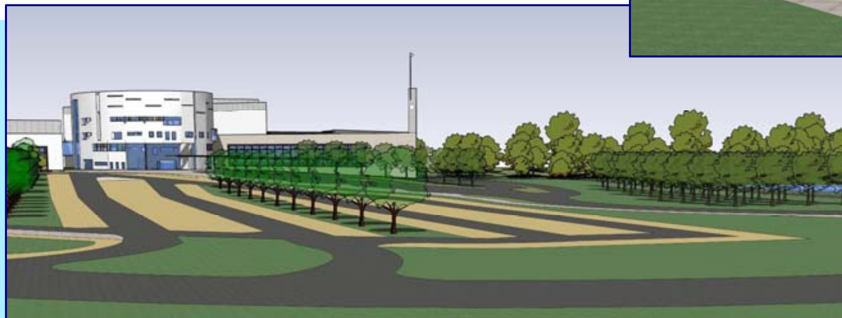
NHS
Forth Valley

NHS Forth Valley
Healthcare Strategy
New Acute Hospital

Full Business Case



NHS Forth Valley
Healthcare Strategy - New Acute Hospital
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FOREWORD

This document presents the Full Business Case (FBC) for the healthcare strategy and hospital development at Larbert within the Forth Valley Health Board Area. It updates the version previously published in March 2007 by now disclosing information that was redacted owing to commercial sensitivity during the, now complete, Financial Close process. No other changes have been made to the FBC, however we have added an Executive Summary as pages I to vii which notes some changes that occurred in the period between preparation of the FBC and Financial Close when the Contract was signed with Forth Health Limited.

The Outline Business Case for the project was originally approved by the Scottish Executive Health Department in December 2003. This Full Business Case was subsequently submitted by NHS Forth Valley to the Scottish Executive for approval following consideration at a NHS Forth Valley Board meeting on 30th January 2007. It was subsequently reviewed by the Scottish Executive Health Department's Capital Investment Group (CIG) using expedited procedures. CIG recommended approval to the Chief Executive of the NHS in Scotland. Notification of the approval and the invitation to proceed to Financial Close was received by NHS Forth Valley on 8th March 2007.

Publication of Information

Summary

NHS Forth Valley is committed to being open and honest in the conduct of its operations. To this end NHS Forth Valley will ensure:

- a significant amount of routinely published information about NHSFV is made available to the public as a matter of course
- other information is readily available on request, and such a request is dealt with in a timely manner

The *Freedom of Information (Scotland) Act 2002* ("*The Act*") recognises that as a member of the public you have the right to know how public services such as the NHS are organised and run, how much they cost and how you can make complaints if you need to. You have the right to know which services are being provided, the targets that are being set, the standards of services that are expected and the results achieved. We are committed to openness and transparency in the provision of information to the public.

Further information on the Board's publication policy is available from the website NHS Forth Valley - Publications

Full Business Case Addendum

The FBC will be supplemented by an FBC Addendum that will be published in due course. The Addendum will report any differences between assumptions made within this FBC and the final settlement as negotiated with the Bidder. The FBC Addendum is currently in the approval process and will be released shortly.

In summary the Addendum shows that the PFI/PPP procurement solution continued to demonstrate Value for Money and remained within the Financial Affordability limits set by the Board. This was achieved at a time when the financial markets were experiencing significant upward pressure that continued post Financial Close

	Unitary Payment £'000's	Pass Through Costs £'000's	**TOTAL £'000's**
This Full Business Case			
Service Payment as reported in this FBC	32,690	205	**32,895**
Delegated Limit by Board			**33,200**
Interest Rate at FBC			**[redacted]%**[1]
Financial Close			
Service Payment agreed at Financial Close	32,951	205	**33,156**
Amount Under Delegated Limit			**44**
Interest Rate at Financial Close			**[redacted]**[2]**%**

[1] Redacted Section 36(2) of FOI(S)A 2002
[2] Redacted Section 36(2) of FOI(S)A 2002

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EXECUTIVE SUMMARY

Introduction

This document presents the Full Business Case for the new hospital development at Larbert to be built on the former Royal Scottish National Hospital (RSNH) site, located within the Forth Valley Health Board area. The project proceeded to Full Business Case following approval of the Outline Business Case by the Scottish Executive Health Department in late 2003.

The Initial Agreement (IA) for the scheme was approved through the Scottish Executive Health Department (SEHD) Capital Investment Group (CIG) in December 2000.

The OBC was approved by the Scottish Executive Health Department Capital Investment Group in December 2003.

The project was advertised in the Official Journal of the European Union (OJEU) in December 2004.

Two consortia went forward in May 2005 to the Invitation to Negotiate (ITN) process, after successfully completing Pre-Qualification.

As part of the procurement an In-House Team were invited to submit bids in respect of soft Facilities Management (FM) services (e.g. Catering, Switchboard) in support of the new hospital development.

Bids were received by the Board in November 2005, and the results evaluated. John Laing Social Infrastructure[3] consortium were approved by the Board as the Preferred Bidder to design, build, maintain and provide soft FM services to the new hospital.

Strategic Context

There are profound pressures within the healthcare system in Forth Valley, which together provide an overwhelming case for change. Not all of these pressures are unique to Forth Valley, in summary the most immediate pressures centre on: -

- New clinical standards and guidance and the need to change the way services are provided to meet these
- Increasing public and professional expectations
- The increasing proportion of older people in Forth Valley and the increased demand for services that results
- National shortages of health professionals
- The reduction in hours that doctors, nurses and other staff can work
- Duplication of acute services across two district general hospitals, including the particular problem of providing emergency on call rotas for both hospitals
- National policies, which emphasise reduced waiting times, improved access to health professionals.

Planning assumptions on e.g. lengths of stay, day case rates, occupancy levels, have been taken into account in projecting the necessary bed capacity. The total bed capacity projections are set out in the following table.

[3] Following a parent company restructuring, Equion Limited, the original bidders of the project were renamed John Laing Social Infrastructure Limited.

Projected In-patient Day Spaces	
Inpatient & Day spaces	677
Mental Health	125
Endoscopy	28
Renal Dialysis	30
Total	**860**

Projected theatre capacity in the new hospital is based on single site working and changes in working practice.

Progress is being made in developing new models of care to support the transfer of some aspects of patient care into the community as outlined in the Healthcare Strategy.

The Outline Business Case

The original investment objectives were based on the Forth Valley Healthcare Strategy, and reflect the consultation on the provision of acute services to the Forth Valley. The objectives are set out in Section 4.3.2. The Outline Business Case considered a long list of options for the reconfiguration and rationalisation of facilities. This was reduced through evaluation to a short list of five options:

1. Do minimum
2. Centralisation at SRI
3. Centralisation at FDRI
4. Development of both sites
5. Separate development of Acute and Community Hospitals with a new Acute Hospital at Larbert on the former RSNH site

The option appraisal concluded that option 5 was the preferred option – it achieved the highest ranking of non-financial benefits, and provided best value for money. It also enabled all of the investment objectives to be achieved, and is in line with the care closer to home philosophy as outlined in the Healthcare strategy which also included provision of intermediate care beds and outpatient services at community locations.

Changes made to the scope of the project since the OBC was approved have been made with agreement of the local health community and SEHD. The original proposal to develop the SRI site as a community hospital has been excluded from this project and will be taken forward as a separate business case with other community developments. It is anticipated that outline business case will be brought forward in autumn 2007 for these further developments.

The Conventional Procurement Assessment Model (CPAM)

The CPAM replaces the Public Sector Comparator (PSC) and is based on the preferred option above. It has been developed in sufficient detail, following SEHD guidance, to ensure it provides adequate benchmarks for quality, design and cost against which to compare the PFI/PPP proposal.

One of the main features of the new proposals is the ratio of single room inpatient accommodation. This has been planned at 50%. This has been introduced to reflect latest thinking on models of care and

infection control as well as addressing patients' views on privacy and dignity. This will give a significant increase in the number of single rooms from the current total bed complement.

The PFI Procurement Process

The project has been procured under the relevant European Union rules, through the negotiated procedure applicable to Service Contracts under the 1993 Public Services Contract Regulations. The Board has followed NHS guidance on the PFI procurement process issued in December 1999. The local governance arrangements for the project are provided through a Project Board, chaired by the Chief Operating Officer and which reports to the Board. The Project Team reports to the Project Board.

During all stages of the project there has been extensive involvement of stakeholders both within and out with the Board. Over 150 multi-disciplinary clinical staff have been involved in developing the operational policies and specifications of requirements. They have also worked with the bidders at each stage of the procurement process in developing designs. The involvement of clinical staff was led by the Clinical Advisory Group (CAG), which is chaired by the Elderly and Rehabilitation Clinical Director, supported by healthcare planning sub-groups of different specialties.

In House Team

The bid was structured to incorporate an in-house bid for soft facilities management services. An in-house team was established, supported by professional advisers and subsequently submitted bids. The in-house bids were fully evaluated as part of the overall bidding process.

The Preferred PFI Solution

Key features of the preferred solution include, good departmental relationships, an atrium that provides a welcoming entrance, a flexible layout, excellent separation of patient, staff and FM flows and the use of automated guided vehicles to move goods and supplies around the hospital.

The shareholding companies in the successful consortium, a Special Purpose Company (SPC) called Forth Health Limited, set up specifically and solely to participate in this Project are John Laing Social Infrastructure and The Commonwealth Bank of Australia; both have significant experience in the health PFI field. The main contractor for the construction works will be Laing O'Rourke Construction (North) Limited and for the provision of FM services will be Serco Limited.

Feedback to Unsuccessful Bidders

The Board acknowledged the contribution that Skanska Innisfree and the In House Team had made to the procurement process. They acknowledged the efforts, commitment and professionalism shown by them at each stage of the process. Both parties were provided with feedback on the bid process...

Human Resources

Some 425 wte FM Staff currently supporting clinical services that are expected to transfer to Larbert will be covered by the Scottish Trade Union Council (STUC) protocol.

All hard FM and soft FM staff who transfer their employment will transfer under TUPE (Transfer of Undertakings for Protection of Employment).

A consultative approach has been adopted between the Board, the Area Partnership Forum, the Trade Unions Forth Health Limited to facilitate partnership working and collective understanding.

Local Trade Unions had the opportunity to meet with the preferred bidders, to evaluate relevant parts of the ITN submission and with staff visit hospital sites where the arrangements, similar to those proposed for Forth Valley are already in place.

Information Technology

The project includes for the provision, maintenance and refresh of structured wiring. These elements will need to be able to support both the current and future applications.

It will remain the Board's responsibility to support existing and to procure new application hardware and software through separate contracts.

Equipment

The Board will remain responsible for medical and IT equipment, and Forth Health Limited will be responsible for items supplied and fixed within the terms of the building/engineering contract including FM and other selected non-medical equipment.

Financing of the Scheme

The project is based on Version 3 of the NHS Standard Form Project Agreement, with the concession running for 33.8 years from Financial Close. The funding structure follows a standard PFI approach, including a mix of externally sourced finance and subordinated funding contributed by the sponsors.

Forth Health Limited has maintained flexibility in their final funding solution beyond the ITN period. John Laing has utilised commercial fixed rate bank debt as the principal funding instrument, with the funds coming from the European Investment Bank (EIB) and Halifax Bank of Scotland (HBoS). The relative costs of fixed bond finance, index-linked bond finance and commercial bank debt were monitored throughout the preferred bidder negotiations stage to ensure the most economically advantageous solution was selected. A benchmarking protocol has been agreed by which rates were monitored jointly in the run up to Financial Close.

Involving Patients and the Public

The Public Engagement/Involvement/Consultation process for the project has used the SEHD guidelines that were in existence at the time that each exercise was carried out.

Public consultations were undertaken in 2002 and in 2004.

In parallel with these formal processes, the Board has pursued an active internal communications process to provide information to staff and patients about the scheme as it has progressed.

The Patient Public Panel has been actively involved in evaluation, design development and are represented on the Project Board.

Risk Analysis and Risk Management Strategy

A full quantitative and qualitative risk analysis was undertaken as part of the OBC, and standard practice is to roll that forward and add new risks identified and arising, and to assess the transferability of risk under the CPAM and PFI options. PFI seeks to optimise rather than maximise the transfer of risk, so that the allocation of risk between the two parties is at its most cost effective i.e. the risks lie with the party best able to manage them.

Project risks were identified across seven categories, as set out in Section 13. The risk register has been reviewed and developed into a risk allocation matrix, which assesses where the risks lie post negotiation, and the impact of that allocation on the economic appraisal/value for money assessment.

The final risk allocation matrix identifies those risks which remain with the Board, and for which a Risk Management Strategy is required. This Strategy aims to minimise the likelihood, and to counter the effects of these risks materialising.

Similarly for those risks, which lie with Forth Health Limited, the Board requires assurance that Forth Health Limited has made appropriate provisions to minimise the risks and their potential effects.

Economic Appraisal

The purpose of the economic appraisal is to assess in net present value (cost) terms, which of the Public Sector and Private Finance options provides better value for money. The table below illustrates that, when the value of the retained and transferred risks are included in the appraisal, the PFI option demonstrates value for money.

As recommended by SEHD this assessment was completed using the Department of Health (E & W) Generic Economic Model, and takes account of the risk analysis outlined above.

Section 14 details the full economic appraisal undertaken for the project. The table below summarises the Net Present Value (NPC) of both the CPAM and the PFI options, over the term of the proposed PFI contract, namely 30 years.

	CPAM (million)	**PFI (million)**
Net Present Value	£585	**£554**
Rank	**2**	**1**

The PFI option provides better value than the CPAM and is therefore the preferred option in value for money terms. Sensitivity analysis confirms that the economic case for the PFI option is robust.

Financial Appraisal

The purpose of the Financial Appraisal is to assess in annual revenue terms, the impact of the scheme on the Board's income and expenditure account and against the annual sum committed to the scheme.

The table below sets out the affordability framework for the scheme, at 2006/07 price base.

	Service Payment £'000
First Full Year – real (as at 1 April 2006 prices)	32,690

	£'m	
Unitary Charge (under final review)	32.8	
Critical Care	0.7	
Satellite Pharmacy / PITU etc	1.0	
Ambulance Service	0.6	
Total additional cost	35.1	
Existing budget	£'m	
(including capital charges and facilities)	15.0	
Original O.B.C. Savings	2.1	(£1.0m already achieved)
Residual Value	4.6	Charge to Capital
Financial Plan Total	12.4	2006/07 Plan
Savings/Financial Plan/Contingency	1.0	Split under review
Total Funding	**35 1**	

The financial appraisal confirms that the proposed Unitary Payment is affordable within the agreed investment envelope.

Contract Framework and Payment Mechanism

The Project Agreement is in the standard form for NHS Project Agreements as issued by the Scottish Executive Health Department. The Board will contract with Forth Health Limited, for the provision of all services related to the new hospital. The Project Agreement will run for a period of 33.8 years including the length of the construction programme.

The payment mechanism is structured such that the Board will make a single monthly service payment for all of the Services delivered by Forth Health Limited. Underlying the payment mechanism is the philosophy that if Forth Health Limited fails to provide any services, they will not receive any payment, i.e. no service, no fee.

Accounting Treatment of the PFI Scheme

The Board has received an opinion on the accounting treatment of the project from its corporate financial advisers, PwC. The Board's external auditors have reviewed PwC's report and concur with the conclusion that an off balance sheet treatment is appropriate.

Project Management Arrangements

Within the Board the project is managed on a day to day basis by the Project Team (which includes external advisers). The Team is accountable to the Project Board, which is chaired by the Chief Operating Officer as Project Sponsor.

Project management arrangements with Forth Health Limited are developing from those put in place during the ITN period. These arrangements will be multidisciplinary; to enable the appropriate interfaces at all levels between the two parties. It is expected that detailed arrangements will evolve to take account of changing needs during the construction and operational phases of the scheme.

Benefits Realisation Plan and Post Project Evaluation Plan

An updated benefits realisation plan has been developed; their achievement will be assessed as part of a structured approach to Post Project Evaluation. Post Project Evaluation will comprise a review of achievement of the Project's Objective, after completion of Financial Close and construction and two years into the operational phase of the scheme.

Conclusion

On the basis of the foregoing analysis for the development of a new hospital at Larbert, the conclusion of this Full Business Case is that the Privately Financed option by the Forth Health Limited consortium is the preferred procurement option when compared to the Public Sector option. The main factors underlying this conclusion are:

1. Affordability
2. Value for money
3. Transfer of risk

The table below summarises the timetable from approval of the FBC to completion of the construction period and the commencement of the operational phase.

Phase	Date
Detailed Planning Consent	February 2007
Financial Close	March 2007
New Hospital Phase 1 Practical Completion	November 2009
Hospital Complete	October 2010

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1 Introduction

1.1 Introduction

1.1.1 The purpose of this full business case submission is to secure approval for the provision of a modern NHS district general hospital for the resident population of Forth Valley. It aims to replace unsuitable clinical accommodation and re-provide main inpatient facilities currently located in Falkirk and Stirling.

1.1.2 This is the last key step in a three-stage process. The original Initial Agreement (IA) which addressed the future configuration of acute services within Forth Valley was submitted to the NHS Scotland Capital Investment Group (CIG) in September 2000.

1.1.3 The Outline Business Case (OBC), which developed the proposals outlined in the IA, was approved by the CIG in December 2003

1.1.4 This document now presents the Full Business Case (FBC) for the reconfiguration of acute services and hospital site rationalisation within the NHS Forth Valley Health Board Area It includes:-

- A new acute hospital for Forth Valley, on the RSNH site at Larbert
- The re-configuration of some mental health and older people's inpatient facilities.

1.1.5 The OBC, as submitted, included provision for facilities required to accommodate a projected increase in activity. The facilities for the hospital are based on activity projections to 2009 and beyond. The project also assumes reduction in average length of stay and a shift of activity from in-patients to day cases.

1.1.6 The OBC for the project was approved by the Board and by SEHD in December 2003, respectively. It also had support of the local Councils, viz.:

- Falkirk Council
- Stirling Council
- Clackmannanshire Council

1.1.7 The local health communities were extensively consulted in 2002 and 2004 about the underlying Healthcare Strategy and reconfirmed their support for the project.

1.1.8 Other key developments in community and primary care services will be the subject of further business cases. This will be the third phase in the implementation of the Forth Valley Healthcare Strategy.

1.1.9 An Initial Agreement has already been approved for the third phase and business cases will be brought forward for:

- Development of Orchard House
- Development of existing FDRI and SRI sites to include new care facilities
- Transitional arrangements for Adult Mental Health Services

2 Strategic Context

2.1 Introduction

This section will examine:

- Description of local population and the description of the NHS Forth Valley including its roles and priorities for the development of local services for Forth Valley residents;
- The National Policy Context including the National Priorities and Planning Framework and the drivers for change which emerge from this;
- The role of NHS Forth Valley;
- The impact of Regional Planning on the delivery of the Forth Valley Healthcare Strategy
- A description of the NHS Forth Valley Acute Services, its services, and statement of objectives for the project;
- Key assumptions underlying scheme and effects of any changes since the Outline Business Case (OBC)
- Assessment of future strategic changes in the local health economy and the extent to which the new hospital can respond to change.

2.2 Summary of Current Healthcare Provision in Forth Valley

2.2.1 NHS Forth Valley provides health services to a population of 279,000 in a geographical area stretching from the Trossachs in the north-west to the outskirts of Lothian in the south-east. It consists of the three councils of Clackmannanshire, Falkirk and Stirling and incorporates a mix of urban and rural areas.

2.2.2 The majority of the population of Forth Valley is concentrated in Stirling and Falkirk and the surrounding areas. However, there are significant numbers of people living in the small towns and villages in the rural areas of the region.

2.2.3 Population forecasts issued by the General Registrar Office indicate that, unlike the population in the rest of Scotland, which is forecast to only increase by less than 1%, the Forth Valley area is expected to increase from 281,764 in year 2004 to some 296,377 in 2024 - an increase of approximately 5%. This rate of increase is forecast to continue throughout the planning period.

2.2.4 The table below demonstrates the growing number of people in the over 65 age groups. It is this cohort that tends to use the greater proportion of the health service and this growth trend will therefore have a significant impact on service provision.

	Population 2004 (mid year estimate)			Population 2024 (mid year estimate)			% Change		
Age Band	Males	Females	**Total**	Males	Females	**Total**	Males	Females	Total
0-14	25,938	24,881	**50,819**	23,690	23,372	**47,062**	-9%	-6%	**-7%**
15-24	17,728	16,982	**34,710**	16,571	17,073	**33,644**	-7%	1%	**-3%**
25-44	37,966	41,202	**79,168**	33,052	37,819	**70,871**	-13%	-8%	**-10%**
45-64	35,521	37,168	**72,689**	37,361	43,153	**80,514**	5%	16%	**11%**
65-74	11,493	13,495	**24,988**	14,861	17,214	**32,075**	29%	28%	**28%**
over 75	7,030	12,360	**19,390**	13,871	18,340	**32,211**	97%	48%	**66%**
	135,676	**146,088**	**281,764**	**139,406**	**156,971**	**296,377**	**3%**	**7%**	**5%**

Source: General Register Office for Scotland – 2004 based population projections

Table 2-1: Forth Valley Population Forecast

2.2.5 Healthcare services for the councils of Clackmannanshire, Falkirk and Stirling are predominantly provided by NHS Forth Valley, although some communities on the outskirts receive general hospital services from neighbouring health boards. Given the central position of the health board, specialist health services are provided in both Edinburgh and Glasgow.

