#### THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS MET IN COMMITTEE ROOM 2, PARLIAMENT HOUSE, HOBART ON WEDNESDAY 3 OCTOBER 2012.

#### **ROYAL HOBART HOSPITAL**

Ms LARRAINE MILLAR, ACTING CEO AND STRATEGIC DIRECTOR; Mr PETER ALEXANDER, REDEVELOPMENT RHH DIRECTOR; Mr MICHAEL YATES, GROUP MANAGER - WOMEN'S ADOLESCENT'S AND CHILDREN'S SERVICES; Dr BOON LIM, STAFF SPECIALIST, OBSTETRICS AND GYNAECOLOGY; Mr GEOFF WIECZORSKI, ADON SURGICAL SERVICES; Mr CAMERON LYON, DIRECTOR, LYONS ARCHITECTS; Mr JACK KERLIN, AECOM; AND MS PENE SNASHALL, DIRECTOR, COMMUNITY RELATIONS, ROYAL HOBART HOSPITAL, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

- **CHAIR** (Mr Harriss) Welcome, everyone. We appreciated the opportunity to have a look at proposed projects on the ground. I was saying to Kim as we travelled around this morning that we are always conscious of intruding into people's personal space at the Royal Hobart Hospital, and you handled that sensitively and we appreciate that. We are in a sensitive area when people are in hospital for treatment, but nonetheless it is important for us to see the constraints under which you sometimes work. That gives us an insight into the processes leading to the submissions before us. We appreciate that.
- **Mr ALEXANDER** We won't be going to that presentation, that's an architectural presentation.
- **CHAIR** Don't you like architects?

#### Laughter.

- **Mr ALEXANDER** I spend most of my days with architects. Everyone having introduced themselves, we want Larraine to talk briefly about the clinical need, along with her clinical colleagues, so we have an understanding of what we're trying to achieve. Then we will come back with a design in response to that. We are open to questions and comments throughout.
- **CHAIR** We will try to bank questions until after each of the presentations, to keep the flow going. I know it helps occasionally to ask questions along the way, but in terms of tracking it back for our report, we will try to keep that discipline if we can.
- **Ms MILLAR** Thank you very much for the opportunity to speak. At the hospital we are very excited about this capital works program, which is in line with our campus site master plan. With the ageing population and the increased incidence of chronic disease we are building this capital works program in the context of a larger health network. We are looking at the two towers being a major component of the work, and linking them in with the other facilities we have in the south. Looking at the integrated care centres we have already built one at Clarence there will be one at Kingborough, one in Glenorchy

and a potential one in the city. Our hospital, which takes care of the acute aspect of illness, is then able to link in to the integrated care centres where members of the community can be treated closer to their place of residence.

In terms of the build, Michael Yates and Boon Lim who will talk about the women's and children's aspect. In terms of surgery, we are getting additional capacity for theatres. Currently our theatres are only 39 square metres. We are getting additional theatres that are 64 square metres and one that is 80 square metres. The 80 square metre theatre can potentially become a hybrid theatre, and be used in the future for interventional procedures that are less invasive, and result in patients healing much more quickly and having a reduced length of stay.

In terms of ward design - Cameron will talk about this later - we have increased light into all areas. All of the rooms are placed around the outside of the building to allow natural light, which promotes healing. We will no longer have four bedroom wards. We are now limiting ourselves to one and two bedroom wards. There is a great advantage for patients and staff in the new design, with larger wards and more opportunities for efficiency in the new units.

I might hand over to Michael to walk about women's and children's.

**Mr YATES** - Thank you for the opportunity. The women's and children's part of the redevelopment gives us the opportunity to provide the facilities to ensure that the service we are delivering is as it should be - that is, it is family, kid and woman centric. It is centred on those units that we are trying to keep together, as you saw this morning, in the paediatric area and also in PICU. You did not get the chance to see maternity, but we will speak more maternity as well. It gives us the opportunity to have facilities that meet Australian standards. It will ensure we are able to provide capacity for the future needs of the community, in relation to paediatric services, for example.

It will provide us with the opportunity of developing an adolescent service, which this state currently does not have. As you saw, the care aspects are delivered within the confines of the paediatric unit. As Michelle Williams discussed this morning, we have babies through to 18 or 19 year olds in paediatrics - it is a mixed environment and not necessarily a therapeutic environment. To have the paediatric and the adolescent units co-located on the same floor with access - as we have designed - to a garden space, will be excellent in terms of providing a therapeutic environment, particularly for those who are there for long periods of time. It will provide us with a better facility for safer delivery of care and also ensure that the models we have developed and continue to work on, will be supported by the facility itself.

In terms of NRCU, whilst it was redeveloped and built in 2007, as you saw today the unit currently has a lack of space. With the redevelopment we will have an appropriately set out unit that will provide greater functionality, particularly given the fact that the service there provides the neonatal and paediatric retrieval service for the state as well. The paediatric and the adolescent units will be co-located. On the next floor up will be the maternity/birthing areas and on the floor above it will be the neonatal and paediatric intensive care unit. It will give us good synergies - we will be able to work well and transfer patients through efficiently. I might hand over to Boon to be able to talk about the maternity and birthing side.

**Dr LIM** - Thank you for the opportunity to give you a clinical perspective. I have to say at the outset that there has been very good clinical engagement in this process right from the very start. I remember from March last year there has been good engagement.

This redevelopment has given us an opportunity to modernise the maternity service. I mean that the models of care have developed over the last 18 months so that women are given the choice - which has not been available in the past - of being seen in the right place by the right people.

We have satellite midwifery clinics now that see women closer to home but that is in recognition of the fact that the new development will identify women into the right areas so the high risk women will be seen in the right place. They can concentrate their expertise in the right place, and the women with normal risk will be seen principally by midwives and given the opportunity of having pool labours so that increases their choice by ensuring that safety is paramount in the design.

We also recognise that obstetrics is becoming more and more specialised and we are seeing women with higher acuity - more diabetics now, more obese women - so in the design, we are providing for that model of care as well. As has been alluded to, the close links with the NPICU give the opportunity for high-risk care. We are also a tertiary referral centre for the states and that is why the design has taken that into account as well. This is a great opportunity to provide a service that really is needed in Tasmania.

I want to add a very short note on the women's' surgical unit. We have also recognised that currently our gynaecology and our gynae-oncology women are current seen in a general surgical ward. In the design we have identified a discreet area for women so that the sensitivities are taken into account and they are given the privacy and dignity that they deserve when they come to hospital.

**Mr ALEXANDER** - If I can make a few points on the background of the project and the response as we go down to the design. In 2007 the state put out the state's health plan and out of that we put together the HHF, but after the state decided not to proceed with the full new Royal.

Our funding from that was a bit iterative; we got \$100 million over five years and then we got the suggestion and later the promise and then the confirmation of other funding, so it gave us a slightly rocky start to our planning horizon because we did not know what the whole scope was.

We had \$100 million for women's and children's confirmed and get ahead of the rest. At that time the women's and children's money was meant to deliver a women's and children's hospital in 2013 and then the rest came up. That was an agreement with the commonwealth. Subsequently we convinced the commonwealth that it had to be an integrative project; that the women's and children's area had to work with the rest of the hospital - with pathology services, linen services, kitchens, medical imaging, those things that could not be done as a stand alone. It was all brought together into one major project.

We are managing cancer services through in the same processes, but it was funded separately and is ahead of that. Some of the other works you have seen and we have brought to this committee in the past are out of that \$100 million worth of money. We have had in this year \$70 million worth of contracts running which has had well over 100 tradesmen on site every day and has given us a very good trial run at keeping the hospital operational and working around all those things.

Since we got the major amount of money - I have put the objectives into the executive summary there - but I guess the four things, the most important thing to us was, if we were going to spend this much money on the site we couldn't get to the end of it and then say, 'That's got a five year life and then we need a greenfield site'. We did some extensive master planning, which I think Cameron will speak to, to show that once we've done this we have paved the way for the future so that this site remains viable for a generation at least. Some of the things you saw today - where in the past we've had small amounts of money to do little changes here and there - that is not an efficient way to invest. Quite an amount of the money we're investing now sets the hospital up so that every amount of money we get from now on hopefully we can spend for the maximum efficiency to add the project. So we are not redoing things and having the same costs.

We have also recognised that we have only one opportunity to get this right. The fond hope that we will get an equivalent amount of money from future governments is not something we are relying on, although this is stage 1 of a full redevelopment and we will need to continue to invest.

The other major point is ensuring the safety of the infrastructure that is back-up power supplies, fire-suppression systems and all those systems across the entire site to the greatest extent that we can, and to re-establish efficient clinical relationships across the hospital. I said this morning that the \$365 million is less than 12 month's recurrent cost for the hospital, so anything we can do to make more efficient staffing ratios, to put people in close proximity to other areas that they need to be, are spin-offs in the efficient operation of the hospital, which has spin-offs in being able to treat more people. We've had all those things in mind.

There are two more points I would like to make on that. One, this project is to some extent unprecedented in Tasmanian terms. Most of the procurement guidelines and Treasurer's instructions and other things we use in undertaking most projects are not directly applicable. We've been very aware of that and have actively sought out, imported and brought in review processes that are normal in other states where they do projects of this size. We proactively introduced the Victorian gateway review process. The gateways are basically hold points in the projects where you get external people to come in and review it. In the last few weeks we've had two review processes, which weren't favourably reported in the paper but they are a normal part of what we do, what we want to do and what we encourage. One was a technical review against the number and size of rooms and the type of facilities we're providing and one was a process review about the governance, contractual arrangements and those sorts of things. We are very conscious that we're using evidence-based not just for the design but for the process as we go through this.

