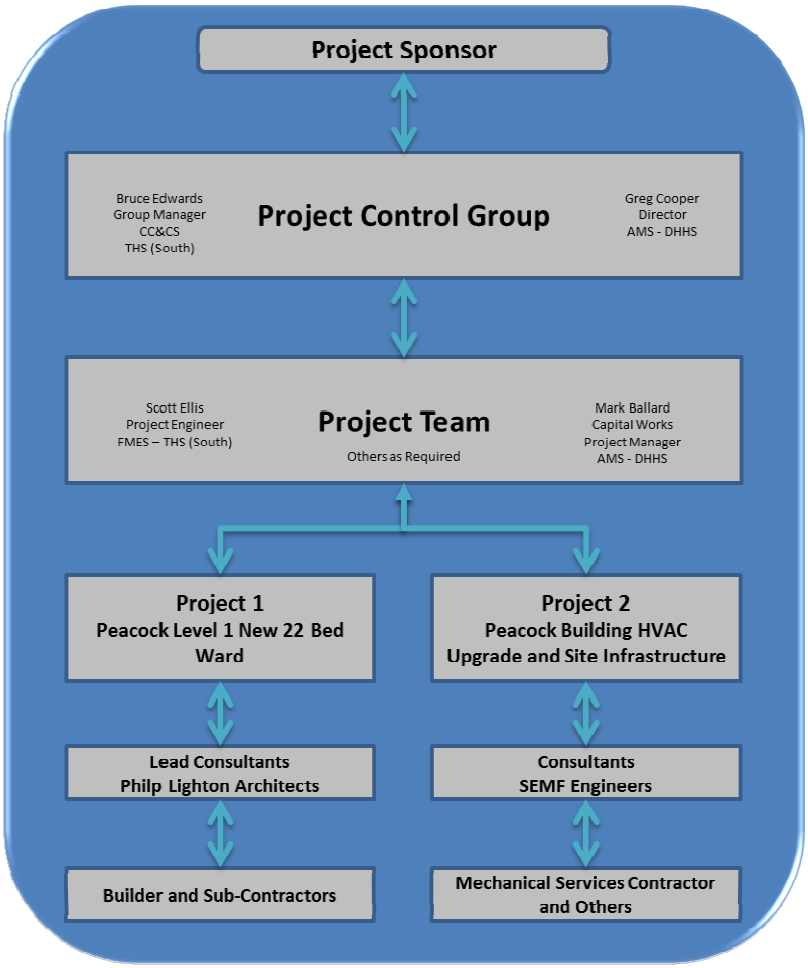
- The need to redevelop Level I of the Peacock Building in order to meet current demands on bed space at the Royal Hobart Hospital (RHH), and a longer term THS bed strategy that sees the consolidation of sub-acute inpatient services off the RHH site.
- The various patient groups that will benefit from this new ward.
- The benefits of consolidating all sub-acute services at the Repatriation Centre site and opportunity to implement new models of care.
- That a number of community based services are already located at the Repatriation Centre site. This will facilitate an integrated approach to care and more efficient discharge planning.
- Additional staff will be employed, including nursing, allied health, medical and support staff
- Improved infrastructure that will benefit other services at the Repatriation Centre as a consequence of the redevelopment.
- Likely impact on other services during the refurbishment.
- Likely timeframe for construction.

A copy of the current draft floor layout has been provided to CPAG members. Comments or feedback on the plans and information provided to consumer group members is being requested and the project has been added to the next CPAG agenda scheduled for 22 August 2017.

It is intended that the project remain on the CPAG agenda to allow for updates and ongoing feedback as the project progresses.

Governance

The following diagram illustrates the Project Control Group (PCG), Project Team and Consultant Team relationships.



The *Project Control Group* have been meeting as required to enable the project to evolve in line with the project timeline, providing an adequate consultation phase and sufficient time for Contract Documentation and Project Procurement.

Design Approval

The Project Control Group at its April 2017 meeting endorsed the schematic design for Project 1. Consultation continues with clinical representative to refine minor aspects of the design and will be incorporated into the final design documentation.

At these meetings to date all desired project outcomes have been tabled, discussed and then reviewed for compliance with the endorsed project brief and service model. This consultative approach has resulted in a design that allows all of the desired outcomes to be resolved and provides sufficient flexibility for future expansion.

Hobart City Council have formally advised that no development application is required for the proposed works, and all building permits and approvals have been provided by the Council.