2.2.6 In developing its Healthcare Strategy, NHS Forth Valley has recognised the diverse nature of its population and has sought to meet the differing needs of the urban and rural communities. The views of people from these different communities have helped to inform the development of a multi-faceted strategic direction for healthcare services in Forth Valley.

2.2.7 Acute secondary care services are currently provided by: NHS Forth Valley to the local area and residents of neighbouring health boards. These services are currently provided from two sites – Falkirk and District Royal Infirmary, (FDRI), and Stirling Royal Infirmary, (SRI).

2.3 Financial Position

2.3.1 NHS Forth Valley has an established record of sound financial management and has consistently achieved its financial targets.

2.3.2 The local health plan seeks to achieve recurrent balance by 2008/09. The recurrent gap at 2006/07 is £2.6 million.

2.3.3 Savings programmes have been developed to address this position, although there will continue to be heavy demands on future years' uplifts, e.g. pay modernisation, new consultant contract and new GMS contract, and a number of unavoidable service changes with financial consequences for NHS Forth Valley, e.g. the new Beatson Cancer Centre in Glasgow.

2.3.4 NHS Forth Valley's financial plan to 2010/11 is summarised in the attached appendix 1.

2.4 Drivers for Change

2.4.1 The population of Forth Valley has been well served by its two Infirmaries and dedicated staff for many years. The two hospitals provided broadly similar services and was becoming increasingly difficult, and in some services impossible, to sustain this level of duplication of services. This situation affects our ability to maintain and improve standards of care, to recruit and retain high quality staff, to achieve compliant rotas for medical

and other health professionals and to sustain the level of investment required in ageing buildings and to duplicate major equipment and facilities on two sites

2.4.2 The key drivers for change facing the Board and the local health community are:

- The national policy framework set out in 'Our National Health', 'Towards a Healthier Scotland' and 'Partnership for Care'.
- The need to create sustainable clinical services.
- The modernisation of services, focussing on quality and clinical effectiveness.
- Pressures on the clinical workforce.
- The inadequacy and unsuitability of much of the existing facilities.
- The most efficient and effective utilisation of resources to support service modernisation and development.

2.4.3 These issues significantly impinge on the ability of clinical staff to provide high quality, modern services to the population of Forth Valley. It is becoming increasingly difficult to provide and sustain services while they are organised across two hospital sites. New innovative ways of providing hospital and community services are needed to enable services to develop and meet the needs of the local population

2.5 Local Application of National Plans and Priorities

2.5.1 This Business Case has been influenced by a number of national policies and strategies, all of which emphasise the need to modernise health services, providing consistently high quality care in order to meet patient staff and organisational needs. The main policies and strategies that set the national context for this proposal are:

- The Acute Services Review Report, 1998
- The White Paper Towards a Healthier Scotland, 1999
- Our National Health – a plan for action a plan for change, 2000
- The White Paper Partnership for Care, 2003
- Improving Health in Scotland – The Challenge, 2003
- Building a Heath Service Fit for the Future (“The Kerr Report”),2005
- Delivering for Health, 2005 – the response to the Kerr Report.

2.5.2 The proposals within this FBC take full account of these policies and are in line with the main themes within the many reports outlined above. Many of the key issues including, improved partnership working with local authorities and other agencies, service redesign and improved communication and public involvement are already being actively taken forward by NHS Forth Valley.

2.6 Overview of Forth Valley Healthcare Strategy

2.6.1 The pattern of health services in Forth Valley has been changing dramatically over the last two decades driven by the need to modernise health services, improve the quality of care and create sustainable clinical services.

2.6.2 In recognition of the need for change, the NHS Board has agreed an integrated healthcare strategy with acute hospital services to be provided from one site by 2009, and a redevelopment of community-based healthcare to ensure that as much care as possible is delivered closer to home.

2.6.3 For this to happen, a more seamless service must be created through greater integration of primary and secondary care, supported by a modern information and communication system. This will allow the skills and competencies of staff in both primary and secondary care, to be used to best effect and to ensure the continuing provision of services that achieve quality, safety, sustainability and accessibility.

2.6.4 There are four main areas that the healthcare strategy addresses to make this vision a reality:

- Reconfiguration of inpatient and ambulatory care services;
- Development of intermediate care and rehabilitation services;
- Development of primary care and community services;
- Development of adult mental health services;

2.6.5 The Minister for Health and Community Care approved the Healthcare Strategy and strategic direction in 2003 following an extensive period of public consultation. Two business cases emerged from the Healthcare Strategy, both of which were the subject of Initial Agreements approved by the Scottish Executive at an earlier stage.

2.6.6 The two business cases were:

- Clackmannanshire Community Health Services (OBC I) approved in June 2003. The Full Business Case is available separately.
- Forth Valley Acute Hospital (OBC II) approved December 2003. The subject of this Full Business Case.

2.6.7 In response to the 2002 public consultation further work was undertaken in 2003 to develop more specific proposals for:

- primary care and community services;
- the future model and options for community hospitals;
- adult mental health services; and,
- interim arrangements for acute hospital services.

2.6.8 A business case was also submitted to SEHD in 2004 on transitional arrangements in acute services.

2.7 Strategic Aims

2.7.1 The Forth Valley Healthcare Strategy is designed to support the delivery of NHS Forth Valley's strategic aims, remain unchanged from those originally outlined in 2003/04 and reaffirmed by the Local Health Plan 2006/07 to 2008/09.

Strategic Objectives
Improve Forth Valley's health, and reduce the health gap between rich and poor
Ensure Forth Valley NHS meets national standards of care to be delivered locally across Scotland
Improve access to services - reduce waiting and making the patients 'journey of care' easier, quicker and safer
Give patients, public and communities a real voice on the way the Forth Valley NHS is run
Provide better care for the residents of Forth Valley
Tackle the 'big three' priorities: heart disease, cancer and mental health
Improve care and standards in the NHS by valuing and empowering staff and working in partnership with them to work in new, more collaborative, flexible and effective ways
Ensure a considered approach to planning and delivery of the whole health agenda

Table 2-2: Strategic Objectives

2.8 Service Specification

2.8.1 The Forth Valley Healthcare Strategy has been developed in partnership recognising the interdependence of acute/secondary care, primary care/community services and health/social care.

2.8.2 The 'whole systems' integrated service approach is one of the key themes of *Improving Health in Scotland*. It is against this background of partnership working and the development of more integrated services that the Board seeks to develop and redesign services to outline solutions for a manageable and sustainable future.

2.8.3 A programme of service design is already being developed to support the whole system changes, building on the knowledge and expertise of the redesign programme. The programme will target the design of service models to enable NHS Forth Valley to deliver the Healthcare Strategy.

2.8.4 There are four key strands to the Forth Valley Healthcare Strategy.

- Reconfiguration of inpatient & ambulatory care services
- Development of intermediate care & rehabilitation services
- Development of primary care & community services
- Development of adult mental health services

2.8.5 The first Business Case in support of the Forth Valley Healthcare Strategy, *Modernising Health Service in Clackmannanshire*, and the current Business Case begin to address a number of these strands, and work is continuing on those elements of community and primary care services that will complete the delivery of the strategy. The Initial Agreement for the development of community facilities in Stirling and Falkirk has already been approved.

2.9 Inpatient & Ambulatory Care Services

2.9.1 The new acute hospital will continue to provide all existing services, as summarised below:

Accident and emergency	
Acute Inpatient beds, elective and emergency, in the following specialties	
Trauma and Orthopaedics	General Medicine
General Surgery	Medicine for the Elderly
Vascular Surgery	Cardiology
Urology	Dermatology
ENT	Diabetes
Ophthalmology	Rheumatology
Oral Surgery	Respiratory Medicine
Gynaecology	Haematology
Obstetrics	Pain Relief
Paediatrics & Neonatal Medicine	Oncology
Rehabilitation	Renal Medicine.
Critical Care services, including ICU, HDU and CCU	
Services on an Ambulatory Care basis including acute, complex and 'one stop' outpatients; day surgery; and complex day treatments	
Clinical Support Services including imaging (ultrasound, x-ray, CT, MRI), laboratory and other diagnostic services; allied health professions; and pharmacy.	

Table 2-3: New Acute Hospital Service Profile

2.10 Intermediate Care and Rehabilitation Services

2.10.1 Whilst the plan to develop the Larbert site consolidates all acute inpatient services, it assumes that a range of post-acute inpatient care would be undertaken closer to peoples' homes in the community.

2.10.2 Remodelling the delivery of non-acute care through the joint development with other health and social care partners of intermediate care facilities is an important element of the changes proposed within Forth Valley. The aim of these intermediate care and rehabilitation services is to promote functional independence and well-being and to bridge high intensity secondary care and primary care working in conjunction with local authorities.

2.10.3 The range of services and facilities that link with intermediate care include services designed to avoid inappropriate admissions, low dependency surgical recovery, non-medically led therapeutic interventions on and off site possibly within a community hospital and services that focus on nurse led units providing step down facilities and rapid response services.

2.11 Adult Mental Health including Old Age Psychiatry

2.11.1 At present acute adult mental health admission beds are provided in Falkirk and Stirling. This business case, supported by the Healthcare Strategy, centralises the acute adult admission beds on the new acute hospital site at Larbert.

2.11.2 The main drivers for these changes include the need to ensure quick and easy access to other specialist medical services, the need to ensure the continuation of clinically effective, evidence based care, the changes to working arrangements for junior doctors similar to that affecting general acute services and the requirements of the new Mental Health Act.

2.12 Primary Care & Community Services

2.12.1 It is recognised within the Healthcare Strategy, in the context of the proposal to locate all acute services on a single site, that there is a need to develop primary and community services to ensure an appropriate pattern of health service provision across the spectrum of care from care provided within peoples' own homes to acute care in a hospital setting.

2.12.2 For this to happen, a more seamless service must be created through greater integration of primary and secondary care, supported by a modern information and communication system. This will allow the skills and competencies of staff in both primary and secondary care, to be used to best effect and to ensure the continuing provision of services that achieve quality, safety, sustainability and accessibility.

2.12.3 The NHS Board's Primary Care Modernisation Programme currently makes provision for significant capital developments in a number of health centre and clinics throughout Forth Valley. One key element of the proposal to enhance primary care and community services across Forth Valley, to support and complement the creation of a single site acute hospital, is the development of community hospitals.

Primary Care and Community Services Programme

2.12.4 The Primary Care and Community Services Programme was established in 2003 to take forward the primary care and community services aspects of the integrated Forth Valley Healthcare Strategy. This further work, taken

forward by a multi agency Programme Board, culminated in the 2004 public consultation referred to above.

2.12.5 Following the outcome of the public consultation the NHS Board took a number of decisions on the future shape and pattern of primary care and community services. To take this programme of work forward a detailed action plan has been developed covering the key service changes are outlined below.

Primary Care

2.12.6 For most people, their first and perhaps only contact with the NHS is with primary care. In taking decisions about the strategic direction for health services in Forth Valley, the NHS Board recognised that there were several factors also driving change in primary care. For example:

- the changes in population will have a significant effect on primary care services as will changes in health needs and technology;
- there is also a need to modernise services, improving service quality and effectiveness, in order to create sustainable clinical services;
- many of the existing facilities and premises used to deliver care are inadequate and unsuitable for the future vision of patient care needs.

2.12.7 The NHS Board's vision is to provide healthcare services in a primary care setting when this can be done safely and effectively.

2.12.8 In future, it is envisaged that services will be configured to meet needs at different levels:

- at a GP Practice level;
- at a locality or community level;
- at an area level (i.e. North - Stirling and Clackmannanshire; South – Falkirk);
- at a Forth Valley level.

Community Hospitals

2.12.9 One key element of the proposal to enhance primary care and community services across Forth Valley, to support and complement the creation of a single site acute hospital, is the development of community hospitals.

2.12.10 It is envisaged that the future role for Community Hospitals would be to provide:

- Intermediate care and rehabilitation services
- NHS continuing care for older people with complex health needs
- palliative care
- day hospital services
- a base for multi-disciplinary and multi-agency rehabilitation teams
- possible future development of inpatient resources for primary care

2.12.11 Based on the projected of future bed requirements, a number of options were developed for future community hospital provision in Forth Valley. All the options for both Stirling and Falkirk were the subject of an extensive public consultation exercise in 2004, as a result of which the NHS Board agreed that:

- To retain the current community hospital facilities at Bo'ness
- the preferred location for community hospital and other community services in Falkirk was to retain part of the FDRI site
- the preferred location for the community hospital and other community services in Stirling was to retain part of the former SRI site.

2.12.12 The estimated cost of the Board's preferred options for community facilities in Stirling and Falkirk will need to be refined once the models of care for each facility are more clearly defined. Revenue costs will need to be affordable within the NHS Board's financial plan. Overall affordability will be evaluated through the Outline Business Case process.

2.12.13 It is anticipated that the business case for the aforementioned will be brought forward in Autumn 2007.

2.12.14 In addition to community hospital services, consideration is being given to including other community services within the scope of these two developments. The Stirling scheme in particular will include a range of ambulatory acute services including acute outpatients and diagnostic services. Further detail on the scope of the new facilities and the models of care will be included in the Outline Business Cases.

Adult Mental Health Services

2.12.15 The main requirement is to ensure a balance of provision between hospital care for those who are most ill and in need of intensive care and treatment, and community based services that provide care and treatment as close to the patient's home as possible.

2.12.16 The main elements of the proposed new service model are:

- a centralisation of all acute admission beds including psychiatric intensive care beds on the site of the new Acute Hospital at Larbert
- no mental health beds in the new Clackmannanshire Community Hospital
- continuing residential rehabilitation from facilities at Craigenhall, Falkirk;
- re-provisioning of wards at Bellsdyke Hospital to provide a more dynamic rehabilitative environment

- rebalancing of inpatient and community resources with around 15 fewer beds and enhanced community provision
- relocation of Princes Street Day Hospital with other community beds and services in Stirling
- relocation of Westbank and Dunrowan with other community beds and services in Falkirk.

2.12.17 During the period until 2009 when the new Acute Hospital will be provided, there is a need to gradually work towards the proposed configuration of services. One of the most pressing issues is in relation to working arrangements and hours of work for junior medical staff, which will make it impossible to sustain on-call out of hours arrangements, covering four sites.

2.12.18 The acute adult mental health and old age psychiatry admission beds were centralised at the end of 2006 on an interim basis on the FDRI site, in conjunction with the intensive psychiatric care unit already located there. The opportunity has also been taken to develop the new community based model of care by utilising the resources released by a reduction of 15 beds.

2.13 Benefits to Patients

2.13.1 Within the context of the overall improvements to healthcare services that will be delivered through the Forth Valley Healthcare Strategy, it is anticipated that the proposals set out in this business case will deliver a range of benefits for patients. The main expected benefits are summarised over.

Inpatient & Ambulatory Care Services
High-quality clinical care for patients that is timely, accessible and consistently available Provision of acute medicine and acute surgery on the one site, ensuring co-ordination of care and access to specialist expertise when needed. Protection of elective workload from interruption by emergencies, thereby reducing the number of cancellations. Closer integration of ambulatory care services, which will improve communication and reduce the movement of patients between departments. Computerised booking and scheduling of appointments will manage peaks and troughs in activity to reducing waiting times and improve access to services. Modernised services and facilities that will improve the overall patient experience. Increased availability of up-to-date high technology equipment and resources, intensive care and high dependency facilities, and clinical support services
Intermediate Care & Rehabilitation Services
Specialist facilities for those patients that are physiologically stable but who may have other needs that require clinical intervention to support their rehabilitation and overall recovery. The delivery of effective intermediate care and rehabilitation in an environment in which staff can provide the right care at the right time to patients. Improved access to intermediate care and rehabilitation will ensure that an individual's length of stay is appropriate and beneficial.
Primary Care & Community Services
Provision of appropriate services as close as possible to the patient's own home Enhanced model of community hospital provision that enhances patient focus and equality of access Improved service integration across secondary care and with local authorities where appropriate Supports health improvement and assists patients in making informed choices Values and develops staff
Mental Health Services
A clearer vision of the future provision of mental health services in Forth Valley person-centred, flexible and responsive care involving a greater range of provision ▪ integration with all key agencies ▪ Co-location of acute mental health services with acute services and access to diagnostics ▪ Development of an enhanced community based model

Table 2-4: Expected Benefits of the Forth Valley Healthcare Strategy

2.14 Transitional Arrangements

2.14.1 The Board will continue to deliver services from all of its sites but has taken the opportunity to reconfigure services. Following consultation in 2004 the following service model was introduced.

2.14.2 The key features of the Model are:

- Access to outpatient, diagnostic and day treatment, including ante-natal and post-natal services continue to be provided in both hospitals
- The majority of planned care, e.g. routine surgery, day cases, post-operative and medical rehabilitation, palliative care, one-stop diagnostic and treatment clinics, is provided at FDRI
- Emergency admissions, complex elective care (both medical and surgical), inpatient services for women and children, is provided at SRI
- Both Infirmaries are fully utilised throughout the transitional period with no diminution in activity or status

2.15 Existing Hospital Sites

2.15.1 In March 2005 a Programme Initial Agreement for Primary Care and Community Services Programme was approved.

2.15.2 Among other developments it was proposed that the existing SRI and FDRI sites be developed to provide new care facilities to the Forth Valley population. An Initial Agreement has been prepared and approved and represents approval to proceed to the next stage in the capital investment process and to produce Outline Business cases as appropriate. These OBCs will be brought forward to the Board and Scottish Executive Health Department for consideration in 2007.

3 Future Clinical Service Requirements

3.1 Introduction

This section will examine:

- The development of new models of care
- New hospital capacity including comparison to the OBC
- Impact of Regional Planning.

3.2 Principles for New Models of Care

3.2.1 Service configuration has been developed by significant clinical and managerial input from within the Board. The Clinical Advisory Group (CAG) with 24 clinicians was established in September 2003 and met most months for the following 16 months. They established over a dozen working groups involving over 100 clinicians which determined the key principles underpinning a new model of care including those transitional arrangements, that were stepping stones to the new hospital.

3.2.2 The principles outlined by the CAG included:-

- a focus on patient need
- smoother pathways of care
- streaming patients more effectively
- minimising acute hospitalisation
- maximising ambulatory care and flexibility in generic ward design and use of intensive care facilities
- ensuring a rehabilitative focus (an enabling hospital)
- integration with other health and social partners
- ensuring prompt and efficient investigation
- an integrated approach to emergency or unscheduled care
- best use of IM&T
- integrating acute mental health beds into the acute hospital
- providing specific facilities for women and children's services
- maximising enhanced roles of nurses and AHPs
- and producing a safe, secure and healthy environment

3.3 New Hospital Capacity

3.3.1 The following assumptions have been made in identifying future capacity requirements:

- The approved OBC identified the projected requirement for acute beds in the new hospital at Larbert as 638 Acute Care plus 50 Intermediate Care giving a total of 688.

- The bed requirements for the new hospital assume that a range of post-acute inpatient care would be undertaken closer to peoples' homes in a community hospital setting. The Board has agreed that four community hospitals will link with the new acute hospital to provide integrated healthcare in Forth Valley. The Community Hospitals will include an existing facility at Bo'ness, a new facility in Alloa (Clackmannanshire Community Hospital) and further new facilities on the existing Stirling and Falkirk Royal Infirmary sites
- The OBC included 50 intermediate care beds, 25 in Stirling and 25 in OBC I (Clackmannanshire Community Hospital)
- The total number of acute inpatient beds identified in the OBC was 688 at Larbert together with 50 in Stirling and Clackmannanshire, giving a total of 738
- The OBC also included 125 Adult Mental Health Beds

3.3.2 In addition, the new hospital will provide genuine expansion zones for additional capacity as part of the flexibility that has been designed into the facilities.

3.3.3 There is also potential for further review and expansion of capacity within Outline Business Case III which will identify the clinical model and requirements for the Stirling and Falkirk Community Hospitals.

3.3.4 Since the OBC was written, the Board agreed a reduction of 30 beds through the transitional arrangement business case approved by the Board and the Capital Investment Group (CIG) in September 2004. There has also been a reduction of 7 beds following the successful centralisation of Women & Children services in 2003.This shows a total reduction in beds of 37 since the OBC was written.

3.3.5 The OBC included an additional 29 Programmed Investigation and Treatment (PITU) day beds and 8 oncology beds which were not included in the bed numbers at that time.

In-patient/ Day Spaces	OBC
Larbert	688
Post OBC Changes	-37
PITU	29
Oncology	8
Total	688

Table 3-1: OBC In-patient/ Day Space Reconciliation

3.3.6 The following table illustrates how the current Larbert design meets the requirements of the OBC as outlined above. It also demonstrates that through transitional arrangements, the current inpatient and day capacity is very close to the Larbert model within our existing split site facilities. This

table also demonstrates how a shift in the balance of care between acute and community services is being achieved.