Two, the budget is fixed. Currently the budget is under a bit of pressure. The contractual model that we're using allows us to engage and manage a contractor; a model

of contract, which was used for the prison, and is being used for major hospitals on the mainland where they're not being done as a public-private partnership. It allows us to engage with the contractor so he can bring his smarts in construction technology and keep the construction costs as reasonable as possible. We do not sign up to the price until we've agreed a scope and price. That is a guaranteed construction sum, and while there are inevitably contingencies beyond that, it is the way of ensuring we land the project within budget. It is quite appropriate for the hospital to be squeezing as much value as possible out of this. By the time we get to agreeing a guaranteed construction sum, there is every chance that some things will be left for the next stage for it to be added in on a risk basis. We are very keen to make sure we squeeze as much value out of it as possible.

Mr BOOTH - You are using a different tender box from Southern Water, I presume.

- **Mr ALEXANDER** Yes, we are well through a tender process. It just requires a sign off so that we can inform the tenderers. It has been a very exhaustive process and was very well received by the market. Very strongly contested by the market. Very pleasingly, it essentially endorsed the program and the budget that we had for the scope of works and the time frames. When I say very pleasing, with the best will in the world the consultants are to some extent theoretical, but when a contractor turns up and says they can do it, and they are prepared to sign on the dotted line, it gives us a sense of reality that we can work with.
- Mr BOOTH Chair, could I ask a question now or do you want me to wait until the end.

**CHAIR** - Are you done, Peter?

Mr ALEXANDER - Yes.

- **Mr BOOTH** I was following on from that Southern Water tender box question. Are you sure that your tendering process us unimpeachable, given what has happened?
- **Mr ALEXANDER** Absolutely. Yes we are and we have gone over and above the Tasmanian Treasury guidelines. The Health Department, being a big department, has some mature tender processes. We have employed a probity adviser through that entire process and we went out to a competitive process for the probity adviser. We have got a fellow who apologises for being as strict as he is, and I am very pleased that he is as strict as he is.

If I can, without taking up too much of your time, give you a very small example. Under the Treasury guidelines people involved in the process have to sign a conflict of interest declaration form. That is what you get from the Treasury website and Treasury are happy that is what you do. This probity adviser asked for a schedule of every contractor who is working or has worked on the hospital. He will sign off against each and every one of those contractors that they have no conflict of interest here, or anywhere else. Hopefully we are taking things a stage beyond, which is commensurate with the value of the project.

We have presented a probity report to the review and advisory committee, which is there to support the minister.

**Mr BOOTH** - It is of great interest to this committee, obviously, that the proper processes are undertaken, and given what has just occurred it is an important point. I am satisfied from what you say that you have got some additional checks and balances, which is a good thing with public money.

Mr ALEXANDER - Certainly.

**Mr HALL** - In regard to the budget breakdown, Peter - they are big numbers, and over a four-year period, I think you said, in the executive summary. The construction period was through to 2016, or late 2016.

Mr ALEXANDER - Correct.

**Mr HALL** - Some of the contingency numbers in there are big. I notice there is one for \$25odd million dollars for construction. One, for example, that is \$3.02 million.

Mr ALEXANDER - Yes.

- **Mr HALL** I am looking at others design contingency. Once again, there are big numbers. You obviously feel that is appropriate.
- **Mr** ALEXANDER It is, particularly at this stage. Anecdotally, the construction industry prices are not going up at that rate of escalation, but it would be imprudent of us to live in hope. As I was saying before, we have things we would love to put into the scope, if we could afford them. If we do not need that escalation money, we will continue to add to the scope.
- Mr HALL They are worst-case scenarios or do you think or are they prudent scenarios?
- **Mr ALEXANDER** They are prudent market tested scenarios. Donald Cant Watts Corke, the quantity surveyors, are also the quantity surveyors for the Box Hill Hospital in Melbourne.
- Mr HALL They are Victorian based?
- Mr ALEXANDER They are Victorian based. All our consultants are in association with local Tasmanian firms but Donald Cant Watts Corke are the QSs for Box Hill in Victoria, which is a \$400 million redevelopment brownfield site with quite a lot of similarities. That is a good a market-tested comparison as we have. In the construction contingency, for instance, within two or three weeks we will be running a risk-base workshop. That contingency is essentially set as a percentage of the construction sum when you first set it, and at tender time. It doesn't take account of the specifics of our site, so we will be sitting down with the consultants and others and asking, 'What are the risks to us on this site?', and that may amend it up or down. Within that we have specific allowances for things such as asbestos removal, and they're things we can't fully assess at this point.

Ms WHITE - You mentioned the project wasn't bound by the Treasurer's instructions.

- **Mr ALEXANDER** No, the project is bound by the Treasurer's instructions and we are following those. The Treasurer's instructions are not written for a project of this size and scale, so we are importing processes and sometimes developing processes over and above the current Treasurer's instructions. The gateway process, which is used in most states of Australia, and was initially used in Britain, is applied to projects over \$20 million. It has been talked about in Tasmania but there aren't enough projects over \$20 million to have made it a requirement, so we have proactively said that we want to use those processes. They exist in other states so where possible we've brought in mature process from other states. We are complying with the Treasurer's instructions in all instances.
- **Mr BOOTH** Are those gateway reviews post reconstruction? Do you get to a stage of the redevelopment, and then do the gateway review or are they before that process?
- Mr ALEXANDER They are right through the project. There are six gates. The first one or two have to do with the business case and because of the circumstances we couldn't do that. We had a few weeks to put together the HHF but at the time we undertook a gateway review before we went to post master planning - before we put out a scope to contractors. The next gateway review we will do is before we sign on the dotted line with the contractor. Not before we sign on the dotted line, because of the way the contract is set up. It is set up and the contractor comes on board to assist with the design and then there is a second stage where we agree a price, which is some months further on. The gateway review will occur before we agree the price.
- **Mr BOOTH** How do you test that to market if you have an agreed contractor but not a price? It seems a bit counter-intuitive to agree to someone doing something but not have a price, and then try to do a price post-facto. How do you make sure it is a market price?
- Mr ALEXANDER It is a mature contractual form. There's no Australian standard but there are three types of managing contractor models that are widely used in Australia in the public sector. The one we have chosen to go with is the one that's run by the Queensland government. The Crown Solicitor here has worked with us to tailor it to our needs. The contractor tenders on his profit, risk, margins and preliminaries - what it's going to cost him - but not on the scope of works itself. The scope of works is competitively tendered later with us having an open book in response to that. You are only tendering on his fees, as you would with a consultant, and you are allocating the risk and those other things. The companies that are able to respond have to be companies that have pre-registered with the federal government for projects over \$300 million, which limits the number of respondents. We got five at an EOI stage, we reduced that to three and out of that three we have a preferred respondent. For the scope of works we've given, he has given us all his on-site overheads, off-site overheads, preliminaries - all his costs - and the conditions under which he would accept those costs. He has given an indication, from the scope of works we went to tender with, of the program and what he thinks he can do it for. The benefit of this first stage is that the contractor can come in - with no disrespect to our architectural friends - and look at the structure, the façade, or the way the windows are being designed and say, 'I can do that more cheaply using a technique I've used on another job'. He works with us on that. When it is actually tendered the guaranteed construction sum - we say the scope and he has to guarantee he will deliver the entire scope for that price. Within that there is a savings strategy. So if he can save further money, 70 per cent of the savings come to us

and 30 per cent stay with him so there is an incentive for him to continue to drive the price down. Our savings will be used for additional scope. We will not take money out, we will do things we had to cut out in the first place.

- **Mr BOOTH** He does that by putting out sections of the work to tender. Competitively it could be a subcontractor out of a bunch of people who tender for that, is that right?
- Mr ALEXANDER That is right.
- **Mr LYON** That is right, but in the first stage he will be testing that with various providers of that subcontract. He may say to us the subcontract industry down here can take this far better than they can do that. He will say, I want to go that way. There are tremendous benefits in that design stage of the project that they bring their building smarts to the -
- **Mr ALEXANDER** Particularly, as you have seen in this project we had to put in some major trusses over part of B block and the logistics of craning those in or building them on site or prefabricating sections of them elsewhere and bringing them in, are things that the builder can add a lot of value to and reduce costs and, most importantly, reduce the disruption and interruption to hospital services while we are doing it. We work together on that in stage one and then it will be priced but it is a competitively-tendered price that we are part of.
- **Mr BOOTH** Does the gateway review then also if it is post-done as a series of gateways through the project, do you assess the useability of it? Like you have constructed part of it, you do a gateway review and you discover that you might have to redesign something because of what it looks like on the ground or -
- Mr ALEXANDER The gateway review is more a process review, but what we have also done in the last few weeks and is still ongoing, is New South Wales has an expert external review panel which has an architect, a quantity surveyor, a building services engineer and a structural engineer, those four people review all the health projects in New South Wales. We brought them down holus-bolus. There is no point in trying to reinvent the wheel and bring people in from elsewhere - they work as a team. They had to come down for only two days which means that they know only some of the story and then they came up with a report. Last Friday we sat in a room with our consultants. When I say they only know some of the issues, they said some of those steel beams could be smaller, but the reason they are sized the way they are, is because we need to reduce the vibration to a standard that supports medical imaging. The architect said you do not need as many rooms in maternity, but he is basing that on a New South Wales figure where if you heard some of the problems they have in the Royal where there is no-one else to go, where some people are there for longer than the medical requirements might be, and where we have to cope with every surge because there is nowhere else to go. As a response to that, because we take it very seriously and we welcome that issue, the hospital brought, I am not sure of his name -
- **Ms MILLAR** He is the clinical lead for obstetrics and gynaecology for New South Wales. He came down and looked at our numbers. Also the fact we are a tertiary referral hospital and the socio-economic status and he concluded that the rooms that we get [inaudible] were sufficient.