6. ADDRESSING THE NEED

Project 1 - Peacock Level 1, 22 Bed Ward

Design Philosophy

The proposed development of the Level 1 Peacock Building provides a dedicated 22 bed sub-acute ward providing contemporary health care services to patients needing complex care or rehabilitation.

The design philosophy for the new ward is to best design practice to enable optimum clinical services including:

- Patient & Staff Focussed;
- Innovative planning that provides efficient and effective workflow;
- High quality work and patient environment;
- Responsive to the new models of care for nursing management
- In accordance with the Australasian Health Facility Guidelines (AHFG);
- To accommodate flexibility and adaptability for future changes;
- To optimise energy efficiency and maximise environmental benefits of natural light, views and indoor air quality;
- Incorporates best practice Environmentally Sustainable Fit out Design.

Architecture & Interiors

Functional Planning

Major stakeholder consultation is an essential component in achieving the design of a health-care facility focused on operational efficiencies, ease of on-going maintenance whilst presenting a welcoming and supporting environment dedicated to the process of healing and rehabilitation.

Aligning with DHHS briefed outputs, the design looks to promote key design features that are patient and staff focussed including items that matter impact greatly on staff in their daily tasks including space to work, learn and rest and proximity to staff, patients and equipment. Along with these, the design includes supporting spaces for patient and family areas, utilities, storage, staff amenities for rest, meals and learning, meeting spaces and storage close to patient rooms.

The building layout has been developed to incorporate the above spaces and designed to optimise efficiencies through proximity, walking distances, lines of sight and security, indoor environment quality, access to natural light, variable temperature, noise, odour and maintenance. The layout has been designed to incorporate promotes an efficient use of space with simple navigation for users and occupants whilst incorporating natural light where possible.

Public access is via the existing entry lobby on ground floor and lift facilities off Linden Ave – these facilities are shared and do not form part of the building works.

Detailed Functional Planning

The design of the subacute ward includes:

- A layout developed to provide efficient, flexible and simple navigation, with individual spaces developed to clinical functional space standardisation to maximise functional use and efficiency. This will facilitate a range of potential clinical services models that can utilise this space.
- The design addresses ease of access through DDA and ambulant requirements.
- Waiting area adjacent the Entry, within close proximity to the Staff Station and visitor toilet amenities
- Centralisation of staff station and supporting work areas providing proximity to Entry, patient ward and staff amenities.

- Training Meeting/Room with natural light and direct access to tea making facilities
- Staff amenities separated from clinical areas
- Staff breakout planned with natural light and direct access to tea making facilities, within close proximity to Staff change area
- Family lounge with natural light direct access to tea making facilities, within close proximity to patient bedrooms
- Detailed design incorporates RHH Infection Control input for finishes, ceiling tiles, light fittings, materials selection, fixtures and fittings etc.
- Lightweight partitions (to acoustic standards) to enable long term flexibility
- Incorporation of IT, integrated building services and lighting to provide adaptability in accordance with DHHS requirements

Environmentally Sustainable Design

The environmentally sustainable development features include:

- Floor layout designed to allow maximum day light penetration including patient bedrooms, staff breakout facilities, meeting/training area, family lounge, staff change room (frosted glazing to allow light, but not visual transparency) and corridors (where possible)
- Internal blinds and curtains to external windows to provide sun shading and prevent heat loss
- Energy efficient light systems through type/wattage and sensors.
- Energy efficient Hot water systems
- Material selections for the project will be based on low off-gassing characteristic (low VOC), low embodied energy and suitability for recycling.
- Wall and ceiling insulation where appropriate to mitigate heat loss and gain fluctuations.

Building Services Design

Mechanical

The mechanical engineering systems are designed to provide a safe, comfortable and energy efficient environment in order to achieve the following objectives:

- To provide a safe and comfortable environment.
- To produce cost -effective solutions that offer 'best value' to the client.
- To provide solutions that supports the architectural intent of the project
- To provide energy efficient design
- To provide a robust design, sympathetic to the local environment conditions. The mechanical design will allow for future flexibility where appropriate.

Zoning is provided to special use areas such as meeting rooms and staff rooms in addition to the standard perimeter and interior zones.

Medical Gasses

The existing medical gas supply and suction system will be reviewed to ensure there is sufficient capacity to accommodate the new ward as well as existing requirements.

