The State Hospitals Board for Scotland

UPDATED OUTLINE BUSINESS CASE
FOR THE PROVISION OF FIT-FOR-PURPOSE ACCOMMODATION TO SUPPORT
THE PROVISION OF APPROPRIATE THERAPEUTIC CARE AT
THE STATE HOSPITAL

May 2006

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

The State Hospitals Board for Scotland (referred to as the State Hospital) is committed to providing integrated high quality forensic treatment for all appropriate patients from Scotland and Northern Ireland.

The redevelopment project relates to the new build construction of forensic mental health services at the State Hospital on its current high security site in South Lanarkshire. The redevelopment aims to ensure patients are treated in accommodation appropriate to their needs and in an environment that supports rehabilitation rather than hinders it, as at present.

The State Hospital's original Outline Business Case (OBC) was approved by the Scottish Executive Health Department (SEHD) in 2004 and procurement began within the framework of the Government's Private Finance Initiative.

A project team was established in early 2005 comprising external advisers and a core group of NHS staff. Considerable effort was expended in developing the project brief and exemplar designs. As the work of the redevelopment project team progressed it became clear that matters were arising that affected the scope of the project and, potentially, the selection of the procurement route most likely to secure best value for money.

In particular, the work on the clinical brief enabled more detailed consideration to be given to the nature of Hard and Soft FM Services (including Security) on the site and the impact that would arise from their inclusion in any potential PFI scheme. This led to a reassessment of the overall risk transfer position, market interest, and deliverability under PFI.

Following the submission of an OBC Addendum Accelerated Review in September 2005 the SEHD accepted the State Hospital's conclusion that a publicly funded procurement route would deliver best value.

This updated OBC is largely based on the original submission although it develops the preferred option to a much greater degree and thus refines the capital and revenue costs associated with the scheme.

There are two key drivers behind the need to redevelop the site. The first of these is the anticipated reduction in patients requiring high (now special) secure care as a result of the development of the Forensic Network and medium secure units across Scotland. The second is the current condition of the estate which is poor and no longer suitable for the provision of a modern multidisciplinary and patient focussed service.

This business case explores the requirements for change and potential options available on the site; these range from maintaining the current estate over the whole life of the scheme to new purpose-built facilities. The objective is to ensure that a value for money solution is developed that best meets the future needs of the patients and the national service.

It should be noted that the State Hospital provides care and treatment for patients with mental disorders who cannot be cared for in any other setting. The Hospital's patients present such a risk to others that, at least for a period of time, they need legal detention, and often compulsory treatment, in conditions of special security. Consequently, the patients do not have access to other services or communities thus the hospital must be able to address all of their needs (therapeutic, vocational, social and physical well being etc.) via a range of facilities within the perimeter fence.

Care at the State Hospital is necessarily qualified by the need to maintain both public safety and a safe environment for the delivery of therapies. The need for a "safe and secure" setting at the Hospital is of an entirely different order to that pertaining in other mental health services where preventing patients inflicting harm on each other, staff, or the wider public is not an overriding day-to-day concern. A major part of the work at the State Hospital is directed at reducing the risk to others, and in the meantime containing that risk, as a core part of the therapeutic task.

1.2 Background

The State Hospital, located in rural Lanarkshire, was brought into service in 1948 and became a Special Health Board in 1994. It is the sole provider of special secure mental health services for Scotland and Northern Ireland. The patients are detained under the provisions of:

- the Mental Health (Care and Treatment) (Scotland) Act 2003,
- or the Criminal Procedures Act 1995,
- or the Mental Health (Public Safety and Appeals) (Scotland) Act 1999.

The strategic aims of the State Hospital are:

- to deliver expert, high quality treatment and care by multi-professional teams in safe and secure settings;
- to provide patient treatment and care pathways that are focussed on achieving timeous and appropriate admission, treatment and transfer of patients;
- the maintenance of public, staff, and patient safety.

The State Hospital can only achieve these aims by:

- respecting the human rights of individuals through developing a culture based on personal dignity and the active involvement of patients and their families;
- providing facilities and supporting services designed to provide appropriate environments which facilitate the delivery of quality care and treatment for our patients; and
- investing in staff to ensure they are competent, motivated, supported by the organisational culture, and benefit from positive human resources policies and practices.

1.3 Current Service Provision

1.3.1 General

The State Hospital currently has a complement of 240 beds on 11 wards of which 30 beds are Learning Disabled, 21 beds are Women's Service and the remaining 189 beds are Male Mental Illness. A variety of off-ward therapies are provided in 10 separate buildings, these include occupational, diversional, recreational, psychological and spiritual activities. Clinical departments are each based in uni-disciplinary buildings. The 11 wards, clinical and therapy departments, and miscellaneous office buildings are spread haphazardly across the site.

State Hospital patients present a complex and difficult mixture of needs. A combination of background, social circumstances, offending behaviour and mental illness results in a high risk profile and particular specialist approaches to the provision of care, treatment and security. The nature of the service will change as patient numbers decrease and the Hospital's service focuses on those truly requiring high security. A concentration of patients with higher levels of need will mean that facilities for patients need to change and the ratio of clinical staff to patients will need to increase.

1.3.2 Individual Services

Both Learning Disabled and Women's Services provide an "admission to discharge" service.

The Male Mental Illness service provides care and treatment to discharge. All admissions take place in a dedicated admission and assessment ward, and some discharge preparation takes place in two dedicated wards, though discharges can take place from any ward.

Six wards are two-storey; this significantly limits the operational capability of the ward as staffing levels and security needs restrict access to one floor at a time. The facilities available to patients within these wards are extremely limited, with a serious shortage of areas for clinical work and for patients to exercise choice. Existing staffing levels also restrict the service available to patients.

Clinical professions at the State Hospital are based in uni-professional clusters rather than being grouped in the services provided to patients. Clinical teams are rarely able to meet outside of the weekly clinical team meeting.

A range of psychological therapies are aimed at addressing offending behaviour within the patient group. It is essential that these therapies are able to be delivered in an appropriate environment, away from the disruption of wards and busier therapies. Limited facilities currently exist and these are unable to meet demand, with some patients waiting for up to 10 months to commence this treatment.

Research shows that a structured daily programme of therapeutic activities and recreational pursuits has a beneficial effect on patients' mental health, rehabilitation and physical health. Current facilities for other therapeutic activities are limited, and again, the scattered nature of the site works against the smooth integration of these activities into the patients' daily lives.

The Hospital needs to provide the facilities of a community for its patients and the existing limitations of the site make it difficult to do this in a safe and secure way.

The off-ward therapeutic placements available to patients number less than 150, with this number being reduced from time to time by closures exacerbated by the site and building limitations.

Patients at the Hospital have a number of chronic health problems including obesity and diabetes. Primary care services are provided in a health centre with limited facilities. Exercise facilities within the Hospital are also limited.

1.3.3 Security

Security at the State Hospital is provided by:

- physical measures - locks, keys, fences, CCTV and detection systems;
- procedural measures - policies, practices and procedures; and
- relational measures - therapeutic relationships and treatments.

As a hospital, the most important and effective measure in ensuring the long term safety and health of the patient is relational security. The work of the clinical teams gives more accurate information about current risk, but also assesses and reduces future risk.

The nature of the current site configuration and built environment means that in order to provide safety and security for patients, staff and public, physical and procedural measures are more demanding, intrusive and costly in time and resources. This in turn allows less time for relational security and can also work against the establishment of therapeutic relationships as the day-to-day business of providing physical and procedural security intrudes.

Now and in future there is increasing need to ensure that facilities and service configurations do not affect the human rights of patients and that patients with lower security needs are not affected by the necessary regime of those requiring higher levels of security. The Hospital's current practice of locking patients in their rooms at night and restricting access to areas and rooms (forced by current ward layout and staff resource) will also be increasingly difficult to defend. Future clinical environments will be designed to allow full use whilst ensuring that the safety of staff and patients is paramount. Staff / patient ratios will improve as patient numbers decrease and less staff time is spent maintaining outdated systems in outdated buildings.

2. STRATEGIC CONTEXT

The main drivers supporting the need for change are:

- policy and legislative changes;
- the development of secure mental health services elsewhere in Scotland;
- the current physical condition of the estate.

The State Hospital has a duty to protect the public and in many cases interferes with the human rights of patients as a consequence of providing a safe and therapeutic environment within the hospital. However, there is always a need to ensure that the hospital acts in a way that is legitimate and justifiable.

2.1. Policy and Legislative Standards

A number of developments in UK law and Government policy have had a direct impact on the way the State Hospital needs to deliver its services in future; the key areas are highlighted below.

2.1.1 The Human Rights Act 1998

The Human Rights Act came into force in 1998 and has a significant impact on the delivery of care. The Act places a duty on the hospital as a public authority to balance its responsibilities with the rights of its patients. This means it must pay proper attention to rights when making decisions that effect people. It is about recognising that some rights and freedoms are so important and fundamental that they should be protected by law. To knowingly breach a human right is indefensible. The Hospital already recognises the need to be proactive and transparent in the way it delivers its services and actively needs to ensure the development of best practice particularly when a human right is at risk of being breached.

The Human Rights Act in particular:

- makes it unlawful for a public authority to violate Convention rights unless, as a result of an act of Parliament, it has no choice;
- states that all UK legislation should be given a meaning that fits with people's rights if that is at all possible. If a court makes a decision that this is not possible then it will be up to Parliament to decide the way forward;
- opens the way for challenges to be made more accessible as these can now be conducted through the UK courts.

The Human Rights Act provides the service with a new framework in which to balance different individual rights against one another. Certain articles have been identified as being more relevant to the State Hospital than others although this will change over time due to the Human Rights legislation being a living instrument. Another issue is the distinction between absolute and qualified rights. (A brief summary of the most relevant articles is included at Appendix A).

2.1.2 Mental Health (Care and Treatment) (Scotland) Act 2003

The new Mental Health (Care and Treatment) (Scotland) Act 2003 puts the patient at the core of service delivery and enshrines the rights of people to treatment and services and does not necessarily, even in the case of criminal proceedings, involve primary detention in hospital.

A clear implication of the new Act is that compulsory treatment must be balanced against the provision of treatments. In other words, it will become unlawful to subject people to restrictions of mental health legislation in the absence of proper facilities and treatment options elsewhere. The Act will also, from 1 May 2006, give people the opportunity to appeal against the levels of security that they are subjected to.

2.1.3 European Convention for the Prevention of Torture and Inhuman and Degrading Treatment or Punishment

Excerpts of recommendations from a visit in February 2003 to the State Hospital by the delegates of the European Convention for the Prevention of Torture and Inhuman and Degrading Treatment or Punishment (Article 7) include the following;

- "plans to renovate or rebuild older wards at the State Hospital to be pursued and the partitioning of lavatories in patients rooms to be reviewed"; and
- "continuing attention to be paid to the state of repair of all the buildings at the State Hospital".

2.1.4 "The Right Place, The Right Time" - SEHD Consultation May 2002

The outcome of the consultation of the way forward for mental health services included the establishment of the Forensic Network. Ian Gordon, Director of Service Policy and Planning wrote in his follow-up to the consultation:

> "The provision included at a late stage in the Mental Health Bill, to provide for a right to appeal against detention in conditions of excessive security, will intensify the pressure on service providers to make good any gaps in provision. If the service across Scotland is going to be prepared for this right of appeal, when it comes into effect in summer 2006, then significant service improvements will have to be developed urgently in certain areas."

2.1.5 MEL (1999) 5 Health, Social Work and Related Services for Mentally Disordered Offenders in Scotland

MEL (1999) 5 sets out a clear policy statement and framework for the provision of services for mentally disordered offenders. This established the following guiding principles under which these patients should be cared for with regard to the quality of care and proper attention to the needs of individuals:

- as far as possible in the community rather than institutional settings;
- under conditions of no greater security than is justified by the degrees of danger they present to themselves or others;
- in such a way as to maximise rehabilitation and their chances of sustaining an independent life; and
- as near as possible to their own homes or families if they have them.

2.1.6 "Not Just Bricks and Mortar"

"Not Just Bricks and Mortar" is a report by the Royal College of Psychiatrists Working Party on the Size, Staffing, Structure and Security of New Acute Adult Psychiatric Inpatient Units published in 1998. This sets out a number of recommendations for future developments, including:

- all sleeping accommodation should be in single bedrooms with en-suite facilities;
- a maximum of 12 beds per unit; and
- the level of individual privacy, comfort and security provided for each patient is an overwhelmingly important factor in designing new units.

2.1.7 Management of Imminent Violence

Recent research[1] into violence in mental health care units noted the following:

- "there is a range of environmental factors that seem to be linked with violence; a lack of privacy and cramped conditions in mental health units are of particular note"; and
- "the design of acute inpatient units often compromises the safety of staff and patients".

Data recorded on the State Hospital's Datix system during 2004 identified that there were 128 patient-to-patient assaults and 341 patient-to-staff assaults. These figures reduced in 2005 to 102 and 299 respectively.

It is anticipated that the reprovision of the service in a calm, well-structured environment should contribute significantly to further improvements in these statistics.

2.1.8 Summary

In conjunction with all of the above, there are a number of other relevant policies that need to be considered; these are listed at Appendix B.

2.2 The Forensic Network for Mental Health Services in Scotland

This OBC assumes a bed reduction of 100 beds. The basis of this assumption is two fold:

- firstly, MEL (1999)5 set out guiding principles for the development of services for mentally disordered offenders. This expressly envisaged services at all levels but in a community rather than an institutional setting and as near home as possible. An essential element of the spectrum of services is the development of regional medium secure services to fulfil the needs of people who do not or no longer need the high (special) security of the State

[1] The Recognition, Prevention and Therapeutic Management of Violence in Mental Health Care (published by the UKCC)

Hospital. To this end, 4 or 5 units are being developed for this patient group in Scotland. This will impact upon the State Hospital in terms of existing patients awaiting transfer to medium secure care and for new patients who will not be admitted to the State Hospital where medium secure care is available; and

- secondly, the high level needs assessment carried out on the current State Hospital population. This supports the conclusion that around 100 patients could be transferred from the State Hospital should other appropriate facilities be in place.

Given the above, it should be recognised that the Medium Secure Units will not be the only answer to patients' needs, but are part of the overall spectrum of services. However, the developments will afford key step changes in bed numbers, particularly where services for people with Learning Disabilities and for Women are developed as either integral to the Units or alongside in community-based models of care. The 100 bed reduction is therefore, for the purposes of planning the phasing, linked to the opening of the Medium Secure Units as follows:

- the first Unit, the Orchard Clinic in Edinburgh, serves the population of the South East, comprising four NHS Boards (Lothian, Fife, Borders and Forth Valley). This 50-bedded Unit for people with mental illness has been operating for four years. Patients with mental illness no longer have their discharge delayed and patients who do not need high level security no longer come to the State Hospital but are appropriately placed in medium secure care.

There are three additional units planned for Scotland:

- the Glasgow population will be served by Rowanbank Clinic, a medium secure facility (74 beds) at Stobhill Hospital. The unit is currently under construction and should be operational in the spring of 2007; as a result two wards at the State Hospital will close with a bed reduction of 50;

- a unit at Dykebar Hospital will serve the west of Scotland population covering Dumfries & Galloway, Argyll & Clyde, Ayrshire and Arran, and Lanarkshire NHS Boards. The procurement process is progressing well and should result in the unit opening during 2007. This will allow the State Hospital to close another ward of 25 beds; and

- the North & East of Scotland Unit serving Highland, the Islands, Grampian and Tayside NHS Boards is still in the OBC planning stage. It is unlikely that this unit will be operational before the end of 2009. However, once operational, the further transfer of patients would allow another ward to close, completing the 100 bed reduction at the State Hospital. In the interim, the North & East will purchase beds at the Orchard Clinic in Edinburgh.