PUBLIC WORKS, ROYAL HOBART HOSPITAL, 3/10/12 (MILLAR/ALEXANDER/YATES/LIM/WIECZORSKI/LYON/KERLIN/ SNASHALL)

- Mr ALEXANDER As far as we are concerned we have employed the best people. Lyons has been designing the Queensland Children's Hospital which was one of the factors in its appointment. There is a lot of intellectual input into the design in the first place but even so we have got an independent external review and where those things are different we have sat down together and worked out what is appropriate for our circumstances. We are all comfortable with that approach. By the middle of this month we will have gone back and looked at a number of issues where those questions have been raised.
- **CHAIR** It might be opportune to take the architectural evidence *in camera* if you would not mind in terms of the design components of the building which are peculiar I suppose and then there might be some questions flowing from that.
- **Mr LYON** Could I get my collaborator in crime, Stefano Scalzo, from our office to be sworn in so that he can join us? Stef is the chief health planner with our practice. He has been working on the QCH up until recently and has been doing all the intensive workshops with the users.

# <u>Mr STEFANO SCALZO</u>, PRINCIPAL, LYONS ARCHITECTS, WAS CALLED, MADE THE STATUTORY DECLARATION AND WAS EXAMINED.

**Mr LYON** - Stef and I are going to endeavour to provide you with an executive summary of a reasonably comprehensive document and your walk around today. In the walk around it becomes clearly evident very early on in the project that it is heavily congested site. It is a very complex site. No doubt if we left you in a room and said, find your way out, you'd struggle to find your way out of the hospital. We have been working on it for over a year and the routes that Larraine and her colleagues take just dumbfound us. It is a really poor facility for way finding. For the visitor, you come to that first foyer and you struggle beyond that point. In fact most of the circulation systems through the hospitals are through corridors of old, single, stand-alone buildings.

It is also evident that the buildings and infrastructure are now at the end of their economic life. As Peter pointed out, there have been a few refurbishments and upgrades but they have been purpose-built, small upgrades. The hospital in a broader sense is in its palliative care stage of existence.

The buildings on the site have been developed probably from the 1930s through to the 1980s. There is a mixed bag of buildings. They occupy most of the site and what we have to understand is that we are going to put a building in order of 35 000 to 40 000 square metres on the site. Something has to give and during that construction period we have to maintain the hospital as an operational facility.

Overlaid with that obviously we to address the service needs of the project. We have to put things in the right place. Peter has talked about the master planning work and that is a very intensive process we have been through to try to understand how one may master plan it for today and also for future growth. In the project approach where we recognise that the funding has come for a single building or a single project, but we should wherever possible try to redress inefficiencies elsewhere on the site. Certainly the aggregation of the wards into a single central block - I will show you in a minute - gives a spin off effect for the rest of the site that is beneficial.

We need to take a responsible approach to environmentally sensitive, sustainable design and we have addressed that from a patient amenity point of view. What does it mean to the patient? That is very important to how we have tackled many issues. The final point we will touch on in this contextual discussion is wayfinding. We needed to introduce some means of wayfinding, around an entire city block, where patients feel comfortable arriving - they understand where they can go. We talked briefly about the patient flow unit being the primary arrival point where you check in before you move elsewhere in the hospital.

When we were doing the master planning we did some analysis of the existing additions on site to find out where various departments were - the ward layouts on the site. They've been referred to by the nurses and doctors as the 'safari rounds'. They can visit five patients in an entire morning. They need to take a cut lunch and a backpack in order to find their way around. It is similar with the outpatient clinics, when you look at where they're scattered throughout the site. This morning on the site, we recognised the yellow area was the work completed on the cancer centre site - building A is earmarked as the integrated cancer centre. The two red blocks - G representing the private hospital, and F

being an extended lease to UTAS - take it off the scale in terms of where the opportunities arise to put 37 000 metres of building. The emergency department below the forecourt is also a no-go area. So, we really needed to investigate the blue areas. Through various analyses we concluded that, through a sequence of work, we could develop the new facilities on the space occupied by building B, because it gave us the opportunity to start on part of the site, decant, continue to extend, decant, continue to extend, et cetera.

In terms of wayfinding, when you arrive at the front entrance the only circulation is down the corridor of the heritage building C. This is a fairly narrow alleyway and it services the entire hospital. The approach was to look at it from a broader urban design point of view and say, 'How would you provide streets?'. As architects we call them 'streets' - they are not roadways or streets, they are like linear atriums. We are putting a linear atrium that connects Campbell and Argyle streets directly on the back of building C. We will expose the back of the heritage building in building C and we are also providing in stage 2 - that's when Peter talked before about the potential, hopeful funding in another little while - that it will connect the Liverpool Street entry all the way through to Campbell Street. Right at that crossroads is where we're putting the reception point the patient flow unit - and that is the central arrival point to the hospital.

It has been one of the longest-occupied, single-site hospitals in Australia. It has been occupied since the 1880s as a hospital. The heritage building, that we are calling heritage now, was developed during the 1930s and 1940s and we would like to see that maintained and become a focal point, and retain its front entry configuration for the new hospital. Notwithstanding that, we're suggesting that the other streets - Collins, Campbell, Liverpool and Argyle - be permeable to patients visiting the hospital. This is a combination of a staging plan, and a master planning approach we have taken to the project. That little building there is the fan building that we walked around, and stood in the car park underneath. Oncology is moving out of that building into the cancer centre. There are a couple of other, dare I say, soft spaces - offices and accommodation - that can find their way into other parts of the hospital.

The first stage will be to demolish that fan building. It gives us the opportunity to build up to five levels on the site. We also talked today about separating the loading dock from that site, so it would be a two way access and the dock would be reconfigured, but it has to remain operational because it is the heart of the hospital.

That is the first part of the construction. Then we span over building B - technically very difficult, but it seems to be in hand. Then we are able to build the first half of the ward floors and the inpatient building. That has a lot of services in it. We are building the lift core and all the service rises into the first stage of the work. We are doing all the intensive work early in the project.

Mr BOOTH - Is that lift core a fire-safe lift, as you advised during the inspection.

**Mr ALEXANDER** - It is a pressurised lift shaft that allows you to use it in escape mode. There are two ways you can escape out of a building. One is down the fire stair, and there are various dimensional characteristics required of a fire stair, but to manhandle anyone down a fire stair on a stretcher is not acceptable in today's industry so you

pressurise the lift lobbies and the five bed lifts will be part of the emergency management plan. You will simply wheel non-ambulant patients into the bed lift.

Mr BOOTH - That building could go higher than six storeys, I think you were saying?

Mr LYON - In O block, yes.

Mr BOOTH - It is limited by the height of the fire ladders or something?

Mr ALEXANDER - That was the case, but that was in an old building.

Mr BOOTH - You will not be restricted, you will be able to go higher?

Mr LYON - We could go another ten if we needed to.

Mr BOOTH - If you needed more space later on top of the building, is the foundation -

Mr LYON - You could.

- **Mr BOOTH** -structure built to be able to take on an extra storey?
- **Mr ALEXANDER** It is not. The hospitals that have been developed to provide additional floors up effectively require the vacation of that building in order to do so, because the lifts need to be extended up. It is certainly our strategy that the top of the building will house the central plant servicing the building, so you would have to leap frog that area. It becomes a very expensive exercise. We could add another shell floor, but we have a better future development strategy that I will show you as we go through.
- Mr BOOTH You say there is no need to design it so you can add extra capacity?
- **Mr ALEXANDER** No, but I would like to come back to that in a minute. If we continue to look at the rest of this -
- **Mr LYON** When we have built the first half of the building, we can decant the occupants of the existing building B into that half building. It will be fully commissioned and operational, have all its lifts running, and have all its services running, and then we will decant building B into it, which allows us to demolish building B and build a conventional building from the ground, that dovetails in. The two wings of the H plan are 32-bed wards, so it is a 64-bed ward plan, which is the most efficient national benchmark for hospitals.
- **Mr ALEXANDER** Can I interrupt for a second because we are going to go on with the rest of the master plan. In an earlier iteration of this plan - that first tower that went up - we had planned up to 15 storeys. In very basic terms, what we have promised the state and federal governments, if we are just wanting to build a box and put that in it and deliver it and tick it off, we could have done that in one 15-storey building. The way it was designed was then to have future - to bring the second tower up also 15 stories, but that is when we took a long hard look at our probable future, and said who is going to give us four, five, six hundred million dollars again in one single item to put the second half up?

Speaking to both state and federal treasuries, they did not give us any comfort that that sort of money would be forthcoming.