Acute In-patient/ Day Spaces	**OBC**	**FBC**	**Current SRI & FDRI**
Larbert	688	677	772
Community	50	60	
Total	**738**	**737**	772

Table 3-2: In-patient OBC- V- FBC

3.3.7 There are 860 inpatient and day places within the new Larbert hospital. These are summarised in the table below.

In-patient/ Day Spaces	OBC
Inpatient & Day spaces	677
Mental Health	125
Endoscopy	28
Renal Dialysis	30
Total	860

Table 3-3: In-patient Summary Beds

These are further analysed as follows:

Department	Total
Accident & Emergency	8
Common Assessment Unit	20
Acute Receiving Unit	36
Generic Ward	312
Critical Care	30
Cardiology	15
Renal Unit	30
Outpatients	20
Day Surgery	40
PITU/ACTU	20
Endoscopy	28
Oncology	20
Rehabilitation Unit	24
Acute Stroke Unit	24
Integrated Mental Health Ward	20
Acute Adult Mental Health Inpatients	53
Old Age Psychiatry Inpatients	40
Intensive Psychiatric Care Unit	12
Maternity Inpatients	17
Obstetric Inpatients	31
Gynaecology	14
Neonatal Care	21
Paediatrics	25
Total Beds / Day Spaces	860

Table 3-4: Beds by Speciality

3.4 Diagnostic and Treatment Facilities

3.4.1 The Health Board has also identified the likely requirements for diagnostic and treatment facilities which have been provided in the new hospital design, in particular:

- Operating theatres
- Outpatient clinics
- General imaging facilities
- Ultrasound, CT and MRI scanning
- Endoscopy suites
- Renal dialysis
- Cardiac & respiratory testing

3.5 Regional Planning

3.5.1 NHS Lanarkshire has agreed a strategy "A Picture of Health" which has since received Ministerial Approval. The strategy includes making changes to the existing hospitals in Lanarkshire and in particular to reconfigure Monklands Hospital as a level 2 facility.

3.5.2 This means that the majority of emergency inpatient care will be provided within Lanarkshire at Hairmyres and Wishaw General Hospital.

3.5.3 For a number of people in Lanarkshire, in particular in the Cumbernauld and Kilsyth areas, it may be more appropriate to use emergency facilities at Larbert.

3.5.4 The West of Scotland Regional Planning group has been working with Lanarkshire and neighbouring Health Board areas that may be affected by these changes to identify the potential impact of these changes which are summarised below: -

- The Accident & Emergency and other emergency departments at Larbert will require to diagnose and treat patients who are closer to Larbert than the other emergency hospitals in Lanarkshire
- A number of Lanarkshire emergency patients who are closer to Larbert than the other emergency hospitals in Lanarkshire will be admitted to inpatient beds in the new Larbert Hospital for stabilisation and treatment

3.5.5 The following has been assumed: -

- All elective procedures for Lanarkshire patients will be carried out in Lanarkshire facilities
- Comprehensive minor injury and minor illness services will be provided within Lanarkshire to treat 60-70% of emergency cases
- Post acute care will be provided in Lanarkshire facilities, e.g. Monklands Hospital in line with the Forth Valley model of acute care linking into a network of community hospitals

3.5.6 The Regional Planning Group has identified that the implication for Forth Valley in terms of inpatient capacity would be in the region of a maximum of 50 beds. Further details will become available once NHS Lanarkshire has developed the detailed investment plans to support their strategy.

3.5.7 Forth Valley NHS Board have agreed to provide any additional required capacity through their community hospitals business case (OBC III). It has been determined that the balance of care within Forth Valley could be shifted to community hospital facilities by an additional 50 beds, freeing up this capacity in Larbert for Lanarkshire patients. In addition the Board are considering the retention of the successful emergency services unit on the Falkirk Royal Infirmary site which would free up additional space at the Accident & Emergency front door in Larbert.

3.5.8 The design of the new Larbert hospital will be flexible enough to cope with these changes and additional capacity has already been built in to Diagnostics, Theatres, Critical Care and the Assessment Unit.

3.5.9 It is, therefore, proposed that the capacity within the new Larbert hospital will be sufficient to cope with the Lanarkshire changes with NHS Forth Valley retaining flexibility within the Business Case for the Stirling and Falkirk Community Hospitals.

4 The Outline Business Case

4.1 Introduction

4.1.1 This section sets out the case for change, investment objectives and benefit criteria identified within the OBC, along with the list of options that were considered. Copies of the OBC, or the Executive Summary, are available, in electronic format, from the Project Office or on the Board's website.

The Section will set out:

- A description and summary of the Outline Business Case, including:
    - Project objectives
    - Benefit criteria
    - Long list of Options considered
    - Shortlist of options
    - Non-financial benefit appraisal
    - Financial and economic appraisal
- Changes since OBC.

4.1.2 The local healthcare strategy was further consulted in summer 2003 and reconfirmed support for the development of a new hospital at Larbert

4.1.3 The OBC was approved by SEHD in December 2003.

4.2 Case for Change

4.2.1 The key drivers for change facing the Board and the local health community have been highlighted in earlier sections and are summarised again as follows:

- The national policy framework set out in 'Our National Health', 'Towards a Healthier Scotland' and 'Partnership for Care'
- The need to create sustainable clinical services
- The modernisation of services, focussing on quality and clinical effectiveness
- Pressures on the clinical workforce
- The inadequacy and unsuitability of much of the existing facilities
- The most efficient and effective utilisation of resources to support service modernisation and development.

4.3 Benefit Criteria

4.3.1 The benefit criteria against which the ability to achieve the investment objectives was measured are set out below. The Board has reviewed these and confirm that they remain current.

4.3.2 Investment Objective Benefit Criteria

- To ensure the Board is able to respond to the needs of the local population in terms of patient activity, efficiency, effectiveness and quality.
- Manage capacity to meet growing demands for services recognising the impact of Regional Planning
- To rationalise service provision in NHS Forth Valley to improve patient management and minimise the duplication of services, facilities and resources.
- To achieve "critical mass" within clinical departments to counteract growing pressures including increasing sub-specialisation, difficulties of recruiting high calibre staff and the need to provide cost effective services.
- To deliver high quality care in an appropriate environment, which respects the patient's need for dignity and privacy, in a manner that is both cost effective and flexible.
- To provide sufficient capacity to meet projected demand, with fully integrated support services.
- To ensure the provision of a skilled workforce by providing top quality training.
- To ensure consistency with and to facilitate delivery of the aims of the 'Kerr Report'.
- To provide a Mental Health Facilities on the main acute site.
- Increase the Board's attractiveness to all staff including medical, nursing and paramedic staff in terms of recruitment and retention rates
- Single site inpatient facilities for acute general medicine for adults and children and acute elderly services
- Co-ordination and rationalisation of admission and discharge arrangements
- To achieve "critical mass" within clinical departments to counteract growing pressures including increasing subspecialisation, difficulties of recruiting high calibre staff and the need to provide cost effective services.
- Avoid duplication in service provision
- Eliminate the need for multiple on-call rotas for the same specialty and rationalise medical cover arrangements
- Safeguard and enhance sub-specialties
- Meet raised patient expectations with regard to privacy and dignity
- Provide pleasant, efficient and secure working environment for staff

- Ensure availability of sufficient and appropriate beds within the local health economy
- Improve access to diagnostic services to support changes in clinical practices
- Effective and flexible use of all available theatre capacity
- Improve the availability of outpatient and diagnostic accommodation and services
- Minimise dependency on old buildings which are inadequate for the provision of a modern healthcare service
- Flexibility to accommodate changes in the delivery of services

4.3.3 The Board has reviewed these investment objectives and confirm that they remain current.

4.4 *Investment Constraints*

4.4.1 The OBC identified two constraints to the project. These were:

- To complete the planned development by 2009.
- To configure the project to attract private sector partners through the private finance initiative.

4.5 *Options Considered*

4.5.1 The Long List of Options

4.5.2 Following initial consultation on a range of proposals for the future of acute services in Forth Valley, the Board established a Working Group with representation drawn from the Partnership Forum, Forth Valley Local Health Council, Public Health Medicine, Consultant and General Practitioners to make recommendations on Clinical Options to stabilise and secure acute services in Forth Valley in the future.

4.5.3 Following consideration of the Report of the Clinical Options Group (June 2001), the Board in September 2001 agreed to broaden the range of options under consideration to include options to achieve single site acute hospital working.

4.5.4 From a preliminary set of potential options, the Board agreed a long-list of options, as shown below.

4.5.5 Shortlisting of Options

4.5.6 In July 2002, the Board reduced the above long-list of options prior to undertaking formal option appraisal. Options 2a and 2b were not taken forward for option appraisal as neither option resulted in a satisfactory development that offered the same level of flexibility and functional suitability as a new, purpose-designed hospital. The Status Quo had already been identified as unsustainable and was not consulted upon, but was included in the OBC as a benchmark.

	Option	Description	Rejected/Shortlisted
1	Status Quo	Maintain the current distribution of services between Falkirk & District Royal Infirmary and Stirling Royal Infirmary.	Rejected Unsustainable. High cost to modify existing estate that will not deliver functionally suitable facilities compared to new build Included in OBC as benchmark
2	Single-site Working: This option has various possible sub-options, all of which involve concentrating most acute inpatient services on one site with some other services being provided locally. There are compelling arguments for centralising acute services, not least the need to provide more modern, clinically effective, integrated services for Forth Valley		
a	On Stirling Royal Infirmary	Centralise on the existing Stirling Royal Infirmary site, all acute inpatient beds, retaining some ambulatory care, rehabilitation, palliative care, mental health and intermediate care facilities on the existing Falkirk & District Royal Infirmary site.	Rejected Does not offer the same level of flexibility and functional suitability as a new, purpose-designed hospital
b	On Falkirk & District Royal Infirmary	Centralise on the existing Falkirk & District Royal Infirmary, all acute inpatient beds, retaining some ambulatory care, rehabilitation, palliative care, mental health and intermediate care facilities on the existing Stirling Royal Infirmary site	Rejected Does not offer the same level of flexibility and functional suitability as a new, purpose-designed hospital
C i	On a greenfield site	Centralise all acute services on the RSNH site at Larbert. The FDRI and SRI sites are NOT retained. The development of Clackmannanshire Community Hospital would continue as planned	Shortlisted Allows for consolidation of services on a purpose built site with full integration enhancing clinical effectiveness
C ii		Centralise all acute inpatient beds on the RSNH site, with some ambulatory care, intermediate care and mental health facilities on the SRI, FDRI and Clackmannanshire Community Hospital sites	Shortlisted Allows for consolidation of services on a purpose built site with full integration enhancing clinical effectiveness

C iii		Centralise all acute inpatient beds on the RSNH site with some ambulatory care, intermediate care and mental health facilities on the SRI and Clackmannanshire Community Hospital sites. The FDRI site is not retained.	Shortlisted Allows for consolidation of services on a purpose built site with full integration enhancing clinical effectiveness
C iv		Centralise all acute inpatient beds on the RSNH site with some ambulatory care, intermediate care and mental health facilities on the FDRI and Clackmannanshire Community Hospital sites. The SRI site is not retained.	Shortlisted Allows for consolidation of services on a purpose built site with full integration enhancing clinical effectiveness

Table 4-1: Option Listing

4.5.7 The tables below summarise the short-listed options and provide more detailed descriptions of the services that would be provided at each location:

Hospital Site	Option 1	Option 2ci	Option 2cii	Option 2ciii	Option 2civ
Falkirk & District RI	A & E Inpatients Outpatients Day Surgery Diagnostics	No Services	Routine Outpatients Routine Day Surgery Routine Diagnostics Nurse-led Beds	No Services	Routine Outpatients Routine Day Surgery Routine Diagnostics Nurse-led Beds
Stirling RI	A & E Inpatients Outpatients Day Surgery Diagnostics	No Services	Routine Outpatients Routine Day Surgery Routine Diagnostics Nurse-led Beds	Routine Outpatients Routine Day Surgery (see 3.6 below) Routine Diagnostics Nurse-led Beds	No Services
RSNH, Larbert	No Acute Services	A & E Inpatients Outpatients Day Surgery Diagnostics	A & E Inpatients Outpatients Day Surgery Diagnostics	A & E Inpatients Outpatients Day Surgery Diagnostics	A & E Inpatients Outpatients Day Surgery Diagnostics
Bannockburn			Future role to be reviewed		
Bo'ness			Continuing care inpatient facilities for older people and for older people with dementia		
Bonnybridge			Future role to be reviewed		
Kildean			The hospital is scheduled to close as part of the Priority & Community Health Services Strategy.		
Orchard House			Being re-developed as a Primary Care Resource Centre as part of the Raploch Regeneration Project		
Sauchie/ Clackmannan			New community hospital – acute outpatients, physically frail elderly nurse-led rehabilitation, palliative & intermediate care beds		

Table 4-2: Description of Shortlisted Options

4.6 Option Appraisal

4.6.1 The option appraisal process adopted for this Outline Business Case is in line with that recommended in the Scottish Capital Investment Manual (SCIM) and involved assessing for each option;

- Benefits (scored against criteria)
- Costs (Financial Appraisal)
- Value for Money (Economic Appraisal)
- Risks

4.6.2 The following table summarises the results of the benefits appraisal, financial appraisal, economic appraisal and risk assessment:

Option Appraisal Measure	Option 1	Option 2ci	Option 2cii	Option 2ciii	Option 2civ
Benefit Points	206	703	567	449	409
Capital Cost (£m)	31.9	265.1	282.3	269.5	278.2
Annual Revenue Impact (£m)	5.2	8.5	12.4	10.5	10.8
Net Present Cost (NPC) (£000)	2,368.2	2,440.5	2,498.2	2,467.5	2,474.9
Equivalent Annual Cost (EAC) (£000)	122.1	125.8	128.8	127.2	127.6
Risk Assessment Points	363	204	281	264	270
NPC (£) per Benefit Point	11,495	3,471	4,406	5,496	6,051

Table 4-3: Option Appraisal Results

4.7 The Preferred Option

4.7.1 The appraisal process identified that Option 2ci, a single acute hospital on a greenfield site offered that best value for money using quantitative parameters.

4.7.2 However a significant public consultation exercise had been undertaken with over 6,000 responses received. The majority of the responses favoured options that retained local access to services where this was safe and appropriate.

4.7.3 The Board was faced therefore with the difficult decision of having to weigh the outcome of the Benefits Appraisal process with the very strongly expressed views of the residents in Forth Valley and their elected representatives.

4.7.4 In deciding to adopt a model that provided acute services on one site with enhanced community services across Forth Valley, the Board was not "setting aside" the results of the Benefits Appraisal but was using that positively in conjunction with views and opinion expressed to arrive at an informed decision on what was the correct balance between the need to centralise certain acute services with the desire of the public to preserve local access wherever possible. The Board also took account of the relative difference between options in terms of both financial (capital and revenue) and economic appraisals, which was small.

4.7.5 The NHS Board, in taking full account of the views expressed, took the view that Option 2ciii, the development of a new acute hospital at Larbert and provision of services at the retained Stirling site. The option was adjusted to provide day surgery only at the acute hospital site. This provided the most appropriate balance between providing clinically safe & sustainable services, retaining local access to services particularly in the Stirling area, and affordability and was therefore chosen as the preferred option.

4.7.6 The NHS Board arrived at this decision taking due account of views expressed during the public consultation. It became clear that whilst a majority of people supported the principle of a new acute hospital, very strong views were held on the need to retain local access to as wide a range of services as was safe and possible to provide locally. Of respondents who expressed a view, the majority favoured the maximum dispersal of services not requiring to be centralised on the acute hospital site. The preferred option was identified as integral to the local health community's delivery of the Local Healthcare agenda and would contribute to integrated model of care.

4.8 Changes since the OBC was approved

4.8.1 As discussed elsewhere in this report the Board undertook further consultation on the overall healthcare strategy in 2004. This resulted in the Board agreeing to retain the FDRI site and the SRI site for potential re-development as community healthcare facilities. This represents a change from the original option appraisal carried out at the time of the OBC.

4.8.2 Accordingly the following change has been made to the scope of the project since the OBC was approved. The change has the approval of the local health community and the Scottish Executive Health Department and reflects the outcome of further public consultation on the Healthcare Strategy in summer 2004.

4.8.3 The development of SRI has now been excluded from the project and will be included as part of OBCIII which will be brought forward at a later date and is covered elsewhere in this business case.

5 The Conventional Procurement Assessment Model

5.1 Conventional Procurement Assessment Model

This Section deals in further detail with the Conventional Procurement Assessment Model, which has been developed by the Board and its advisers.

5.1.1 This Section will examine:

- The methodology developed and applied for the preparation of the Conventional Procurement option
- The OBC Preferred Option and how this has developed into the Conventional Procurement Assessment Model (CPAM) or Public Sector Comparator (PSC) as it has been termed in this project
- A description of the CPAM
- The capital cost of the CPAM
- The revenue costs of the CPAM
- A description of the Key Risks to the project which are retained if the Conventional Procurement were to be implemented

5.2 CPAM Design Methodology

5.2.1 The methodology adopted by the Board for the development and preparation of the CPAM design is outlined below. The methodology adopted was developed in conjunction with the Board's technical advisers in the absence of any other general advice being available at the time for development of a CPAM / Public Sector Comparator. The level of detail to which the CPAM is developed as described in the methodology was considered appropriate for a number of reasons including:

- Allowing the Schedule of Accommodation to be tested by practical example
- Allowing the clinical brief and departmental adjacencies to be tested by practical example
- Establishing the impact of the development on the site taking into account key constraints
- Identification of the key areas of weakness of the design through subjecting the CPAM design to AEDET
- Establishment of the stakeholder environment.

5.2.2 The OBC Preferred Option is outlined in the preceding section. This was used as the basis for the CPAM design. The methodology developed and agreed was in four stages as follows:

Stage 1 - Desk study, including consultation with the Planners and site analysis.

Stage 2 - Design concept stage involving the production of 1:1250 Development Control Plan (DCP) options and identification of a ‘preferred’ option. The ‘preferred’ option would then be further developed to a 1:500 scale with sections and elevations to demonstrate the functionality to stakeholders.

Stage 3 - Further consultation with key stakeholders. Development of the 1:500 department layouts supplemented and, if required, with 1:200 drawings of key department layouts. Design workshop with the key stakeholders.

The planners were introduced to the CPAM design initially to illustrate the likely massing and utilisation of the site during the preparation of an outline planning application.

5.3 Description and Functional Content of CPAM.

5.3.1 The CPAM represents a comparator scheme, which would meet the Board's clinical and facility management output specifications. It assumes access to capital funds from government and is the benchmark used to demonstrate whether the PFI proposal offers value for money. The CPAM is the scheme from which the approved affordability figures are calculated.

5.3.2 The CPAM has been developed in sufficient detail to ensure that it provides an adequate benchmark against which the private sector solutions can be measured. It is based on the Preferred Option at the OBC.

5.3.3 Initial optioneering work quickly established the principle physical constraints and these were used to inform the design as was the high level functionality requirement to cater for patients visiting for both planned and unplanned activity, and the need for the building to cater for both these groups of patients inside and outside.

5.3.4 A number of strategic options were investigated and it was concluded that a dispersed or horizontal form of development was more appropriate rather than a vertical or multi-storey form of development. It was further concluded that for a building of this size and volume, a height of three or in part four storey was most appropriate to blend into the existing landscape. The layout option appraisal exercise tested that such a form of spread out development within the site area, together with the necessary infrastructure and access arrangements and it was considered that it could be achieved.

5.3.5 Departmental planning reviewed the Schedule of Accommodation which was interrogated to identify departmental relationships and those most suited to deep-planned areas and those requiring shallow depth building widths. This analysis concluded that the low-rise form of development could only be made to work if the overall footprint is penetrated by a series of internal courtyard spaces which break down the overall mass of the building.

5.3.6 The CPAM design is based on an indicative Schedule of Accommodation with rooms sized at the minimum from published health design guidance. For the purposes of the OBC, assumptions were made in regard to the circulation, plant and communication space with an allowance being made at the lower end of the norms. This was done on the basis that bidders would normally be aggressive in design development to keep these areas to a minimum to optimise the floor area.

5.3.7 Of equal constraint was the external circulation around the building, and in particular, the vehicular circulation for patients, visitors, staff, blue-light ambulance traffic, goods vehicles and fire-fighting vehicles. This concluded that a new "distributor" road would be required from a point on the A9 Stirling Road in order to bring all the traffic onto the site. The new "distributor" road would require a number of junctions feeding the primary, blue-light and services accesses into the acute hospital. It also concluded that it was likely that a second emergency fire-fighting vehicles only access may be required from Old Denny Road. In terms of

car-parking, the CPAM included for 1500 site surface car parking spaces which corresponded to a land take of approximately 3.75 ha.