In addition, the Forensic Network Review of Bed Provision in December 2005 included a recommendation for two 8-bedded medium secure units for learning disability patients (the redeveloped State Hospital will accommodate 12 learning disability patients). The regional groups are currently deciding on the location of the two medium secure units; it is likely that one will be in the East/North with the other in the West of Scotland.

The State Hospital will continue to be a national resource, with its focus on providing high secure services that will range from assessment and admission, crisis intervention, care and treatment to rehabilitation, as an integral part of the Forensic Network.

2.3 Physical Condition of the Estate

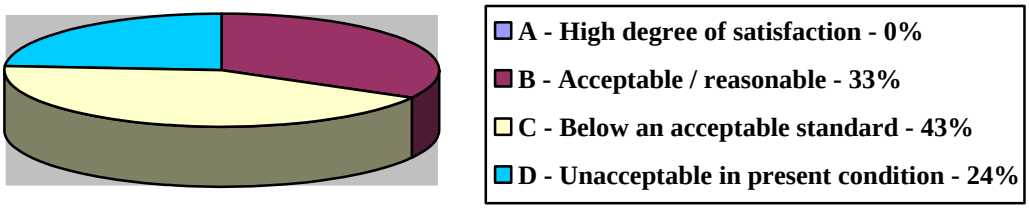
The services at the State Hospital have, over the last 12 years, moved away from the custodial model of care to a multidisciplinary and patient-focused service. Alongside the closure of the East Wing site, three new wards were built in the mid-90s with some ward upgrades to the old 1930s buildings. Whilst the new wards operate well, there has never been an integrated property strategy and plan for the site's services, leading to uncoordinated and patchy maintenance and development. This delay in supporting the clinical changes with a property development strategy now means that the services are severely constrained in their ability to deliver modern psychiatric care. In particular:

- there is severe overcrowding within wards. Day areas are inadequate for the number of patients, which ranges from 20 to 26 patients with little or no opportunity for privacy or personal space;
- due to the inadequacy of some of the buildings patients who have a disability are currently placed according to accommodation needs rather than clinically-directed treatment plans;
- disabled patients are further disadvantaged in relation to their treatment needs due to the lack of therapeutic areas with disabled access and facilities;
- storage for patients' personal belongings and property is wholly inadequate. In practice this means that patients are denied access to their personal possessions, not as a result of any risk assessment, but due to a lack of facilities;
- patients' bedrooms range in size from 6.3sqm (with no en-suite facilities) to 8.6sqm (which incorporates a toilet and wash hand basin in a poorly ventilated area, which causes, on occasion, unacceptable conditions). This limited space contributes to the restricted access to personal and private possessions;
- day areas and bedrooms areas are inadequately heated and ventilated resulting in unhealthy conditions as well as feelings of frustration and discomfort;
- there is no flexibility for individual or group therapy on wards as all day areas are in general use;
- patients who display physically challenging behaviours are currently nursed within public day spaces, which reduces activity within the ward and has a detrimental effect on the therapeutic milieu of the whole environment;
- in the two-storey wards washing facilities are varied. In one ward 20 patients share two toilets. Additionally, there are no showering facilities incorporated within the bedroom accommodation. This results in very little privacy or dignity as, between 7.30am and 8.30am, staff have to regulate access to the toileting areas to ensure that patients attend to their hygiene needs. This arrangement promotes a very institutionalised regime;

- there are inequalities in provision across the site. Floor space within the two-storey wards ranges from 26 sq m to 30 sq m per patient. In contrast the admissions area has floor space of 84sqm per patient;
- at night the patients who have no facilities within their room access the toilet by alerting the staff using the nurse call system. They are required to wait until a member of staff is available, which is both degrading and disruptive to other patients who are trying to sleep;
- due to the design of some wards, patients are locked in their rooms over night. This practice must change if the hospital is to fully embrace the principles of the Human Rights Act;
- staff facilities within the current ward areas range from adequate to extremely limited. In some areas the night shift are required to sit in a corridor for the duration of their shift with no access to comfort facilities such as beverages and toilets. Some wards have no staff showering facilities;
- areas for staff breaks are inadequate in most areas;
- safe rooms within the two-storey buildings are located on the upper floor. This increases risks to both patients and staff, as relocating patients during a violent episode requires the patient to be navigated up narrow stairs and through narrow corridors. This also leads to staff and patients being isolated and increases response times during critical incidents.

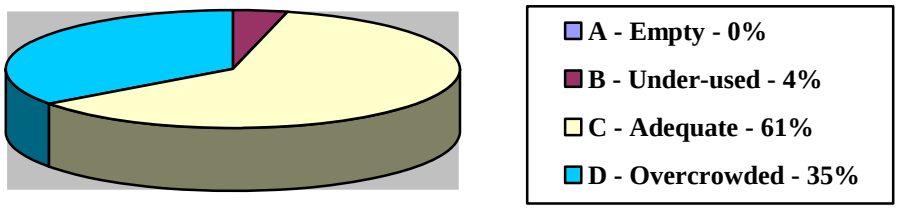
In terms of the condition of the estate[2]:

- the buildings are not functionally suitable for purpose. Patients, in the main, occupy bedrooms that are 6sqm and sometimes have a toilet within that overall space;
- the physical condition of all but one of the buildings is assessed as adequate but not for their current purpose. 5% of the buildings need major repair or replacement – within 3 years for building and 1 year for engineering;
- functional suitability has been assessed as 24% unacceptable in its current condition, 43% below an acceptable standard and 33% acceptable or reasonable;

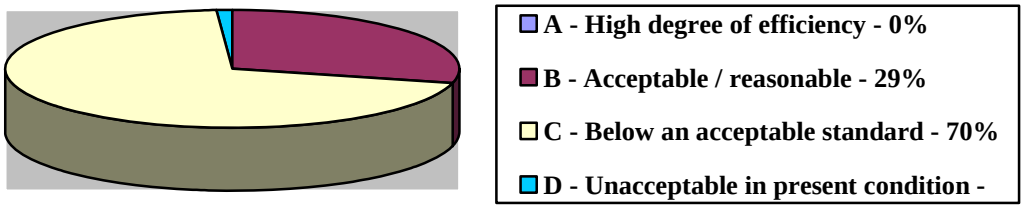


- with regards to space utilisation, 35% of the estate is overcrowded, 61% adequate, and 4% underused;

[2] The State Hospitals Board for Scotland Property Strategy



- the environmental performance is extremely poor, with 1% being in an unacceptable condition, 70% below an acceptable standard and only 29% being acceptable or reasonable;



- in respect of the Disability Discrimination Act 1995 all single storey buildings, wards and therapy areas have been refurbished/modified to comply with access as defined under the act. This was considered "reasonable adjustment" in light of the redevelopment project.
- there are unacceptable waiting times for therapies in other areas due to space constraints.

3. BENEFITS CRITERIA

The State Hospital has carried out considerable work to determine the service specifications that need to be met for the future provision of services. This work has included a series of "away days" with a wide range of staff, consultations with other staff on site, and discussion with patient groups. Further detail on this work is given in section 11 – Consultation.

The reprovision's key objectives are to:

- enable the State Hospital to make best use of its resources in a seamless integrated way for the benefit of patients;
- ensure patients are living in accommodation appropriate to their needs; and
- provide an environment that positively supports a patient's recovery rather than hinders it.

3.1 Non-financial Benefits Criteria

Following on from the consultation process mentioned above, the Hospital Management Team (HMT) developed a range of criteria to qualitatively measure the benefits associated with each option under consideration. These criteria were grouped under six main headings, with relative weightings applied as follows:

Category	**Relative Weighting**
Clinical Effectiveness	28
Safety and Security	28
Physical Environment	10
Staff	14
Patients	14
Carers	6
Total	**100**

A range of sub-criteria for each category was also developed, to provide clarity as to the key areas of importance, and these too were weighted. A detailed breakdown of the sub-criteria applied is included in Appendix C. The following sections set out the key benefits sought from the options.

3.1.1 Clinical Effectiveness

The primary concern was to ensure that the right treatments could be delivered, by the right people, at the right time and in the right place. This includes providing facilities suitable for the range of treatment options, that meet all the required standards and that support a multi-disciplinary approach to care. Space should not be a constraint in delivering treatments, and accommodation should be flexible to support changing patterns of care in the future.

3.1.2 Safety and Security

Security is a key aspect of the service provided by the Hospital, and forms an integral part of the clinical care provided. Future options need to ensure that the public, staff and patients remain safe, whilst keeping the security as unobtrusive as possible. The options should allow for multiple layers of security and enable it to be tailored to the individual. It should be easy to use and provide flexibility for future developments in technology. It should also aid staff safety, movement and the ability to respond to an emergency.

3.1.3 Physical Environment

The options should provide for improvements in the functionality of the hospital, and improve the quality of the buildings and overall campus. The new environment should also be easy to maintain, improve efficiency and enable the hospital to meet its environmental targets.

3.1.4 Staff

Key benefits that the HMT wish to see are improvements to services and choices for staff, including an improvement in the privacy and dignity of facilities provided, in order to enhance the working environment and so aid the recruitment and retention of staff.

3.1.5 Patients

Alongside the benefits to patients identified under clinical effectiveness and the physical environment, was the desire to see an improvement in the access to services for patients, and in the privacy and dignity of their surroundings. This includes for example, access to multi-faith facilities, private areas, belongings, fresh air, better services for minority groups, a better community campus and the option to close / not close their bedroom door.

3.1.6 Carers

As with staff and patients, benefits identified included increased privacy and dignity by providing better visitor, family, children and friends facilities. Improved access to information, for example in a visitors centre was also considered desirable.

4. OPTIONS REVIEWED

4.1 Long List of Options

In developing the list of options to be reviewed in detail, several scenarios were considered, but were discarded for a number of reasons.

- **A new build on a new greenfield site**. This was discarded at an early stage as it would bring little additional benefit beyond other options being considered. It would require identification of a new site along with considerable public consultation prior to planning approval being sought. The current site is large enough to enable development to meet the needs set out, and moving to a new site would incur significant unnecessary additional expense.

- **A single new building on the current site providing all the required services**. One of the advantages of the current site is that there is plenty of space, and there is a strong desire to use it to provide maximum therapeutic benefit. Given the residential nature of the patient population, there is also a strong desire to move away from the feel of a hospital, which a single building facility would inevitably generate.

  Separating the ward accommodation into small clusters, and from the accommodation for off-ward leisure, occupational and vocational therapies, enables a site design that much more closely resembles every day living, and is therefore significantly more beneficial to the rehabilitation of the patients.

- **Complete refurbishment of the current site with no new build**. Due to the reinforced concrete construction of the older wards (i.e. Tweed, Annan, Forth, Clyde and Kelvin), it would be extremely expensive and technically challenging to refurbish them to an acceptable standard i.e. to provide 12sqm bedrooms with en-suite facilities. All of the wards mentioned are two-storey with sub-standard bedroom accommodation on the upper floor. i.e. 6sqm bedrooms with no en-suite facilities. The operational unsuitability is compounded by the lack of access, and observational difficulties increase the complexities of risk management (the risk of self harm is substantially increased.) There is also a lack of facilities for washing, toileting and staff. For these reasons it is considered to be more appropriate and cost effective to build new wards to meet current national and European standards of health care.

- **Do nothing.** Whilst the current costs of running the State Hospital will be used for comparative purposes, the “Do Nothing” option is not considered acceptable, for all of the reasons set out in the strategic context.

4.2 Short List of Options

The short list of options was developed by firstly considering the optimum configuration of ward space, off-ward therapies requirements and alternative campus designs to deliver the benefits required. Consideration was also given as to the current condition of individual buildings and their potential for alternative use or an acceptable standard of refurbishment. The short list therefore ranges from mostly new build, to mostly refurbishment, and is set out below. A diagrammatical representation of each option is also included at Appendix D:

4.1.1 Option 1 – 90% new build, 10% refurbishment

This option incorporates the following;

- three new 4-ward clusters, each housing 12 bed wards (48 beds per cluster – total 144 beds), all single rooms with en-suite toilet and shower, and with individual facilities, including therapy and day spaces. Each ward cluster would also share a range of facilities such as additional day spaces, along with clinical team offices and staff facilities that would be separated from the ward areas, i.e. on an upper level. These ward clusters would be grouped together around a central landscaped area;
- a complete new off-ward activities and therapies centre separated from the ward clusters, designed around several buildings grouped together, with the potential for a communal front entrance if desired. This would replace all current facilities and also encompass new and expanded sports facilities. Whilst some of the space would be vocationally specific e.g. woodwork, the design would incorporate flexible use of space to maximise the range of activities and therapies that could be delivered;
- a new staff centre within the perimeter fence to accommodate estate management facilities, other office accommodation and staff facilities such as a staff kitchen, dining facility and common room;
- a new family centre, located close to the entrance, but within the perimeter fence;
- a new office base within the perimeter fence to accommodate clinicians not based on wards and provide training and conference space;
- the demolition of all other existing accommodation;
- new accommodation outside the fence for essential services such as a patient kitchen, stores and maintenance, along with additional car parking; and
- extension and refurbishment of the current reception building to accommodate improved visitor facilities and allow separate entrances for staff and visitors. There will also be a temporary building provided, which will allow work to be undertaken on the existing building with minimal disruption to operational procedures.

4.1.2 Option 2 – 72% new build, 28% refurbishment

This option incorporates the following;

- two new 4-ward clusters, with the same specifications as in option 1 (96 beds), and the retention and refurbishment of Solway and Cromarty wards, (providing 52 beds, but with less in the way of day spaces and communal facilities than the new builds). These new and refurbished wards would again be clustered together around a landscaped area;
- the retention and refurbishment of the current workshops / woodwork and gardening complex, and a new therapies and activities centre, based on a smaller design than in option 1;
- a new staff centre, family centre and office base, all as in option 1;
- the demolition of all other existing accommodation within the perimeter fence; and
- as in option 1, the new build accommodation outside the fence for essential services, and the extension and refurbishment of the current reception building.

4.1.3 Option 3 – 64% new build, 36% refurbishment

This option incorporates the following;

- as with option 2, the retention and refurbishment of Solway and Cromarty wards (52 beds) , with one new 4-ward cluster (48 beds) built nearby;
- the retention and refurbishment of Lomond as a ward (20 bed capacity), with a new 2-ward cluster (24 beds) next to it. (Due to the location of Solway / Cromarty and Lomond, this effectively means that the ward accommodation will be split across two main areas of the site);
- the demolition of all other existing accommodation within the perimeter fence; and
- new build and refurbishment of therapies accommodation, staff centre, family centre, essential services, and reception area all as in option 2, with additional administrative support facilities provided in the extended reception building.

4.1.4 Option 4 – 32% new build, 68% refurbishment

This option incorporates the following;

- as with option 3, the retention and refurbishment of Solway and Cromarty wards (52 beds) and Lomond ward (20 beds), along with the refurbishment of Tay (25 beds);
- one new 4-ward cluster (48 beds) built next to Solway / Cromarty;
- the demolition of Kelvin, Earn, Clyde, Forth, Tweed and Annan wards; and
- the retention and refurbishment of all existing therapies and management accommodation, and the retention of essential services in their current locations within the perimeter fence.

4.3 Phasing of Construction

As already indicated, the State Hospital's patients will require continuous care within the secure perimeter throughout the construction period. To allow this to be provided the option designs have been developed to enable the construction and refurbishment work to take place on a phased basis.

The work will require the temporary erection of secure fencing (to the same standard as the current perimeter fence) to enable parts of the site to be isolated; this will effectively allow construction to be undertaken outside the secure perimeter. This would be a considerably cheaper approach to the building work than the cost of providing additional security personnel etc. to enable building work to be undertaken within the perimeter fence. The process of creating temporary, secure construction sites would need to be undertaken a number of times to enable the complete site to be rebuilt / refurbished.

5. SERVICE DELIVERY AND PERSONNEL ISSUES

5.1 Service Delivery

Redesign of the clinical environment and the application of electronic security systems will allow high levels of unobtrusive safety and security in which patients can exercise choice and clinicians can work freely and effectively.