What we said is, we have to do this now to where we are, and Cameron will go on, I don't mean to steal his thunder, but we have done is created shelled-out space; space that will not be fully occupied in a couple of the lower floors. Some of the things that Cameron will show you mean that if we get \$5 million, \$10 million or \$20 million we can do really useful things with that money. The first thing we would do is bring ICU, which is still on the other side, into a floor that we are building but leaving empty, directly under theatres where it ought to be. We cannot afford to do that now. It is not part of what we were funded to do, but it is the first thing when the space is available.

I would like to say one more thing. When we talk about the height of the building - at the time we put the bid together for stage one the sort of figures we were looking at was something like 15 000 metres of new space and 30 000 of refurbished space. New space is much better; it is much more efficient in every way you can think of really, and there is much less disruption in providing it to the hospital. As the design has evolved, those ratios have changed and we are now building 37 000 square metres of new space, but we still had 4 000 or 5 000 square metres of refurbished space. Recently, through a value management study, the question has been asked, if we were going to still refurbish three wards in the old part of the hospital should we put another floor on? At the moment we cannot afford it, but it is something that is under serious consideration and could be done at this stage of planning. There is nothing physically to stop it, but to stay within budget the hospital needs to make some serious decisions about how important that level of construction is. Larraine should speak to this, but I think it allows us to get all the medical inpatients together and the surgical inpatients together. There are further efficiencies in the ongoing running of the hospital by doing that.

**Ms MILLAR** - We discussed this as an executive and determined that having medical and surgical precincts was the most efficient way to go. Cameron talked about the safari round, so that is what we are considering as part of looking at an additional floor. In the A block we will have our cancer services, our aged and rehabilitation services and then one of the options is to have all of our surgical and all of our medical wards in the K blocks.

Mr BOOTH - In terms of an additional floor, when would you have to make that decision?

- **Mr** ALEXANDER In the new few weeks. To answer your initial question our engineers have said it is feasible in terms of both the structure and things like air handling and electrical capacity and things like that. The fact is that this is stage one. It makes it sound like it is uncertain, but if we had one and half billion dollars we would rebuild the whole hospital. What we are trying to do is get as much as we can into stage one, so that is why we are seriously considering that because it would give us that additional part of the future stage. Otherwise there will be some lack of continuity between surgical precinct and medical precinct. It would be a hell of a lot better than it is now, but it will rely on some future work to finish that process.
- **Ms MILLAR** We are constrained by the floor plates in the other buildings, whereas with the new building we have a greenfield site to plan on, so that is advantageous to us,.

PUBLIC WORKS, ROYAL HOBART HOSPITAL, 3/10/12 (MILLAR/ALEXANDER/YATES/LIM/WIECZORSKI/LYON/KERLIN/ SNASHALL/SCALZO)

- **Mr BOOTH** If it were that you decided in the next few weeks not to put that additional floor on do you have the capacity to add it later? I am trying to reference this, and I wanted to ask you a question about the NICU, the one that was constructed or refurbished in 2007.
- **Mr ALEXANDER** If we can't afford the other floor, our current planning is that 3A where we were today for paediatrics goes into the new building. So 3A and above it, 5A, and perhaps 9A and the second floor would have to be where the medical wards are.
- Mr BOOTH Is that a lesser outcome then?
- Mr ALEXANDER It is a more expensive outcome to operate for staffers.
- Mr BOOTH Do you think you would need to add another floor later?
- **Mr ALEXANDER** We effectively can't add another floor. What we have in that building is two vacant floors below. One of the fundamental constraints on that or where we started -is to put the new operating theatres on they have to be on the same floor level as the fourth floor operating theatres in D block. So those theatres come out there and they are additional to the ones that are there. Then we build up and build down. The two floors under it will be vacant. One is planned to put intensive care in, and high dependency later, and the second floor under that is also vacant, which is meant to have an education centre and some of those things in there. Using that for inpatient beds is difficult just because of access to sunlight. The cut-outs where there is a capital H allows sunlight into the middle of the building and below that floor it doesn't. So there are some difficulties with it, but overall we have enough space for the bed numbers, so it is about the efficiency of staffing that we get there.
- **Mr BOOTH** If the decision is made not to do it, you would do it because of money, is that right? It would be a budgetary decision not to put that extra floor on?
- **Mr ALEXANDER** Yes. The money we got was never meant to redevelop the whole hospital, so it is a question of getting as much value as we possibly can out of this.
- **Mr BOOTH** Except that if you keep adding incrementally, that's terrific, and you have talked about how you can use small sums to add value, but I am concerned that we don't end up with a situation like that ward that was refurbished in 2007. It had a lot of money spent on it and now it's redundant.
- Mr ALEXANDER The other future proofing that we have in terms of space we are taking mental health out of the basement of B block and putting them on the 10th floor. But where we are putting them on the 10th floor has essentially been designed, as are the other inpatient wards, and the intention is that as soon as we can as soon as we get the money for it we will build a mental health facility near the rivulet, and that will give us back at least half a floor on the top which is additional inpatient capacity, however it's used. The master plan, which we will go to, will show you that, if and when it's required, we can than knock down D block and replace it, which would give us all that. So if we can't put that floor on, we can't meet some of those functions or efficiencies yet.

Mr BOOTH - But you will later.

PUBLIC WORKS, ROYAL HOBART HOSPITAL, 3/10/12 (MILLAR/ALEXANDER/YATES/LIM/WIECZORSKI/LYON/KERLIN/ SNASHALL/SCALZO)

- Mr ALEXANDER But we can later.
- Mr BOOTH You won't live to regret then, that's what I'm saying.
- **Mr ALEXANDER** Providing we get the money to continue the full redevelopment, we certainly can.
- **Ms MILLAR** That was the advantage of spending the time doing the site master plan rather than, as was explained to you on the tour this morning, 'Here's some money, here's a space, let's put whatever service in that space', whether it was the right place to put it or not. So now we have a direction we are going forward with.
- Mr ALEXANDER If we can show you the rest of the master plan -
- **CHAIR** Before you do if we are on a theme there somewhere in the submission I read that you made some assessment that it might be more cost-effective to just add an extra storey, rather than some other fit-out around the place. Have I got that right?

#### Ms MILLAR - Yes.

**Mr ALEXANDER** - That's correct, that's what we're talking about now. Larraine won't like me saying this, but if putting the 11th floor on now gave us the long-term outcome we need, we would have to fund it by not doing something else, because we have a fixed budget.

Some of the functions that are currently in D block and H block could continue to sit there. So we could build the 11th floor and not fit-out more of that building - to provide that in the future we could do it for \$10 million or \$15 million rather than \$40 million or \$50 million, but it would delay getting the staffing efficiencies. We would still have some of the medical wards dispersed through the building for the next four or five years and that's a real issue for the hospital in terms of its recurrent budgets. We are balancing those things off as best we can.

- **Ms MILLAR** As Peter said, we are constantly reviewing what we are doing and what is the best outcome for the money we have.
- **Mr ALEXANDER** If we didn't put the eleventh floor on, that next building over to the left - the third tower from the right - would be the way we would resolve all those issues in the future, but it is a substantial investment.
- Mr BOOTH Do you know what the budget shortfall would be to put the extra floor on?
- Mr ALEXANDER Something like \$30 million. I have a breakdown of it it is \$22.8 million plus some consequential effects on building services and other things \$29.8 million is the figure I have to fully fit out that extra floor. If that was the highest priority, we would have to take that money from other parts of the project, and we could do that. It is a decision the hospital executive will make because it's all about the clinical care.

- Ms MILLAR As you said, taking into account ongoing operational budgets.
- **Mr ALEXANDER** My understanding is that if we were to put those medical wards into A block, which was the proposal we had before this floor, there is an additional staffing cost of something like \$800 000 a year.
- Ms MILLAR They're smaller wards and not as efficient to run.
- **Mr ALEXANDER** Yes, you'd need relatively more nurses per patient. I think the benefit of this is that we are pulling apart and analysing all these issues.
- **Mr LYON** In the future stages of the project there are developments that can occur on minor funding arrangements. The H-shaped building we're building now we could build that further south on the site. It really depends on the future of the private hospital, so in this instance we've shown it as an L-shaped building but it could be of similar size and magnitude, so you'd have a surgical and a medical facility that are co-located and linked. Underneath that building there would be, primarily, a new loading dock. The loading dock that's there now is making do. We are going to improve it in the first stage, but it's not necessarily up to the benchmark of other national hospital facilities. We are suggesting that front and centre, in the core of the site, is where you want your hospital loading, so it can radiate out for distribution purposes. The building on the rivulet there is an idea about mental health. Once UTAS moves out and there is a \$40 million fund. As Peter said, there are floors where the trusses span over building B, which is up to level 4. There is space underneath that, and when we demolish building B, at present we're not going to go back and fit out the floors. There is further capacity in those areas in the future for smaller funding, such as the ICU.
- **CHAIR** And particularly if the loading bay is relocated, you will have all that space underneath.
- **Mr BOOTH** Can I get on the record the bit about the oxygen spillage I guess you could call it there? Ideally you'd move that somewhere. Is there nowhere else on the site you could move it to that would comply with current requirements?
- **Mr LYON** Jack, the service engineer, would be better answering that. We have been through quite an intensive process, and I think there have probably been 10 suggested locations, none of which are compliant because we have to be a minimum 6 metres off the boundary. If you go 6 metres off the boundary just about anywhere on that hospital site and you hit a building. There will be a solution in the longer term but it's going to be more aligned with either the mental health facility or the next stage of the works.
- Mr BOOTH You mean you will ultimately move it?
- Mr LYON Yes, ultimately it will be moved.
- **Mr BOOTH** The information we got on the site was you were going to put filling pipes out to somewhere else, so the trucks don't have to go under the building into the foyer.