5.3.8 The functional content of the facilities included in the CPAM is as follows:

- Emergency Centre
- Complex Services
- Ambulatory Care
- Rehabilitation and Intermediate Care
- Women's and Children Services
- Integrated Mental Health
- Clinical Support
- Non Clinical Support
- Mental Health Unit

5.4 Capital Cost

5.4.1 The capital costs for the project have been monitored from OBC, through the development of the CPAM is now compared with the PPP model. The development of these costs is indicated in the table over:

	OBC	OBC Update to 4Q033	Current CPAM Cost Plan
Total Construction Cost (exc VAT)	£133,957,114	£139,012,099	£148,971,714
Fees	£16,074,854	£16,681,452	£17,876,606
Equipment	-	-	-
Contingency	-	-	-
Optimism Bias	£40,830,128	£42,370,888	£22,899,932
Total at 4Q03	£190,862,096	£198,064,439	£189,748,251
Inflate to 1Q07		£50,644,325	£48,517,907
Updated Cost to ITN Date (2Q06)		£248,708,764	£238,266,159
Construction inflation		£21,438,143	£20,538,014
Outturn Cost (exc VAT)		270,146,907	£258,804,172

Table 5-1: CPAM Capital Costs Forecasts

Notes:

These costs are those included in the OB1 Form for Option 2Ciii contained in Appendix E2 of the OBC.

This total construction price is a 3Q02 base.

The "OBC Update" is inflation from 3Q02 (OBC construction price base date) to 4Q03.

5.4.2 A reconciliation of the shift from the OBC to the current CPAM can be given as follows:

5.4.3 The original OBC CAPEX was based on an indicative schedule of accommodation and an overall floor area of 78,942m2. This made various assumptions on the clinical areas and the likely level of optimisation that could be achieved in relation to communication and plant space if the designs were fully developed. These assumptions were adopted at that time but it was recognised that these were aggressive allowances that would be tested by both the CPAM design and Bidders detailed design processes.

5.4.4 In accordance with the agreed methodology, the CPAM design was limited to a high level assessment of design parameters including the site fit, massing, and departmental adjacencies, sufficient to allow planning issues to be developed and make a broad assessment of gross floor area. The clinical areas were based on minimum room sizes contained in health guidance. In terms of the impact on communication and plant space, the designs were not sufficiently developed to demonstrate optimised design assumptions for these parameters however identified that the assumptions made in the OBC regarding these elements were unlikely to be achieved. It was therefore agreed to adopt the following allowances for communications

and plant space (which were still considered to represent relatively aggressive targets):

- Acute Departments: 30%
- Mental Health: 20%

5.4.5 This resulted in an increase in the original OBC floor area from 78,942m^2 to 87,203m^2.

5.4.6 The design carried out by the Bidders throughout the bid process confirmed that the layout of the building to meet the clinical requirements of the Board resulted in marginally higher clinical areas, in some instances, than that assumed in the indicative Schedule of Accommodation which was based on minimum room sizes contained in health guidance. As a result it was agreed to marginally increase the departmental areas for the main entrance, medical records, staff facilities and facilities management and estates departments giving an overall increase in the departmental areas of 560m2. In addition, the Bidders were also unable to match the aggressive targets set in relation to communication and plant space and as a result it was agreed to increase the allowance for communications and plant space to 32% throughout the whole facilities. This increase, as a result of the Bidders detailed design process testing the floor area assumptions, confirmed that it would have been unlikely that the Board could have achieved the original floor area under traditional procurement. This resulted in an increase from 87,203m^2 above to 89,794m^2, the floor area upon which the final CPAM is based.

5.4.7 The increase in floor area throughout the procurement process as described above, along with inflationary changes represents the change in CAPEX from the OBC stage.

5.5 Life Cycle

5.5.1 The current CPAM life cycle cost allowance is £79,941,587 over the life of the concession and represents an annual allowance of £30.70/m^2. This is in line with the estimates included in the OBC and includes adjustments for indexation to 2Q06.

5.6 FM Services

5.6.1 The scope of facilities management costed within the OBC and CPAM are as follows:

- Estates Maintenance
- FM Management
- Helpdesk
- Catering
- Domestic
- Linen
- Pest Control
- Security
- Waste Management

- Materials Management
- Energy Costs
- Water
- Telephone
- Car-parking

5.6.2 The current CPAM facilities management cost allowance is £12,412,708/annum and represents an allowance of £130/m^2/annum. This is in line with the estimates included in the OBC and includes adjustments for indexation to 2Q06.

5.7 Key Risks if CPAM adopted

5.7.1 The project risks are discussed later in this report. Key risks that would have to be retained by the Board if the CPAM were to be adopted include:

- Design
- Construction Delays
- Ground conditions and contamination
- Fitness for purpose
- Compliance with Planning Requirements
- Capacity and availability of utilities and infrastructure
- Commissioning programme and costs
- Availability of the facilities
- Quality of management and performance of the services
- Incorrect cost estimates

5.8 Financial Impact of the CPAM

5.8.1 The Board's affordability framework for this project is based on the CPAM and has therefore been updated since the OBC to reflect the changes outlined above.

5.8.2 The CPAM will form the basis of the value for money comparison with the preferred PFI solution. The value for money and affordability of the CPAM and the PFI are considered later in separate sections.

6 The PFI Procurement Process

6.1 Introduction

This Section sets out the process, which the Board has followed in securing a preferred PFI Partner and seeks to demonstrate the robustness and rigour established by the Project Team and the Project Board. The Board, at all times, has followed NHSiS guidance contained in the Scottish Capital Investment Manual.

The Section will examine the process followed at:

- OJEU Stage
- Pre-Qualification Stage
- Invitation to Negotiate (ITN) Stage

6.1.1 The project has been procured under the relevant rules of the European Union, through the negotiated procedure applicable to Service Contracts under the 1993 Public Services Contracts Regulations. Copies of all documents issued to Bidders are available, in electronic format, from the Board's Project Office.

6.2 Involvement of Stakeholders

6.2.1 During all stages of the project there has been extensive involvement of stakeholders, both within and outwith the Board.

6.2.2 Over 150 multi-disciplinary clinical staff have been involved in developing the operational policies and specifications of requirements. They have also worked with the bidders at each stage of the procurement process in developing designs.

6.2.3 The involvement of clinical staff was led by the Clinical Advisory Group (CAG). A comprehensive range of healthcare planning groups were formed. These include:

1. Emergency Care
2. Ambulatory Care
3. Complex Services
4. Clinical Services
5. Rehabilitation and Intermediate Care
6. Integrated Mental Health
7. Mental Health Unit
8. Non Clinical Support Services
9. Women and Children

Table 6-1: Healthcare Planning Groups

6.2.4 Details the membership of each of the groups is available from the Project Team on request.

6.2.5 The involvement of so many clinical staff has ensured that clinicians within the Board have been able to guide the design process so that it has taken account of existing and emerging standards and guidance in relation to healthcare and the local health economy.

6.2.6 Forth Valley Facilities Services staff were similarly involved in developing the FM service specifications and meeting with the bidders to discuss the bidders' future proposals for the delivery of each Hard and Soft Facilities Management service.

6.3 Advertising the Project

6.3.1 The Board gave notice of the project through the publication of a Prior Information Notice in the Official Journal of the European Union (OJEU) and held a Market Awareness Day on 16 December 2004.

6.3.2 The Board held the Market Awareness Day at Inchyra Grange Hotel, Grangemouth and the event provided an opportunity for NHS Forth Valley staff and other key stakeholders to meet a wide variety of private sector companies who demonstrated great interest in the project.

6.3.3 A notice was placed in the Official Journal of the European Union (OJEU) ("S" series) on 24 December 2004, inviting applications from candidates who could fulfil the requirements of designing, building, financing and operating the facility. A copy of the OJEU notice as an appendix 2.

6.4 Pre-Qualification Questionnaire

6.4.1 Pre-Qualification Questionnaires (PQQ) and Memoranda of Information (MOI) were issued to all organisations responding to the OJEU advertisement. The closing date for return of PQQs was February 2005.

6.4.2 The purpose of the pre-qualification stage was to evaluate whether consortia interested in the project, and companies within individual consortia, had the relevant experience and ability to undertake design, build, finance and operate projects of a similar size to the planned project.

6.4.3 The submissions were received in hard copy format and on CD and receipt was recorded in NHS Forth Valley's tender book. The PQQ's were evaluated in accordance with the Evaluation Framework agreed by the Project Board on 7 January 2005.

6.4.4 Three consortia submitted completed PQQs by the closing date

- John Laing Social Infrastructure (previously Equion Ltd)/ Laing O'Rourke
- Skanska/Innisfree
- Pegasus Security Group Ltd

6.5 *Evaluation of PQQ submissions*

6.5.1 In accordance with the procedure endorsed by the Project Board, evaluation teams, under the direction of a Main Evaluation Panel, undertook the evaluation.

6.5.2 The evaluation process was conducted in two stages. The first, preliminary evaluation to assess completeness, eligibility and ability to deliver the project involved a series of pass/fail questions.

6.5.3 The Main Evaluation Group recommended that Pegasus did not proceed to the procurement stage as it failed a high number of the Pass/Fail evaluation questions relating to the technical and legal sections. It was agreed that Pegasus (a security company) attempted to pre-qualify without any real understanding of the requirements.

6.5.4 The remaining candidates were submitted for the detailed second stage review. This stage reviewed their:

- technical capacity and ability
- solvency and financial strength

6.5.5 In addition the Panel undertook an evaluation of each consortium as a whole. This focussed upon the experience and track record of the consortium working together.

6.5.6 Two consortia demonstrated that they had the experience and resources to undertake the project. The Project Board, at its meeting on 10 March 2005, agreed that both consortia be included for progression to the Invitation to Negotiate (ITN) stage.

- John Laing Social Infrastructure (previously Equion Ltd)/ Laing O'Rourke
- Skanska/Innisfree

6.6 Invitation to Negotiate Documentation

6.6.1 ITN documentation was issued to the two short listed consortia in May 2005, with a closing date for submission to the Board of 14 November 2005.

6.6.2 The purpose of the ITN documentation was to:

- provide further information in relation to the Project and the supporting healthcare philosophy
- set out the key assumptions and constraints which Bidders need to understand in preparing their proposals for the Project
- require detailed proposals for the design, construction, servicing and financing of the project
- require fixed priced Bids
- seek substantive agreement on all contractual issues affecting price and risk allocation, including payment mechanism and performance regime
- set out the framework, and information requirements within which the responses to the ITN should be made
- set out the deliverables and the evaluation criteria, which the Board would apply to the responses received
- facilitate the evaluation of Bids to enable the Board to select a Preferred Bidder

6.6.3 The ITN documentation was made up of six parts:

- Volume I – Instructions to Bidders
- Volume II – The Project Agreement
- Volume III a – NHS Forth Valley's Construction Requirements
- Volume III b – Equipment incorporating Room Data Sheets
- Volume III c – Service Level Specifications
- Volume IV – Data Room Catalogue

6.6.4 The bid requirements and the timescales were all set out in the ITN, together with the evaluation framework so that bidders were aware of the NHS Board's priorities when constructing their bids.

6.6.5 The bid period ran from May 2005 to 14 November 2005, with the shortlisted bidders requested to submit bids by 14 November 2005. Commercial bids covering legal and financial issues, and the payment mechanism, were submitted. Volume 2 of the ITN, containing the draft project agreement and payment mechanism, was not issued by the NHS Board until July 2005 following clarification and approval from SEHD on the use of a new Forth Valley specific payment mechanism.

6.6.6 The Bidders also had access to a "virtual" electronic Data Room, which gave access to documentation and plans to assist them in developing their ITN submissions. A number of consultation meetings were held with bidders and the In House Team during the bid period, and additional meetings were arranged where appropriate. In addition, each bidder also

met with the Falkirk District Council planning department on at least 2 occasions. In total 41 consultation meetings were held with bidders and over 100 clarifications were received from bidders.

6.7 Interaction between the Bidders and the Board during the ITN period

6.7.1 In the ITN period the bidders were offered the opportunity of meetings with Board personnel to enable them to discuss and refine their proposals. Over 50 meetings were held and 24 visits undertaken by Bidders to clinical areas, FM services, and the general estate.

6.7.2 In addition 110 Clarification Requests for Information were received asking for clarification of information in the ITN documentation, or seeking further information following on from the meetings and visits.

6.7.3 All of the Bidders also had access to a “virtual” electronic Data Room, which gave them access to documentation, including plans, about the Board and local health community, which would assist them in developing their ITN submissions.

6.7.4 Both bidders submitted ITN proposals by the closing date.

6.8 In-house Bids

6.8.1 The NHS Board in July 2004 considered a report on the implications of the Scottish Executive / STUC Staffing Protocol in Public Private Partnership Projects (HDL (2003) 50). The report outlined the options open to the NHS Board in structuring the procurement for Soft Facilities Management services in both the Clackmannanshire Community Health Services Project and the New Acute Hospital Project. The report had been prepared after consultation with the Area Partnership Forum and consideration by the Staff Governance Committee.

6.8.2 The NHS Board agreed in July 2004 to test Value for Money (VfM) for the provision of Soft Facilities Management services via the procurement process for both projects, and allow for the submission of an In House Bid. Accordingly, procurements for both projects were structured to incorporate an In House Bid for Soft Facilities Management services, and external bidders instructed via the ITN, and through meetings during the bid period, that an In House Bid would be submitted.

6.8.3 An In House Bid Team was established, supported by professional advisers (separate to the NHS Board’s advisers), and began work in February 2005 in readiness for the issue of ITN for both projects.

6.8.4 The Invitation to Negotiate (ITN) documentation was issued to the two short listed bidders for the Project in May 2005. Prior to the issue of the ITN the NHS Board, at its meeting in April 2005, approved the affordability for the Project, and received a report on the pre-ITN Key Stage Review. In addition, the In House Bid Team was invited to submit a bid for the provision of the Soft Facilities Management services.

6.8.5 Each short listed bidder was asked to submit two separate bids:

- A Bid 1 contained detailed proposals for the design, build, finance and maintenance of the new facilities; and
- A Bid 2 that contained detailed proposals for the design, build, finance and maintenance of the new facilities, and also detailed proposals for the provision of Soft Facilities Management services.

6.8.6 At the same time as external bidders were preparing their bids, the In House Bid Team submitted a generic proposal ("Generic Bid") for the delivery of the Soft Facilities Management services. This proposal was based on the data available as part of the CPAM design carried out by NHS Forth Valley, and information in the ITN.

6.8.7 Once bids had been received from the external bidders, the In House Bid Team was sent a copy of the Bid 1 designs in order that the In House Team could tailor their generic bid for each bidder's specific design. The In House Team then submitted two specific bids to be evaluated as an integral part of the Bid 1 submissions.

6.8.8 Deadlines for the In House Team were:

- 14 November 2005 for the generic bid
- 5 January 2006 for the two specific bids. The In House Team having received details of the two bidders specific design proposals submitted technical and commercial bids in respect of the specific designs

6.8.9 All the bids submitted were considered against each other for evaluation purposes as detailed below. The In House Bid Team's two specific bids were evaluated as an integral part of Bid 1.

Consolidated Bid 1		Bid 2
Skanska Innisfree (Hard FM only)	In House Bid Team Specific Bid for Skanska Innisfree	Skanska Innisfree (Hard and Soft FM)
John Laing Social Infrastructure Ltd (Hard FM only)	In House Bid Team Specific Bid for Equion Limited	John Laing Social Infrastructure Ltd (Hard and Soft FM)

Table 6-2: Summary Bid Structure

6.9 Process for Evaluation of ITN submissions

6.9.1 Context

The Board's evaluation methodology set in the wider context of the procurement process which is in line with the Scottish Capital Investment Manual (SCIM) and the SE/STUC Protocol.

The process considers:

- Evaluation Structure
- Role & Remit of Groups

6.9.2 Accountability and Transparency

The evaluation was required to be a coherent and transparent procedure, allowing NHS Forth Valley to assess all aspects of each of the Bids (including the submission from the In-House Bid Team). It is imperative that the evaluation procedure was fully documented with a clear audit trail. Full accountability and transparency was achieved by:

- Clearly defining and recording the key features of the process
- Making the evaluation principles known to Bidders in terms of setting out broad principles in the ITN documentation and subsequent clarification meetings
- Ensuring that judgements are made, not by an individual, but by groups comprising appropriately experienced and competent persons from NHS Forth Valley, its advisors and other stakeholders
- De-briefing the unsuccessful Bidders, at their request, using a structured and controlled process in accordance with the Procurement regulations
- Giving feedback to all stakeholders involved in the evaluation process

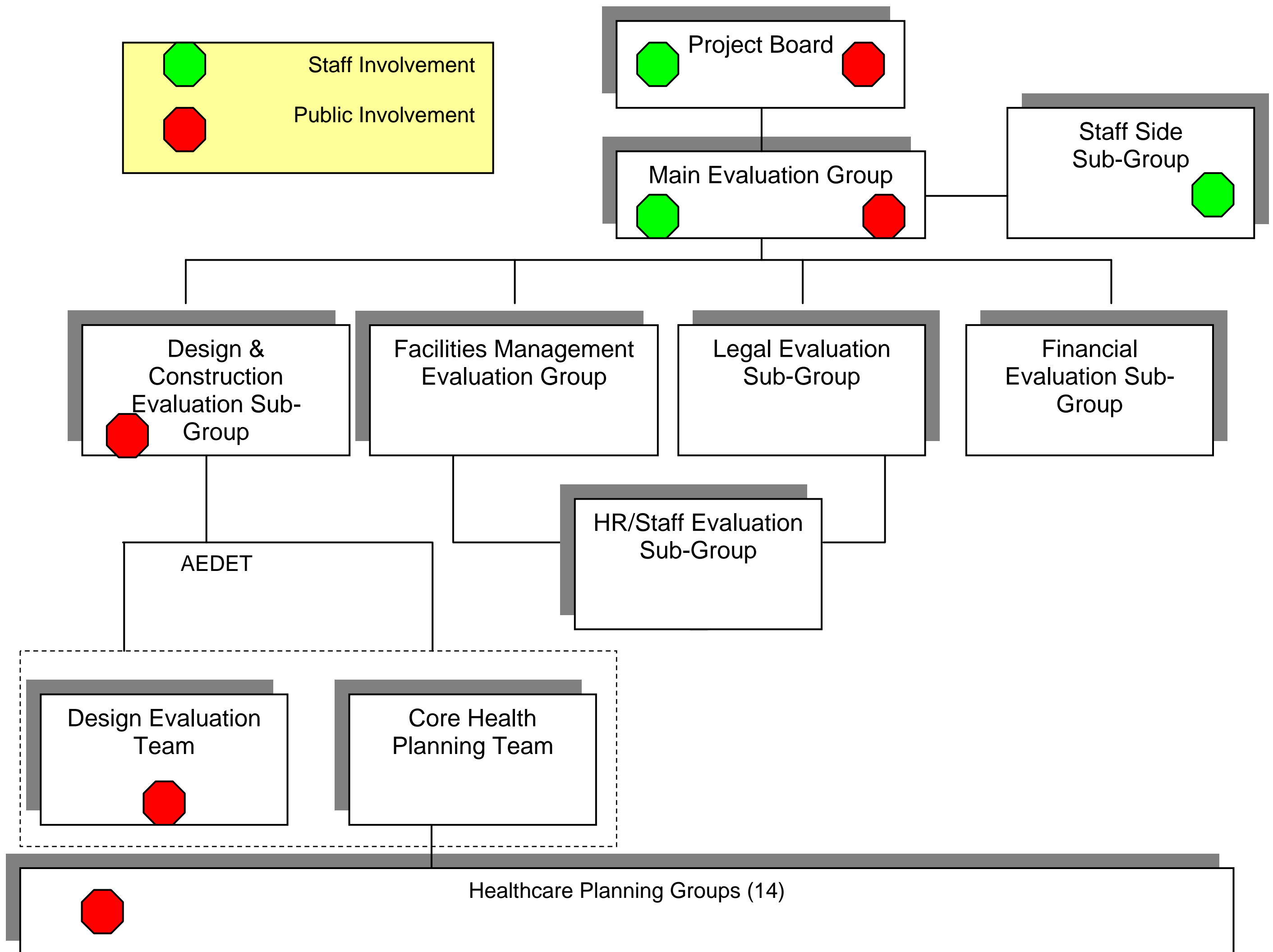
6.9.3 Bids to be Evaluated

The bids evaluated are detailed in the preceding section. All of the submitted bids could then be considered against each for evaluation purposes.

6.9.4 Evaluation Team Structure

Below is a diagram that describes the structure of the evaluation groups, whose members and core duties are described in more detail below. The evaluation sub-groups were as follows:

- Main Evaluation Group
- Legal Evaluation Sub-Group
- Financial Evaluation Sub-Group
- Design and Construction Sub-Group
- Facilities Management Sub-Group
- HR/Staff Evaluation Sub-Groups
- Design Evaluation Team
- Core Health Planning Team
- Healthcare Planning Groups


Staff Involvement
Public Involvement
Project Board
Main Evaluation Group
Staff Side Sub-Group
Design & Construction Evaluation Sub-Group
Facilities Management Evaluation Group
Legal Evaluation Sub-Group
Financial Evaluation Sub-Group
HR/Staff Evaluation Sub-Group
AEDET
Design Evaluation Team
Core Health Planning Team
Healthcare Planning Groups (14)

The Main Evaluation Group co-ordinated the detailed work of the Legal, Financial, Design and Construction and Facilities Management Sub-Groups, and made recommendations to the Project Board, which in turn made recommendations to the NHS Board. In addition, a Staff side Sub-Group was formed to comment on Bids. There was also Partnership and Patient Public Panel representation through the structure which is annotated on the above diagram.