In line with this, reconfiguration of the site will enable the hospital to maximise its desired service model based on multi-disciplinary clinical teams organised around patient care and need. Each team has dedicated personnel from each care discipline, i.e. medical, psychology, nursing, occupational therapy and social work, who have specific responsibility for the care and treatment of a particular group of ward patients. Team members retain access to their professional group through a recognised head of service. Cross team working is facilitated through the Hospital Management Team (HMT) and sub-groups. Other support services such as patient activity and security have recognised liaison personnel to each Clinical Team.

With the creation of smaller, dedicated ward units, clustering of specific care groups and equity of facilities available to all patients, the multi-disciplinary clinical team ethos and model can be enhanced. The matrix model, with each member of a clinical team identified with both their Clinical Team and professional group, will be developed to become more inclusive. Workforce plans will be developed based on this model, identifying future skill requirements for each team. Pay modernisation and specifically Agenda for Change, open up the possibility for existing staff to gain recognition for the application of new skills as well as the potential to create new grades that could specifically support appropriate patient care in the new environment. New patterns of working that support 24 hour, 7 day a week care will also be developed along with terms and conditions that are both family friendly and provide flexibility of delivery. These will be explored to optimise effective staffing and skill mix across services in support of patient care.

The workforce plan will not only identify the demographic and training needs of the existing and future workforce but also cover how changes in practice and processes will be achieved. This will include identifying and achieving acceptance of service changes through to implementation plans based around new structures. The underlying basis of this organisational development will be partnership among all key stakeholders, i.e. staff, patients, carers, staff organisations, local authority, et al. Existing partnership initiatives will be developed to ensure they can support this change.

5.2 Staffing Levels

In preparing this OBC, the staffing levels across all categories and grades of staff have been reviewed. Whilst some reduction in numbers are anticipated across all departments as a result of the reduction in patient numbers, the most significant changes are proposed in the level and skill mix of nursing staff.

When determining the future requirements, four main factors have been taken in to consideration:

- the reduction in patient numbers but increased levels of need and risk posed by the remaining patient population;
- those tasks currently undertaken by nurses that should be removed or better supported by campus and ward design or security and IT technology, such as dealing with visitors, escorting patients and supervising non-clinical staff;
- benchmarking of staff:patient ratios with other special secure hospitals (Ashworth, Broadmoor and Rampton) whose current patient groups demand a similar level of care;
- the European Convention on Human Rights and other legislation, with its increased emphasis on the rights of the individual.

6. BENEFITS ANALYSIS

The four options, reflecting different levels of new-build/refurbishment, were evaluated by the Hospital Management Team and assigned a score against each of the benefits criteria identified in section 3 on the basis of the following scale:

Score	Definition. In comparison to the status quo the option delivers:
1	No improvement
2	Minor improvement
3	Moderate improvement
4	Significant improvement
5	Substantial improvement

Each option was scored against the status quo (i.e. the "do minimum" option). On completion, the scores were multiplied by the criteria weightings to give a final total score out of a maximum of 500.

QUALITATIVE (NON-FINANCIAL) ANALYSIS OF OPTIONS

		Option 1		**Option 2**		**Option 3**		**Option 4**	
Factor	Weighting	Score	Wtd Score	Score	Wtd Score	Score	Wtd Score	Score	Wtd Score
Clinical Effectiveness	28	4.68	131	3.93	110	2.39	67	1.46	41
Safety and Security	28	4.39	123	3.78	106	2.68	75	1.29	36
Physical Environment	10	4.7	47	4	40	2.6	26	1.3	13
Staff	14	4.21	59	3.5	49	2	28	1	14
Patients	14	4.64	65	3.92	55	2.23	32	1.36	19
Carers	6	4.67	28	4.17	25	2.67	16	1	6
Total	100		**453** 91%		**385** 77%		**244** 49%		**129** 26%

These results clearly show that Option 1 delivers substantial improvements, scoring 91%. This is due to the high element of new build, which enables tailor-made facilities to be developed around the needs of the patient, including the ability to house multidisciplinary teams next to the wards. It also enables a planned approach to the overall campus layout, so maximising the therapeutic benefits whilst at the same time tackling a range of associated concerns such as security.

Options 2 and 3 deliver a decreasing level of benefit based on the level of new build versus refurbishment. The refurbishment of some wards does not allow for the level of associated accommodation such as day spaces and clinical team space that the new build delivers, nor does it enable the campus layout to be used to its full potential.

As part of the process, sensitivity analysis has been conducted on the relative weightings and scores to ensure that the results generated by the workshop are robust. This analysis is set out in section 8.

7. FINANCIAL AND ECONOMIC ANALYSIS

7.1 Capital Update

The financial modelling in the original OBC was undertaken in early 2004 and was based on information available at the time. At Quarter 1 2004 the scheme had a capital cost of *. Since then, the overall project cost has increased due to the following factors**:**

- the construction inflation index has increased significantly over the intervening period
- the original construction rates per sq m have been increased to reflect a better understanding of the needs of the service
- the space requirement has increased marginally.

The table below summarises the affect of each change on the project in capital terms.

Factor	%	Quarter 2 2007
		*
Construction rates per sq m increase	18.1%	*
Construction inflation	20%	*
Increased space requirements	5.8%	*
		*

The impact of these factors may be reduced by the element of VAT recovery, however initial investigations with VAT Liaison suggest this will be fairly low.

7.2 Financial Analysis

7.2.1 Results

The results (based on a publicly funded solution and on prices at Quarter 2, 2007) are summarised below.

	Option 1	**Option 2**	**Option 3**	**Option 4**
Total capital and refurbishment cost, including applicable VAT and optimism bias.	*	*	*	*
Annual lifecycle projection over 50 years	*	*	*	*
Annual recurring revenue savings compared to budget	*	*	*	*

Whilst there is a significant capital requirement for options 1, 2 and 4, they do deliver significant savings in current capital charges as a result of the demolition of most of the current estate. This helps offset a proportion of the capital charges associated with the new investment.

The capital costs recorded above are at 2nd quarter 2007 indices and have not been inflated by construction inflation indices beyond this point as these may vary greatly over the coming years (advice will be sought from SEHD annually regarding the cashflow).

The revenue savings projected as a result of the reduction in patient numbers are set out in Appendix F. The major areas of reduction in costs are in staff, particularly nursing, and direct supplies such as drugs. Cleaning costs have increased significantly due to the inclusion of en-suite facilities for all patients.

The financial analysis demonstrates that the scheme is affordable under a publicly funded solution in all options bar option 3.

A breakdown of the key assumptions that have been used to conduct the financial and economic analysis are included at Appendix E along with relevant capital cost information including OB Forms. Appendix F provides further financial information.

7.2.2 Optimism Bias

In accordance with Treasury Green Book guidance, an optimism bias of 6.82% has been applied to the new build and refurbishment construction costs. Detail of the breakdown of contributory factors is included at Appendix G. For the purposes of the exercise, the State Hospital has been treated as a standard building, in line with the Green Book definition:

> "Standard building projects are those which involve the construction of buildings not requiring special design considerations i.e. most accommodation projects e.g. offices, living accommodation, general hospitals, prisons, and airport terminal buildings."

Whilst the clinical services to be provided by the new facility are specialist in nature, the buildings required are not considered to be sufficiently different from any other hospital as to be classified as "non-standard".

The State Hospital has used, and will continue to use, a number of strategies to control construction costs and mitigate the risk factors identified in Appendix G. These strategies are outlined in section 14.3.

7.3 Economic Analysis – Value for Money

The following sets out the results of the economic analysis, based on the financial inputs outlined above:

	Option 1	Option 2	Option 3	Option 4
Net Present Value	*	*	*	*
Benefits Criteria Scoring	453	385	244	129
Cost per Benefit Score	*	*	*	*
Ranking – Value for Money	1	2	3	4

This demonstrates that Option 1 delivers a significantly lower cost per benefit score and presents better value for money than any of the other options.

Sensitivity analysis has been carried out on the results and this is included at Section 8.

7.4 Affordability

The affordability of the project has also changed from the original OBC; in comparing costs associated with option 1, the main elements of this change are summarised below:

	Original OBC	**Updated OBC**	**Movement**
Revenue savings	*	*	*
Capital charges savings	*	*	*
New capital charges	*	*	*
Net Revenue Impact	*	*	*

The revenue savings have increased due to a more robust review of staffing and potential energy and utility savings. This has resulted in an additional * expected in saving once the hospital is fully functional. However, this is offset by the increase in overall capital charges, due to the increased cost of the build.

As indicated above, this leaves a revenue savings shortfall of * from the original OBC figures. A number of measures could be taken to reduce this shortfall and these are described below:

Firstly, a review of housekeeping within the OBC. At present the full cost of getting the hospital cleaning standards up to the Scottish average cost has been built into the revenue costs above. This could be stripped out and funded through the Hospital's financial plan to ensure standards were reached in time for the new hospital being opened; this would release a further * of savings.

Secondly, the exact affect on PARS staff was unknown at the point the original financial model was produced and so no savings were assumed in this area. It is now thought that a 10% saving would be achievable and would amount to approximately *

Thirdly, there has been no assumption made around medical supplies and this could be possibly reduced by 10% (in line with other areas) saving another *

This leaves a residual gap of * on the original figures. Closing the gap would be facilitated by a number of different savings initiatives. Staffing number reductions, security costs as well as a possible reduction in the overall capital spend will all contribute to eliminating the current gap. This could also be secured through an element of VAT recovery and/ or better use of space to reduce the overall footprint of the facilities. The State Hospital's management team firmly believes that greater

efficiencies will be driven out, in both revenue and capital terms, in all areas of the hospital as the design, planning, and workforce requirements are analysed and finalised. Rigorous financial modelling will continue to ensure the business case remains affordable; the financial plan will be updated to reflect ongoing transitional costs and capital costs.

8. RISK AND SENSITVITY ANALYSIS

8.1 Risk Analysis

As part of the analysis of the short-listed options for the Outline Business Case, it is important to identify the potential risks associated with each. These should be reviewed to determine their potential impact and probability of occurrence, to enable comparisons to be made between the options, and to enable significant potential risks to be actively managed.

The Project Team determined the key risks that required assessment and reviewed these against each option. A detailed description of the risks, the methodology applied to the analysis, and the detailed results are included in Appendix H. The summarised results are set out below:

Risk	**Option 1**	**Option 2**	**Option 3**	**Option 4**
Construction	Substantial	Substantial	Substantial	Moderate
Safety of Site	Substantial	Substantial	Substantial	Substantial
Decant	Low	Moderate	Moderate	Substantial
Upside Demand	Moderate	Low	Low	Low
Downside Demand	Moderate	Moderate	Moderate	Moderate
Patient Profile	Low	Low	Moderate	Substantial
Funding	Substantial	Substantial	Substantial	Substantial
Legislative and Policy	Low	Low	Moderate	Substantial
Maintenance	Moderate	Moderate	Moderate	Substantial
Planning	Low	Low	Low	Low
Reputational	Substantial	Moderate	Moderate	Low
Overall Risk Ranking	**2**	**1**	**3**	**4**

This shows that Option 4 carries the highest number of substantial risks, with Option 2 carrying the lowest risks overall, although this is marginal over Option 1. Taking each of the risks in turn;

- **Construction** – it was felt that due to the complexity of the construction requirements, that all of the options carried some risk, but that the higher the level of new build, the greater this risk became. This risk would be mitigated and managed by developing a rigorous selection process for contractors and ensuring clarity around the State Hospital's requirements.

- **Safety of Site** – due to the specialist nature of the State Hospital and the requirement for a secure perimeter fence at all times, this risk was considered substantial for all of the options bar "do minimum". Again it can be mitigated by clear specifications and guidelines around the construction process, but it adds a significant degree of complexity to the scheme. There will also be a specific requirement to ensure that the public have confidence in their safety as the construction work is undertaken.

- **Decant** – it was felt that the greater the degree of new build within the option, the less likely it would be that patients would require to be decanted more than once in the process. The greater degree of new build will also enable

the re-profiling of patients within individual wards without the need to move them several times, which could prove disruptive to their care. Some of this risk could be mitigated by careful planning of the phasing of the build process in line with the intended patient mix in the revised estate.

- **Upside demand** – the risk is that expenditure is incurred on new or refurbished accommodation that in the longer term is no longer required as patient numbers are lower than anticipated. There is little potential for alternative use of surplus estate at the State Hospital. The risk is therefore greater in Option 1 and 2 where more cost is incurred on new build, than in Options 3 and 4 where a greater degree of maintenance/refurbishment (and therefore lower cost) is involved. Whilst detailed needs assessment can be conducted prior to final design, it will be difficult to predict with certainty the requirements for the next 30 years.

- **Downside demand** – the risk is that the number of patients increases over those projected and accommodated for in the options. Whilst it is felt that the likelihood of the requirement for accommodation for more than 140 patients is low, the impact for all of the options would be major as it would require construction of additional facilities. As with upside demand, a detailed needs assessment will be conducted immediately prior to final design so that if it is felt necessary to retain additional wards this could be accommodated.

- **Patient profile** – due to the flexible design anticipated with the new build accommodation it was felt that the impact of changes in patient profile would be low in Options 1 and 2, but increases with the level of refurbishment/maintenance anticipated in Options 3 and 4, as the flexibility that could be built in would be significantly reduced. There is therefore a greater likelihood that additional expenditure would need to be incurred.

- **Funding** – this was felt to be significant across all of the options, albeit for slightly different reasons. For the more expensive options involving high levels of new build, there is a risk that funding is not available or affordable. For the options involving higher levels of refurbishment, there is a concern as to how this could be funded given the restrictions imposed on capital to revenue transfers.

- **Legislative and policy** – it was felt that the risk of additional costs being incurred as a result of future changes in policy and legislation would be greater where there are significant levels of refurbishment, as in Option 3 or where no improvements are made as in Option 4. This is because it was felt that the new build accommodation would be designed based on current and projected future legislative requirements with a greater degree of future flexibility, whereas the ability to incorporate these requirements into existing accommodation will be more limited, and likely to carry higher cost.

- **Maintenance risk** – it was felt that the older the buildings and the higher the degree of refurbishment, the greater the risk around ongoing maintenance.

- **Planning** – from discussions held with the local planning authority it is felt that there is little risk that planning permission would not be obtained for any of the options under review.

- **Reputational** – it was felt the higher the level of investment and new build, the greater the potential risk of adverse publicity, particularly in the tabloid press, if they felt the level of investment was not justified for the type and

number of patients involved. This would need to be carefully and proactively managed from the outset.

In summary, whilst there are a number of significant risks involved with each of the options, there are means to mitigate and manage them all. This process needs to be built in to the overall Project Management as the preferred option is taken forward.

8.2 Sensitivity Analysis

Within any quantitative analysis it is important to test the robustness of the results, particularly where qualitative judgements and assumptions have been made. The results of sensitivity analysis on the scoring of the benefits criteria and the financial and economic results are set out below.

8.2.1 Benefits Criteria

The relative weightings of the criteria were adjusted and the results are set out below:

Category of Benefit	**Original Weighting**	**Revised Weighting**	**Revised Weighting**
Clinical Effectiveness	28	17	10
Safety and Security	28	17	10
Physical Environment	10	17	14
Staff	14	17	28
Patients	14	16	28
Carers	6	16	10
Total	**100**	**100**	**100**
Option	**Score**	**Revised Score**	**Revised Score**
1	453	452	449
2	385	386	381
3	244	240	230
4	129	123	121

This demonstrates that irrespective of the weighting of the criteria applied, the ranking of the options in terms of benefits achieved remains the same. This is because Option 1 scored consistently well across all categories, in comparison to the other options.

8.2.2 Financial and Economic Results

The two key areas of financial assumptions impacting on the financial and economic results are around capital costs and anticipated revenue savings. (As optimism bias is effectively an estimated uplift to capital costs, the impact of changes to the percentage applied will be the same as changes to the capital costs, so these have not been modelled separately.)