- **Mr LYON** Yes, there are limitations on the distance you can take that and there are fairly significant limitations on how the truck stands, and how they can observe, and the distance from the tank. Maybe that's a question for Jack when he is sworn in.
- **Mr ALEXANDER** The only place we could move it would be slap bang in the way of the redevelopment for mental health. The tanks are owned by BOC Gas, so they have a major say in what happens. The intention is to clean up the access and the filling capacity, because it is right in the middle of the loading dock, but leave the tank where it is in stage 1. It can be moved in the future when we free up some of the rest of the site.
- **CHAIR** Kim, do you want to pursue that in terms of the technical constraints with Mr Kerlin?
- Mr BOOTH Yes, if I could.
- **CHAIR** Mr Kerlin, you've heard the tone of the question, so you might like to pick it up from there.
- **Mr KERLIN** It's probably not a challenge faced by any major hospital site, because there is an Australian standard, which you are deemed to comply with in the perfect world. What has happened here is no different to other major redevelopments, especially any that I have experienced. If you cannot comply with the Australian standards - it is a line of access and oxygen is a dangerous good - you have a third-party risk assessment and they start looking at ways of making it safe. The third-party risk assessor is commissioned to go through the site, and produce a document that says how the current location can be procured, and that will give us some idea of the future as well. We went through a very arduous exercise at the start to try to get an alternate location and they couldn't find one so we need to go through that assessment, and we are quite confident we will get the tick off. I know certain things happened before. There are some issues with why it happened and they aren't always as clear as they could be. A valve was put in upside down, so it wasn't a fault of the location, it was the fault of some previous workmanship. There are some things that come to the fore when you get into a bit more detail.
- **Mr BOOTH** You want to move it and you want to move it presumably for safety reasons. Would it be the ideal outcome to not have it there? If it can't comply with the current standards where it is, you are utilising an existing use right effectively?
- **Mr KERLIN** No, it's all compliant for safety. It will still be compliant with the regulations and guidelines, and we won't be trying to dispensate from those.
- Mr BOOTH But if wasn't already there, you couldn't put it there, could you?
- **Mr LYON** No, but that's principally an issue to do with access for BOC to service the tanks. It is heavily controlled by them the safety of their trucks during the filling operation. It's not necessarily about the location of the unit itself.
- Mr BOOTH So the spillage doesn't pose any risk to the people in the hospital?

- **Mr KERLIN** No. When they fill a truck there are regulations about hard stands, and safety risks like spillages and grease. That's what we are complying with. All those items such as line of sight to filling, the correct filling point, ventilation of the area, which helps evaporation if there is any spillage of gas there are few things we need to do to rectify the current location, however it will comply with the requirements for a safe environment.
- **Mr ALEXANDER** It will comply in terms of safety. It has to. Some of the difficulties are the congestion around the loading dock and where the truck parks, and the knock-on effects. It did mean an alteration to the design because we would have squared up the corner of the building if we had not moved it. In terms of safety, it will be fine.
- **Mr SCALZO** In the next part of the presentation, we will go into the detail of the design. Before launching into the building plans, we thought we would take you through a cross section of the tower, the K building, which gives you the state of play on all levels before we go into the floor plan in detail.

Just by way of orientation, the smaller building is the C block building - the heritage building that Cameron referred to - and then you can see the 10 level building with the roof top plant space that is building K. Essentially building K can be characterised as a series of five levels that contain the inpatient accommodation, or wards, as they are commonly known.

Another set of five levels starts from the ground level and goes up to the sterilising area, which services the theatre level below, shown in green. This level here aligns with the floor level of the building D existing theatre floor.

This line here, and this line here at ground level are the only two levels where the new building connects into the existing infrastructure. Below the green level are the beginnings of two of those shell floors which make provision for the future growth of the hospital.

In stage one, one of these levels - level 3 - is being used as a psychiatric intensive care unit but in the future it is earmarked for use as an intensive care unit. The level below that will be the future education centre. Below that is the ground level, the key entry point into the hospital and the area where the assessment and planning flow unit, the APFU unit, will be located in the facility.

Below that again, under these very lofty column, is the reconfigured loading dock adjacent to which is the central plant area servicing predominantly building K, supported by the roof-mounted plant, which you can see sits quite efficiently on top of the building and distributes air and other services down dedicated risers that run up and down the building and service each floor.

The last piece of grey on this plan, which is very important to note, is another piece of plant dedicated solely to the operating theatres. This means you minimise the amount of down time in the operating theatres to service the plant associated with them. Service personnel can get up to a dedicated floor and tinker with the plant without getting into the theatres and therefore reducing the amount of time the hospital has to do the key business it needs to do, and that is operate on people.

That is a section through the 10 level building. I will take you through the plans starting with the lower ground level. This is the reconfigured loading dock shown here coming off Campbell Street, as well as a series of compactuses and bin stores. It has provision for trucks to come in, make deliveries, and back out onto Campbell Street. It is effectively a two-way street, which is different to what you would have seen today, which is a one-way loop.

Shown here in white is the large central plant space, which is divided into a number of different spaces, not the least of which are the water harvesting area, the water treatment spaces and other ESD-type facilities that are housed in this part of the building. You will see the beginnings of the hospital street, as Cameron pointed out previously.

There is stair access from Campbell Street up to the ground level and also lift access for non-ambulant patients, and visitors to the hospital. There is also the beginning of a unique facility that will bring the Royal Hobart to national benchmark standard for hospital design, and that is the beginning of a new lift core which has a series of very large lifts - five shown here, but there is provision for six. Very large back-of-house lifts, together with another five front-of-house lifts and there are six lifts when we go to the upper levels.

This means that bed movements and service visits, which share the lifts with patients in the existing building, will be separate in the future Royal.

All the back-of-house bed movements and servicemen coming into the building and indeed staff who need to move up and down the building will have a dedicated lift core, which will mean greater efficiency for hospital movements. Front-of-house visitors, and patients coming to the hospital for the first time will have their own dedicated set of lifts, which is now a national benchmark across Australia.

The next level up is the ground floor which is characterised by the curvature of building C. A new entry comes in to the left. If you are standing on Liverpool Street looking at the main entry, a new entry will be created to the left of it and you will come into a much wider opening into the new facility which will mean that people waiting for taxis won't have to be caught in that little air lock we have at the moment.

They will come into the main street in this direction - moving north-south - which connects back out onto Campbell Street. You would have seen the key intersection point between the new entry and the Campbell Street entry is the reception point for the new hospital, getting back to those themes of way finding that Cameron pointed out previously. People arriving at the hospital, whether it be from Campbell Street or from the drop-off point, will have a face they can see directly upon arrival.

Most importantly, from that point it is a very short walk to get them into the public lift core and they won't have to negotiate beds coming in and out of the lifts. Co-located with that reception point is the admissions component of the APFU unit, for all those people being admitted into hospital who have not been admitted into the ED which is a separate admissions process.

They will all arrive at this point and be admitted here and then be directed to the patient lifts, which will then distribute them elsewhere to complete their journey. The back part of the APFU is for people who have been discharged from the hospital. They will come down these lifts here, either in a bed trolley or being assisted by staff or orderlies, and will wait here as they are processed, prior to being picked up by family members entering through these doors, or being transferred to another unit elsewhere. If a transfer requires ambulance assistance they will go down these lifts to the lower ground floor, where vehicles can collect and transport them.

- **CHAIR** Are we going to retain an ambulance bay on Argyle Street, as well, for the emergency services?
- Mr SCALZO Yes, as part of the emergency department. This is separate.
- Ms MILLAR No, the ambulance bay is in Liverpool Street, down to the ED.
- **Mr ALEXANDER** Our main ambulance bays are underground in the ED in Liverpool Street. In Argyle Street there are two ambulance bays, which were previously used by the old ED, which is now the paediatric clinics. They are sometimes used by delivery trucks and patient transport vehicles, because there is access there.
- **Mr SCALZO** The remainder of the ground floor is taken up by a large café which overlooks the Theatre Royal, with a large outdoor terrace, and also a second auxiliary café space which is being relocated from its current position where the proposed new entry will be.

The important thing is that the space between building C and the new building K is an outdoor space which enables people to not only get a bit of fresh air - which is like gold in a hospital building sometimes - but also to look back on to the building C façade.

The next level up is effectively empty. It is a shell space for the future ED but in this first stage it is being used temporarily for office accommodation in support of the APFU functions on the level directly below. That is similar to level 3 above, which is taking up only part of the footprint for the location of the psychiatric intensive care unit, which is a six-room unit. It is a secure facility. It has provision for two secure rooms and a number of other visitor and staff amenity spaces.