6.9.5 Main Evaluation Group

The Main Evaluation Group was made up from representatives from the Legal, Financial, Design & Construction and Facilities Management Evaluation Sub-Groups and the Project Director.

The core duties of this team were as follows:

- To carry out the detailed evaluation of ITN category B (General)
- To ensure that consistency has been achieved between the evaluation groups
- To consider the recommendations, and reports from the Sub-Groups and adapt or seek further review or gain clarification from the Sub-Group
- To draw together the overall evaluation scoring from the evaluation groups
- To co-ordinate the issue and receipt of clarifications (except where agreed with the chair of the Main Evaluation Group)
- To make a recommendation to the Project Board regarding the Preferred Bidder appointment

6.9.6 Legal Evaluation Sub-Group

The Legal Evaluation Sub-Group was made up from representatives from the Legal Team, Legal Advisors and Insurance Advisers.

The core duties of this team were as follows:

- To carry out the detailed evaluation of ITN Category C (Legal Response)
- To make recommendations on Bidder scores and report the results of the evaluations to the Main Evaluation Group
- To liaise with the HR Issues Team in respect of legal/staff issues and ensure their evaluation is reflected in the legal ITN Evaluation
- To liaise with all other Evaluation Sub-Groups, as necessary, to ensure all project / bidder specific issues relating to financial and technical items arising from the bidder response to the project documentation are taken into account in the Sub-Group Evaluations

6.9.7 Financial Evaluation Sub-Group

The Financial Evaluation Sub-Group was made up from the Project Board and Finance Team, Insurance and Financial Advisors.

The core duties of this sub-group were as follows:

- To carry out the detailed evaluation of ITN Category D (Finance Response)
- To make recommendations on Bidder scores and report the results of the evaluations to the Main Evaluation Group
- To liaise with all other Evaluation Sub-Groups, as necessary, to ensure all project / bidder specific issues relating to financial and technical items arising from the bidder response to the project documentation are taken into account in the Sub-Group Evaluations

6.9.8 Design and Construction Evaluation Sub-Group

The Design and Construction Evaluation Sub-Group was made up from representatives from NHS Forth Valley's Project Management Team, Estates Team, Technical Advisors and leads from the Service Planning/Clinical Groups and Stakeholders.

The core duties of this team were:

- To carry out the detailed evaluation of ITN categories E (Approach to Design and Construction)
- To liaise with the Design Evaluation Team to agree the AEDET assessment of each of the bids and ensure this is reflected in the ITN evaluation
- To make recommendations on Bidder scores and report the results of the evaluations to the Main Evaluation Group
- To liaise with all other Evaluation Sub-Groups, as necessary, to ensure all project / bidder specific issues relating to financial and technical items arising from the bidder response to the project documentation are taken into account in the Sub-Group Evaluations

6.9.9 Design Evaluation Team

The Design Evaluation Team was made up from representatives from .the Core Health Planning Team, the Project Team and Technical Advisers.

The core duties of this team were:

- To undertake an AEDET assessment of each of the bids
- To make recommendations on Bidder scores and report the results of the evaluations to the Design and Construction Sub-Group

6.9.10 Core Health Planning Team

The Core Health Planning Team was made up of the leads from each of the Healthcare Planning Groups and representatives from Forth Valley including IT, Infection Control and Equipment.

The core duties of the Core Health Planning Team were:

- To carry out detailed evaluation of the design (healthcare planning and architectural) proposals from a clinical functionality perspective for the whole hospital
- To contribute to the AEDET assessment of each of the Bids carried out by the Design Evaluation Team

6.9.11 Healthcare Planning Group

The Healthcare Planning Groups are the groups who were responsible for the development of the Clinical Output Based Specifications.

The core duties of the Healthcare Planning Groups were:

- To carry out detailed evaluation of the design (healthcare planning and architectural) proposals from a clinical functionality perspective for their relevant clinical areas
- To report the results to the Core Health Planning Team

6.9.12 Facilities Management Evaluation Sub-Group

The Facilities Management Evaluation Sub-Group was made up of the NHS Forth Valley's Project Management Team, Estates Team, Hotel Services Team and Technical Advisors.

The core duties of the team were:

- To carry out the detailed evaluation of ITN category F (Approach to Facilities Management)
- To make recommendations on Bidder scores and report the results of the evaluations to the Main Evaluation Group
- To liaise with the HR Issues Team in respect of legal/staff issues and ensure their evaluation is reflected in the Facilities Management ITN Evaluation
- To liaise with all other Evaluation Sub-Groups, as necessary, to ensure all project / Bidder specific issues relating to financial and technical items arising from the Bidder response to the project documentation are taken into account in the Sub-Group Evaluations

6.9.13 HR Issues Sub-Group

The HR Issues Sub-Group was made up of representatives from the Facilities Management Evaluation Sub-Group and the Legal Evaluation Sub-Group.

The core duties of the team were:

- To carry out evaluation of proposals in relation to facilities management staffing issues (i.e. pensions, TUPE etc)
- To feedback the results of the evaluation to the Facilities Management and Legal Evaluation Sub-Groups to ensure that the results are reflected in the overall ITN evaluation

6.9.14 Staffside Sub-Group

- The Staffside Sub-Group was made up of Staffside representatives / full time officials
- The core duty of the Staff-side Sub-Group was to provide an independent report to the Main Evaluation Panel from their meetings with the Bidders throughout the Bid Period and with regard to the Bidder's proposals

6.9.15 Evaluation Criteria

The evaluation included a qualitative evaluation using a process of scoring bids against key criteria, and a quantitative analysis evaluating affordability, value for money and deliverability.

For the qualitative evaluation the following evaluation categories and weightings were applied.

At each stage the evaluation criteria used were weighted to reflect their relative importance to each other. The ITN evaluation criteria and weighting as agreed by the Project Board was as follows:

Evaluation Criteria	Maximum Potential Weighted Score
Project Management	5%
Legal	10%
Financial	10%
Design & Construction	42%
Facilities Management	33%
Aggregate Maximum Score/Total Score	100%

Table 6-3: Evaluation Criteria

6.9.16 As a sub-group of the Design and Technical team, the CAG also evaluated the submissions from a healthcare planning aspect. The team focussed on reviewing the submissions for:

- Clinical adjacencies
- Ability to deliver the proposed model of care
- Flexibility of the design

6.9.17 In addition the Project Board undertook an evaluation of each Bidder as a whole. This reviewed the evaluation undertaken at PQQ stage, and updated it to reflect additional information provided at ITN stage.

6.9.18 In excess of over 100 Board staff and advisers were involved in the ITN evaluation process.

6.9.19 Bidders were informed within the ITN documentation of the main criteria against which their submissions would be evaluated.

6.9.20 The Project Board received a report back from each evaluation team setting out the scores for each Bidder. The reports also highlighted any issues or concerns that had been considered during the evaluation process.

6.10 Results of Evaluation of ITN submissions

6.10.1 The ITN evaluation process comprises two separate evaluation exercises:

6.10.2 The qualitative evaluation, where non-financial aspects of the proposals were assessed

6.10.3 The quantitative evaluation, where the financial aspects of the proposals were evaluated to determine which proposal achieves best value for money and which, at this stage, better meets the Board's affordability constraint.

6.10.4 The structure approved by the Project Board, as set out in previously, was used for the qualitative evaluation.

6.10.5 The sub-groups of the FM Services and Human Resources team each evaluated the service proposals in respect of the FM services included within their group.

6.10.6 The methodology adopted in the qualitative evaluation of aggregating and weighting scores was consistent with that used at the PQQ and ITN stages of the procurement process. It was also consistent with qualitative evaluation methodologies used on other PFI projects.

6.10.7 The table below summarises the final weighted scores from the qualitative evaluation for each Bidder.

Evaluation Category	Maximum Potential Weighted Score	Bidder			
		JLSI		Skanska	
		Bid 1	Bid 2	Bid 1	Bid 2
Project Management	5%	3.5	3.5	3.1	3.1
Legal	10%	6.5	6.5	5.7	5.7
Financial	10%	6.3	6.3	6.35	6.35
Design & Construction	42%	32.31	32.31	30.56	30.56
Facilities Management	33%	23.33	26.2	23.05	25.45
Total	100%	71.9	74.8	68.8	71.2
Ranking		2	1	4	3

Table 6-4: ITN Evaluation Qualitative Scores

6.10.8 Sensitivity analyses of evaluation process were undertaken, which confirmed the robustness of the ranking of the Bidders.

6.10.9 The Board's financial advisers, PricewaterhouseCoopers (PwC) undertook the financial (quantitative) evaluation on the price, value for money and funding deliverability of the submissions received from the two bidders on behalf of the Board.

6.10.10 The outcome of the quantitative evaluation was that John Laing Social Infrastructure's reference bid offered lower financial cost to the Board, as measured in NPV terms and first full operating year Service Payments.

	JLSI		Skanska	
	Bid 1 £m	Bid 2 £m	Bid 1 £m	Bid 2 £m
Unitary Charge	34.2	32.6	34.5	32.6
Ranking	3	1=	4	1=
The Board's Affordable Unitary Charge	32.0 to 33.0	32.0 to 33.0	32.0 to 33.0	32.0 to 33.0

Table 6-5: ITN Evaluation Quantative Scores

6.10.11 The Project Team agreed that on the basis of both the qualitative and quantitative evaluations, they should recommend to the Project Board that bid 2 (including soft FM services) from John Laing Social Infrastructure be selected as Preferred Bidder. The Project Team considered that John Laing Social Infrastructure had demonstrated that they had partnership capabilities that were in line with the Board philosophy.

6.10.12 The Project Board at its meeting on March 2006 agreed with the Project Team's recommendation that John Laing Social Infrastructure be selected

as Preferred Bidder. This recommendation was confirmed at the Board meeting, immediately following the Project Board.

6.10.13 Following the Project Board and Board meetings on March 2006, a letter was sent to John Laing Social Infrastructure advising them that they had been selected as Preferred Bidder.

6.10.14 The Board announced the selection of John Laing Social Infrastructure as Preferred Bidder at its public meeting on April 2006.

6.11 Feedback to Unsuccessful Bidders

6.11.1 The Board acknowledged the contribution that Skanska Innisfree and the In House Team had made to the procurement process. They acknowledged the efforts, commitment and professionalism shown by them at each stage of the process.

6.11.2 Representatives of both parties also met with the Project Team and were given a full debrief on the Evaluation. The feedback meeting reviewed, on an area by area basis, the key findings of the evaluation and provided input on the general management of the bid process.

6.12 Interaction with the Preferred Bidder

6.12.1 Since the selection of the Preferred Bidder the users have been meeting with John Laing Social Infrastructure to assist in developing the design and agreeing 1:500, 1:200 and 1:50 drawings for their departments, along with Room Data Sheets.

6.12.2 The Project Team has also been meeting with John Laing Social Infrastructure to discuss and agree technical and FM service proposals.

7 The Preferred PFI Solution

7.1 Introduction

7.1.1 The objective of the development is to provide one integrated hospital. The proposed scheme from John Laing Social Infrastructure will deliver a modern environment where current clinical best practice is the starting point for continuous improvement and patients are cared for in clean, safe, high quality surroundings that make best use of resources.

7.1.2 The new facilities will be of a high quality and will provide flexible and adaptable accommodation.

7.1.3 John Laing Social Infrastructure will provide both hard and soft FM services to the core hospital site.

7.2 Consortium Members and Project Structure

7.2.1 Detailed below are the consortium members

- John Laing Social Infrastructure Limited
- Laing O'Rourke
- Serco

7.2.2 A brief summary of the experience of the main consortium members in delivering major acute hospital projects are available, on request, from the Project Office.

7.3 Project Description

7.3.1 The proposed scheme aims to achieve the integration of services, improve the effectiveness of clinical services, and provide a flexible, responsive and efficient facility to meet local, regional and national imperatives.

7.3.2 Drawings and plans of the proposed design are available, on request, from the Project Office.

7.4 Key Features of the Design

7.4.1 The key features of the design include:

- Good departmental relationships as required by the brief
- Medium rise three to four storey development
- Atrium, provides a welcoming entrance into the building
- Layout which affords views of the surrounding hills from the majority of patient beds
- Good use of natural daylight while minimising the nuisance glare from direct sunlight
- Flexible layout using innovative space planning

- Excellent separation of patient, visitor, staff and facility management flows
- Convenient car parking for patients, visitors and staff
- Energy efficiency and sustainability
- Building sensitively screened with extensive tree planting
- Dedicated 2 lane blue light access
- Secure FM service route hubs and chutes
- Use of Automated Guided Vehicles to move items around the hospital
- Robust engineering proposals

7.5 *Making best use of the site*

7.5.1 The design uses the natural slope of the site with the lowest floor cutting into the slope assisting with access at both sides of the building.

7.5.2 The location of the main in-patient accommodation on the north side of the hospital street has provided (particularly at upper floor levels) views from the majority of patient beds towards Tullibody and the Ochil Hills beyond but with only the briefest direct sunlight during early summer mornings penetrating the rooms. Sunlight on the other hand will penetrate accommodation on the south side of the development most beneficially the patient areas of the Ambulatory Care and Women and Children's facilities. The use of natural light and avoidance of deep plan building solutions has presented a solution that should allow a pleasant work and hospital environment to be created.

7.5.3 Access to the hospital will be straightforward, with clear signposting and dedicated car parks close to the relevant entrances. On the whole, the road network, associated park and drop off areas, and provision of dedicated entrances where necessary will facilitate good access and egress. A separate blue light access route from Stirling Road has been provided.

7.6 *Clinical adjacencies*

7.6.1 The departmental relationships required to be delivered by the brief were met to a large extent at the ITN stage. Since the ITN stage, further design development has addressed any inadequacies in the design in terms of department relationships which were identified at the ITN stage. This has been carried out in close co-operation with the Board's own health planners and clinicians. The solution is healthcare-driven and designed around clinical needs. Internal flows benefit from the very good separation of flow types, and the rectilinear approach to departmental planning has facilitated good opportunities for minimising staff journeys.

7.6.2 Access and circulation for patients, visitors and FM traffic internally is clear and generally well segregated from each other. This is largely due to the well defined entrance and communication routes serving each level drawing patients and visitors naturally from entrances to the outpatient and treatment and diagnostic areas at ground level or to one of the nodally positioned vertical stair / lift hubs, which alternate along the main hospital street between 'visitor' and 'FM' function. In essence this means that the ground floor entrance and street serves all outpatient and visitor traffic,

whilst the street at all upper levels is left free for inpatient (primarily trolley or wheelchair bound) horizontal traffic. This strategy should enable a high degree of patient privacy and dignity to be achieved.

7.6.3 A dedicated horizontal route for the circulation of FM traffic has been provided in the form of a lower ground walkway located so as to connect with FM hub spaces serving clinical departments above. FM hub positions have been provided on all floors with a view to serving all the FM distribution needs and with two exceptions, (Women and Children's Services and MHU), the areas served are of a size where good segregation from other traffic can be maintained. Portering, catering, linen and waste traffic are to utilise the lower ground walkways and dedicated FM lifts although these services will be supported by a mixture of gravity waste disposal chutes, pneumatic tubes and precision robotics system.

7.7 Flexibility and future expansion

7.7.1 The proposed design allows for both internal and external adaptation to meet the changing ways in which care will be delivered in the future.

7.7.2 In the next 5 to 10 years, there is expected to be an increase in the acuity of cases arriving at the hospital. As more routine outpatient services are delivered by specialist and general primary care teams in community settings, specialist cases will continue to increase, requiring longer outpatient consultations, longer lengths of stay and more complex diagnostics and treatments.

7.7.3 Accommodation has been planned and designed to adapt to these changes, with a standardised room specification so that rooms can be easily converted to alternative uses, and yet readily tailored to specialist needs.

7.7.4 In terms of the structural design, a flat floor slab has been adopted, i.e. one with no down stand beams or perimeter up stand beams. Wherever possible columns have been placed within wall. Compartmentalisation has been achieved without the use of load bearing walls. These design features have provided great flexibility of design and potential for expansion and / or structural change.

7.7.5 Zones have been dedicated for new build and both vertical and horizontal expansion will be possible.

7.7.6 Knock out panels have been provided in the proposed structure to allow for future changes and / or expansion to the hospital utilities.

7.7.7 Examples of short-term flexibility include out-patient clinics that are clustered and can be readily rearranged.

Examples of long-term strategic flexibility include:

- Space provided for the predicted growth of MRI scanning
- Soft space such as offices areas arranged throughout the hospital

7.7.8 Interior design

A series of atria will allow daylight to penetrate throughout the hospital. Throughout the hospital, the importance of daylight is acknowledged: virtually every room has a window.

7.8 Phasing

7.8.1 The proposed programme for the works is 42 months following Contract Date.

7.8.2 The construction will be completed in 3 phases as follows:

- Phase 1: November 2009
- Phase 2: February 2010
- Phase 3: October 2010

7.8.3 It is expected there will be minimal temporary decants of critical operational areas. Most clinical staff and patients move once only, and in such a manner that continuous operations will be maintained.

7.8.4 It is anticipated that the majority of services in Phase I will be transferred from FDRI. The phasing will also enable the decant methodology to be refined before the major SRI decant to the new hospital.

7.9 Commissioning

7.9.1 The commissioning arrangements for a hospital of this size and complexity require significant planning. The commissioning arrangements will need to be finalised following Contract Award and will be based on principles set out in the Project Agreement. Generally, prior to practical completion Project Co will construct the facilities and install all Project Co. procured equipment. In addition, phases will be provided in the construction programme for the Board to install their fixed equipment. Following Practical Completion, the Board will install all their movable equipment and furniture and a clinical clean will then be carried out by Project Co prior to the commencement of clinical services at the site.

7.10 Impact on FM Services

7.10.1 Throughout the Mobilisation Period there will be a series of construction activities and department decants, both of which have the potential for disrupting the effective delivery of FM services to staff, patients and their visitors if not planned for thoroughly. For each FM service John Laing Social Infrastructure will finalise and agree with the Boards generic approach to ensure continued service provision for the Board's

departments before, during and after decant. Work is currently underway to ensure continuity of services.

7.11 NEAT - Sustainable approach to development

7.11.1 As a deliverable at ITN the Board required the potential partners to carry out an evaluation of their proposals using the NHS Environment Action Tool (NEAT).

7.11.2 John Laing Social Infrastructure submitted a score of 76.15%, which is classified as "Excellent " under the tool. Their ITN proposal, which the final scheme has not deviated from, maximised the use of natural light and ventilation and minimised the use of mechanical, tempered and cooled ventilation system. The efficient and effective design has led to anticipated energy consumption within the government target of 35 – 55 Gj/100m3 for new developments. The NEAT assessment has continued to be refined since the ITN stage.

7.12 Planning Permission

7.12.1 The Board holds an outline planning consent for the redevelopment of the Larbert Site. Planning permission was granted on 31 August 2006.

7.12.2 On behalf of the Board, John Laing Social Infrastructure submitted a detailed planning application in October 2006. Falkirk Council has advised that they are scheduled to hear this consent during Development Control Committee meeting in February 2007.

7.13 Variant Proposals

7.13.1 At the request of the Board, John Laing Social Infrastructure submitted three mandatory variant proposals. Two were considered to be within the affordability framework and provide value for money to the Board. They have, therefore, been accepted and included in the project for development at the Preferred Bidder stage. The two accepted mandatory variants are:

- Inclusion of the European Investment Bank as funders for the project
- Payment of unitary change during month

To enable understanding of the dynamics of the service payment John Laing Social Infrastructure proposed some optional variants for consideration. These included an extended concession period and similar "financial engineering options". These were not taken forward.

7.14 Service Transition

7.14.1 Project Co. will not provide interim services to the Stirling and Falkirk sites as part of the PFI project. The Board will continue to deliver the FM services at Falkirk and Stirling up to the commencement of the delivery of FM services at Larbert 2009/10. Project Co. will be responsible for the delivery of all FM Services at Larbert.

7.14.2 A significant number of the staff currently delivering the FM services at both Falkirk and Stirling will transfer to Project Co at the Actual Completion Dates of each phase. The intention is that the staff currently based at Falkirk will transfer to Project Co on the Phase 1 Actual Completion Date

and the staff currently based at Stirling will transfer to Project Co on the Phase 3 Actual Completion Date.

7.14.3 In line with the above approach, there requires to be management arrangements in place prior to the Phase 1 Actual Completion Date and the Phase 3 Actual Completion Date to allow Project Co access to train the staff who will transfer to them on the Actual Completion Dates. These interim arrangements are in the process of being fully developed and finalised however are likely to take place in a 3 month period prior to the Actual Completion Dates. During this time the Board will provide additional staff to both Falkirk and Stirling to backfill the staffing while the staff attends Project Co training and familiarisation activities.

7.14.4 The delivery of services at Stirling and Falkirk in the period post 2009/10, the Larbert commencement, will be fully considered as part of the development of OBC III.