Lighting

Lighting levels in treatment, consulting and other spaces will be in accordance with the recommendations of AS 1680.1 and AS 1680.2.5. Luminaires will be provided with a lay-in diffuser to meet the infection control requirements.

Local light switching using wall mounted single and multi-gang switch plates will be provided in treatment rooms and offices where specific on/off switching is required. Recessed motion sensors

are proposed in spaces such as toilets, cleaners and utility rooms to ensure luminaires are not operating when there is no occupancy.

Lighting control system will be integrated with both the Nurse Call and Duress System.

Power

A new power meter is to be included in the Main Power Board.

All power and lighting sub-circuits will be provided with earth leakage protection and/or Medical/Cardiac protection as required as per AS/NZS3000:2007, AS/NZS 3003:2011. General purpose power outlets (GPOs) will be provided throughout and Medical Outlets with the suitable level of protection throughout all treatment areas.

The capacity of the existing generator will be reviewed to ensure there is sufficient capacity to supply the new ward, as well as existing requirements.

Communications

The communications design incorporates a new 4 poster Panduit rack with 8 inch vertical cable management, allowing to re-direct existing data connections servicing Ground and Lower Ground floors as required.

New Cat 6 cabling included throughout.

New VOIP system to PC SAU included to TMD Standard.

New cabling from double outlets for ceiling mounted Wi-Fi access points.

All of the above has been approved and is in accordance with DHHS Information Communications Technology Services (ICTS) standards

Security

A new smart card access control system will be provided throughout the tenancy. The system will also provide the duress alarm system connected back to security. The two security systems currently being used on site will be rationalised into a single system.

A new CCTV system will be included connected to corporate IP at the Royal Hobart Hospital.

A duress system with pendants to be included.

A nurse call system to be incorporated.

Sprinklers

The existing sprinkler system will be maintained/re-configured complying with AS 2118.1.

Fire Detection

The existing fire detection system will be maintained/re-configured complying with AS1670.17.

Warning and Intercom System

The existing warning and intercom system complying with AS 1670.4 will be maintained. This will be activated by the sprinkler and detection system and have manual call points throughout the building. Warden intercom points will be provided on each floor.

Fire Hose Reels

Two existing fire hose reels will be relocated closer to the entry/exits to comply with current standards.

Hydraulic

The fit out will connect to the existing building sanitary and storm-water drainage, cold, tempered and hot water reticulation systems. All hydraulic services are to be designed and installed in accordance with AS3500. Tempering valves will be provided to sanitary fixtures to prevent hot water scalds, and temperatures will to be limited to 42 degrees.

Project 2 – Peacock Building HVAC Upgrade and Site Infrastructure

Existing HVAC System

The existing Peacock mechanical plant is beyond its useful economic life, is expensive to maintain, energy inefficient and can no longer provide adequate thermal comfort for patients and staff.

The existing central mechanical plant consists of:

- 2 x 1150 kW electric boilers.
- 2 x 86 kL Heating Hot Water (HHW) storage tanks.
- 2 x main Air Handlers:
- A/C AHU serving L2 North & South zones and L1 Lecture Theatre.
- Heating provided by boiler, cooling provided by small chiller.
- Tempered Air AHU providing tempered air for ventilation to all floors.
- Heating provided by boiler and reverse cycle heat pumps that can also provide some cooling.
- 2 x Toilet Exhaust Fans.
- HHW Pumps serving:
- Radiant hydronic heaters on Ground, 1st, 2nd and 3rd floors (excluding Lower Ground).
- Two main Air Handlers (AHU's).
- Upper Statton Radiant hydronic heater loop.

Each floor of the Peacock building has differing mechanical services:

- L3 Ward heating and cooling is provided by a number of ducted A/C units (installed circa. 2006). Hydronic radiator heaters remain but are generally not used.
- L2 Ward North & South heating and cooling is provided by the A/C AHU located in the central plant; however complaints are often received of too hot/cold areas. Hydronic radiator heaters are installed on the perimeter, however many no longer operate. The hospital zone nursing/admin area has no cooling and often becomes very hot.
- L1 Lecture Theatre heating and cooling is provided by the central A/C AHU. Hydronic radiator heaters are installed on the perimeter, but again many no longer operate. Majority of the floor is provided with Tempered Air ventilation only and temperatures vary greatly between areas. Consequently electric heaters are required in many areas which are inefficient and potentially unsafe.
- Ground Floor conditions are similar to L1 with Hydronic radiator heaters installed on the perimeter (many inoperable) and Tempered Air ventilation with significant temperature variation between areas. Again electric heaters are required in many areas.
- Lower Ground Ward does not have hydronic radiator heaters but instead relies on the Tempered Air and scattered electric heaters. Recently heat pumps have been installed to some staff areas.