The level above that is level 4, and you can see building K - the large footprint of building K, pretty much a square in format - connects into the existing theatre block of building D and also connects into the day of surgery admissions point in building C, and in turn also into the endoscopy areas of building A. This is the factory floor of the hospital, otherwise known as the hop floor and it makes provision for five new theatres, two investigative suites, there is provision for CT capability, a 26 first stage recovery, 14 second stage and a series of third stage recovery areas as well. These all connect into, as I mentioned earlier, the day of surgery admissions point and also the endoscopy area, which is increasing from a two suite endoscopy space to a four suite area.

Level 5 above that contains the plant space servicing the theatres below, and the central sterilising unit, providing sterilised instruments and other items directly down into the

theatre floor. The theatre change areas are shown in blue, as are the staff and common rooms for that cohort of staff.

Level 6 is the first level of two and a half levels for the women's and children's precinct. You can see that the large square footprint of the lower levels has now given way to an H configured floorplan that allows us two courtyard spaces, which have been mentioned in previous conversations. That is servicing the paediatric unit, which is shown here - the 30- bed paediatric unit - and the 16-bed adolescent unit. The key characteristics of all the units you are about to see as we go through these plans is that they are all serviced by a back-of-house set of lifts which go into a staff only area that includes things like waste segregation areas, key rooms, change rooms, staff rooms, education rooms for staff, and other similar facilities. Then at front-of-house is the arrivals point. As visitors and patients come out of these public lifts, as we saw on the lower levels, and to reinforce this idea of wayfinding, the first thing they will see are two reception points. A friendly face and a friendly face here, so that it is easy for them to navigate their way through this building.

In the case of level 6, however, there is the added facility for parents. Picking up on Michael and Boon's comments, models of care talk about patient-centred and family-centred models of care that you see in new hospitals. The emergence of areas such as these ones which are places for families to break out and continue their life, have a meal, check the internet, do some banking, separate from all the other clinical parts of these units. In the paediatric area you will also see that 50 per cent of the accommodation is in single-bed rooms and for those of you who have studied the plans these rooms are slightly larger than others to accommodate an adult/parent bed in each room, which is standard for paediatric facilities around Australia today.

The adolescent unit is very similar. There is provision in here for mental health patients, and patients with eating disorders in particular, to have a secure facility with a dedicated recreational space and their own dedicated secure and safe garden. Also there is provision made on this floor for an inpatient school with direct access to the garden space and a 'transition to home' unit as well.

Level 7 is the second level of the WAC's area and the top part of the plan is as Michael was describing earlier, and Boon reiterated, is effectively the two modalities in contemporary birthing. On the right here are the seven birthing suites for midwife-led births with women having the opportunity to labour in a pool. Six of those you can see with a pool. The seventh one is for those unfortunate births where there is a known stillbirth, so there is a family grieving room, a special space given over for grieving parents.

The remaining seven delivery areas are of a far more clinical nature - they have rapid response and close proximity to all the staff and support spaces - but both areas have their own parent facility as well.

On the bottom of the plan, directly across the lift core is the 32-bed maternity unit for both ante and post natal women. Level 8, directly above the delivery floor for ease of access of staff is the NPICU. The NPICU is a unique facility anywhere in Australia in that it combines paediatric facilities, intensive care bays, neo-natal intensive care bays, a surgical facility and a special care nursery.

The design of these facilities provides the benchmarks as required by the Australasian Health Facility guidelines but they are arranged in such a way that a paediatric bay can be used for neonatal work or vice versa, and the distribution of staff across these areas facilitates the model of care that has been adopted by this unique unit. There is also a considerable amount of space for all the equipment that is required in this area and there is a dedicated store space out of which operates the Tasmanian neonatal emergency response team.

The level below that is a general medical ward which is a 32-bed ward. Fifty per cent of its accommodation is single-bed rooms and it is currently being revised as a cardiology unit. Level 9, in the plans you see in front of you, comprises another two 32-bed wards - one at the top and one at the bottom - providing the 64-bed model.

The bottom one is currently being developed as the women's surgical unit that Boon referred to - a 10-bed women's surgical unit and then a 2-bed orthopaedics ward. The one above that is currently being developed as a high volume, short stay unit and general surgical and surgical speciality unit.

The key point to make here is that the design team, along with Peter and his team, were very careful to design absolute flexibility in the footprints of these inpatient units, so they could be adapted to any specific use and specialisation, and indeed, in the duration of the project, we have seen that specialisation has been required and the building has been able to respond to that.

The final level of the building is level 10. It has an adult mental health unit down the bottom with access to outdoor areas and then another 32-bed unit to the north, which is currently being remodelled as a neurosurgical unit.

The last few slides concentrate on how the building looks. Clearly the design of a hospital building needs to take two key views into consideration. The first one is from the inside looking out, particularly taking into consideration the amenity of both staff and patients.

The view we took is that a modern hospital should have connectivity between outdoor areas and patient areas. Access to sunlight reduces the lengths of stays, so it was important for us to create good daylight into bedrooms and good visibility from the bed out to various key vistas in and around the hospital site.

It was also about minimising glare and minimising the amount of sun that was penetrating into the building, thereby reducing the amount of energy we needed to aircondition and heat the space.

This building, as you would have noticed, is a unique opportunity not only for the hospital, but also for the city of Hobart. It sits on a very significant site, almost a gateway site into the city. Unlike other contemporary hospitals which will plant a ubiqitous type of form or a particular type of aesthetic onto the site, we took the view that this new building should express something of the local folklore and express something of the uniqueness of this city, unlike any other city in Australia. That is why there has been a lot of investigation done into some historical reference to the Rajah quilt and also

looking at the unique colours of the flora and fauna of the Domain and other unique aspects of Hobart's history. That has been represented, albeit in a very abstracted way, in the façade of the building. Also, we were making sure that this building was not a mute facility, that is was porous enough for people to be able to connect from anywhere in the city through this building. That it was welcoming and it was, if you like, a physical representation of what the clinicians were trying to do and that is to have a model of care which was not only hospital-driven but extended all the way through to the community services.

This is two key images. This is looking at it from a staff member entering a bedroom lots of natural light and connectivity to the outdoors, but also of being in a bed, a typical patient being in a single bed being able to see out of long strip windows and some horizontal windows as well, all of which can be made with curtains and other things to close down for sleep.

Also there is strong evidence now - evidentiary trail - which indicates that, particularly in long surgery - a seven or eight hours for orthopaedic surgeries - it is very important to reduce areas that come out of fatigue. One of the key findings has been that having staff and clinicians able to have long distance views - natural light into surgeries - actually assists in the work of the people in those operating theatres. Hence, another unique feature of Royal Hobart Hospital will be to have significantly large bay windows into some of its theatres which will provide visual respite to the clinicians working in this space.

Bringing some of that logic down into the public areas on the ground floor. This is the view at the end of those steps along Campbell Street. On access the first thing you will see is the reception area shown there, so you will know where you are heading to. On the right is that public space that sits between building K and building C. A large open garden space and then a highly lit and naturally lit space as well.

Finally, the last few views are of the building as it is seen from the main arrivals point and you can see it is very much a background building with building C still remains in its foreground. Surprisingly quite contextual in its height to building A, but also from across the cove a very striking façade which gives some of the history of the Rajah quilt and of being in this place in Hobart. Once again you can see in the final view here, as the entry off Campbell Street providing a dynamic streetscape which connects to the streetscape that exists on that part of the city.

- **CHAIR** Thank you. I presume with a project this size you would be running with a private building surveyor rather than relying on the council to do the overall assessment compliance.
- Mr ALEXANDER They always are now and the building surveyor as part of the architect's team.
- Mr LYON That's a local: Pitt & Sherry.
- **CHAIR** Somewhere in there I saw the fact that the council still takes a couple of million dollars worth of fees, notwithstanding.

# Laughter.

- **Mr ALEXANDER** The planning fees were remarkably reasonable. Last week we got our planning approval for this building. There was a small comment about maintaining the heritage façade which we fully intend to do. The planning fees themselves, we have got building fees to pay.
- Mr LYON I don't think they are a couple of million.
- CHAIR I thought I saw in there planning fees and charges.
- Mr ALEXANDER In the budget we have got a fee of a couple of million there is \$356 000 of head works charges of head works charges for council and Southern Water. Everybody seems to want a piece of it.
- **CHAIR** Funny that. What energy efficiency are the lightweight panels delivering to the building? Architecturally, from the conceptual stuff which you have presented to us in this submission, I will just make an observation that from streetscape it is just terrific. That is a personal point of view, but we have got some light-weight panels going on there as I understand from the cross section sketches?

## Mr LYON - Yes.

- CHAIR The energy efficiency of those?
- **Mr LYON** Good question. The building is oriented at 45 degrees to north so we have to deal with sun shading to the windows in order to meet section J which is the energy efficiency guidelines of the document.

Hobart is one of those fairly unusual climates in terms of how it is assessed under that model. It does have low angles of sun at unusual times of the day. If you were to picture a square window we need a vertical sunshade, we need a horizontal sunshade so what we have ended up doing is, we have filled in the blocks between the sunshades. At the moment, as Peter said, the managing contractor still has to come along and add value as to how they want to do that. They may make it part of the curtain wall unless -. It's all a single unit or they might do it in two parts. The lightweight cladding is an additional layer that gives it -. We are very cautious of having the hospital monolith which is probably the New South Wales approach. As architects I do not think you can put that great big hospital monolith in the middle of Hobart given it is -. Coming over the bridge you read quite an incredible texture up against Mount Wellington and the dish of Hobart. I do not think you need that great big flesh-coloured blob sitting in the middle of that. I think it deserves more than that. The façade is a bit more of a response to trying to capture that grain of the city and trying to abstract the depth and give it another layer of reading beyond the ubiquitous pre-cast concrete within the [inaudible].