Sensitivity analysis is defined as the change required in different variables of a model, to change the second best option into the first best.

The table below shows the original figures as recorded within this OBC and then takes each variable in turn to see the percentage change required to make a different option become the first choice.

OBC	**Option 1**	**Option 2**	**Option 3**	**Option 4**
Total capital cost	*	*	*	*
Annual revenue savings inc CC	*	*	*	*
(current ranking)	*(1)*	*(2)*	*(4)*	*(3)*
NPV	*	*	*	*
Benefits score	453	385	244	129
(current ranking)	*(1)*	*(2)*	*(3)*	*(4)*
Cost per Benefit Score	*	*	*	*
(current ranking)	(1)	(2)	*(3)*	*(4)*

Change required to option 1

1) Capital cost up 22%	*
New NPV	*
Update benefit score	452
Cost per benefit score	*
2) Revenue Savings down 79.5%	*
3) Benefit points down 15%	385

The above analysis demonstrates that it would take a significant change in any of the three variables tested, to make any of the other options the preferred option. Option 1 is clearly the preferred choice.

9. IDENTIFICATION OF PREFERRED OPTION

9.1 Summary of Results

The following table summarises the results of the qualitative and quantitative analysis of the four short-listed options.

Analysis	Option 1	Option 2	Option 3	Option 4
Benefits Score	453	385	244	129
Benefits Ranking	1	2	3	4
Capital Cost	*	*	*	*
Annual Revenue Savings inc. CC	*	*	*	*
Net Present Value (NPV)	*	*	*	*
VFM – Cost Per Benefit Score	*	*	*	*
Value For Money Ranking	1	2	3	4
Risk Ranking	2	1	3	4

Option 1 achieves the highest benefits score, scoring 13% higher than Option 2 and 337% higher than Option 4. Whilst it incurs the highest capital cost it also produces the highest annual revenue savings (due to the higher level of savings on nursing staff as a result of better configured wards), and in NPV terms it is 3% cheaper than Option 4 and 3.7% cheaper than Option 2 over the 50 year term. As a result, Option 1 presents significantly better value for money (VFM) than any other option.

As regards the ranking of risk, Option 2 has the highest ranking (presenting the lowest level of risk) although it is noted in Section 8 that the difference between Option 1 and 2 is marginal. The one major difference in risk identified was with regards to reputational risk where it was felt that the higher the level of investment the greater the potential risk of adverse publicity.

The conclusion is that Option 1 not only provides the best benefit for patients but it also presents the greatest value for money for the level of investment incurred; it is therefore the preferred option.

9.2 Key attributes of the Preferred Option

There are a number of factors which contribute to Option 1 being selected as the preferred option:

- as has been previously mentioned, the current site has never had the benefit of an integrated property strategy and plan. Option 1 has been developed entirely from a clinical and therapeutic perspective, without the restrictions of current buildings, and is therefore able to maximise the benefits a redesigned campus can give to patients, visitors and staff. It uses the campus to develop a community plan that is more reflective of “normal living” and removes the

feel of an institution. Option 2 provides the same clinical and therapeutic benefits. In comparison, Option 3 retains the use of Solway and Cromarty wards and some of the off-ward therapy workshops, so compromising the benefits of the overall campus plan.

- the redesigned campus enables advances in security technology, policies and procedures to be adopted, and reduces the distance that staff would need to cover to respond to any emergency;
- the new ward layouts will provide significant improvements over the current facilities. All bedrooms will be en-suite (toilet and shower) and improved observation will enable patients to choose whether they wish to shut their bedroom door at night. Increased space will enable patients to have greater privacy, improved dignity, and better access to their personal belongings;
- increased day space associated with the wards (whether within the individual wards or shared between wards in a cluster) will enable both a wider range of therapies and activities to be conducted on the wards, and provide quiet space for visitors or disturbed patients;
- improved staff facilities will enable multi-professional clinical teams to be based on their wards whilst still providing accommodation separate from the patients. The improved facilities will also provide space for staff such as changing rooms and break areas, again away from the patients. In Option 3 the retention of Solway and Cromarty (given space restrictions and the inability to accommodate multi-disciplinary teams to the same extent) means that additional office space is required elsewhere on the campus to compensate and the benefit of having clinical teams based in the wards is lost;
- the new off-ward therapies and activities centre will bring together all of the therapies currently scattered across the site. This will enable greater flexibility in use of space and the potential to develop a range of alternative therapies and activities. It also significantly reduces the need to escort patients around the site, releasing staff for other duties. As mentioned above, Option 2 does not achieve this to the same extent due to the retention of a number of the current workshops, separated from the new facilities.

9.3 Benchmarking with Similar Facilities

In order to validate the reasonableness of Option 1 in terms of capital cost, benchmarks were sought from other similar facilities. Due to the specialist nature of the State Hospital, comparison with other mental health units in Scotland is not particularly relevant thus information was sought from similar facilities in England.

Rampton Hospital has provided information on the capital costs of its 70 bed Dangerous and Severe Personality Disorder Unit (DSPDU). This had a total cost of * in 2003, which equated to a cost of * per m^2. The Royal Institute of Chartered Surveyors' BCIS (Building Cost Information Service) construction price index median for 2003 was 197 and is projected to be 240 by Quarter 2 2007. This inflates the Rampton costs to * per m^2 which compares favourably with the current cost estimates for the State Hospital redevelopment (* per m^2 calculated on the same basis) and therefore provides reassurance that the costs for Option 1 are reasonable.

10. CONTINGENCY BED PROVISION

This OBC is predicated on the assumption that patient numbers will decrease in line with the national strategy, and that the long term requirement will be for a total of 140 beds providing male-only special security care.

However, there is a limited risk associated with this assumption, as the national network is still in the process of developing alternative accommodation at Stobhill (Glasgow), Dykebar (Paisley) and Murray Royal (Perth) for the patients that will no longer be treated at the State Hospital.

Stobhill is under construction and is due for handover in March 2007. In addition, it is proposed that 12 medium secure patients from the north of Scotland will have beds purchased in NHS Lothian's Orchard Clinic by April 2007.

Given that major demolition of ward accommodation is not scheduled to start until mid 2008 it is felt that there is sufficient leeway in the programme to allow for potential delays at the other locations.

It is important to remember that inappropriate detention at the State Hospital can be challenged from May 2006 thus any contingency bed provision should be provided within medium secure psychiatric facilities and not at the State Hospital.

11. CONSULTATION

The State Hospital has been keen to facilitate as much involvement as possible from staff and patients in the development of the OBC. This was to ensure that they had a clear and accurate picture from the outset of what the key stakeholders thought were the best ways to achieve the strategic objectives.

Four development days were held involving representation from all professions across the hospital. This included table-top exercises to determine clinical services design and delivery, the quality of life desired for the patients, and the physical environment required to meet the hospital's strategic objectives and Health Plan. The second development day focused on reflection and validation of the previous day's output, along with discussion on the environments required for off-ward activities and therapeutic interventions, and aspects of security and the campus design. The third development day was held with the Non-Executive Directors and Hospital Management Team to consider a draft of the Outline Business Case to give them an opportunity to refine and make comments for recommendation and inclusion and included a desktop exercise. The fourth development day further refined how the new hospital would be configured and how services would be delivered.

As part of the original OBC process a wide range of groups within the hospital were also consulted as follows:

- patients on Tweed Ward;
- patients on Annan Ward;
- the Patient Partnership Group;
- responsible medical officers;
- ward managers;
- psychologists;
- social workers; and
- patient activity and recreational services staff.

Consultation has continued with these groups. Short life multi-professional working groups have also been formed to look at specific aspects of ward design, security, and off-ward therapeutic interventions etc.

External consultations have been undertaken with local MSPs and councillors (both local and community). Even although the OBC is not proposing to move patient services from their current location (i.e, from within the existing perimeter - it is proposed that only minor changes will be made outside the secure perimeter), consideration has been given to the amount of disruption there will be to the local community during the construction phase. Steps will be taken to minimise the disruption and the community will be advised of developments.

As the project progresses future consultations will continue to involve the staff and patients within the hospital in order to ensure the hospital "gets it right".

12. PRIVATE FINANCE INITIATIVE

It is a clear requirement for all proposed capital schemes to explore the potential of the scheme to be delivered via a Private Finance Initiative.

As indicated in the introduction, the State Hospital's original Outline Business Case was approved in May 2004 and the Hospital was invited to test procurement under the Government's Private Finance Initiative.

During this process the work on the clinical brief enabled more detailed consideration to be given to the nature of Hard and Soft FM Services (including Security) on the site and the impact that would arise from their inclusion in any potential PFI scheme. This led to a reassessment of the overall risk transfer position, market interest, and deliverability under PFI.

Following the submission of an OBC Addendum Accelerated Review in September 2005 the SEHD accepted the State Hospital's conclusion that a publicly funded procurement route would deliver best value.

13. PUBLICLY FUNDED PROCUREMENT ROUTE

13.1 Contract Strategy

The change in funding route from private to public capital required a new contract strategy to deliver the project.

The defining features of the project that influenced the selection of the most appropriate procurement regime were:

- Need for early completion
- Desire to maintain project momentum
- Need to retain influence over the design
- Complexity of the construction phasing process
- Particular nature of the State Hospital's services
- The need to achieve best value in accordance with SEHD and Treasury guidance.

The Redevelopment Project Board considered Traditional procurement and the Develop and Construct variant of Design and Build in detail and determined that both would allow the State Hospital to exercise the necessary prescription over design required in a high secure therapeutic environment. Both two-stage Traditional tendering and Develop and Construct would also allow the State Hospital to benefit from contractor input with regard to buildability. The Board noted that there was a greater opportunity to transfer risk to the contractor under Develop and Construct than in a Traditional contract. It was observed that the Government favours partnering routes such as Design and Build but does not exclude traditional procurement. On balance, the Project Board felt that Develop and Construct best met the needs of the State Hospital in terms of design prescription, buildability, and risk transfer.

The Project Board also examined how early completion and project momentum could best be realised. It was noted that Design and Build contracts generally allow earlier completion than Traditional contracts. In terms of the project's momentum, the Project Board felt that this would be jeopardised were a new design team to be engaged at this stage. There would be an inevitable learning curve and unavoidable rework with clinical teams being obliged to restate their requirements to some degree. Procurement regulations precluded the PFI advisers acting as the design team under a Traditional procurement.

Taking all these factors into account, the Project Board concluded that Develop and Construct should be adopted as the State Hospital's construction strategy with the current adviser team completing the project design brief and submitting the detailed planning application. This strategy has been endorsed by the State Hospital Board.

13.2 Market Testing

Currie & Brown (design team technical adviser) carried out a market testing exercise to obtain views about the project and its suitability for a publicly funded "Develop and Construct" procurement from organisations who would be potential bidders for the project when it is taken to the market. The specific objectives of the exercise were to:

- assess the level of market interest in the scheme;
- assess the market's view of key issues involved in the scheme to assist the State Hospital to reach key decisions regarding the nature and structure of the scheme; and
- identify and assess market views on the procurement route and timing.

The following overall conclusions were drawn:

- there is significant commitment to a project of this size and nature in Scotland;
- the procurement may be more attractive to the market if a two-stage tender is adopted;
- an all new build solution would be significantly more attractive than a scheme that included a significant element of refurbishment.

The project may well be competing with others to attract market interest and therefore it is important to scope the project so that it is as attractive as possible. A project with significant new build rather than refurbishment is more attractive to the market, and a two-stage procurement may be worthy of consideration. Additionally, a select bidding shortlist is likely to find more favour than an extended list. Timing of the project and phased construction over a number of years were not highlighted as negative points.

Full details of the market test are given in appendix I.

14. PROJECT MANAGEMENT AND PROGRAMME

The project will be managed on the basis of the PRINCE2 project management methodology and in line with recommended practice (SCIM guidelines et al). The following arrangements will be put in place.

14.1 Project Board

The Project Board established for the completion of this Outline Business Case will form the Project Board for the redevelopment process. The Board will be responsible for:

- the setting up of the project, including the appointment of the project team, establishment of roles and responsibilities and allocation of appropriate resources; and
- the provision of overall guidance and direction to the project, including review of progress and key decision making and approvals when required.

It is planned that the Project Board will comprise;

- Chief Executive (Chair and Project Sponsor);
- Director of Finance;
- Director of Security (Project Director);
- Nursing Representative;
- Medical Representative;
- Employee Director (Partnership representative);
- Learning Development Director; and
- Project Manager in attendance.

14.2 Project Team

A Project Team will be established to deliver the overall programme on behalf of the Project Board, within the parameters set. Led by the Project Manager, the team will include the following;

- estates representative;
- facilities management representative;
- dedicated finance support;
- staff representative;
- project clinicians from nursing and medical;
- design team (architect, quantity surveyor, M&E engineer etc);
- human resource representative;
- administrative support.

14.3 Project Monitoring and Control

The State Hospital has used, and will continue to use, a number of strategies to control construction costs; these include:

- A construction contract strategy (Develop and Construct) that transfers risk to the contractor
- Active risk management
- Cost management and reporting
- Performance measurement
- Rigorous change control procedures.

14.3.1 Develop and Construct Contract

As indicated in section 13.1, the Project Board chose Develop and Construct as its contract strategy because, amongst other things, it transfers a greater degree of risk to the contractor than would be the case under a traditional construction contract. This risk transfer should help control costs.

14.3.2 Risk Management

A risk register has been established and this will be regularly updated as the project progresses. The State Hospital is committed to continuous risk management throughout the life of the project and will involve staff at director level in this process. Risks have been identified, assessed, and steps have been taken to mitigate exposure to these risks through removal, transference, reduction, and management through monitoring and early detection.

14.3.3 Cost Management and Reporting

The State Hospital recognises that a critical aspect of managing the project is controlling costs against the agreed budget. Project costs will be itemised by way of a work breakdown structure to form the basis for the cost account. The cost account will be used to:

- Track actual costs against planned
- Give an early warning of any issues
- Highlight uneven cost loadings and risk areas
- Track the total cost of the project to date
- Allocate individual budget areas
- Provide a basis for project forecasting.

14.3.4 Performance Measurement

The State Hospital intends to use earned value measurement to ensure that physical progress is reported in conjunction with the financial spend. This process will assign a value to the achievement of project milestones thus allowing a comparison of actual spend against predicted spend. A performance measurement baseline (time phased budget plan) will be established against which contract performance will be measured.

14.3.5 Change Control

The project will utilise Prince2's change control procedure with any request for change being logged as a project issue. The impact of each proposed change will be assessed and the cost determined in terms of capital resource, programme, and quality. The benefits (financial and non-financial) arising from the proposed change will also be identified. The Project Board, acting as the change control board, will then decide whether to accept or reject the change request. Any accepted change which is outwith the contracted scope of the project will be signed off via a variation order prior to any work being undertaken.

Great care has been taken to ensure that the costed project brief meets the needs of all users. Service leads have followed a rigorous procedure to agree their needs. They are also fully aware that any change requests that arise from omissions on their part will be referred to the Project Board; it is hoped that this approach will minimise such client-driven requests.

14.4 Post Project Evaluation

Post project evaluation will be undertaken to identify lessons learned and to measure the delivery of benefits. This will determine whether the expected benefits of the project have been realised

The first Post Implementation Review (PIR) will be undertaken 6 to 9 months after completion of the final phase of the redevelopment. This period will allow new ways of working to bed in and will allow staff to become familiar with their new facilities.

The review team will include:

- Staff from each service area
- The State Hospital's technical staff
- Senior management

The PIR will ensure that the maximum benefit is obtained for the State Hospital through the service delivery change that the redevelopment has made possible. It will make recommendations for further change if shortfalls are identified. The level of cost, risk, and benefit delivered will be reviewed periodically, following the first PIR, to address key service priority areas.