Proposed HVAC System

The proposed upgrade involves extensive works to completely replace the central mechanical plant to significantly reduce maintenance and energy costs, and greatly improve reliability and comfort for patients and staff.

In broad terms the proposed works include the following:

- Replacement of electric boilers and chiller with 2 x multi-function units to simultaneously deliver heating and cooling at extremely high efficiencies, and provide long term redundancy.

- Option to include domestic hot water integration
- Replacement of Air Handlers with modern energy efficient units including heat recovery.
- Installation of chilled and heating water risers in each existing shaft to serve each floor.
- Installation of ducted fan coil units in each zone of each floor, including Modifications to ductwork and diffusers in some areas to improve air distribution, zoning and comfort.

Note that HVAC system type and functionality has been coordinated between the Central Plant HVAC Upgrade and L1 Ward Upgrade.

Benefits

The proposed system is the most appropriate strategy due the following reasons:

- The design is flexible such that each stage may be executed as required. i.e. central plant can be upgraded without effecting the floors, then it may be most appropriate to upgrade Ground, L1 and L2 initially and Lower Ground and L3 later.
- Individual Fan Coil Units can be installed above the tile ceiling in the existing corridors to prevent the need to close an entire ward, thus maintaining the maximum number of beds.
- Water based systems are very flexible, controllable and reliable, and will continue to operate effectively for 20+ years.
- Although rare, leaks in water-based systems are only likely to cause minor damage to internal finishes, and are not a major safety hazard like refrigerant leaks.
- Multifunction chillers are extremely efficient and are well suited to an application like the Peacock Building with simultaneous heating/cooling requirements. In general the proposed system is likely to be:
- ~ 3-4 times more efficient in heating than current system.
- ~ 1.5 times more efficient in cooling than current system.
- ~ 4-6 times more efficient in simultaneous heating and cooling than current system.
- Preliminary energy modelling has indicated expected mechanical plant energy savings in the region of 40% p.a.

Existing Emergency Generator Installation

Location and Access

The existing generator room is located on the lower ground floor with access for equipment installation and removal via gattic covers located adjacent the ambulance bay.

The room and access has been design to allow for the removal of the existing generator but appears to be very limiting for installing a larger new generator.

Fuel/Storage

The main storage tank, with an estimated capacity of 3000 litres, is located in a separate area adjacent the generator room and would provide the necessary containment of any fuel spillage. The room will require some modification to achieve the required full bunding to prevent the spread of spilled fuel in accordance with current regulation.

There is also a day tank with a nominal calculated capacity of 650 litres (or nominally 5 hours operating time). This tank is pump fed from a main storage tank.

Given the availability of fuel transport now, the large storage tank may not be required provided the day tank storage is increased to around 1000 litres, which will provide nominally 12 hours operating time for a new generator.

The existing fuel filling point and vent are run form the tank to a point external to the building and will require some upgrading to alter the location and capping system to comply with current codes.

Engine Exhaust

The engine exhaust runs to above the building via an internal duct and does not appear to have any sleeving or insulation. It is considered preferable to relocate the exhaust duct to an external location and provide additional insulation and acoustic treatment.

Ventilation

The existing radiator/exhaust system will not be adequate for a new larger generator and will require an upgrade. However, fresh air make-up would appear to be adequate with some alterations to allow an increase in air quantities.

Electrical

Whilst the distribution throughout the building will be generally capable of catering to small increases in load there are parts of the common electrical installation that will need to be upgraded to cater for the increased capacity.

Capacity

The generator is a Dunlite Model "185B 3V AP" Serial No 74934 with a rating of 185kVA (standby) or 256 amps per phase. Although the units is in fair condition and well maintained, it is thought to be in excess of 45 years old and well past its design life. The full load of the essential services has been reported as being close to the capacity of the generator and is unlikely to cater to increases due to planned works.

Summary

Given the age and capacity of the generator that will not cater to the loads proposed with the current and future developments of the site, it is proposed to provide a new emergency backup generator to cater for the nominated essential services throughout the site.