**Mr ALEXANDER** - To give you some specifics, we have gone to an awful lot of trouble with the externals of the building and we have recognised that there will be a range of views from, at one end of the spectrum, saying, anything you spend on aesthetics as opposed to clinical interiors is mainly wastage, to people who recognise that the urban

design and the place of the hospital in the hearts of people of Hobart, and the heart of Hobart itself.

Out of some of the analysis I can give you two responses, and Jack may want to step in. The amount of glazing you can use is set by the energy code of the building code. There are a whole lot of complications around that. Through the sun-shading and the glazing the figures we were given back is that we can actually reduce the size of the air-handling plant and save \$1.5 million of capital. The recurrent costs of running that plant will be reduced by \$150 000 to \$200 000 a year by having appropriate clarity of glass and sunshading which means that for patient comfort internally you do not have so much radiant heat that the building is trying to cop with. On top of that we looked at the overall cost of the façade as a proportion of the building cost. We got a range from a bog-standard office block where the externals of the building are something like 8 per cent. I am quoting the figures that were provided by our consultants. To some fancy buildings in the capital cities where it is 13.5 per cent. We are around 11.5 per cent. That said, we have always anticipated that a contractor will find a more efficient way of delivering that. That includes argon-filled double glazing with thermally-broken frames and those sort of ESD efficiency things.

The external review that we have just had said, yes, it is fine to talk about percentages but if you have got an expensive building internally which this hospital is. The degree of fit-out of operating theatres, the trusses, it artificially reduces that figure. As soon as we get a contractor on board, we will be looking at making it as efficient as possible, but retaining the design intent which has been really well accepted. It has been through state cabinet, it has been through the development application process. It has certainly been through all hospital process.

Mr KERLIN - I would just like to add there. As the engineers, we are working hand-inhand with Lyons on forming this up so it has not been an architecturally [inaudible] and we need to make sure we can make it work. It is something we have worked through together. We have modelled it extensively. It should be acknowledged that Tasmania has only legislated a 2009 BCA, and part of this building we have gone to 2011 which is the rest of the national standard. The rest of the states of Australia and territories have gone to 2011 national construction code. Tasmania is on 2009 for whatever reason. So we have taken it to 2011, so from 2009 to 2011 improves your energy efficiency by about 15 per cent. That brings it down to your current operational costs. We have looked at that and [inaudible]. Part of that challenge though is to improve that glazing, improving that aspect of internal - bringing the light into the space. To make that internal environment as part of it -. Which is one of the basics of sustainability, to make an internal environment -. It is not just about energy savings, it is about the environment you occupy. That is the work we have done to improve that. We have got daylight factors of a quite high number in there and that is with the H value as well. The Hshaped window has done that. Traditionally if you looked at the code you would have a strip of windows to meet that current code. We have tried to model to get the best value, best aesthetic, on the building and get value for what we are doing as well so that you can improve the internal environment. We have gone to a lot of trouble at this stage to make sure we test that thoroughly.

CHAIR - Thank you.

Mr BOOTH - Have you got an energy efficiency rating on it.

**Mr KERLIN** - No. We are going through a self-assessment process. The new Royal Children's Hospital in Melbourne had a pilot scheme and they preferred not to go down the route of making a final assessment. The major hospital infrastructure is not really suited to Green Star rating. What you do is a self assessment, and we have done that. You look at the appropriate tools. We have done that as part of our [inaudible]. What is the appropriate saleability for this building? There are things in there like car parks which we which give you points but we don't have them - small cars and things like that. Self-assessment to the appropriate areas, and we have detailed that in our report to make sure we are spending that money wisely, not just chasing points or stars for the sake of it.

On the energy rating, we have benchmarked around Australia. We are quite a large company and do a lot of the large hospitals including the Queensland Children's Hospital and the Fiona Stanley Hospital. We look at others ones now, the Royal Melbourne Hospital, Austin, Mercy. We do a lot of hospital work and we have benchmarked this one to try to get the energy target to match or better that in the current context. That is done in a couple of ways; not just on energy but also carbon. Tasmania is in a good space with the Hydro contribution, so the carbon is quite good here but the energy is quite high so we are trying to get that down.

- **Mr HALL** Very quickly, two small ones. I may have missed it. There was a figure there for \$3 million for works insurance. Is that because we are operating in an existing building envelope and that there may be some issues there that may cause -
- **Mr ALEXANDER.** It is more than that. It goes back to what I said before about working within Tasmanian government processes, but having to tread new ground at the same time. The Treasury instructions for all our capital works are that the builder has to take out an insurance policy with government. Government does that on the basis that they might be insured with the Dodgy Brothers and we are not going to get anything out of it. What we do is require the contractor to take the insurance that Treasury specifies through government. Needless to say, the contractor puts the premium for that back into the building cost to us. Marsh is the government's insurance brokers and risk managers and Marsh advised us that we should put that much in there. Government often self-insures, but if and when we go to the market they thought it would be commercially a bit better than that, but that is a figure we have to allow for.
- Mr HALL The delay allowance for \$2.5 million?
- **Mr** ALEXANDER This is a four year job and most of the risks that would cause delays such as wet weather and most industrial disputes, unless they are national things, become the contractor's responsibility. There are things which could delay us which are beyond his control. That could be a totally national industrial dispute that closes down the site. I am not sure of the details, but some aspects late delivery or non-performance by the parties and those sorts of things could raise a case for him to be on-site longer and to claim his overhead fee legitimately beyond the contractual end date. That is an allowance that is in there if that were to occur and there are some legitimate instances that is covered off in the price.

- **CHAIR** There are a number of what I might loosely refer to as contingencies. In the event that you do not eat into all of those, are you allowed to roll over the funds into further construction on the project?
- **Mr ALEXANDER** Very much so. At this stage of the design, the budget is oversubscribed. That is not a commitment and it is not a risk at this point in time, but there are things which we will have to delay in the project. We will have to put them below the line in the project, and we will reintroduce those, or things we have currently got in the next stage, like the ICU, it would be wonderful to be able to fund ICU coming across to be in direct correlation with the theatre floor if we did not use those contingencies. For a project this size which is abnormal in our environment; for instance, New South Wales has a graph of when you should spend your contingencies, what percentage you should spend for each stage of the project you find yourself at. We will follow those examples from elsewhere in alignment with our quantity surveyor to make sure that we land the thing and if there are savings to be made after the guaranteed construction price that will go into additional scope. There is endless scope for IT and equipment that we would love to be able to renew if we could afford it.
- **Mr BOOTH** You have said that you have indicative costs budgeted into the project and then you expect to get savings.
- Mr ALEXANDER We hope to.
- **Mr BOOTH** You hope to get savings, but the savings are based on I think a 70 per cent return to you and 30 per cent to the builder?
- **Mr ALEXANDER** There are a couple of different scenarios put up in the responses from the tenderers to us about sharing savings strategies. The one we put out in the RFT, which is quite normal in this form of contract, would see - post the guarantee construction sum - if he saves money beyond that 70 per cent of that saving is returned to us which would go into extra scope and 30 per cent of it is an incentive payment to him which he will take as profit. That is after we have agreed with - or the best advice we have got - the total sum is for the scope of works that we want.
- **Mr BOOTH** Those guaranteed construction costs would be market tested so it would be a competitive, guaranteed, maximum cost.
- **Mr ALEXANDER** That is correct. The risk of it going beyond that lies entirely with the contractor.
- Mr BOOTH I am concerned that the pricing is based on a competitive market price.

Mr ALEXANDER - Yes it is.

- **Mr BOOTH** Otherwise a builder could simply say, oh it is going to cost a million bucks and it ends up costing \$500 000 and he pockets 30 per cent of the savings. It should be a lazy bit of money for him.
- Mr ALEXANDER No, that is not how it works. What is tendered on is his profits and overheads, and we said. Before he gives us a guaranteed construction sum he will have

PUBLIC WORKS, ROYAL HOBART HOSPITAL, 3/10/12 (MILLAR/ALEXANDER/YATES/LIM/WIECZORSKI/LYON/KERLIN/ SNASHALL/SCALZO)

taken advice from the market but there will be some rise and fall in that. He carries the risk of the rise and fall.

- **Mr LYON** But, Peter, he will open-book tender. For example, the plasterboard contract; he will go to all the plasterboard installers so that the tendering occurs, the competitive nature occurs, at each trade package rather than as an overall.
- **Mr** ALEXANDER And that is open book to us. One of the reasons we have to be very clear on that is that each of the head contractors who tendered for it is a mainland company because there is no-one in Tasmania big enough to carry all the risk. We have encouraged, and each one of the tenderers has partnered in some way, either through subcontractors, a joint venture with a local company. Some of those local companies are really building management companies themselves and some of them maintain their own workforce. If they want to retain their own workforce they want to have the ability to tender for some of those work packages. Maybe not all, but some of them have concrete trades or joinery trades or others so we have been very, very clear on two things. Firstly, when those tenders go out for those packages, the tenders close with us, not with the builder, and that is really a matter of perception. If other locals in the market say it is closing with them, what is the point of putting in for it, where we are seen as an honest broker. The tenders will all close with us and we will be at the tender opening and we will be part of the tender assessment.