7.15 Timetable

7.15.1 The table below sets out the proposed timetable for completion of the development.

Detailed Planning Consent	February 2007
Financial Close	March 2007
New Hospital Phase 1 Practical Completion	November 2009
Hospital Complete	October 2010

Table 7-1: Timetable for the Scheme

8 Human Resources

8.1 Introduction

8.1.1 Facilities Management employ some 640 (425 wte) staff across FDRI and SRI. The services are a combination of hard and soft FM with only Pest Control and Grounds Maintenance currently provided through an external contractor. Facilities management services are normally categorised as either "hard" services or "soft" services. Hard services are normally those associated with building and estates maintenance, and soft services are normally considered to be the non-clinical support services such as catering, cleaning, laundry and waste management. There is no clear guidance laid down as to which service is classified as either hard or soft; this is best determined on a project by project basis.

8.1.2 In Forth Valley most facilities management services are delivered by the Forth Valley Facilities Unit, with some soft services delivered on a contractual basis by other providers' e.g. clinical waste management, laundry.

8.1.3 The distinction between hard and soft services is an important one within the PPP/PFI procurement process. Under a traditional PPP/PFI model the private sector developer would take responsibility for hard facilities management services as it is the developer who is responsible for designing and building the new facilities.

8.1.4 Following discussions with staff representatives, the project team, professional advisers, and the Area Technical Reference Group, The Staff Governance Committee recommended that value for money was tested as part of the procurement for the project. They also recommended that an agreed range of soft services be included within the scope of the facilities management services, to be tested through the procurement process. Accordingly and in-house bid team was formed to take forward this option.

8.1.5 As outlined in the STUC protocol all staff in these services will be subject to transfer under the Transfer of Undertakings (Protection of Employment) Act 1981 (TUPE). These posts will transfer under the guidance of the STUC protocol and will be subject to formal consultation and negotiation with staff side representatives.

8.1.6 A tripartite approach has been developed and agreed between John Laing Social Infrastructure, Trade Unions and the Board to facilitate partnership working and collective understanding. Effective management of the change process will be critical to the continuing successful delivery of FM services and the retention of FM staff.

8.1.7 An integrative management/partnership approach is being developed to support staff following service transfer.

8.1.8 No staff working in clinical services are transferred to the private sector as part of the PFI contract.

8.2 Facilities Management Staff

8.2.1 FM management and those staff within the following FM Services will be transferring:

- Catering (Patient & Non-patient)
- Portering (including post and Receipt & Distribution)
- Domestics & Housekeeping
- Security & Car Parking
- Laundry & Linen
- Estates (including utilities management)
- Waste Management
- Switchboard & Helpdesk
- Reception

8.3 STUC protocol application to FM Staff

8.3.1 It has been agreed with John Laing Social Infrastructure that the STUC Protocol applies.

8.3.2 All staff transferring as part of the services transfer will transfer under TUPE regulations.

8.3.3 All staff transferring under TUPE will be provided with a broadly comparable pension, in a scheme, which is recognised by the Government Actuaries Department (GAD) with a GAD certificate. GAD has agreed bulk transfer arrangements on behalf of NHS Forth Valley.

8.3.4 John Laing Social Infrastructure has confirmed that those staff transferring under TUPE will be managed in accordance with Board policies and procedures including their obligations in respect of trade union recognition.

8.3.5 With regard to Hard FM staff, Forth Valley NHS Board will comply with HDL (2006) 10. This requires that, should an individual member of the Hard FM staff wish to remain in the employment of the NHS or another public sector body, the Board will seek to redeploy, retrain or relocate them. The circular calls for partnership working to ensure that employers and staff are reasonable and flexible in the process. This redeployment could be within the Board or another public sector employer.

Should these efforts not result in either redeployment or relocation TUPE will apply and the member of staff will transfer their employment

8.4 Agenda for Change

8.4.1 John Laing Social Infrastructure has committed to undertake full implementation of Agenda for Change for all transferring staff and future staff thus avoiding a two tier workforce.

8.4.2 The Project has had a formal HR communication strategy since 2003 that has been updated at each stage of the project. This highlighted the need

for openness and consultation with staff, trade unions and staff representatives.

8.4.3 The Facilities Partnership Forum, a sub-group of the Board's Partnership Committee meet on a regular basis. This is a forum for consultation and negotiation on project specific staff issues

8.4.4 In addition the Board has communicated directly with FM Staff via departmental and team meetings.

8.4.5 Trade Union representatives were given the opportunity to meet with shortlisted bidders and make representations to the Board regarding the outcome of their discussions.

8.4.6 A representative of the Acute Services Partnership was a member of the Project Board and participated in the ITN evaluation. The Project Board membership was recently reviewed and staff side are now represented by the NHS Forth Valley Employee Director.

8.4.7 Project Team members visited other sites of the preferred bidder where Serco provided FM services. These visits enabled them to view the new hospitals, question FM staff that had transferred to gauge their opinion on the transfer process. The findings were positive.

8.5 Integrated Management Approach

8.5.1 A Management Responsibility matrix is being developed to ensure that responsibilities for transferred FM staff are clear and unambiguous. The matrix will detail the specific Board and John Laing Social Infrastructure responsibilities regarding recruitment and selection of new staff, application of Board policies and pay and deductions.

8.5.2 John Laing Social Infrastructure will provide monthly reports on HR issues as part of the agreed monitoring process. This together with regular meetings to discuss key points will assist in maintaining a partnership approach to day-to-day staffing issues. A joint recruitment process will be agreed to ensure a seamless approach to posts covered by TUPE.

8.6 Workforce Planning

8.6.1 National Workforce Planning

The objective is to support the delivery of NHS priorities locally by ensuring there are sufficient numbers of appropriately trained and motivated staff working in the right locations. The HR strategy for the NHS sets out a managed programme for rapid expansion in the NHS workforce, and the introduction of more flexible ways of working and improving working lives of staff. Delivery of this strategy is absolutely central to the achievement of strategic priorities.

8.6.2 Local Workforce Planning

Whilst working towards national targets the Board must also consider the local workforce planning issues that are specific to the new hospital.

8.7 New Service Models

8.7.1 Many of the services will need to undergo changes in the way they are delivered, with a knock on effect on the shape, size and location of the workforce, including:

- The skill mix of staff employed
- Numbers of staff
- Flexible patterns of working

The Board intends to deliver these changes without making any staff compulsory redundant.

8.8 Change Management

8.8.1 The Board will develop a detailed change management action plan. This will enable the workforce to be supported through the next two or three years of organisational change and the introduction of new ways of working.

8.8.2 Given the size of the agenda ahead and other Boards' experiences of similar levels of change, the Board recognises the need for a systematic approach to the service and workforce redesign.

8.8.3 The exact structure and process for this is currently being developed within the Board.

9 Information Technology

9.1 Introduction

9.1.1 The project includes the provision and maintenance of structured wiring. Separately, the Board intends to support existing and procure new application hardware and software through separate contracts. The structured wiring provided by the project needs to be able to support both the current and future applications. Clearly it is impossible to predict the network requirements over the full period of the contract but the project includes provision for technology refresh.

9.1.2 The precise lines of demarcation of the scope of the provision by the project are given in the demarcation document in the Board's Construction Requirements included in the ITN.

9.1.3 As part of their ITN proposals, Bidders were asked to propose their preferred option for fully integrating the whole hospital data, voice and call systems on a common network utilising combined cable management infrastructure in line with the VPN development, technical advances and strategic direction identified in the ICT strategy.

9.1.4 JLSI responsibilities include:

- Cabling and face plates
- Telephony/Voice network, including personal paging and bleep system including patient bedside systems
- Containment system for the cabling infrastructure
- Patient telephone system and ward based payphones
- Pagers and staff location systems
- Switches and final connection to hardware/hubs
- Nurse Call Systems
- Security and CCTV Equipment

9.2 ICT Strategy and Timetable

9.2.1 The Board's ICT strategy is included on the Board's website. The strategy will be reviewed over the coming months but no major changes in strategic direction are anticipated.

9.2.2 The focus of the Board's ICT strategy and that of the national programme is to move towards clinical information systems supporting the move to electronic records rather than paper based systems. The information to support clinicians will be gathered from all the relevant organisations with which the patient/client has contacts and becomes an integrated care record.

9.2.3 Also, the current methods of communication between clinicians are inefficient and ineffective leading to delays and lack of continuity of care. Goals in this area include remote booking of hospital appointments and electronic handling of immediate discharge documentation.

9.2.4 As the plans for the new acute hospital are developed, careful consideration will need to be given to the clinical support system requirements. Whilst the current strategic direction supports a modular/incremental approach to the electronic care record, the new acute system provides an opportunity for a step change in the use of systems to support clinical care.

10 Equipment

10.1 Introduction

10.1.1 This section of the Full Business Case sets out clearly the following information:

- An overview of Equipment Requirements
- The management structure in place to manage the equipment procurement process
- The approach to funding for the Equipment

10.2 Equipment Requirements

Equipment can be grouped into four main categories.

- **Group 1 –** Items that are considered to be part of the building construction and are permanently wired or installed or that will be more effectively included at the building stage. e.g. air-conditioning, power sockets, data points
- **Group 2** – Equipment that will have an impact on building that may be procured separately and installed as an engineering contract e.g. imaging equipment
- **Group 3 –** Equipment that has an impact on space but will be purchased using capital funds and installed directly e.g. furniture
- **Group 4 –** Equipment that has implications for storage but do not have any structural requirements i.e. do not need to be plugged in e.g. instruments, linen.

10.2.1 The responsibility for equipment within the project is shared between the Board and Project Co. The split of responsibilities in relation to equipment is often approached by reference to the standard NHS definitions of Group 1, 2, 3 and 4 equipment. However with the advent of PPP/PFI projects; these previously well defined definitions of Groups 1-4 equipment have become blurred. To provide absolute clarity throughout the procurement process, the following approach was adopted by the Board in the ITN documents.

10.2.2 An Equipment Responsibility Matrix was developed which listed all the equipment to be included in the building along with the responsibilities of Project Co and NHS Forth Valley for each step of the equipment life cycle - this covered specification, tendering, selection of the equipment, initial and subsequent procurement, initial and refresh installation, commissioning, operation, maintenance, replacement, decommissioning and disposal. This allowed Bidders to understand their responsibilities in relation to equipment for capital, maintenance and lifecycle costing purposes.

10.2.3 A set of indicative Room Data Sheets were developed which listed the equipment for each room to allow the Bidders to understand where the equipment in the Equipment Responsibility Matrix would be located to

inform their design (spatial, loading and environmental criteria and infrastructure requirements)

10.2.4 The above documentation was developed on the basis of the CPAM design and the list of equipment included in the Equipment Responsibility Matrix was considered indicative since the final list would be dependent on the final design. However the responsibilities defined in the Equipment Responsibility Matrix were mandatory. The indicative equipment list provided an equal basis for the Bidders to price equipment on and a benchmark for any movement in the requirements as the project developed. Since the ITN stage, the Equipment Responsibility Matrix has continued to be refined in terms of the items of equipment included on it to transform it from an indicative equipment list into a final agreed equipment list. This process is still being finalised up to financial close. The final agreed equipment list will be included as Part 13 of the Schedule to the Project Agreement.

10.2.5 Scottish Healthcare Supplies were commissioned by NHS Forth Valley at an early stage in the project (pre-ITN) to develop the documentation.

10.2.6 Project Co. are mainly responsible for what is traditionally regarded as Group 1 equipment (that which is integral to the construction of the building) however they are also responsible for some other equipment as was defined in the Equipment Responsibility Matrix.

10.2.7 Some of the equipment detailed as being for Project Co to procure, install and maintain has input from the Board in terms of specification and tendering, for example suction brackets as Project Co need too know the type of consumables used by the Board to ensure the correct brackets are purchased. A further example is theatre pendants, again the users need to specify their exact requirements so that the pendants fit for purpose are procured and installed.

10.2.8 Major medical equipment and moveable items will be procured separately by NHS Forth Valley or transferred from existing facilities. The assumption made in the Invitation to Negotiate (ITN) was that this would take the form of a traditional capital procurement with management and maintenance of the major medical equipment being undertaken by Board personnel e.g. Health Physics or through specialist sub contractors e.g. Imaging equipment suppliers. However there may be value in investigating alternative streams such as a managed MRI service or Reagent/Rental contracts for expensive items of laboratory equipment.

10.2.9 It is anticipated that Scottish Healthcare Supplies and NHS Forth Valley Supplies Department will support the specification, tendering, procurement and logistical elements of the equipping project for the Major medical equipment and moveable items.

10.2.10 FM equipment in the new hospital will be provided by Project Co.

10.3 Development of Equipment Requirements

10.3.1 An Equipment Procurement Project Board has been established, in line with Prince II Project Management Methodology, with representation from General Managers, Clinical Leads of Healthcare Planning Groups, Finance,

IT, Facilities Management and Supplies. This Project Board reports to the Clinical Change Project Board.

10.3.2 This Project Board supports the work of the Project Manager and sanctions resources as unit level to ensure associated work is undertaken and completed in line with the needs of the overall project.

10.3.3 There will be representation from Project Co. and Scottish Healthcare Supplies on the Project Board from 2007. Throughout the Forth Valley New Acute Equipping Process, wherever appropriate, SHS will work with the Board in order to achieve skills transfer between SHS and Board staff. It is envisaged that this could occur in a number of areas including Equipment Specification, Transfer Equipment Auditing, Procurement, Logistics and Commissioning.

10.3.4 There is an Equipment Project Manager reporting to the Equipment Procurement Project Board and below that an Equipment Procurement Project Team representing all key areas of the hospital supported by finance, IT and Health Physics who will co-ordinate the specification and tendering for specialist equipment.

10.3.5 The equipping process is supported by fortnightly meetings between NHS Forth Valley and Project Co which discuss and resolve equipment issues. During 2007 this meeting will be superseded by a combined Equipment Management Group. The role of this Group is to finalise the equipment requirements and manage the process of procuring and installing the equipment into the building.

10.4 Funding of Equipment

10.4.1 Equipment within PPP/PFI

All equipment for which Project Co is responsible (as defined in the Equipment Responsibility Matrix) is included with the unitary charge. This includes all costings in relation to capital, maintenance and lifecycle obligations placed on Project Co.

10.4.2 Equipment not within PPP/PFI

The Board retains full responsibility for medical equipment, other than NHS Estates Group 1. There is no provision within the PFI scheme for reprovision of medical equipment; such provision remains within the Board's capital programme. All other equipment for which the Board are responsible for procuring will be purchased or leased by NHS Forth Valley through the traditional procurement route of submission to the Capital Equipment Group for approval and prioritisation.

10.4.3 The Board intends that wherever appropriate, existing equipment (including furniture) will be transferred from its current location into the new hospital. This applies to both medical and non-medical equipment. The Board will retain responsibility for existing non-medical equipment that transfers. There is an expectation within NHS Forth Valley that a percentage of equipment will transfer from current premises to the new development but this percentage has not yet been confirmed as this will continue to change

as new equipment replaces old during the period of years prior to 2009's first phase move to Larbert.

10.4.4 An inventory of all medical equipment was undertaken during summer 2006 and the exercise to identify items for transfer will commence during 2007.

11 Involving Patients and the Public

11.1 Introduction

11.1.1 The Public Engagement/Involvement/Consultation process for the project has used the SEHD guidelines that were in existence at the time that each exercise was carried out.

11.1.2 The aims were to ensure that patients and the public are involved and consulted from the very beginning of any process to develop health services or change how they operate.

11.2 Public Consultation

11.2.1 In 2002 and 2004 the Board undertook a process of internal and external consultation on the Healthcare Strategy, which included the proposal to centralise acute services on one site, with a complementary network of community hospitals and primary care facilities. This process included wide circulation of the Strategy to all key stakeholders and also included a series of meetings. Following this consultation the strategy was adopted by the Board and subsequently submitted to SEHD for ministerial approval.

11.2.2 NHS Forth Valley is committed to involving the public in the shaping of health services. This will enable the provision of services that are patient-focussed and meet the needs of the population. The Board has been committed to involving the people of Forth Valley from the outset of this project: the approach that has been taken is based on the model of:

- Informing
- Engaging and then finally
- Consultation

11.2.3 The involvement/consultation methods adopted included:

- Focus groups
- Staff workshops
- Face-to-face briefings
- Consultation documents
- Questionnaires
- Consultation fairs
- Public meetings

11.2.4 The debate and consultation was not only about a new hospital, but included options for the future development of community services. It became apparent, however, during the public consultation that due to the focus on the new hospital and its location, there was still a need for wider debate about primary care and community-based services.

11.2.5 In May and June 2003, NHS Forth Valley hosted five workshops, to enable the public, NHS staff and other key stakeholders to debate the future shape of community and primary care services in the area. These workshops

considered further integration of acute services with primary care and community services and began to develop, with community involvement, proposals for the future of these services.

11.2.6 This work has informed the planning assumptions for the Stirling development and provided a basis for taking forward discussions with individual communities about the future development of community and primary care services. This is likely to form the basis of a separate business case to support the implementation of the Healthcare Strategy.

11.3 Outcomes from the Consultation Process

11.3.1 From a public perspective, it is clear that there is a broad recognition of the need for significant change to the way in which services are delivered in Forth Valley.

11.4 Configuration of Acute Hospital Facilities

11.4.1 The consultation exercise revealed clear support for a new acute hospital to be built on the site of the old RSN Hospital at Larbert. This proposal is supported by:

- Stirling Council
- Falkirk Council
- Clackmannanshire Council
- The Area Clinical Forum
- The Area Partnership Forum
- Forth Valley Local Health Council
- UNISON
- MPs/MSPs who responded
- The majority of the public at meetings and in responses

11.4.2 There is also general support for the criteria proposed by the Board for deciding on location i.e.

- Sufficient area for a major hospital
- Accessibility to a minimum of 90% of the population within 30 minutes by car, with the potential for appropriate public transport links to all main population centres in Forth Valley
- Would result in no significant time delay linked, for example to investigation of site suitability, purchase/transfer of land or planning approval
- No significant increase in capital or revenue costs that would affect the affordability and viability of the strategy

11.4.3 Suggestions were also made of other factors that should be taken into account, including recruitment and retention, population density, deprivation and transport links.

11.4.4 Accessibility was a key issue for all communities, and detailed work was undertaken on this aspect by both Falkirk and Stirling Councils.

11.5 Location of a New Acute Hospital

11.5.1 The question of the best location for the new acute hospital to serve the population of Forth Valley was the most contentious issue with support for either the RSNH site at Larbert, or for a Pirnhall site as suggested by Stirling Council, being polarised.

11.5.2 Falkirk Council has expressed a preference for the RSNH site, Stirling Council for a Pirnhall site. With the announcement of the second Kincardine Bridge on 23rd December 2003, Clackmannanshire Council has expressed the view that both RSNH and Pirnhall would be equally accessible, with unequivocal support for the RSNH site being contingent upon the provision of a new bridge across the Forth with appropriate feeder roads from Clackmannanshire.

11.5.3 The Area Partnership Forum and UNISON indicated a preference for the RSNH site.

11.5.4 The Area Clinical Forum and Local Health Council have not expressed a preference.

11.6 Development of Community-Based Services

11.6.1 Whilst the precise scope and extent of community based services was left open to debate and discussion during the consultation, it is clear that retaining local access to as wide a range of services as is clinically safe and practical to provide is supported by the majority of stakeholders and the public generally.

11.6.2 It is clear from responses and the discussion that took place at consultation meetings, that people found it difficult to comment specifically on these proposals until the location of the acute hospital was decided upon as this was seen to affect decisions about the scope and extent of provision in local communities.

11.6.3 It was also clear from the detail of responses that the Board will require to take a view of the correct balance between access/quality/value for money in deciding on a preferred service model. This will then allow the full engagement of all parties in a discussion of the detail of community services.

11.6.4 What was welcomed, however, was the commitment that was given to carry on the discussion with communities about these services once the Board had reached a view about the broad strategic direction, including the location for the new acute hospital.

11.6.5 In respect of the proposals to build a new Community Hospital for Clackmannanshire and to co-locate a replacement for Alloa Health Centre

on an extended Sauchie Hospital site, there has been strong support for this from within Clackmannanshire and general support from other areas.

11.7 Immediate Service Changes

11.7.1 These proposals did not generate the same level of comment as did some of the other proposals and the majority of correspondence received did not mention this as an issue.

11.7.2 From an analysis of responses, most appear to accept the centralisation of inpatient services for women & children, and the consequential move of inpatient urology to create capacity, is necessary to stabilise and maintain the quality and safety of services.

11.8 Conclusion – Board Decision

11.8.1 At its meeting in January 2003, the NHS Board considered the extensive feedback from the consultation exercise, an independent report from Ryden Property Consultants on the proposed alternative hospital sites, capital & revenue projections for each option and agreed:

- To the creation of a single site acute hospital in Forth Valley (which would lead eventually to the closure of FDRI once the new hospital opens)
- That the Royal Scottish National Hospital site be identified as a favoured location for the acute hospital and that further work be undertaken on this site, including: -
- A full feasibility study
- A Transport Assessment, to include further discussions with the three Councils in terms of public transport issues.
- Provision of a range of non-acute inpatient beds together with facilities for daycase, outpatient and diagnostic services on one site in Stirling
- The consequential re-configuration and re-distribution of certain inpatient facilities for mental health and older peoples services
- Provision of a new community Hospital for Clackmannanshire, replacing Sauchie and Clackmannan County Hospitals, co-located with a replacement for Alloa Health Centre on an extended Sauchie Hospital site. The OBC relating to this project has now been approved by the Scottish Executive.
- Further consideration of other primary care and community services to be undertaken with community involvement. This review to include consideration of the future role and number of community hospitals in Forth Valley.