The PIR will assess:

- Achievement of business case objectives
- Costs and benefits to date against forecast
- Effectiveness of revised operations (functions, processes, staff numbers etc.)
- Ways of maximising benefits still to be achieved
- Sensitivity of the service to anticipated change
- User satisfaction

Also, as part of the Gateway Review process, a benefits evaluation will be undertaken. The PIR will form part of this process but the review will also:

- Assess whether the business case justification for the project at OGC Gateway Review 3 was realistic.
- Assess whether the anticipated benefits following completion are actually being delivered.
- Where changes have been agreed, check that they do not compromise the original procurement.
- Assess the ongoing ability of the service to meet need. If circumstances have changed there must be evidence that service delivery is adapting to the new situation.

14.5 Indicative Programme

An indicative programme for the procurement is set out below.

Process	**Completion**
Detailed scheme design	August 2006
Publish OJEU to begin contractor appointment process	June 2006
Detailed planning consent	November 2006
Enabling capital works	January2007
Tender documentation	February 2007
Hospital Board and SEHD approval of FBC	September 2007
Tender and main contractor procurement	September 2007
Contractor pre-construction activities	April 2008
Contract phase 1 (Activity Centre, Essential Services)	June 2009
Contract phase 2 (Ward Hub and Clusters)	November 2010

Notes:

1. To ensure that the scheme delivers value for money and is affordable the Full Business Case will be submitted for approval when firm contract pricing in place.

2. Decommissioning, demolition, and landscaping will continue into the spring of 2011.

As Develop & Construct procurement is based on partnership with the contractor, the State Hospital will draw upon the contractor's expertise in relation to phasing, programme and buildability. This process will allow a more informed programme to be shared with the SEHD at an early stage in the procurement.

15. CONCLUSIONS AND RECOMMENDATIONS

This OBC has set out the key drivers behind the requirement to redevelop the State Hospital site if it is to provide the level of care that patients should expect in the 21st century. The current facilities are no longer suitable and detrimentally influence the care that can currently be delivered.

A comprehensive review was conducted of the key benefits that any reprovision should aim to achieve, and a range of options was judged against these. The risks associated with the options were also identified. The capital costs and revenue consequences were explored, and all the options were demonstrated to be affordable within the hospital's current revenue allocation. All of these factors were then assessed for value for money, and as a result it is considered that Option 1 provides the most economic solution whilst delivering the greatest level of benefit.

The Hospital has also carried out a brief market test to assess the level of interest in the scheme and this suggests that there is significant market interest in a project of this size and type.

The State Hospital Board therefore recommends that Option 1 should be taken forward using the "Develop and Construct" variant of Design and Build as the contract strategy.

The Board also confirms that:

- the development fits with the local health plan and the objectives of the Board;
- an appraisal of a full range of options has been considered and evaluated following the guidance in SCIM, considering costs, benefits and risks;
- the OBC has been approved by the Special Health Board and that any resulting revenue consequences have been agreed;
- the potential to source private finance has been adequately explored and discounted;
- a plan for implementing and evaluating the project has been drawn up;
- it is consistent with the Property Strategy; and
- having regard for the service objectives of the proposal no better use could be made of the existing estate.

APPENDIX A

Relevant Articles from the Human Rights Act 1998

Article 2	Right to life - an absolute right - no interference is justifiable.
Article 3/7	Prohibition of inhuman or degrading treatment - this has implications regarding treatment and detention.
Article 5	Right to liberty and security - this is a qualified right, which has permitted interferences in so far as they are legal, legitimate and justifiable. This will allow anyone deprived of liberty to challenge the lawfulness of his detention, which requires to be speedily addressed by a court.
Article 6	Right to a fair hearing - values embodied in this right are participation, transparency and accountability in effect it guarantees the right of a person to actively participate in determinations of dispute of a recognised civil right.
Article 8	Right to respect for private and family life, home and correspondence - the hospital cannot interfere in a way that is disproportionate with a patient's privacy rights. This applies to mail and telephone communications, visits, treatment, security procedures, which include vetting of visitors, body searching, and room searching. This article has also been interpreted as a duty to protect physical and psychological integrity. This may also impact on the patients' abilities to maintain family contact due to the State Hospital's geographical location.
Article 10	Freedom of thought, conscience and religion - this is a qualified right that may manifest itself in the expression of sexuality, which could incorporate conjugal visits, contact with the external community and access to multi-faith facilities.
Article 14	Right not to be subject to discrimination - this is not a free standing right but can be used when another Article is engaged. The victim must be able to demonstrate he is treated differently from others in a similar situation - such discrimination against the victim must be because of an identifiable status of the victim. It could be argued that the inequalities identified throughout the current hospital's care provision are discriminatory.

"A culture of respect for Human Rights would exist where there was a widely shared sense of entitlement to these rights, of personal responsibility and of respect for the rights of others, and where this influenced all our institutional policies and practices." (The Westminster Human Rights Select Committee)

APPENDIX B

Relevant Policies with Regard to the Future Provision of Mental Health Services

Our National Health - A Plan for Action, A Plan for Change (Scottish Executive 2001);

Social Inclusion: Opening the Door to a Better Scotland (Scottish Executive 1999);

Framework for Mental Health Services in Scotland (Scottish Executive 1997);

Building the W orkforce for NHS Scotland: Response to Planning together;

Health, Social Work and Related Services for Mentally Disordered Offenders in Scotland NHS MEL (1999) 5;

Learning Together; A Strategy for Education, Training and Lifelong Learning for all Staff in the NHS in Scotland. Scottish Executive December (1999);

Designed To Care (1997);

Acute Services Review (1998);

The Right Place, The Right Time (2002); and

Same As You (2000).

APPENDIX C

BENEFITS CRITERIA

CRITERIA		WEIGHT
Key Criteria – Clinical Effectiveness		**28**
Does this option enable the right treatments to be delivered? This was subdivided into 2 categories: 1. environment to facilitate, which included physical care, e.g. diabetes/stoma, psychological care, e.g. interview room, group facilities, occupational activities and social activities. 2. meet local national, professional, best practice and legislative requirements, which incorporate QIS infection control, cleanliness, Audit Scotland, food and nutrition, catering etc as well as physical healthcare standards, mental health care standards/learning disability standards, human rights, health and safety, Mental Health Care and Treatment Act, Disability Discrimination Act, Race Relations Act.	40	
Does this option enable care to be delivered by the right people? Will it support effective multi-disciplinary working, technology and office location.	25	
Does this option enable care to be delivered at the right time? Will it ensure space is not a constraint in delivering treatments and would support developments in clinical information technology through hand held technology and setting up systems to facilitate this.	10	
Does this option enable care to be delivered in the right place? Will options support the FMHS Managed Care Network, flexibility of site to reflect changes in wider network over the years as the patient profile changes. Will it support flexibility in accommodation to support the changing patient population regarding changing patient group and numbers as well as a changing workforce and internal organisational changes.	25	
	100	

Key Criteria – Safety and Security		**28**
Does the option improve the feeling of safety and unobtrusiveness? Although security should be as unobtrusive as possible we must maintain the important job of being and feeling safe.	10	
Does this option deliver multiple layers of security? This should always be looked at in multiple layers by ensuring we are not just relying on the fence, e.g. looking at aspects like the windows in patients rooms.	20	
Does the option aid staff movement and ability to respond? One aspect of looking at the geographical site is would it increase safety from slips, trips and falls etc.	15	
Does the option aid the accessibility for the multidisciplinary team and other staff? The option should improve accessibility but primarily all clinical staff should be based where care is delivered.	15	
Does the option deliver levels of security that are tailored to the individual? These levels were discussed as two issues, firstly, zones within the site that ideally can be variable with card access to a patient's room with a level of security that could be tailored, secondly, access and egress at the perimeter fence and other areas that is tailored to the individuals.	20	
Does the option facilitate the ease of use?	10	

Security should not interfere with the ease of use.		
Does the option provide flexibility and future proofing of technology? The life cycle of any IT aspects that might be introduced will need to be future proofed and flexible for aspects such as staff movement around the campus, and individual levels of security. How you manage the system will determine how a programme will affect use, tailoring to access movement, ease of use.	10	
	100	
Key Criteria – Physical Environment		**10**
Does the option improve the functionality of the hospital? Aspects that were discussed were en-suite facilities, level of observation, storage, personal space, privacy and dignity, staff facilities, relationship of buildings and the performance of delivery of therapies.	35	
Does this option improve the quality of the buildings? Aspects discussed were design, compliance with standards, flexibility, future proofing, and provision of outside rooms / ward gardens, staff and patient movement and delivering therapeutic benefits.	30	
Does this option improve the quality of the campus? Consideration was given to quality of landscaping, fresh air space, location of building, facilitating staff/patient and visitor movement, public appearance, the size of the site, no getting wet, accessibility of site and buildings, delivering therapeutic benefits.	15	
Does this option result in improvement in environment? Ease of maintenance, ease of efficiency, enables NHS efficiency and environment targets to be met.	20	
	100	

Key Criteria – Staff		**14**
Does the option improve access to services and choices for staff? Better canteen accessibility, break areas, occupational health facility, sports and leisure facilities, clinical support/supervision, IT, learning facilities, facility and staff employment time, clinical teams more concentrated and accessibility of human resources.	33	
Does the option improve the privacy and dignity of facilities for staff? Changing facilities, showers/toilets, quiet room, telephones and modern therapeutic environment that maximised its potential.	33	
Does the option improve the recruitment and retention of staff?	33	
	100	

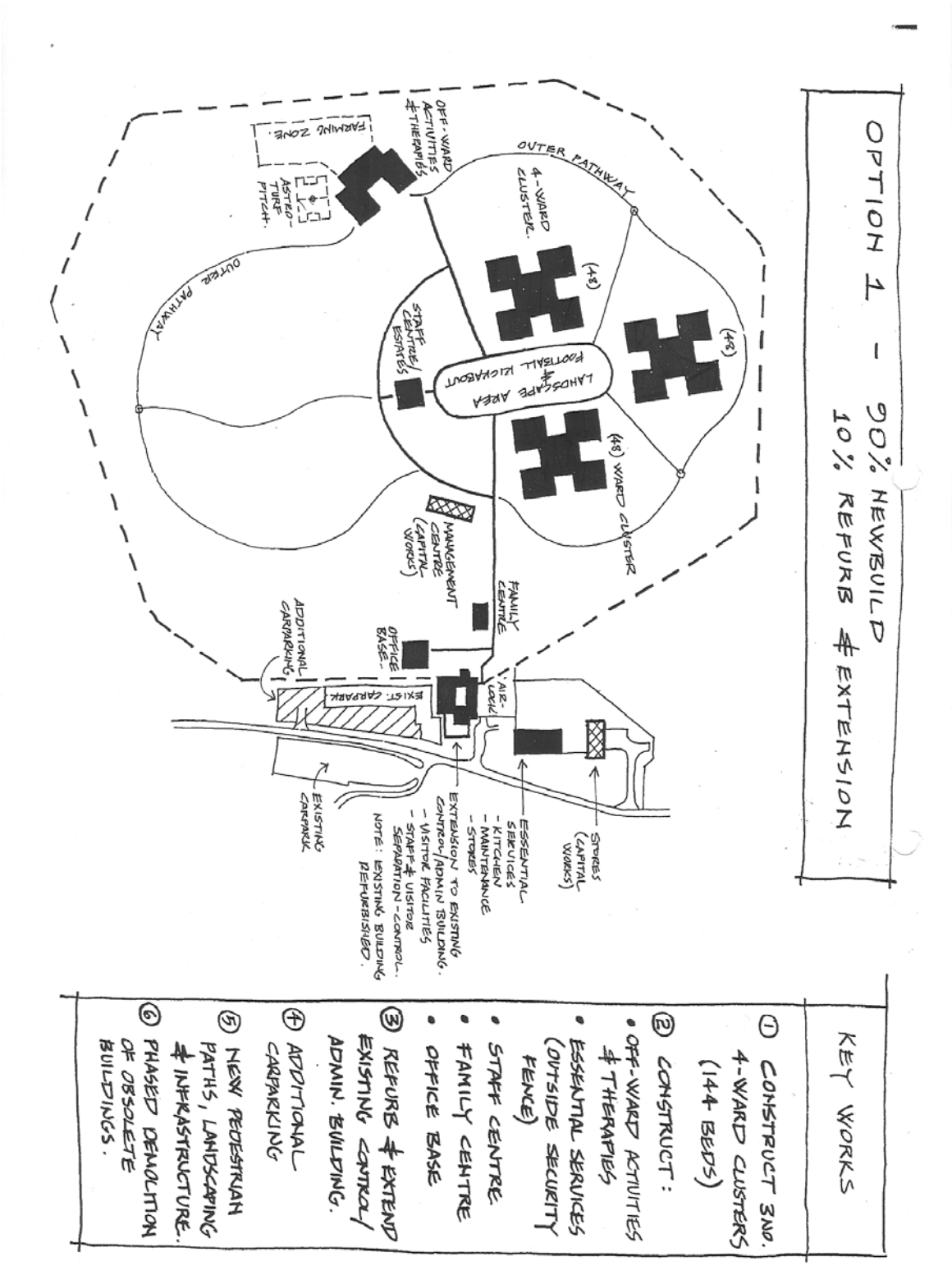
Key Criteria – Patients		**14**
Does the option improve access to services for patients? Access to services, clinical teams closer to patients, logistics of Off Ward Activities and Therapies, better access if closer, greater flexibility, new ways of supporting work now and in the future, new roles, matrix, change of job patterns, the ethos, multi faith facilities, volunteering within and out with the organisation and proportionate access depending on risk.	25	
Does the option improve the privacy and dignity of facilities for patients? Bigger bedrooms with en-suite facilities, quality of fixtures and fittings for patient and visitor areas, access to private areas, access to belongings, access to fresh air, family and friends facilities and more day space, increased patient autonomy.	25	
Does the option facilitate social inclusion? Better services for the minority, i.e. disabled, ethnic people, females, any exclusion to physical health facilities in general (treating illness has to fit with	25	

the bigger picture).		
Does the option improve the range of choices available for patients? More diversional occupational therapies on and off ward, better on ward activities, a better community campus (shop, library, gardens, maximise the space we have), use of telephone, food and catering, where and when the patients are fed, option to close/not close their bedroom door.	25	
	100	

Key Criteria – Carers		**6**
Does the option improve access to services for carers? Access to services, greater flexibility, new ways of supporting work now and in the future, new roles, the ethos, multi faith facilities, volunteering within and out with the organisation and proportionate access depending on risk.	25	
Does the option improve the privacy and dignity of facilities for carers? Quality of fixtures and fittings for visitor areas, access to private areas, access to fresh air, family, children and friends facilities.	25	
Does the option facilitate social inclusion? Better services for the minority, i.e. disabled, ethnic people.	25	
Does the option improve access to information for carers? Could have better use of technology, flexibility of any information/formats and more readily available information, for example in a visitors centre.	25	
	100	
TOTAL KEY CRITERIA		**100**

APPENDIX D

SCHEMATIC DRAWINGS OF THE SHORTLISTED OPTIONS



OPTION 2 – 75% NEWBUILD 25% REFURB & EXTENSION

* 4 NO. NEWBUILD WARD CLUSTERS (8 NO. WARDS)

ACCOMMODATION KEY POINTS

1. RETAIN SOLWAY & CROMARTY (52 BEDS)
2. CONSTRUCT 4 NO. WARD CLUSTERS (96 BEDS)
3. TOTAL BEDS 148 NO.
4. CONVERT LONGMD TO STAFF USE. (REPOSITION FENCE LINE)
5. CONSTRUCT:
   - OFF WARD ACTIVITIES & THERAPIES
   - ESSENTIAL SERVICES
   - MANAGEMENT C.
   - FAMILY CENT.
6. REFURB & EXTEND CONTROL BUILDING
7. RETAIN WOODWORK/ GARDENING COMPLEX.