The trouble with the tender assessment is some tenders might be high, some are low. That risk is evened out and owned by the contractor but it is a competitive process for each package, each trade, and we are privy to all that.

- **Mr BOOTH** Principally, I suppose, setting the original guarantee to build for price that that was established competitively between a number of different large head contractors who would tender for the project.
- **Mr** ALEXANDER That is correct and each of the contractors who have responded to our tender has given us what you would call a target construction sum in their tender, which is confirmed more or less, but obviously there are some differences between them. At this stage we do not have enough detail to definitively say what that is. We are hoping to get money back and the façade is a prime example. We have a cost which is quite a conservative cost and in selecting the tenderers we are looking for a tenderer who is proactive in working with us to say, 'Okay, I can deliver something that looks like that, performs like that, but do it in a more effective construction methodology that saves us money.
- **Mr BOOTH** I would like to ask in regard to redundancy in the design. First of all I want to know whether all of the hospital staff, and we did talk to various people today who all seemed very happy about the project and very satisfied that it does provide sufficient redundancy, so you are not going to need to come back to any of these areas for a considerable period of time for the same sorts of works. Are you able to put on the record here for the committee that in fact there is adequate redundancy within the design to make sure that there isn't a lack of capacity for the foreseeable future and it does meet the needs that you want it to?

- **Ms MILLAR** As explained this morning, all the clinicians have been involved in the working groups and the user groups and as part of the design they have looked at their service brief and models of care and looked at projections into the future. Also taking into account, as Boon said, that we are looking at a health system rather than a hospital so that in the future there may be utilisation of the integrated care centres, which will impact on the numbers of patients coming to the hospital. We have looked at those projections into the future and we feel that there is future-proofing for these areas within the hospital.
- **Mr BOOTH** Boon, you talked about obesity and diabetes and so forth. They are looming health challenges, I guess, and aging population as well. Is there capacity within the design that is proposed here to handle those predicted demographic changes and increases in need for medical intervention?
- **Dr LIM** Yes, we believe so. That is why we put in things like bariatric rooms, which we do not have at the moment. Also, the different models of care will take staff out to the community to see the women out there as much as possible so that those who really need to come in will come in. We are quite confident that this design will allow for that.
- **Ms MILLAR** We have set up, for example, respiratory clinics over at Clarence already so that we are starting to move towards those new models of care. Also, everyone is quite excited about the use of telehealth. In the facilities we will be having the capacity for telehealth so that the clinicians in the ward can then have a video conference with someone in an external facility to help manage patients.
- **Mr ALEXANDER** It is fair to say that this is a stage 1, but it builds on the health service planning that has gone on since Tasmania's health plan in 2007, which has various projection levels, all of which have social and financial implications and all of which ultimately depend on how much both state and federal governments decide to fund. A big injection of funding could result in a major bulge in some sort of surgery or something else. That is not all predictable. This hospital has built in capacity, it has built in flexibility and adaptability and most of all in the master planning if the need were there and the need was funded there is the capacity to upscale as well.
- **Mr BOOTH** How would you rank this, if the project is approved and when it is finalised and finished, with contemporary hospitals in other states around Australia? Would there be a ranking for it at all?
- **Mr ALEXANDER** There are rankings in clinical terms but I do not think that is what you mean. I think you mean in terms of standards.
- Mr BOOTH Standards and facilities.
- **Mr ALEXANDER** I think the best answer is probably the response you got from the fellow from Royal North Shore.
- Mr YATES Michael Nicholl.

Mr ALEXANDER - In terms of maternity and paediatrics he -

- **Mr YATES** Having as a part of his role as head of obstetrics and gynaecology at Royal North Shore, they have just been through that planning and building process for their redevelopment, he felt that what we were envisaging and had planned for was going to provide us with that functionality and flexibility for the future. He even looked at some of the things that we had done, particularly around the NPICU and he thought, 'I wish we had actually thought of that'.
- **Ms MILLAR** In terms of the expert review group, they did make some suggestions around theatre sizes, that we should have some larger theatres for our potential for hybrid theatres in the future. So the architects had to go back and do some further redesign so we had the potential for CT and other modalities to be placed in the theatre, which then does reduce length of stay.
- **Mr** ALEXANDER I have worked with colleagues interstate on the last few years of the national health facility guidelines which sort of set a standard for rooms and for clinical areas across whole hospitals. They are used quite stringently in New South Wales in particular because they use them as licensing standards for private hospitals. We use them as a primary reference but make schedules of departures where we need to. In the case of operating theatres we have actually gone above that because there are not the opportunities to go to other hospitals and things like that. In terms of those standards, we are meeting those standards. In terms of proportion of single rooms, I think we are ahead of New South Wales. There is a huge debate on what percentage of single rooms you want but I might pass back to the architects who have got experience in other hospitals.
- **Mr SCALZO** I guess the key point to make about single rooms is that, particularly in the paediatric areas, it is not always the right idea to have single rooms from a socialisation point of view. What we have done is work with the users in those areas to provide the hospital with the flexibility to have single rooms but for those rooms to be paired, perhaps a moving wall in between them so you can get single-double rooms, as they have been invented at Royal Hobart, so you can get the sociability for two kids to be able to speak to one another in the event they are in hospital for long periods of time or for that wall to be retracted and then resort down to single rooms. At a minimum nationally 50 per cent single rooms is an accepted standard and which we have now achieved at Royal Hobart. Other areas which have exceeded that have found it to work against nursing numbers, because nurses have to run in and out of more rooms which is inefficient. From a sociability point of view, particularly in paediatric areas, it works against sociability. I think it is achieving the right mix for every particular hospital and for every particular service and I think that is what we have been able to achieve through collaboration with the clinical group.
- **Mr ALEXANDER** I suppose the area is in the building services. Those standards of electricity supply and hydraulic supply. Again, Tasmania does not have its own standards, so we have briefed the engineers to base what they are doing on the Victorian essential engineering standards.
- **Mr KERLIN** Yes, we are designing for the engineering services to a category 1. It is to the equivalent to any major acute hospital on the mainland. We have gone to the same standards to meet that. If you look at the science especially on ad hoc growth and that is what so many major hospitals have been established on for long periods of time. We had a fresh look to re-establish those and probably rectify some of the wrongs that have been

accumulated over a period of time. To re-establish the site and maintain that growth that goes with the master plan. We are not doing any [inaudible] works now, what we are building today can be expanded and modelled to future growth. I am not doing [inaudible] and see what works out later. Part of our design is to make sure that continues with the growth of the hospital and the form that takes to try to make that as flexible as possible.

- Mr BOOTH That covers disaster recovery?
- **Ms MILLAR** We have suggested throughout the project that we are the only public hospital in the south and that we cannot go on bypass as would happen in interstate hospitals so we need that level of security in terms of our infrastructure.
- **Mr BOOTH** Have you got a percentage figure there in terms of capacity of the hospital that is used up in bed blocking or something. I think that is the term where you have got people who ought not be in hospital, but they are there because children services cannot provide a roof over a child's head or sometimes like palliative care, for example, when people ought to be in other places rather than in hospital. Is there a percentage there?
- Ms MILLAR I do not think we would have anything similar to that.
- Mr ALEXANDER Hospitals are run efficiently at about 85 per cent capacity and that is like if you are driving through town and you get to 100 per cent capacity you have got gridlock. The lights go green but you can't move. The hospital has operated at 100 per cent or more over a period of time. It is hard to predict, but Larraine's point that the hospital would seem increasingly -. With the health organisation as the centre of the network, so with the big suburban clinics and more average services and those sorts of things. Even relatively minor things like, over at the Wellington Centre we are installing a pharmacy-dispensing robot. You can get bed block from people who are fine to go home if they could get their prescription. All of those things work together with the building itself. I do not think we can predict demand accurately enough to tell you what percentage it will be operating at when it opens its doors. The fact is that we will have more facilities in the hospital than will be currently open, so we will have spare beds. If there were a pandemic we could open wards in the old building that we want to get out of for all the reasons we have said about efficiency et cetera. We would have that capacity that currently does not exist.
- Mr BOOTH From a management point of view, is this sort of bed blocking an issue for you?
- **Ms MILLAR** As part of the other works we have created an assessment and planning unit down near our ED. We have found that that has been helpful in terms of managing patients who come through ED and may only need to stay up to 72 hours. If they were going to the assessment and planning unit and then go home from there, or if required go to the ward.
- **Mr BOOTH** I am interested in this because obviously if we are funding a hospital that it is actually a baby sitter for other agencies then that is something that we need to know about and provide sufficient funding for the other agencies that ought to be doing this. That is why I am asking.

- Mr ALEXANDER It is an issue the hospital has worked very hard on. I suppose one of the big areas that Larraine would know more about than I do is in aged care. People who effectively are being prepared to see whether they are capable of returning to their own homes or whether they need ongoing care. The public hospital system is sometimes asked to look after them for longer than is clinically necessary.
- **Mr LIM** Within maternity, as an example, we have benchmarked as having a longer length of stay for the normal birth. We have now put in a model of care where the midwives have a caseload where they will come and discharge a woman and continue the care at home. So that will shorten their stay in hospital.
- **CHAIR** My judgement is that we are about done. Thank you very much for the presentation.

#### THE WITNESSES WITHDREW.