12 Financial Assessment of the PFI Solution

12.1 Introduction

12.1.1 This section considers John Laing's proposed funding structure, who will provider the finance, the terms attaching to the finance and provides commentary and analysis of whether the solution offers Value for Money ("VfM") to the Board. The overall VfM of the project is considered in Section 14.

12.1.2 The Section will examine:

- The Service Payment payable by the Board under the preferred financing structure
- The cost make-up of the Service payment
- The quantitative and qualitative factors considered in selecting the final funding route
- The make-up of the preferred financing structure, together with the terms being offered
- Evidence that the financial solution being offered to the Board is VfM.

12.2 Background

12.2.1 The information contained in this section is based on the Full Business Case model entitled " Forth Valley Hospital – Audit Model – 230107.xls" ("John Laing's FBC Model"). The model has been prepared by Macquarie Bank and generally follows best modelling practice.

12.2.2 The evaluation process has incorporated several detailed reviews of both this and previous models provided by John Laing. Although the financial model has been the subject of detailed analysis by the Board and their financial advisor, PricewaterhouseCoopers ("PwC"), it has not been audited by the Board or PwC. Under these circumstances neither the Board nor PwC take responsibility for any errors contained therein.

12.3 Service Payment

12.3.1 Service Payment Summary

The Service Payment payable by the Board will be as follows:

	Service Payment £'000
First Full Year – real (as at 1 April 2006 prices)[1]	32,690
Net Present Value ("NPV") [2]	525,761

Table 12-1: Service Payment Summary

[1] Real values remove the impact of inflation by stating prices with a common base date, i.e. "in today's money". For the purposes of the financial evaluation, the base date is set at 1 April 2006.
[2] The NPV is calculated at a real (i.e. excluding inflation) discount rate of 3.5% in years 1 to 30 and 3% thereafter to the base date of 1 April 2006.

The full real annual service payment excludes pass-through costs comprising rates and charges for sewerage and water totalling £205k per annum; and includes energy costs totalling £1124k (including management cost) per annum.

12.3.2 Phasing of the Service Payment

The phasing of the payment of the service payment by the Board is shown in the table below:

	Date	Service Payment Step-up %	Service Payment £'000
Construction Start	10 March 2007	N/A	N/A
Phase 1 – Practical Completion	November 2009	54%	17,653
Phase 2 – Practical Completion	February 2010	61%	19,941
Phase 3 – Practical Completion	October 2010	100%	32,690
Contract Expiry	February 2041	N/A	N/A

Table 12-2: Phasing of the Service Payment

12.3.3 The total concession will run for 33.8 years from Financial Close. The construction phase is expected to last 3.8 years with an operating period of 30 years.

12.4 Inflation Assumptions

12.4.1 The service payment will vary during the operational period due to the impact of inflation. The indexation will be related to the Retail Price Index. The full service payment will be subject to inflation on the 1 April 2007 and every 1 April thereafter. The financial model assumes that inflation will be 2.5% per annum.

12.4.2 Post Financial Close, the inflation risk will pass from the Board to John Laing. John Laing's decision to utilise bank debt funding will require them to purchase an inflation hedging RPI swap instrument to negate inflation rate risk. This is considered further later in the Section.

12.5 Analysis of the Financial Cost

12.5.1 John Laing's proposals address the Board's scope requirements in terms of design, build and facilities management as set out in Section 7. The NPV of John Laing's service payment can be analysed into individual components based on the cashflows in John Laing's FBC Model.

NPV Analysis	£'000
Total NPV of Unitary Charges	525,761
Represented by: [4]	
Capital & development costs	[redacted]
Fees	[redacted]
Lifecycle expenditure	[redacted]
Operation & maintenance costs (including SPC costs)	[redacted]
Total underlying costs	[redacted]
Equity & Subordinated Debt financing	[redacted]
Senior Debt financing	[redacted]
Total financing costs	[redacted]
Corporation Tax	[redacted]
Working capital, cash, interest on cash balances, reserves & other movements	[redacted]
Third Party Income	[redacted]
RPI Swap Revenue/(Loss)	[redacted]
Total other income	[redacted]
Total NPV at 1 April 2006 (real)	525,761

Table 12-3: Individual Components of NPV of Service Payment

[4] Redacted Section 36(2) of FOI(S)A 2002

12.6 Third Party Revenues

12.6.1 As a way to reduce the costs of the health facility to the Board, third party revenue from retail outlets and non-patient catering has been used to reduce the Service Payment each year. John Laing has priced their bid on the basis of a guaranteed minimum annual revenue payment during operations from non-catering services of £[redacted]k[5] per annum and £[redacted] for non-patient catering.

12.7 Taxation & Accounting

12.7.1 Taxation

12.7.2 John Laing has adopted Composite Trader tax structure in addition to Finance Debtor accounting. Both of these policies result in a significant reduction in tax payable.

12.7.3 The Service Payment is stated exclusive of VAT. VAT at the standard rate of 17.5% will be added to the Service Payment when invoiced. The VAT added to the Service Payment will be recoverable by the Board under Contracted Out Services (COS) VAT regulations and therefore the addition of VAT has no net impact on the Board.

12.8 Approach to Financing and Funders

12.8.1 The issues considered by John Laing in deciding upon the selection of the final funding route for the Project were:

- The relative pricing of each funding option – Quantitative factors
- The deliverability and flexibility of each funding option - Qualitative factors

[5] Redacted Section 36(2) of FOI(S)A 2002
[6] Redacted Section 36(2) of FOI(S)A 2002

12.9 Quantitative Factors

12.9.1 John Laing's reference bid, upon which they were appointed preferred bidder, utilised a fixed rate bond instrument, using funding rates provided by the Board as part of the financial Invitation to Negotiate ("ITN") instructions issued in February 2006. Once selected preferred bidder, John Laing continued to monitor the relative costs of fixed bond finance, index-linked bond finance and commercial bank debt based on market rates to ensure the most economically advantageous solution was selected. This resulted in John Laing proposing a switch from fixed to index-linked bond funding in September 2006 as a result of market movements in favour of index-linked issues

12.9.2 With Financial Close scheduled for March 9, the Board and John Laing agreed that a final decision on funding route required to be taken in early January to ensure sufficient time to develop the funding documents in line with the overall programme. With this in mind, John Laing approached their funder group (bond and bank) in December to request their best and final pricing in order that a decision on funding route could be taken based on the economically most advantageous terms available in the market.

12.9.3 To determine the relative costs of each funding solution, and to assist in deciding on the appropriate funding route, John Laing provided a further iteration of the financial model using the same cost base but allowed comparisons between fixed rate bank debt, index-linked and fixed rate bond financing terms. Scenarios including and excluding EIB for all three funding solutions were provided. This demonstrated that there was a c. £250k per annum benefit in utilising EIB funding.

12.9.4 This analysis was based on market gilt and LIBOR swap rates on 5 December 2006, the revised termsheet from HBoS, and the existing terms obtained from UBS and MBIA at the ITN stage for the bond solutions. The results of each funding solution, inclusive of EIB funding and excluding interest/gilt rate buffers, are shown in the table below. Please note, however, that this analysis was undertaken prior to further amendments being made to the cost assumptions within the financial model, as agreed between John Laing and the Board. As such, the results are not directly comparable with the output of John Laing's FBC Model, which is presented throughout the rest of this report.

	Bank Debt	**Fixed Rate Bond**	Index-linked Bond
First Full Year – real (as at 1 April 2006 prices)	£31.850m	£32.135m	£32.000m
% Increase on Fixed Bank Debt Funding	-	**0.89**%	0.47%
Net Present Value ("NPV")	£523.227m	£527.875m	£525.658m
% Increase on Fixed Bank Debt Funding	**-**	0.89%	0.47%

Table 12-4: Commercial Bank Debt Funding v Bond Funding

12.9.5 This demonstrates that the commercial bank solution, including EIB funding currently provides a lower real annual Service Payment and offers better value for money to the Board in NPV terms.

12.9.6 John Laing has, together with the Board, chosen to utilise commercial fixed rate bank debt as the principal funding instrument, with the funds coming from the EIB and HBoS.

12.10 Qualitative factors

12.10.1 In addition to the cost each funding solution John Laing also took account of qualitative factors in the assessment such as:

- Flexibility to accommodate changes in scope or Board variations. Commercial bank solutions accommodate changes and variations over time more easily than a bond option;
- The potential scope for refinancing gains to be shared with the Board. A commercial bank solution may offer potential refinancing gains which could benefit the Board beyond Financial Close;
- Timetable to achieve financial close. A bank debt solution requires approval from the Bank's credit committee only, rather than from the monoline's credit committee and each of the rating agencies as is the case under a bond solution. The senior bank funder has also agreed to underwrite 100% of the debt resulting in agreement being required from only one party. Syndication of the debt will occur after Financial Close.

12.11 Method and Sources of Funding

12.11.1 The total funding as at the end of construction required in the financial model is £329 million. The funding is made up of a combination of senior debt (combination of a bank loan from Halifax Bank of Scotland ("HBoS") and a loan provided by the European Investment Bank ("EIB")), subordinated debt and ordinary share capital. This funding structure is summarised in Table below:

Source[7]	£000	%
Ordinary Share Capital	████	████
Subordinated Debt	████	████
HBoS Loan	████	████
EIB Fixed Rate Loan	████	████
Total	████	████
Debt /Equity Ratio		92.6 : 7.4

Table 12-5: Proposed Financial Structure

12.11.2 The finance plan is typical for a Public Private Partnership (PPP) transaction of this nature, being [92:8] debt to equity. The terms that have been offered are competitive when compared with the current market, albeit that recently bond funded solutions have been more prevalent in deals of this size. However, the structure proposed is common in UK PPP transactions.

The table below provides the corresponding names of the providers of each type of finance.

Instrument	Provider
Ordinary Share Capital	John Laing Social Infrastructure (formerly known as Equion)
	Commonwealth Bank of Australia
Subordinated Debt	John Laing Social Infrastructure (formerly known as Equion)
	Commonwealth Bank of Australia
Fixed Rate Bank Loan	Halifax Bank of Scotland
	European Investment Bank

Table 12-6: Finance Providers

[7] Redacted Section 36(2) of FOI(S)A 2002

12.12 *Shareholder Funding*

12.12.1 The project sponsors are providing ordinary share capital and subordinated debt of £[redacted]k[8] and £[redacted]k[9] respectively, in the following proportions:

- John Laing Social Infrastructure– 50%
- Commonwealth Bank of Australia- 50%

[8] Redacted Section 36(2) of FOI(S)A 2002
[9] Redacted Section 36(2) of FOI(S)A 2002

This represents 7.4% of the total funding requirement and therefore complies with the bank's terms and conditions of funding.

12.12.2 The legal entity that will enter into the contract with the Board is a Special Purpose Company ("SPC") which is 50% owned by John Laing Social Infrastructure and 50% by Commonwealth Bank of Australia. The ordinary share capital will be injected at Financial Close. The subordinated debt subscription will repay the equity bridge at construction completion. The margin payable on the equity bridge facility is dependant on the nature of the subordinated debt guarantees obtained from the project sponsors. Where the obligations are backed by letters of credit, the margin is lower than if the obligations are backed by parent company guarantees.

12.12.3 All terms and conditions are standard for the ordinary share capital and subordinated debt. The coupon on the subordinated debt of 12% is in line with market norms.

12.13 Senior Debt Funding

12.13.1 HBoS Fixed Rate Debt Facility

HBoS has provided a fixed rate term loan facility, with a maximum underwritten commitment of £305million, drawn down as required by the construction programme. The facility will be repaid on a sculpted semi-annual basis over [redacted] years[10]. A tenor of [redacted] years[11] on a 30 years concession is very much in line with current market trends.

12.13.2 The interest margin over LIBOR is [redacted] %[12] and [redacted] %[13] during the construction and operating periods' respectively. These terms, are compared to those obtained on other recent PFI deals in the VfM letter found in Appendix 5. This illustrates that the terms achieved are highly competitive.

12.13.3 EIB Fixed Rate Debt Facility

The EIB has put in place a fixed rate loan facility up to the lower of £160m and 50% of senior debt costs. The loan has a maturity of [redacted] years[14], which is satisfies their minimum tail requirement of [redacted] years[15].

The EIB is an instrument of the European Union and as such is able to offer very competitive lending terms to those projects which qualify for EIB support. The pricing benefit of the EIB loan is to be found in the lower margin they charge over LIBOR as compared to commercial bank debt. The credit margin offered by the EIB is [redacted] % which compares favourable with the [redacted] % (during the operational period) offered by HBoS.

12.13.4 The EIB will not be taking construction risk as its initial approvals assumed a bond funding structure where a monoline insurer would take that risk. Were EIB to consider taking construction period risk they would require to re-submit their approvals which would not be possible within the desired

[10] Redacted Section 36(2) of FOI(S)A 2002
[11] Redacted Section 36(2) of FOI(S)A 2002
[12] Redacted Section 36(2) of FOI(S)A 2002
[13] Redacted Section 36(2) of FOI(S)A 2002
[14] Redacted Section 36(2) of FOI(S)A 2002
[15] Redacted Section 36(2) of FOI(S)A 2002

project timetable. HBoS is therefore guaranteeing the EIB element of the funding during the construction phase in return for a risk margin.

12.14 Reserve Account Requirements

12.14.1 John Laing is required by its funders' to set up a Debt Service Reserve Facility equivalent to the maximum semi-annual interest and principal due on the senior debt facilities. A ██████%[16] arrangement fee is payable upfront, together with an ongoing commitment fee of ██████%[17] on the funds not drawn down. A margin of ██████%[18] is payable if the funds are required.

12.14.2 John Laing must also establish a Change of Law Reserve Account. The financial model has assumed a maximum change of law liability of £██████,[19] representing ██████%[20] of the construction costs. The funders' require that this potential liability be catered for by way of a reserve account, with ██████%[21] of the potential liability to be reserved prior to the end of construction and the balance to be repaid by the final repayment period of the senior term loan facility. The equity providers, via equity reserves, will be liable for this risk between the final repayment of the senior term loan facility and the end of the operational period.

12.14.3 John Laing is also required to establish a Maintenance Reserve Account ("MRA") to ensure that sufficient cash is available for the projected peaks and troughs in lifecycle replacement. The account is to be fully funded by construction completion, on a look forward basis, to ensure a balance in any period equal to:

- ████%[22] of maintenance costs occurring in the following 12 months; and
- ██████%[23] of maintenance costs occurring in months 13-24.

12.15 Interest Rate Buffer

12.15.1 Interest rates may move up or down between the date of this FBC and Financial Close. It is important that the financial case for both value for money and affordability made in this document is robust against these potential changes. It is therefore standard practice, and required by Scottish Executive guidance, to include a "buffer" in the current interest rates used in the financial model provided by John Laing which generates the Service Payment used to assess value for money and affordability throughout this document.

12.15.2 The buffer included at this stage allows for a 25 basis point (0.25%) increase in long term interest rate swap pricing from that available on 22nd

[16] Redacted Section 36(2) of FOI(S)A 2002
[17] Redacted Section 36(2) of FOI(S)A 2002
[18] Redacted Section 36(2) of FOI(S)A 2002
[19] Redacted Section 36(2) of FOI(S)A 2002
[20] Redacted Section 36(2) of FOI(S)A 2002
[21] Redacted Section 36(2) of FOI(S)A 2002
[22] Redacted Section 36(2) of FOI(S)A 2002
[23] Redacted Section 36(2) of FOI(S)A 2002

January 2007 (█████%[24], excluding █████%[25] swap margin). Interest rates will be regularly monitored by the Project Team and Financial Advisors in the period up to Financial Close.

12.16 Interest Rate Risk, Inflation Risk and Hedging Strategy

12.16.1 The cost or benefit of any interest rate changes prior to Financial Close lies with the Board, with the final Service Payment determined at Financial Close being based upon the rates actually achieved that day. Interest rate risks will lie with John Laing post-Financial Close until repayment of the senior debt.

12.16.2 The Final Service Payment figure will be determined by the underlying interest rates provided by HBoS and EIB at Financial Close. On the day of Financial Close the SPC will enter into an interest rate swap with HBoS which will fix the interest rate for the remainder of the senior debt term, on the HBoS portion of the senior debt facilities. At the same time, EIB will advise the SPC of the underlying fixed rate that will apply to the EIB facility. In order to validate the LIBOR rate offered by HBoS, the Board's financial advisers will perform a full and transparent benchmarking process for the pricing of the LIBOR rate. It should therefore be noted that the Service Payment payable by the Board will not be finally fixed until the day of Financial Close.

12.16.3 John Laing will swap approximately █████%[26] of their income stream at Financial Close by entering into a RPI swap. This will fix the rate of indexation that this portion of their revenue will receive over the life of the project and will mean that their exposure to variable inflation rates is completely closed out. Current market prices for RPI swaps of this nature are around 3%. This produces a financial benefit to the Board compared to the based case RPI assumption of 2.5% per annum. The actual swap rate obtained at financial close will be subject to a credit spread of ███ basis points [27] charged by HBoS' swaps desk.

12.17 Internal Rate of Return and Cover Ratios

12.17.1 The inherent strength and stability of John Laing's bid is evidenced by the rate of return generated on the equity funds and the cash cover ratios in respect of the debt facilities. The blended real equity post tax Internal Rate of Return ("IRR") calculation for John Laing of █████%[28] (█████%[29] post tax nominal) is within current market parameters for a project of this nature and as such represents an acceptable return on investor funds.

12.17.2 The weighted average cost of capital (WACC) during the operational phase for the project is █████%[30] and is consistent with the current market norms for projects of this size and complexity.

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[24] Redacted Section 36(2) of FOI(S)A 2002
[25] Redacted Section 36(2) of FOI(S)A 2002
[26] Redacted Section 36(2) of FOI(S)A 2002
[27] Redacted Section 36(2) of FOI(S)A 2002
[28] Redacted Section 36(2) of FOI(S)A 2002
[29] Redacted Section 36(2) of FOI(S)A 2002
[30] Redacted Section 36(2) of FOI(S)A 2002

12.17.3 The cover ratio calculations indicate a minimum / average ADSCR of ██████/██████ [31] respectively, which are within the levels required to meet the requirements of the senior bank funders'.

12.17.4 PwC have expressed their opinion that the funding solution described in this section is value for money. A copy of this opinion is annexed at Appendix 5.

[31] Redacted Section 36(2) of FOI(S)A 2002

Conclusions

Financing - Conclusions
• The senior fixed rate bank debt funding solution selected by John Laing is a well known structure used within the PFI market. • The terms offered by the senior debt funders are in line with market norms. • It has been demonstrated through comparison of the senior bank funding solution to both fixed rate and index-linked bond funding solutions that the bank funding solution is the most economically advantageous for the Board.

13 Risk Analysis and Risk Management Strategy

13.1 Introduction

13.1.1 The objective of performing risk analysis is to:

- Allow the Board to understand the project risks and put in place mitigation measures to manage those risks
- assess the likely total cost to the public sector of the PFI investment option under consideration
- To ensure that the allocation of risks between the Board and the private sector is clearly established and demonstrated within the contractual structure
- To demonstrate value for money

13.1.2 A risk is defined as an event which affects the cost, quality or completion time of the project that may or may not occur. There are a number of such events that could arise during the design, construction, commissioning and operation of the new facilities.

13.1.3 Risks are assessed and valued to ensure that the CPAM can be compared with the PFI option on a "like for like" basis, ensuring that the value of risk retained by the Board under both options is retained and understood.

13.1.4 Whether under a traditional design, build and operate format (the CPAM) or under a PFI contract, the Board is exposed to an element of risk in project delivery and maintenance.

13.1.5 Under the CPAM, publicly funded option, virtually all risks remain with the Board. Therefore the Board is exposed to a greater degree of risk in terms of price variations, poor performance, late delivery etc. The PFI scheme enables a large proportion of these risks to be transferred to the private sector where they are best able to manage them; with the Board remaining responsible only for those risks it is best able to manage.

13.1.6 There are two core principles that should govern risk transfer in PFI projects:

- Risk should be allocated to whoever is best able to manage and control it
- The aim is to secure optimal risk transfer (it should be noted that optimal risk transfer is not maximum risk transfer)

13.1.7 These principles have been incorporated into the methodology underpinning the risk analysis for the project.

13.1.8 A full risk analysis was undertaken, as part of the OBC in order to identify and assess the impact of risks to the scheme during all stages of the project and after it has been completed. This comprised a series of workshops involving advisers and representatives from the local health community and the Board.

13.2 Project Risks

13.2.1 Since OBC stage the risk register has been further developed to identify and record the project risks taking into account the specifics of the project. This has been informed by the NHS standard risk matrix and the risk matrix identified at OBC stage. This has developed the risks into more specific and manageable risks for practical management.