OPTION 3 – 60% NEWBUILD 40% REFURB & EXTENSION

* 3 NO. NEWBUILD WARD CLUSTERS (6 NO. WARDS)

ACCOMMODATION KEY POINTS

1. RETAIN SOLWAY & CROMARTY AND LOMOND WARDS (TOTAL 66 NO. BEDS)
2. CONSTRUCT 3 NO. WARD CLUSTERS (72 NO. BEDS)
3. TOTAL BEDS 138 NO. (EXCLUDING ALEXANDRA)
4. CONSTRUCT :
   - OFF WARD ACTIVITIES & THERAPIES
   - ESSENTIAL SERVICES
   - MANAGEMENT CEN.
   - FAMILY CENTRE
5. REFURB + EXTEND CONTROL BUILDING
6. RETAIN WOODWORK/ GARDENING COMPLEX

OPTION 4 - 20% NEWBUILD
80% REFURB

* 2 NO. NEWBUILD WARD CLUSTERS

ACCOMMODATION KEY POINTS

1. RETAIN: SOLWAY CROM (52), LOMOND (14), TAY (25)
2. CONSTRUCT 2NO. WARD CLUSTERS (44 BEDS)
3. TOTAL BEDS 139 NO.
4. REFURB ALL ACCOMMODATION NOT INTENDED FOR DEMOLITION
5. RETAIN ALL EXISTING PARS/ EDUCATION/ STAFF FACILITIES.
6. RETAIN ESS. SERVICES IN CURRENT LOCATION

APPENDIX E

FINANCIAL ASSUMPTIONS AND CAPITAL COST INFORMATION (including OB Forms)

CAPITAL COST SUMMARY

Cost	Option 1	Option 2	Option 3	Option 4
New Build	52,557,330	51,187,990	41,216,230	0
Equipment	3,100,000	3,100,000	3,100,000	0
Refurbishment	1,558,800	3,787,400	6,915,800	2,066,840
Professional Fees	4,329,290	4,398,031	3,850,562	206,684
Optimism Bias	3,983,640	6,092,900	8,024,033	515,181
VAT	11,151,673	11,231,534	9,642,071	397,867
Total	**76,680,733**	**79,797,856**	**72,748,697**	**3,186,571**

REVENUE SAVINGS SUMMARY

Full Year Revenue Savings	Option 1	Option 2	Option 3	Option 4
Chief Executive	37,158	37157.9	18,579	0
Finance	160,732	160732.29	102,987	45,242
Learning and development	36,922	30768.7	24,615	0
Drugs	215,200	224166.67	228,650	224,167
Medical	283,923	236602.8	189,282	0
Nursing	2,515,587	1839151	1,503,857	116,595
Psychology	160,550	160549.6	160,550	50,219
Security & facilities	376,529	257932.57	67,235	(187,964)
	3,786,601	**2,947,062**	**2,295,755**	**248,259**

CAPITAL CHARGES SUMMARY

Full Year	Option 1	Option 2	Option 3	Option 4
Depreciation Buildings	1,750,439	1,768,209	1,564,658	159,329
Interest Charge	2,683,826	2,792,925	2,546,204	111,530
Total New Capital Charges	**4,434,264**	**4,561,134**	**4,110,862**	**270,859**
Less Capital Charge Saving	(1,991,281)	(1,887,466)	(1,572,942)	(214,554)
Additional Capital Charges	**2,442,984**	**2,673,668**	**2,537,920**	**56,305**

NET PRESENT VALUES	Option 1	Option 2	Option 3	Option 4
NPV (50-year)	**617,206**	**640,232**	**648,669**	**636,165**
Benefit points	453	385	244	129
Cost per benefit score	**1,362**	**1,663**	**2,658**	**4,932**

AFFORDABILITY	Option 1	Option 2	Option 3	Option 4
Revenue Savings	3,786,601	2,947,062	2,295,755	248,259
Additional Capital Charges	(2,442,984)	(2,673,668)	(2,537,920)	(56,305)
Net Revenue Impact	**1,343,618**	**273,394**	**(242,165)**	**191,954**

UNFUNDED IMPAIRMENT	Option 1	Option 2	Option 3	Option 4
	22,544,202	**21,191,607**	**17,161,391**	**2,356,963**

DOUBLE RUNNING COSTS	Option 1	Option 2	Option 3	Option 4
6 year power, alarms phones etc	147,169	147,169	147,169	147,169
Capital charges	1,036,693	1,166,051	1,015,604	(137,235)
Security (est)	0	0	0	0
	1,183,862	**1,313,219**	**1,162,773**	**9,934**

OUTLINE BUSINESS CASE FOR PREFERRED OPTION COST FORM OB1

PROVIDER UNIT* The State Hospitals Board for Scotland
SCHEME: The Redevelopment of the State Hospital
PHASE: Option 1
PROJECT DIRECTOR: Doug Irwin

CAPITAL COSTS SUMMARY

	Cost Exc VAT £	VAT £	Cost Inc. VAT £
1. Department Costs (from Form OB2	*		
2. On-Costs (a) (from Form OB3) (24.99 % of Department Cost)	*		
3. Works Cost Total (1+2) at 2nd qtr 2007 FP TPI 240 (Tender Price index level 1985 = 100 base)	*	*	*
4. Provisional location adjustment (if applicable) (% of £) (b)	0	0	0
5. Sub Total (3+4):	*	*	*
6. Fees (c) (8% of sub-total 5)	*	*	*
7. Non-Works Costs (from Form OB4) (c) LAND OTHER	0	0	0
8. Equipment Cost (from Form OB2) (% of Department Cost)	*	*	*
9. Contingencies (optimism bias)	*	*	*
10. TOTAL (for approval purposes)		*	*
11. Inflation Adjustments (f)	0	0	0
12. FORECAST OUTTURN TAKEOVER BUSINESS CASE TOTAL	*	*	*

This form completed by: Currie & Brown Date… May 2006……
Address: 140 West Campbell Street

Glasgow G2 4TZ Telephone No: 0141 221 0313

Authorised by: …… Doug Irwin Project Director

PROGRAMME **COST FORM OB1 (CONT.)**

STAGE **DATE ENTERED IN OUTLINE BUSINESS CASE:**

OUTLINE BUSINESS CASE APPROVAL	
FINAL CERTIFICATE OF READINESS TO PROCEED TO TENDER ISSUED:	
SECOND STAGE APPROVAL:	
FIRST CONTRACT START ON SITE:	
DATE OF LAST CONTRACT "PRACTICAL COMPLETION' ISSUED:	
SCHEME COMPLETION DATE:	

Notes:

***** Delete as appropriate

(a) On-costs should be supported by a breakdown as cost form OB3 together with a brief description of their scope.

(b) Adjustment of national average D.C.G. price levels and on-costs for local market conditions.

(c) Fees include all resource associated with the scheme e.g. project sponsorship, clerk of works etc.

(d) Not applicable to professional fees – VAT reclaimable.

(e) Non-works costs should be supported by a breakdown and include such items as contributions to statutory and local authorities, building regulations and planning fees; land costs and associated legal fees. Form EF2 to be attached to this summary.

(f) Estimate of tender price inflation up to proposed tender date (plus contract fluctuations for VOP contractors only) will be entered by NHS Management Executive.

OUTLINE BUSINESS CASE FOR PREFERRED OPTION COST FORM OB2

TRUST/PROVIDER UNIT* The State Hospitals Board for Scotland
SCHEME: The Redevelopment of the State Hospital
PHASE: Option 1
PROJECT DIRECTOR: Doug Irwin
CAPITAL COSTS: DEPARTMENT COSTS AND EQUIPMENT COSTS

Functional Content	Functional Units/ Space Requirement (1)	N/A/C/ (2)	DCG Schedule Date…….	Equipment Cost
			£	£
Reception / Admin.	1,426m2	N	2,732,575	
Essential Services	1,933m2	N	4,008,700	
Activity Centre	3,014m2	N	5,973,100	
Medical Records	201m2	A	260,800	
Wards & Clusters	12,114m2	N	29,973,600	
Offices (Lomond)	1,435m2	A	2,148,000	
				£3,100,000
Less abatement for Transferred equipment if applicable (……..%) (3)				

Department Costs and Equipment Costs to Summary (Form OB1)	£45,096,775	£3,100,000 See Notes Overleaf

COST FORM OB2 (CONT.)

This form completed by: Currie & Brown Date:……May 2006
Telephone No: 0141 221 0313

Notes:

Costs should be based on Departmental Cost Guides where appropriate and include for essential complimentary accommodation and optional accommodation and services where details are not available.

Identify separately any proposed adjustment (over or under cost guidance) justifiable in value for money terms (details to be provided).

* Delete as appropriate

1. State area and rate if departmental cost guidance not available

2. Insert:

   N for new build

   A for adaptations for alternative use or

   C for upgrading existing building retaining current use

3. Provide details where appropriate

OUTLINE BUSINESS CASE FOR PREFERRED OPTION COST FORM OB3

TRUST/PROVIDER UNIT The State Hospitals Board for Scotland*
SCHEME: The Redevelopment of the State Hospital
PHASE: Option 1

CAPITAL COSTS: ON-COSTS

		Estimated Cost (exc VAT)	Percentage of Departmental Cost %
1. Communications	£		
a. Space			
b. Lifts		£	
2. 'External' Building Works (1)			
a. Drainage			
b. Roads, paths, parking			
c. Site layout, walls, fencing, gates			
d. Builders work for engineering services outside buildings			
3. 'External" Engineering Works (1)			
a. Steam, condensate, heating, hot water and gas supply mains			
b. Cold water mains and storage			
c. Electricity mains, sub-stations, stand-by generation plan			
d. Calorifiers and associated plant			
e. Miscellaneous services			
4. Auxillary Buildings			
5. Other on-costs and abnormals (2)		£	
a. Building		£	
b. Engineering			
		£	
Total On-Costs to Summary OB1		£9,019,355	20%

Notes: *Must be based on scheme specific assessments/measurements; attach details to define scope of works as appropriate.*

* *Delete as appropriate*

(1) *'External' to Departments*

(2) *Identify any enabling or preliminary works to prepare the site in advance e.g. demolitions; service diversions; decanting costs; site investigation and other exploratory works.*

This form completed by: Currie & Brown

Telephone No: 0141 221 0313 *Date: May 2006*

OUTLINE BUSINESS CASE FOR PREFERRED OPTION COST FORM OB4

TRUST/PROVIDER UNIT* The State Hospitals Board for Scotland
SCHEME: The Redevelopment of the State Hospital
PHASE: Option 1

CAPITAL COSTS: FEES AND NON-WORKS COSTS

		Percentage of Works Cost
1. Fees (including 'in-house' resource costs)		
a. Architects		
b. Structural Engineers		
c. Mechanical Engineers		
d. Electrical Engineers		
e. Quantity Surveyors		
f. Project Management		
g. Legal Fees		
h. Site Supervisor		
i. Others (specify)		
Total Fees to Summary (OB1)	£4,329,290	8.00%

2. Non-Works Costs	£
a. Land Purchase costs and associated legal fees	
b. Statutory and Local Authority changes	
c. Building Regulations and Planning Fees	
d. Other (specify) e.g. decanting costs	
Non-Works Costs to Summary (OB1)	£ included above

Notes:

* Delete as appropriate

This form completed by: Currie & Brown

Telephone No: 0141 221 0313 Date: ……May 2006

APPENDIX F

FINANCE RESULTS

Further financial information on staffing and NPV is contained in attached spreadsheets.

APPENDIX G

Option 1

Optimism Bias - Upper Bound Calculation for Build

Lowest % Upper Bound	**13%**
Mid %	**40%**
Upper %	**80%**
Actual % Upper Bound for this project	**24%**

Build complexity

Choose 1 category		X			
Length of Build	< 2 years		0.50%	0	
	2 to 4 years	x	2.00%		2.00%
	Over 4 years		5.00%	0	
Choose 1 category					
Number of phases	1 or 2 Phases		0.50%	0	
	3 or 4 Phases	x	2.00%		2.00%
	More than 4 Phases		5.00%	0	
Choose 1 Category					
	Single site*	x	2.00%		2.00%
Number of sites involved (i.e. before and after change)	2 Site		2.00%	0	
	More than 2 site		5.00%	0	

* Single site means new build is on same site as existing facilities

Location

Choose 1 Category					
New site - Green field	New build		3%	0	
New site - Brown Field	New Build		8%	0	
Existing site	New Build		5%	0	
	or				
Existing site	Less than 15% refurb	x	6%		6.00%
Existing site	15% - 50% refurb		10%	0	
Existing site	Over 50% refurb		16%	0	

12.00%

Scope of scheme

Choose 1 category		X			
Facilities Management	Hard FM only or no FM	x	0.00%		0.00%
	Hard and soft FM		2.00%		
				0	
Choose 1 category					
Equipment	Group 1 & 2 only	x	0.50%		0.50%
	major Medical equipment		1.50%	0	
	All equipment included		5.00%	0	
Choose 1 category					
IT	No IT implications		0.00%	0	
	Infrastructure	x	1.50%		1.50%
	Infrastructure & systems		5.00%	0	
Choose more than 1 category if applicable					
External Stakeholders	1 or 2 local NHS organisations		1.00%	0	
	3 or more NHS organisations		4.00%	0	
	Universities/Private/Voluntary sector/Local government		8.00%	0	

Service changes - relates to service delivery e.g NSF's

Choose 1 category				
Stable environment, i.e. no change to service		5%	0	
Identified changes not quantified	x	10%		10.00%
Longer time frame service changes		20%	0	

Gateway

Choose 1 category

RPA Score	Low	x	0%		0.00%
	Medium		2%	0	
	High		5%	0	

12.00%

Option 1 Mitigation

Contributory Factor to Upper Bound	% Factor Contributes	% Factor Contributes after mitigation	Explanation for rate of mitigation
Progress with Planning Approval	4	1	Discussions ongoing with council. They have advised that Outline Planning Permission is not required. There is also no traffic impact.
Other Regulatory	4	3	No anticipated difficulties. Unlikely to be issues with water, HSE, have not got to that level of discussion / detail as yet.
Depth of surveying of site/ground information	3	1.5	Some work done. Desktop studies done. Topographical information available.
Detail of design	4	2	Drawings well developed and shared widely.
Innovative project/design (i.e. has this type of project/design been undertaken before)	3	1	Straightforward building project, no major innovations.
Design complexity	4	1	Straightforward designs, 12 bedded wards (standard in Mental Health facilities); and patient areas are standard consulation rooms.
Likely variations from Standard Contract	2	0	Not applicable - publicly funded scheme.
Design Team capabilities	3	1.5	Average.
Contractors' capabilities (excluding design team covered above)	2	0.4	Mitigation strategy is to have high standard of specification, rigorous selection process (Chief Executive has substantial experience in building projects), strong legal advice throughout the procurement process.
Contractor Involvement	2	0.5	3 stage tendering process will allow for substantial degree of involvement.
Client capability and capacity (NB do not double count with design team capabilities)	6	3	Client team in place with all roles established however there are some risks around management capacity because many of the team are only part working on the project and have operational roles to balance alongside project work.
Robustness of Output Specification	25	5	Very detailed work given the length of time that the project has been at OBC stage.
Involvement of Stakeholders, including Public and Patient Involvement	5	0.5	Very high level of involvement. High level of engagement, including monthly patient group meetings. Architect going round clinical teams to secure engagement in hub and cluster design.
Agreement to output specification by stakeholders	5	1	Hub and cluster is virtually fully agreed. High level of agreement in relation to other other specifications. Only 2 outstanding project issues (HR and Social Work accomodation) - very marginal in overall terms.
New service or traditional	3	1	12 bed ward is a tried and tested bed model for Mental Health services. First time this has been applied to Forensic Services. But no reason to anticipate any issues.
Local community consent	3	0	Not applicable - no change in use.
Stable policy environment	20	5	High level of policy stability in terms of the Mental Health Act. High level of policy development in terms of the Forensic Managed Care Network.