Proposed Generator Upgrade

The general broad scope of works proposed to upgrade the generator and associated infrastructure is as follows:

- De-commission the existing generator and remove from site for re-sale.
- Install a new generator – Detailed measurements will need to be undertaken to confirm if the larger generator can be installed within the existing room. The proposed alternative is to install a packaged generator in an acoustic enclosure external to the building.
- Upgrade and modify the existing radiator exhaust
- Upgrade fresh air make-up system
- Remove existing engine exhaust and install new system
- Provide bunding etc. to generator room
- Modify fuel filling and venting.
- Assess if the large fuel storage is required or if integrated storage within the package unit is adequate.
- Modify and upgrade electrical/controls
- Provision of sound proofing to the generator room

MEDICAL GASES

Existing Installation

The medical gas oxygen storage and vacuum pump is located within the lower ground floor. The original installation dates back to early 1970's and has been added too and modified a number of times over the ensuing years.

The installation has been reported as being marginally adequate for the current duty. With the current proposed developments and modifications within the Peacock building, the existing installation will not cope with the increased duty.

It is generally thought the pipe work within the individual floors should be adequate but that the risers and central equipment/distribution will need to be upgraded to cater for the increases with loads as floors are upgrade.

Summary

Given the age and capacity of the installation and its inability to cater for the loads associated with the proposed site upgrades, it is proposed to provide new central equipment and common distribution to allow adequate supply capacity to each floor.

Proposed Medical Gasses Upgrade

The general broad scope of works proposed to upgrade the medical gasses and associated infrastructure is as follows:

- Supply and install a new vacuum pump.
- Upgrade the main vacuum lines to each floor
- Upgrade the header and capacity of the oxygen distribution.
- Upgrade the main oxygen lines to each floor

7. PROJECT SCHEDULE & BUDGET

Project Schedule

A Summary of the Project Timeline is as follows;

Description	Project 1*	Project 2
Completion of design development	31 Jul 2017	02 Aug 2017
Development Application	N/A	N/A
Completion of Construction Tender Documentation	8 Sep 2017	27 Sep 2017
Construction Tender (closing and assessment)	27 Sep 2017	28 Oct 2017
Construction Start	09 Oct 2017	23 Nov 2017
Practical Completion of Construction	15 Jun 2018	14 Aug 2018

* excludes “early works” demolition timelines

Project Cost

The approved funding for the project is $7,000,000. The cost of the development is currently broken down as follows:

Description	Project 1	Project 2
Construction Costs	$3,375,000	$1,520,000
Construction/Design Contingency	$250,000	$240,000
Post Occupancy Allowance	$25,000	
Professional Fees and associated costs	$250,000	$105,000
The Tasmanian Government Art Site Scheme	$80,000	
ICT Infrastructure	$160,000	$80,000
Furniture and Equipment	$755,000	
Project Management Costs	$130,000	$30,000
PROJECT TOTAL	**$5,025,000**	**$1,975,000**

The current construction costs have been provided by the project Quantity Surveyor and are based on reasonable allowances for the project’s location and current market conditions.

8. RECOMMENDATIONS

The Project Control Group and Project Team have carefully assessed and explored the options and solutions available and have determined the designs submitted provides the required project outputs as determined in the project functional brief. In addition, the design is consistent with the strategic long-term direction of the Tasmanian Health Service.

It is recommended that this submission be viewed favourably given the benefits it will provide to complement sub-acute bed capacity in Southern Tasmania.

The project, once completed, will immediately commence addressing the need to deliver appropriate health services.

APPENDIX A – PROPOSED DESIGN – Level 1 Peacock Building

APPENDIX B – Abbreviations used in this Document

A/C	Airconditioning
AHFG	Australasian Health Facility Guidelines
AHU	Air Handler Units
AS	Australian Standards
CCTV	Closed-circuit television
CPAG	THS – South Consumer Participation Action Group
DDA	Disability Discrimination Act
DHHS	Department of Health and Human Services
GPOs	General purpose power outlets
HHW	Heating Hot Water
HVAC	Heating, ventilation and air conditioning
ICTS	Information and Communications Technology Services unit of DHHS
IT	Information Technology
PCG	Project Control Group
PSCPW	Parliamentary Standing Committee - Public Works
RHH	Royal Hobart Hospital
THS	Tasmanian Health Service
TMD	Tasmanian government telecommunications provider
VOC	Volatile Organic Compounds
VOIP	Voice over Internet Protocol