Likely competition in the market for the project	2	1	Market interest has been tested and verified. However we are aware that there are a lot of projects in the market place just now, so are beginning to test water with other contractors.
TOTAL	**100**	**28.4**	

Note: Across all contributory factors, mitigation would be expected to be greater the greater the extent of risk quantification and risk management.

Upper Bound **24%**

Mitigated **6.82%**

Option 2

Optimism Bias - Upper Bound Calculation for Build

Lowest % Upper Bound	**13%**
Mid %	**40%**
Upper %	**80%**
Actual % Upper Bound for this project	**28%**

Build complexity

Choose 1 category		**X**		
Length of Build	< 2 years		0.50%	0
	2 to 4 years	x	2.00%	2.00%
	Over 4 years		5.00%	0
Choose 1 category				
Number of phases	1 or 2 Phases		0.50%	0
	3 or 4 Phases	x	2.00%	2.00%
	More than 4 Phases		5.00%	0
Choose 1 Category				
Number of sites involved (i.e. before and after change)	Single site*	x	2.00%	2.00%
	2 Site		2.00%	0
	More than 2 site		5.00%	0

* Single site means new build is on same site as existing facilities

Location

Choose 1 Category				
New site - Green field	New build		3%	0
New site - Brown Field	New Build		8%	0
Existing site	New Build		5%	0
	or			
Existing site	Less than 15% refurb		6%	0
Existing site	15% - 50% refurb	x	10%	10.00%
Existing site	Over 50% refurb		16%	0

16.00%

Scope of scheme

Choose 1 category		**X**		
Facilities Management	Hard FM only or no FM	x	0.00%	0.00%
	Hard and soft FM		2.00%	
				0
Choose 1 category				
Equipment	Group 1 & 2 only	x	0.50%	0.50%
	major Medical equipment		1.50%	0
	All equipment included		5.00%	0
Choose 1 category				
IT	No IT implications		0.00%	0
	Infrastructure	x	1.50%	1.50%
	Infrastructure & systems		5.00%	0
Choose more than 1 category if applicable				
External Stakeholders	1 or 2 local NHS organisations		1.00%	0
	3 or more NHS organisations		4.00%	0
	Universities/Private/Voluntary sector/Local government		8.00%	0

Service changes - relates to service delivery e.g NSF's

Choose 1 category

Stable environment, i.e. no change to service		5%	0
Identified changes not quantified	x	10%	10.00%
Longer time frame service changes		20%	0

Gateway

Choose 1 category

RPA Score	Low	x	0%	0.00%
	Medium		2%	0
	High		5%	0
				12.00%

Option 2 Mitigation

Contributory Factor to Upper Bound	% Factor Contributes	% Factor Contributes after mitigation	Explanation for rate of mitigation
Progress with Planning Approval	4	1	Discussions ongoing with council. They have advised that Outline Planning Permission is not required. There is also no traffic impact.
Other Regulatory	4	3	No anticipated difficulties. Unlikely to be issues with water, HSE, have not got to that level of discussion / detail as yet.
Depth of surveying of site/ground information	3	1.5	Some work done. Desktop studies done. Topographical information available.
Detail of design	4	2.5	Drawings only well developed for the hub and cluster design which would be the only element that would be the same. Others would need to be developed.
Innovative project/design (i.e. has this type of project/design been undertaken before)	3	1	Straightforward building project, no major innovations.
Design complexity	4	1	Straightforward designs, 12 bedded wards (standard in Mental Health facilities); and patient areas are standard consultation rooms.
Likely variations from Standard Contract	2	0	Not applicable - publicly funded scheme.
Design Team capabilities	3	1.5	Average.
Contractors' capabilities (excluding design team covered above)	2	0.4	Mitigation strategy is to have high standard of specification, rigorous selection process (Chief Executive has substantial experience in building projects), strong legal advice throughout the procurement process.
Contractor Involvement	2	0.5	3 stage tendering process will allow for substantial degree of involvement.
Client capability and capacity (NB do not double count with design team capabilities)	6	3	Client team in place with all roles established however there are some risks around management capacity because many of the team are only part working on the project and have operational roles to balance alongside project work.
Robustness of Output Specification	25	10	As noted above, output specs have been based on the preferred model therefore further work would need to be done to make sure that these suited this option.
Involvement of Stakeholders, including Public and Patient Involvement	5	2	As noted above, engagement has been around the preferred model therefore further work would need to done to secure buy in to the remainder of the option.
Agreement to output specification by stakeholders	5	2	As above, further work would be required over and above the preferred model.
New service or traditional	3	1	12 bed ward is a tried and tested bed model for Mental Health services. First time this has been applied to Forensic Services. But no reason to anticipate any issues.
Local community consent	3	0	Not applicable - no change in use.
Stable policy environment	20	5	High level of policy stability in terms of the Mental Health Act. High level of policy development in terms of the Forensic Managed Care Network.

Likely competition in the market for the project	2	1.25	Market interest is likely to be lower the higher the degree of refurbishment.
TOTAL	**100**	**36.65**	

Note: Across all contributory factors, mitigation would be expected to be greater the greater the extent of risk quantification and risk management.

Upper Bound **28%**

Mitigated **10.262%**

Option 3

Optimism Bias - Upper Bound Calculation for Build

Lowest % Upper Bound	**13%**
Mid %	**40%**
Upper %	**80%**
Actual % Upper Bound for this project	**34%**

Build complexity

Choose 1 category		X		
Length of Build	< 2 years		0.50%	0
	2 to 4 years		2.00%	0
	Over 4 years	x	5.00%	5.00%
Choose 1 category				
Number of phases	1 or 2 Phases		0.50%	0
	3 or 4 Phases		2.00%	0
	More than 4 Phases	x	5.00%	5.00%
Choose 1 Category				
	Single site*	x	2.00%	2.00%
Number of sites involved (i.e. before and after change)	2 Site		2.00%	0
	More than 2 site		5.00%	0

* Single site means new build is on same site as existing facilities

Location

Choose 1 Category				
New site - Green field	New build		3%	0
New site - Brown Field	New Build		8%	0
Existing site	New Build		5%	0
	or			
Existing site	Less than 15% refurb		6%	0
Existing site	15% - 50% refurb	x	10%	10.00%
Existing site	Over 50% refurb		16%	0

22.00%

Scope of scheme

Choose 1 category		X		
Facilities Management	Hard FM only or no FM	x	0.00%	0.00%
	Hard and soft FM		2.00%	0
Choose 1 category				
Equipment	Group 1 & 2 only	x	0.50%	0.50%
	major Medical equipment		1.50%	0
	All equipment included		5.00%	0
Choose 1 category				
IT	No IT implications		0.00%	0
	Infrastructure	x	1.50%	1.50%
	Infrastructure & systems		5.00%	0
Choose more than 1 category if applicable				
External Stakeholders	1 or 2 local NHS organisations		1.00%	0
	3 or more NHS organisations		4.00%	0
	Universities/Private/Voluntary sector/Local government		8.00%	0

Service changes - relates to service delivery e.g NSF's

Choose 1 category				
Stable environment, i.e. no change to service			5%	0

Identified changes not quantified		x	10%	10.00%
Longer time frame service changes			20%	0

Gateway

Choose 1 category

RPA Score	Low	x	0%	0.00%
	Medium		2%	0
	High		5%	0

12.00%

Option 3 Mitigation

Contributory Factor to Upper Bound	% Factor Contributes	% Factor Contributes after mitigation	Explanation for rate of mitigation
Progress with Planning Approval	4	1	Discussions ongoing with council. They have advised that Outline Planning Permission is not required. There is also no traffic impact.
Other Regulatory	4	3	No anticipated difficulties. Unlikely to be issues with water, HSE, have not got to that level of discussion / detail as yet.
Depth of surveying of site/ground information	3	1.5	Some work done. Desktop studies done. Topographical information available.
Detail of design	4	3	Drawings only well developed for the hub and cluster design which would be the only element that would be the same. Others would need to be developed.
Innovative project/design (i.e. has this type of project/design been undertaken before)	3	1	Straightforward building project, no major innovations.
Design complexity	4	2	Becoming more complex because different models with higher levels of refurbishment. More difficult to force model into old buildings.
Likely variations from Standard Contract	2	0	Not applicable - publicly funded scheme.
Design Team capabilities	3	1.5	Average.
Contractors' capabilities (excluding design team covered above)	2	0.4	Mitigation strategy is to have high standard of specification, rigorous selection process (Chief Executive has substantial experience in building projects), strong legal advice throughout the procurement process.
Contractor Involvement	2	0.5	3 stage tendering process will allow for substantial degree of involvement.
Client capability and capacity (NB do not double count with design team capabilities)	6	3	Client team in place with all roles established however there are some risks around management capacity because many of the team are only part working on the project and have operational roles to balance alongside project work.
Robustness of Output Specification	25	15	As noted above, output specs have been based on the preferred model therefore further work would need to be done to make sure that these suited this option.
Involvement of Stakeholders, including Public and Patient Involvement	5	3	As noted above, engagement has been around the preferred model therefore further work would need to done to secure buy in to the remainder of the option.
Agreement to output specification by stakeholders	5	3	As above, further work would be required over and above the preferred model.
New service or traditional	3	1	12 bed ward is a tried and tested bed model for Mental Health services. First time this has been applied to Forensic Services. But no reason to anticipate any issues.
Local community consent	3	0	Not applicable - no change in use.
Stable policy environment	20	5	High level of policy stability in terms of the Mental Health Act. High level of policy development in terms of the Forensic Managed Care Network.

Likely competition in the market for the project	2	1.5	Market interest is likely to be lower the higher the degree of refurbishment.
TOTAL	**100**	**45.4**	

Note: Across all contributory factors, mitigation would be expected to be greater the greater the extent of risk quantification and risk management.

Upper Bound **34%**

Mitigated **15.436%**

Option 4

Optimism Bias - Upper Bound Calculation for Build

Lowest % Upper Bound	**13%**
Mid %	**40%**
Upper %	**80%**
Actual % Upper Bound for this project	**40%**

Build complexity

Choose 1 category		X		
Length of Build	< 2 years		0.50%	0
	2 to 4 years		2.00%	0
	Over 4 years	x	5.00%	5.00%

Choose 1 category				
Number of phases	1 or 2 Phases		0.50%	0
	3 or 4 Phases		2.00%	0
	More than 4 Phases	x	5.00%	5.00%

Choose 1 Category				
	Single site*	x	2.00%	2.00%
Number of sites involved (i.e. before and after change)	2 Site		2.00%	0
	More than 2 site		5.00%	0

* Single site means new build is on same site as existing facilities

Location

Choose 1 Category				
New site - Green field	New build		3%	0
New site - Brown Field	New Build		8%	0
Existing site	New Build		5%	0
	or			
Existing site	Less than 15% refurb		6%	0
Existing site	15% - 50% refurb		10%	0
Existing site	Over 50% refurb	x	16%	16.00%

28.00%

Scope of scheme

Choose 1 category		X		
Facilities Management	Hard FM only or no FM	x	0.00%	0.00%
	Hard and soft FM		2.00%	
				0

Choose 1 category				
Equipment	Group 1 & 2 only	x	0.50%	0.50%
	major Medical equipment		1.50%	0
	All equipment included		5.00%	0

Choose 1 category				
IT	No IT implications		0.00%	0
	Infrastructure	x	1.50%	1.50%
	Infrastructure & systems		5.00%	0

Choose more than 1 category if applicable				
External Stakeholders	1 or 2 local NHS organisations		1.00%	0

3 or more NHS organisations		4.00%	0	
Universities/Private/Voluntary sector/Local government		8.00%	0	

Service changes - relates to service delivery e.g NSF's

Choose 1 category

Stable environment, i.e. no change to service		5%	0	
Identified changes not quantified	x	10%		10.00%
Longer time frame service changes		20%	0	

Gateway

Choose 1 category

RPA Score	Low	x	0%	0.00%
	Medium		2%	0
	High		5%	0

12.00%

Option 4 Mitigation

Contributory Factor to Upper Bound	% Factor Contributes	% Factor Contributes after mitigation	Explanation for rate of mitigation
Progress with Planning Approval	4	1	Discussions ongoing with council. They have advised that Outline Planning Permission is not required. There is also no traffic impact.
Other Regulatory	4	3	No anticipated difficulties. Unlikely to be issues with water, HSE, have not got to that level of discussion / detail as yet.
Depth of surveying of site/ground information	3	1.5	Some work done. Desktop studies done. Topographical information available.
Detail of design	4	4	No work done on design.
Innovative project/design (i.e. has this type of project/design been undertaken before)	3	2	Major refurbishment will require lot of compromise.
Design complexity	4	3	As above.
Likely variations from Standard Contract	2	2	Not applicable - publicly funded scheme.
Design Team capabilities	3	1.5	Average.
Contractors' capabilities (excluding design team covered above)	2	0.4	Mitigation strategy is to have high standard of specification, rigorous selection process (Chief Executive has substantial experience in building projects), strong legal advice throughout the procurement process.
Contractor Involvement	2	0.5	3 stage tendering process will allow for substantial degree of involvement.
Client capability and capacity (NB do not double count with design team capabilities)	6	3	Client team in place with all roles established however there are some risks around management capacity because many of the team are only part working on the project and have operational roles to balance alongside project work.
Robustness of Output Specification	25	20	Output specifications would need substantial review to ensure these could be matched with design.
Involvement of Stakeholders, including Public and Patient Involvement	5	5	No engagement on this model.
Agreement to output specification by stakeholders	5	5	No sign up to this model.
New service or traditional	3	0	Service model would be constrained by buildings as is the current scenario.
Local community consent	3	0	Not applicable - no change in use.
Stable policy environment	20	5	High level of policy stability in terms of the Mental Health Act. High level of policy development in terms of the Forensic Managed Care Network.

Likely competition in the market for the project	2	1.75	Market interest is likely to be lower the higher the degree of refurbishment.
TOTAL	**100**	**58.65**	

Note: Across all contributory factors, mitigation would be expected to be greater the greater the extent of risk quantification and risk management.

Upper Bound **40%**

Mitigated **23.460%**

APPENDIX H

RISK ANALYSIS METHODOLOGY AND SCORING

Methodology

The risks are to be measured from two perspectives, each graded from 1 to 5;

- their likelihood of occurrence; and
- the severity of their potential impact.

The categories to be applied are as follows;

Likelihood of occurrence

Level	Descriptor	Definition
1	Remote	The event could occur but is unlikely.
2	Unusual	The event has occurred at some time.
3	Possible	The event has been known to occur occasionally.
4	Probable	The event is known to occur in most circumstances.
5	Expected	The event is expected to occur often.

Severity of impact

Different risks will impact on the organisation in a variety of different ways. Some may have a purely financial consequence; others may present a physical risk to staff or patients, or may damage the organisation in some other way e.g. through damaging its reputation. The following table sets out a range of examples which could apply to the different levels of severity;

Level	Descriptor	Financial Impact	Physical Impact	Organisational Impact
1	Negligible	<£1k	Minor cuts / bruises	Minor non-compliance with national standards
2	Minor	£1k - £20k	Cuts / bruises < 3 days absence	Minor reduction in service
3	Serious	£20k - £100k	> 3 days absence RIDDOR reportable	Moderate loss of reputation Moderate interruption to business
4	Major	£100k - £1million	Fatality / permanent disability Injuries or disease reportable to HSE	Major loss of reputation Major interruption to business

5	Catastrophic	>£1million	Multiple fatalities	Gross failure to meet professional standards

Combined analysis

The combination (by multiplying together) of the assessment of the likelihood of occurrence and the potential impact gives rise to an overall analysis of the risk e.g. low to high as follows;

Risk Assessment Matrix – Level of Risk

	Likelihood				
Severity	**Remote 1**	**Unusual 2**	**Possible 3**	**Probable 4**	**Expected 5**
Negligible – 1	**1**	**2**	**3**	**4**	**5**
Minor – 2	**2**	**4**	**6**	**8**	**10**
Serious – 3	**3**	**6**	**9**	**12**	**15**
Major – 4	**4**	**8**	**12**	**16**	**20**
Catastrophic - 5	**5**	**10**	**15**	**20**	**25**

Key: Low Risk | Moderate Risk | Substantial Risk | High Risk

Options Assessed

The four options requiring risk analysis are:

- Option 1 – 90% new build, 10% refurbishment
- Option 1 – 72% new build, 28% refurbishment
- Option 3 – 64% new build, 36% refurbishment
- Option 4 – 32% new build, 68% refurbishment.

Risks Assessed

The following list sets out the key risk areas identified that are likely to arise as a result of this project and the likelihood and impact of which may or may not vary by option. (It is important to remember that the options will also be scored against the Benefits Criteria previously identified, and the risk of one option achieving fewer benefits than another will effectively be captured by the benefits scoring exercise, and therefore does not need to be quantified as a risk.)

Many of these risks are set out in the Treasury "Green Book" and therefore require assessment, even if the analysis determines that their overall impact may be low. It may also be the case that many of these risks will have a similar impact, irrespective of the option, but will none the less be risks that will require to be managed.

It should be assumed that these risks should be assessed based on the current control environment.

Construction risk
The risk that the construction work (both new build and refurbishment) is not completed on time, to budget and to specification. Factors that will affect this will include areas such as the process of selection and appointment of contractors; the clarity of the hospital's requirements; and the complexity of the scheme.

Safety of site risk
The risk that security and safety of the site could be compromised by the construction activity. This will be particularly relevant given the phasing of construction that will be required to ensure a secure perimeter fence is maintained at all times.

Decant risk
The risk arising in accommodation projects relating to the need to decant staff / clients from one site to another. Is there sufficient flexibility in the options to enable this to be carried out in a fairly seamless fashion?

Upside demand risk
The risk that demand for a service is less than the levels planned, projected or assumed. What happens if there are too many beds (an upside risk)? Will there be scope for use by other services?

Downside demand risk
The risk that demand for a service is greater than the levels planned, projected or assumed. What happens if bed numbers / scale of facilities are insufficient to cope with demand? What is the cost of accessing facilities elsewhere / creating additional capacity?

Patient profile demand risk
The risk that the patient group who require the high secure facility cannot be housed. For example, what happens if we have small groups of patients with specific needs - is the proposal flexible enough? What happens if the patient mix is not as anticipated?

Funding risk
The risk that project delays or changes in scope may occur as a result of the availability of funding. What is the likely risk of funding being reduced from that anticipated? Or insufficient funding being made available?

Legislative and policy risk
The risk that changes in legislation increase costs. This can be sub-divided into general risks such as changes in corporate tax rates and specific ones which may affect a particular project. For the hospital this could include the European Convention on Human Rights and the new Mental Health Act. This risk also includes changes of policy direction not involving legislation, such as advice from the centre.

Maintenance risk
The risk that the costs of keeping the assets in good condition vary from budget.

Planning risk
The risk that the implementation of a project fails to adhere to the terms of planning permission or that detailed planning cannot be obtained, or if obtained, can only be implemented at costs greater than in the original budget.

Reputational risk
The risk that there will be an undermining of customer / media perception of the organisation's ability to fulfil its business requirements e.g. adverse publicity concerning an operational problem. This would also include an upside risk of the facility receiving adverse publicity due to developments being perceived as overly indulgent.

RISK ANALYSIS RESULTS

Risk	Option 1					Option 2			
	Likelihood 1-5	Severity 1-5	Risk Score	Level of Risk		Likelihood 1-5	Severity 1-5	Risk Score	Level of Risk
Construction	3	4	12	SUBSTANTIAL		3	4	12	SUBSTANTIAL
Safety of Site	3	4	12	SUBSTANTIAL		3	4	12	SUBSTANTIAL
Decant	1	1	1	LOW		2	2	4	MODERATE
Upside demand	2	2	4	MODERATE		2	1	2	LOW
Downside demand	1	4	4	MODERATE		1	4	4	MODERATE
Patient profile	2	1	2	LOW		2	1	2	LOW
Funding	2	4	8	SUBSTANTIAL		2	4	8	SUBSTANTIAL
Legislative and policy	1	1	1	LOW		1	2	2	LOW
Maintenance	2	2	4	MODERATE		2	2	4	MODERATE
Planning	1	1	1	LOW		1	1	1	LOW
Reputational	4	2	8	SUBSTANTIAL		3	2	6	MODERATE

RISK ANALYSIS
RESULTS

Risk	Option 3					Option 4			
	Likelihood 1-5	Severity 1-5	Risk Score	Level of Risk		Likelihood 1-5	Severity 1-5	Risk Score	Level of Risk
Construction	3	4	12	SUBSTANTIAL		2	3	6	MODERATE
Safety of Site	3	4	12	SUBSTANTIAL		3	4	12	SUBSTANTIAL
Decant	3	2	6	MODERATE		4	3	12	SUBSTANTIAL
Upside demand	2	1	2	LOW		1	1	1	LOW
Downside demand	1	4	4	MODERATE		1	4	4	MODERATE
Patient profile	2	3	6	MODERATE		2	4	8	SUBSTANTIAL
Funding	2	4	8	SUBSTANTIAL		2	4	8	SUBSTANTIAL
Legislative and policy	2	2	4	MODERATE		3	3	9	SUBSTANTIAL
Maintenance	2	2	4	MODERATE		3	3	9	SUBSTANTIAL
Planning	1	1	1	LOW		1	1	1	LOW
Reputational	3	2	6	MODERATE		1	1	1	LOW

APPENDIX I

MARKET TESTING RESULTS

Introduction

Overview

Currie & Brown (design team technical adviser) was asked to carry out a market testing exercise to obtain views about the project and its suitability for a publicly funded "Develop and Construct" procurement from organisations who would be potential bidders for the project when it is taken to the market. The specific objectives of the exercise were to:

- assess the level of market interest in the scheme;
- assess the market's view of key issues involved in the scheme to assist the State Hospital to reach key decisions regarding the nature and structure of the scheme; and
- identify and assess market views on the procurement route and timing.

The Process

A brief prospectus describing the scheme was developed, along with a questionnaire, which was issued to a select list of potential bidders, based on the experience of the technical advisor team in the market. The recipients were asked to e-mail their questionnaire responses to Currie & Brown, who then collated the response.

A copy of the prospectus and questionnaire is included at the end of this Appendix.

The Target List

Copies of the prospectus and questionnaire were issued to the following:

- Robertson Group (Scotland) Ltd;
- HBG Construction Ltd;
- Miller Construction (UK) Ltd;
- Dawn Construction Ltd;
- Ogilvie Construction Ltd;
- Skanska;
- Morrison Construction;
- Balfour Beatty;
- AMEC Group Limited;
- Laing O'Rourke

In total, 10 questionnaires were issued and 7 were returned, giving a response rate of 70%.

Market Testing - Summary of Results

Overview

The results of the questionnaire exercise are set out below, with a narrative discussion of the conclusion that can be drawn from the responses to each question.

Question One – How interested are you in bidding for projects of this size in Scotland?

The purpose of this question is to explore whether the bidders are interested in schemes of this size in Scotland, irrespective of the scheme's content.

The results are set out in the table below.

	Number	Percentage
5 – very interested	3	43%
4	0	0%
3	2	29%
2	1	14%
1 – not at all interested	1	14%

Two of the respondents (who both scored the question at '3') intimated that the value of the project was toward the upper limit of their tendering market, but did express an interest in the scheme due to their experience of health and secure facilities and also due to the phased nature of the works.

Question Two – What are your views on the proposed procurement route for the redevelopment?

The aim of this question was to obtain views on a single-stage develop and construct procurement route.

Three respondents intimated that they would bid for the project on a single-stage basis, although comments were noted around the level of design development necessary for such a route, as well as a view that the tendering list should be restricted to three or four contractors.

Two further responses noted a preference for two-stage procurement, with one further response noting that they would not tender if a single-stage route were adopted, but would consider doing so under a two-stage approach.

One note of a preference for a traditional form of contract was also received.

Question Three – How interested are you in bidding for a scheme that includes a potentially significant refurbishment element?

The issue of latent defect risk and problematic construction operations in refurbishment projects have often been raised and identified as factors that can adversely affect the attractiveness of a project. However, many successful schemes have been delivered that include refurbishment elements. This question is designed to identify whether this factor would cause reluctance to bid among the respondents.

The results are set out in the table below:

	Number	Percentage
5 – very interested	0	0%
4	1	14%
3	0	0%
2	4	57%
1 – not at all interested	2	29%

The general response is that the potential bidders are not enthused by the inclusion of a refurbishment element, particularly if this is likely to be significant.

Question Four – How interested would you be if bids based on a complete new build solution were invited?

The results are set out in the table below:

	Number	Percentage
5 – very interested	2	29%
4	2	29%
3	1	14%
2	1	14%
1 – not at all interested	1	14%

There is a clear preference among potential bidders to follow a new build solution, with comments noted that such reduces the risk profile to contracting organisations and would make the scheme more attractive.

Question Five – Is the timing of the scheme coming to market an issue? Is the anticipated length of programme of build, refurbishment and demolishment a concern?

Five of the respondents did not make any negative comment with regard to timing and length of construction, with one noting that a phased development over a number of years was more attractive. Two respondents did note concern if the project was over a number of

years, one highlighting the number of other opportunities in the market which are considered to be more attractive in timescale terms than the State Hospital scheme.

Question Six – Other Views

Space was provided for respondents to comment on any other considerations or observations, and the following issues were raised:

- One commented that they would wish to discuss the proposed build programme with the Board and the Project Team;
- One noted that the more bidders there are for the project, the less attractive the scheme would be when set against the cost of bidding;
- One expressed a concern at tying up senior staff over a number of years on the project.

Market Testing - Overall Conclusions

The following overall conclusions that can be drawn from this exercise:

- that there is significant commitment to a project of this size and scale in Scotland;
- the procurement may be more attractive to the market if a two-stage tender were an option; and
- an all new build solution would be significantly more attractive than a scheme that included a significant element of refurbishment.

The project may well be competing with others to attract market interest and therefore it is important to scope the project so that it is as attractive as possible. A project with significant new build rather than refurbishment is more attractive to the market, and a two-stage procurement may be worthy of consideration. Additionally, a select bidding shortlist is likely to be favoured than an extended list, with the timing of the project and a phased construction over a number of years not highlighted as negative points in the procurement proposals for the project.

Market testing - E-Mail Issued By Currie & Brown UK Limited

20 February 2006

Dear Sirs

CONSTRUCTION OPPORTUNITY AT THE STATE HOSPITAL, CARSTAIRS

The State Hospitals Board for Scotland is developing a project to provide new and improved accommodation at the State Hospital, through a traditionally procured scheme. The State Hospitals Board wish to ensure that the scheme has every chance of success, and in order to do this, we are assisting the Board in contacting a number of organisations who may be potential bidders for this scheme.

The purpose of writing to you now is to:

- assess the level of market interest in the scheme;
- assess the market's view of the main issues involved in the scheme to assist the Board to reach key decisions regarding the nature and structure of the scheme; and
- identify the overall procurement approach that organisations believe to be the most appropriate.

We would be very grateful if you could help us in this exercise by completing the attached questionnaire and e-mailing it back to us so that we can assess likely interest. The questionnaire should only take a few minutes to complete.

Many thanks in advance for your kind assistance.

Yours faithfully
For and on behalf of
Currie & Brown UK Limited

Mark G Baird
Divisional Director

Market Testing - Scheme Description

Overview

The State Hospital provides treatment and care in conditions of special security for individuals with mental disorder who, because of their dangerous, violent or criminal propensities, cannot be cared for in any other setting. It provides a national service for Scotland and Northern Ireland.

Potential tenderers need to be absolutely clear that the State Hospital is not a prison and that it is an NHS mental health care facility which also works within conditions of security. Physical security systems must be integrated with and supportive of the clinical direction of the hospital; procedural security is designed by clinical staff working closely with security staff working as part of clinical teams; relational security is the main component of security at the hospital and is provided by effective clinical treatment; and the majority of security staff and systems at the hospital are indivisible from clinical staff and working.

The hospital is located in rural Lanarkshire, in central Scotland, midway between the cities of Glasgow and Edinburgh. The total size of the site is approximately 25 hectares and there are currently 11 wards on the campus, covering assessment, treatment and rehabilitation. Also on site, within the secure perimeter fence, are a variety of other buildings accommodating sports, vocational, therapeutic and leisure facilities for patients and office, management, administrative and support service accommodation for staff. The site is accessed through a single secure entrance. At present the hospital cares for around 240 patients and employs 550 staff.

The current condition of the estate is generally very poor, and is no longer functionally suitable for the provision of modern health care, so having a detrimental impact on the hospital's ability to provide the level of care needed. Along side this, the development of the Forensic Network in Scotland for Mental Health Services, and the provision of an increased number of regionally based medium secure services in the near future will result in a change in the patient population at the State Hospital. It is anticipated that the patient numbers will drop to around 140, but that these patients will all require high security care.

As a result of these two key drivers, the Board are preparing an Outline Business Case to reprovide the current estate. It is anticipated that the preferred option will entail significant new build of wards and therapies areas, provision of physical security for perimeter, control room, access and egress, alongside the refurbishment of some current buildings for use as non patient areas.

If the project were to proceed, the Board would be aiming to advertise for contracting organisations in Summer 2006, with contract award in Spring 2007. It is anticipated that a single stage develop and construct procurement route will be utilised, with a phased construction solution over several years required to meet the ongoing operational needs of the Board.

Service Requirements

It is likely that the contract will require the private sector to provide the following:

- a number of new wards in a cluster of buildings. All wards to have single en-suite bedrooms;

- new off ward therapy facilities for educational, vocational and leisure activities;
- a range of sports facilities, internal and external;
- a range of management and administrative facilities;
- extended visitor facilities;
- landscaped grounds;
- the removal of all existing temporary accommodation and the demolition of the current accommodation when it is no longer required.

Facilities within the site are likely to require specialist security features such as swipe card access, as well as some specialist fittings in line with the requirements for patients needing high level care. Due to the specialist nature of both the site and the patients who will require continuous care within a secure perimeter throughout the construction period, it is likely that the construction and refurbishment work will need to take place on a phased basis. The work will require the temporary erection of secure fencing as mentioned above, to enable areas to be isolated and effectively allow work to be carried out outside the secure perimeter. It is likely that this process would need to be undertaken a number of times to enable the complete site to be rebuilt / refurbished.

To: Mark Baird Email: mark.baird@curriebrown.com

Company Name:

Contact Name:

Contact Number:

Please tick each box according to your view.

1. How interested are you in bidding for projects of this size in Scotland (£30 - 50 million)?

5 is very interested, 1 not at all interested.

1	2	3	4	5
☐	☐	☐	☐	☐

Please add any comments.

2. What are your views on the proposed procurement route for the redevelopment?

3. The Outline Business Case envisages a part-new build and part-refurbishment solution. How interested are you in bidding for a scheme that includes a potentially significant refurbishment element?

5 is very interested, 1 not at all interested.

1	2	3	4	5
☐	☐	☐	☐	☐

Please add any comments.

4. How interested would you be if bids based on a complete new build solution were invited?

5 is very interested, 1 not at all interested.

1	2	3	4	5
☐	☐	☐	☐	☐

Please add any comments.

5. Is the timing of the scheme coming to market an issue? Is the anticipated programme of build, refurbishment and demolition over a number of years a concern?

6. Are there any other considerations that would influence the attractiveness of the scheme to you, or any other observations you would like to make?

Many thanks with your assistance in this exercise. Should you wish to discuss any aspect of this further, please do not hesitate to contact Mark Baird, Currie & Brown UK Limited, on 0141 221 0313.