13.2.2 The project risks identified used the following risk classifications.

- Planning
- Design
- Construction and Development
- Performance
- Operating
- Revenue variability
- Project Management
- Market & Commercial
- Financial
- Other

13.3 Approach to Risk Analysis

13.3.1 The Board has undertaken a robust process in identifying, quantifying and allocating risk in its evaluation process. This has been carried out in order:

- To identify specific risks relating to the project
- To create a risk management process that can be used as a management tool when actually undertaking the project
- Assist in demonstrating value for money comparing the CPAM and PFI options

13.3.2 Risk workshops have been carried out frequently throughout the project. These risk workshops have had widespread attendance from Board representatives and advisors.

13.3.3 The approach adopted by the Board has followed a recognised and proven method of risk evaluation. For each risk identified in the risk register an impact and likelihood (both before and after mitigation) has been agreed to allow a risk contingency to be derived.

13.3.4 Each of these risks are classified as either public (retained by the public sector), private (transferred to the PFI partner) or shared (shared between the parties).

13.3.5 The output of the quantitative risk evaluation is a percentage risk adjustment that should be applied to the PFI unitary charge to give a best estimate of the likely outturn cost to the Board.

13.4 Optimism Bias

13.4.1 Since completion of the OBC for this project, HM Treasury has introduced a revised methodology for quantifying cost estimating uncertainty to be used in assessing the value for money of PFI projects relative to CPAM comparators[32]. This methodology seeks to quantify an “optimism bias” that has been historically demonstrated in cost estimating for various types of project. The approach of adjusting estimates for “optimism bias” rather than using detailed quantified risk adjustments has been endorsed in the Scottish Executive’s Value for Money Practical Application Note

13.4.2 Optimism Bias has been evaluated for this project using a health sector specific methodology developed by the Department of Health in England. This approach seeks to use high level indicators in the structure of the project to quantify an upper bound for the optimism bias, and then look at project specific factors that have led to mitigation of that bias.

13.4.3 The Project Team has compared the outputs form the optimism bias calculation to the detailed risk quantification undertaken and found them to be similar. This has acted as a cross-check to the project specific applicability of the generic Department of Health optimism bias calculation methodology. Having undertaken this comparison, the quantitative results from the optimism bias approach have been used in the value for money assessment discussed in more detail in Section 14.

[32] The Green Book – Appraisal & Evaluation in Central Government, HM Treasury; Supplementary Green Book Guidance – Optimism Bias, HM Treasury; Value Form Money Assessment Guidance, HM Treasury, August 2004.

13.4.4 The percentage adjustments applied are shown in table Table 13-1 below and the optimism bias calculation.

CPAM Cost element	Optimism Bias percentage
Capital Costs - optimism bias upper bound	31%
- **mitigation factor**	56%
- **Optimism Bias**	13.7%
Lifecycle Costs	As capital
Operating costs- optimism bias upper bound	15%
- **mitigation factor**	45%
- **Optimism Bias**	6.75%

Table 13-1 Optimism Bias Summary

13.4.5 The risk adjustment applied to the PFI Service Payment has been assessed to be zero as all quantifiable risks have been passed to the private sector provider. The only risk retained by the Board is the risk of movements in interest rates up to financial close which is allowed for through the inclusion of the interest rate buffer discussed in Section 11. no further adjustment for this risk is therefore required.

13.4.6 Under the PFI procurement model, the Board is undertaking elements of enabling works for grouting and ground stabilisation as capital works prior to the commencement of the PFI contract. This work has been assessed as being analogous in structure and risk allocation to the CPAM, and therefore the CPAM Capital works optimism bias uplift of 12.9% has been added to this element of the works in the VFM comparator.

13.4.7 The expected value of all risks and the classification between the public, private and shared is a key component in assessing the value for money of the PFI option, as detailed in Chapter 14.

13.5 Risk Management Strategy

13.5.1 The Board will retain or share responsibility for certain risks as set out in the risk register. All of these risks need to be actively managed by the Board. These risks will be monitored through the Project Board to ensure that appropriate and timely action is taken to minimise them through the implementation of appropriate mitigation measures.

13.5.2 Key risks for which the Board retains responsibility or part responsibility are set out in the table below together with their high level risk management strategies.

Risk Area	Management Strategy
Energy Costs	The Project Agreement transfers risk of the energy efficiency of the Building to Project Co. Energy usage during operations is a shared risk that the Board will mitigate through staff training in energy efficient working practices. Energy prices remain a Board risk that will be monitored through the financial planning processes.
Greenhouse Gas Emissions Trading	The PFI Project Company will be the operator of the facilities in respect of greenhouse gas trading regulations and accepts the majority of inherent risks. The Board retains risk over a set threshold and will continue to monitor the situation. Future mitigation could include increased usage of renewable energy sources.
Staff Terms & Conditions at Transfer	In accordance with the SE/STUC protocol, staff will transfer to the PFI provider on terms equivalent to their NHS terms at the time of transfer. As these cannot yet be determined due to uncertainties in future settlements, and in particular the impact of agenda for change, these terms remain a Board risk. The Board has made separate financial allowances for agenda for change to mitigate this risk.
Cost of volume related services	Services such as catering and waste removal are priced by Project Co on the basis of an assumed volume. The volume risk remains with the Board and will be managed through staff training in the operational phase
Access / Off Site Works	Off site and access works required to satisfy planning conditions are outside the scope of the PFI contract. The cost of undertaking these works remains a Board risk to be managed through discussion with the Council.
Change in law	The Project Agreement allows for sharing of cost associated with certain types of change in law. This risk cannot be controlled by the Board but will continue to be monitored
Insurance cost / un-insurability	The Project Agreement allows for sharing of costs associated with elements of the project becoming uninsurable, or significant variations in insurance premia. Project management arrangements will continue to monitor this external risk
Planning judicial review	There is a risk that the planning approval could be subject to judicial review, which would delay the start of construction. This risk is generally accepted by the PFI contractor after a period of time has elapsed following the determination. However, due to the short time scales between planning determination and Financial Close, the Board has agreed to take the judicial review risk (and associated costs of any delay) for a period of two months following the determination. The Board cannot mitigate this risk, but will continue to monitor the situation.

Table 13-2: Key Retained Risks

13.5.3 These risks are in principle applicable to the CPAM and the PFI project and many inherently unquantifiable. As there is no differential created by these risks for VfM comparison purposes they have not been included in quantitative evaluation.

13.5.4 The Project Team will develop a risk strategy for the implementation and operational phases of the project. The principles supporting the development of the project risk strategy are to:

- identify all retained risks and apply a suitable allocation of risk during the planning phase in accordance with the standard form of contract
- allocate responsibility to a lead person, identified on the risk register, within the Board who is the designated "risk owner"
- ensure that the risk owner identifies and implements the proposed mitigation measures

13.5.5 Development of the management plan by the Board is an iterative process as the project develops, involving all stakeholders with constant monitoring and updating as risk exposures change and risk events occur.

13.5.6 Risks that have transferred to John Laing Social Infrastructure are not included within the risk strategy as the Board is not responsible for their management.

13.5.7 There are a number of risks, such as changes in working practice, which are not specific to this project. These are being managed through other processes within the Board and are not therefore included in this strategy.

14 Economic Appraisal

14.1 Introduction

14.1.1 This section covers the economic appraisal of the value for money ("VfM") implications of the NHS Forth Valley Hospital Acute Project. VfM has been appraised with reference to the relevant HM Treasury Guidance and the Scottish Executive PFU Practical Application Note (September 2005) on implementing the Treasury guidance. This involves comparing the bespoke Conventional Procurement Assessment Model ("CPAM") against John Laing's model entitled ("John Laing's FBC Model"), to enable an assessment of whether it remains best value to procure services through the PFI mechanism. This has been achieved by inserting the outputs of each of these models, including risk adjustments applied to John Laing's FBC Model into the English Department of Health's Generic Economic Model ("GEM"), as permitted by the Scottish Executive Guidance.

14.1.2 This section will examine:

- The key assumptions of the quantitative analysis
- The quantitative results of the VfM assessment
- The sensitivity analysis which has been undertaken on the quantitative analysis to demonstrate its robustness
- The qualitative assessment of the project, covering the non-financial benefits of the project.

14.2 Net Present Value Analysis

14.2.1 The guidance referred to above requires that value for money is assessed both quantitatively and qualitatively. It further requires that quantitative assessment of value for money is made using "Net Present Value (NPV)" analysis. The NPV of an option looks at the total life cycle cost of that option over a defined period, recognising the time value of money. The recognition of the time value of money is achieved by using a "discount rate" so that all costs and revenues in the future are discounted by a set percentage to recognise that they are not as valuable to the Board as costs or revenues incurred or received today. The discount factor applied to future costs and revenues is defined centrally by HM Treasury. The effect of inflation is also not included in the analysis as all figures are quoted "Real" – i.e. at a common cost base, in this case 1 April 2006, rather than "nominal" – i.e. inflated to their actual likely cash value at a future point in time.

14.2.2 The guidance does not allow for VFM analysis to consider any differential in availability of capital or revenue funding to the procuring body, or any annual affordability constraints. It is intended to be a clear "economic" assessment of value. The appraisal therefore also does not include assessment of non-cash elements such as "cost of capital" or "depreciation" which may be different between the procurement routes being compared. For example, the cost of capital that would be incurred by the Board in pursuing a CPAM capital funding procurement route leading to an "on balance sheet" assessment is not included in the analysis

14.3 Key Assumptions of the Quantitative Assessment

14.3.1 The purpose of the economic appraisal is to compare the relative costs of the project procurement options by ranking them in terms of their net present value ("NPV"), appropriately adjusted for the risks inherent to each option. The two options considered by the Board are as follows:

- Traditional procurement by the Board itself, which is referred to as the CPAM; or
- Procuring the required services with greater assistance from the private sector, which is referred to as John Laing's FBC Model.

14.3.2 Both options are described in Sections 5 and 7 respectively.

14.3.3 The economic cost of each procurement option comprises the following:

- The NPV of the projected real costs associated with each option over the operating period
- The NPV of the risk adjustments applied to each option (see Section 13 for details of the approach taken to risk assessment).

14.3.4 The CPAM has been regularly reviewed and updated by the Board and its advisors to ensure a fair comparison between the CPAM and John Laing's Model.

14.4 Discounting Assumptions

14.4.1 In accordance with the Capital Investment Manual and PFI Guidance, a discount rate of 3.5% is applied to all cashflows, for both procurement options, for the first 30 years of operations and 3% thereafter. The construction costs for the CPAM have been provided by the Board's technical advisers, in nominal terms (inclusive of inflation), thereafter a 2.5% deflator is applied to adjust them to reflect the real cashflows (April 2006 prices).

14.5 Differential Inflation

14.5.1 Although all figures in the NPV assessment are Real, it is likely to be the case that some cost elements will not follow standard inflation uplifts – e.g. staff wages have historically run at above RPI inflation reflecting an increase in general standards of living.

14.5.2 Differential inflation of 1.5% has been applied to reflect the additional wage cost inflation, above a base inflation of 2.5% that will be incurred. This manifests itself as a differential inflation of 1.25% in operating costs as these are a blend of (majority) wage costs assumed to inflate at 1.5% above RPI and non-wage costs assumed to inflate at RPI..

14.5.3 Differential inflation of 1.5% has been added to life cycle costs as these re principally "construction" related, and building cost inflation continues to run at over RPI. Currently construction inflation (BCIS all-in index) is running at over 6% per annum, so a differential of 1.5% over RPI is a conservative assumption

14.6 CPAM Cost Assumptions

14.6.1 Total base costs for the CPAM have come from the Board's Technical Advisor's. These are based on a building area of 89,794m^2, with a cost base of 1 April 2006 for life cycle and operating costs, and a nominal cost based on a start on site in March 2007 for the capital costs.

14.6.2 As insurance costs are not known for the CPAM, the Board's insurance advisors provided benchmark insurance costs recognising that under the CPAM route the NHS effectively self insures for the majority of risks.

14.6.3 A management overhead assessed by the Board as two full time equivalent post has been added to the CPAM base costs

A breakdown of the cost assumptions is given below

	CPAM £'000 Real at April 2006	Source / Assumption
Construction	215,055	Technical Adviser – nominal cost of £227.6m deflated
Lifecycle	79,942	Annual cost of £29.68/m^2
Operating	379,363	Annual cost of £138.52/m^2
Insurance Proxy	9,073	Annual cost of £278k advised by Insurance Advisers derived from bid cost
Management Proxy	3,050	Annual cost of £100k advised by Board
Total cost	**686,483**	

Table14-1: CPAM Cost Assumptions

14.7 *PFI Cost Assumptions*

14.7.1 The base cost for the PFI is the Service Payment form the John Laing Model.

14.7.2 The base costs for the In house team soft FM service delivery were taken from the In House Team ITN bid and include start-up capital costs, start-up revenue costs, ongoing operating costs and ongoing life cycle replacement costs.

14.7.3 A capital cost has been included in the PFI costs for grouting works which are to be undertaken as enabling works outside the PFI contract. Note that a similar cost has not been added to the CPAM as this is felt to be within the range of items covered by the CPAM optimism bias.

14.7.4 A breakdown of the cost assumptions is given below:

	PFI £'000 Real at April 06	Source / Assumption
PFI Service Payment	1,007,370	John Laing's Financial Model – annual payment £32.690m (incl buffer)
GAD Adjustment	1,000	Being the maximum exposure of Board under a commercial agreement with John Laing
Pass-through costs	6.317	Provided by the Board as an indicative cost during the ITN phase
Total Cost	**1,014,687**	

Table 14-2: Base Cost for PFI

14.8 Excluded Costs

14.8.1 The following costs have been excluded from the VFM comparison as they are identical between the CPAM and PFI options:

- Off site works for planning conditions
- Moveable equipment
- Transition costs
- Clinical costs
- Catering costs (provided from acute sector)

Risk Adjustments

14.8.2 Section 13 deals with the analysis which has been undertaken to identify and quantify the risks inherent in this project. This work has been undertaken to ensure the economic impact of these risks to the Board under each procurement option is appropriately reflected when comparing the CPAM and John Laing's FBC Model for VfM purposes.

14.9 Taxation Adjustments

14.9.1 The guidance referred to at the start of this chapter requires VFM to be assessed on the basis of value to the public purse as a whole, and not just to the Board. In making such an assessment, differential tax receipts to HM Treasury under the two different procurement options need to be considered. The guidance includes a flowchart for assessing the level of taxation adjustment to be made to account for lower tax receipts to Treasury under the CPAM route compared to the PFI route. For this project this results in an overall 5% upward adjustment to the CPAM.

14.10 Results of the Quantitative Assessment

14.10.1 The Value for Money comparison has been made by NHS Forth Valley using the GEM and a summary model prepared by the financial advisers. This compares the NPV of the CPAM against John Laing's FBC Model (inclusive of risk adjustments) over a 33.8 year and 63.8 year period. The reason for this is twofold:

14.10.2 A contract term of 33.8 years between the Board and John Laing covers both the construction and operation period.

14.10.3 An analysis over a 63.8 year period considers the typical 60 year operational period over which public sector investments, according to Treasury guidance, are based. This period, plus the 3.8 year construction period assists in demonstrating VfM. In this instance the GEM model is populated with John Laing's FBC Model inputs for the first 33.8 years and the CPAM model inputs thereafter to represent the fact that it would be the Board that would take over operations after the contract term expired.

14.10.4 The 60 year appraisal shows no difference in value for money between the options from the 30 year appraisal as both options assume ongoing public sector operation of the facilities from year 30 to 60. For simplicity, only the 30-year assessment has been presented in this FBC.

14.10.5 The result of the VfM assessment using the GEM model is shown in the table below

	£'000
NPV of Risk adjusted CPAM	585,321
NPV of risk adjusted John Laing FBC Model	553,652
Total VFM	31,669
% Value for Money	5.41%

Table 14-3: Results of VfM Assessment using the GEM

14.10.6 All the above costs are included within the unitary charge of John Laing's FBC Model, with the exception of transitional costs and equipment costs

14.10.7 The table shows that John Laing's FBC Model provides better value for money than the CPAM, and is therefore the preferred option based on quantitative VfM assessment.

14.11 VfM Sensitivity Analysis

14.11.1 A sensitivity analysis has been undertaken to demonstrate the percentage movement in key assumptions used in calculating the VfM of the project (based on a comparison between the CPAM and John Laing's FBC Model using the GEM model as set out in Section 14.10.1 above) which results in a VfM neutral position. This analysis is intended to test the sensitivity of the VFM outcome to changes in key variables. If a very small change in a certain variable would lead to the VFM between the two options being neutral (I.e. identical NPV) then this variable would need to be investigated further to ensure its accuracy, or range of uncertainty and hence the robustness of the VFM outcome.

14.11.2 The key sensitivities tested are as follows:

- A reduction in CPAM capital costs
- A reduction in CPAM life cycle costs
- An reduction in CPAM capital costs and life cycle costs t
- A reduction in CPAM FM costs
- An increases in John Laing's FBC Model Unitary Payment
- Removal of the 25bps interest rate buffer within the Unitary Payment, combined with an increase in the Service Payment
- An increase in the interest rate above the interest rate buffer (calculated outside the model based on data provided by John Laing.

The table below summarises the impact of these sensitivities on the NPVs in the above table.

Scenario	Sensitivity Tested	Change in variable required to reduce VfM to zero
Base Case	**Not Applicable**	
1	A reduction in CPAM capital costs	13% reduction
2	A reduction in CPAM lifecycle costs	53% reduction
3	A reduction in CPAM construction costs and reduction in lifecycle costs	13% reduction
4	A reduction in CPAM FM costs	11% reduction
5	An increase in John Laing's FBC Model unitary payment	6% increase
6	Increase in interest rate from above the interest rate buffer	105 basis point interest rate increase

Table 14-4: Economic Appraisal Sensitivity

14.11.3 The sensitivity analysis confirms that the economic case for the PFI option is robust. A significant change in key variables is required to cause VfM to reduce to zero.

14.12 Qualitative Results

14.12.1 In addition, there are a number of benefits in respect of John Laing's FBC Model option, over the CPAM that have not been reflected within the economic appraisal. These include:

- Improved clinical functionality
- Main operating theatres all on one floor with single recovery, enabling greater flexibility.
- Co-location of Diagnostic Imaging with high users of the service, for example: respiratory medicine, rheumatology and orthopaedic fracture clinic.
- The deep plan areas make use of atria and light wells to improve the natural light in these areas.
- Ward design provides flexibility at the ward boundaries for ward reconfiguration, and also ensures support rooms, e.g. dirty utility rooms, are not located adjacent to patient rooms.
- Critical Care includes an expanded HDU
- Benefits to patients
- Improved entrances, with single lift journeys.
- Improved circulation routes and corridor links to the different levels within the hospital, with improved wayfinding.
- Segregation of flows of traffic – ambulant, FM services, staff, GP and emergency activity – through the use of entrances, co-located with relevant parking and drop-off zones.

- Dedicated access for ambulance and car drop-off.

14.12.2 Better environment for staff

- Improved circulation routes and corridor links to the different levels within the hospital.
- Internal layouts, reflecting the latest working practices and appropriate room relationships, minimise unnecessary staff movements and wasted time.
- Routes between departments have been kept as short as possible.
- Improved delivery of services across the site
- Separate routes for FM services and patients around the site.
- Separate lifts for FM services and patients and visitors
- A clear fire planning strategy has been incorporated into the design, which allows for ready access and egress. In high risk areas fire engineering has been incorporated to allow more flexible design concepts.

14.12.3 Scottish VFM guidance requires the Project Team to continually update a qualitative assessment of the “viability”, “desirability” and “achievability” of undertaking the procurement as a PFI project. This assessment has been made for Key Stage Reviews throughout the procurement process and there have been no changes to the positive assessment of viability, desirability and achievability made at the pre-preferred bidder Key Stage review.

14.13 Summary

14.13.1 The economic appraisal undertaken using the GEM demonstrates that John Laing’s FBC Model provides better VfM than the CPAM, with NPVs of £554 millions and £585m respectively.

14.13.2 The sensitivity analysis confirms that the economic case for John Laing’s FBC Model option is robust.

14.13.3 The Project Team has followed detailed guidance from both HM Treasury and the Scottish Executive in its assessment of value for money. A checklist included in the Scottish Executive VFM Practical Application Note is included as Appendix 6 in order to demonstrate adherence to this guidance.

15 Financial Appraisal

15.1 Introduction

15.1.1 The financial appraisal assesses the net impact of the scheme on the Board's income and expenditure account and the requirement for increased income from The Board to service the additional related costs.

15.1.2 The NHS Board approved the Healthcare Strategy in September 2004 following extensive consultation. This covered Primary Care and Community Services; Out of Hours Services; Community Hospitals; Adult Mental Health Services and Transitional Arrangements for Acute Services

15.1.3 The NHS Board had previously approved the Outline Business Cases for the Clackmannanshire Health facility (May 2003) and the new Acute Hospital based at Larbert. (July 2003)

15.1.4 The Board received an update on overall affordability of the Strategy at its meeting in April 2006. Including

- Impending move to Full Business Case and Financial Close for both the new Acute Hospital and the Clackmannanshire Health facility.
- Potential implications of Lanarkshire and Glasgow strategies
- Review of Primary Care Premises Modernisation Programme
- Potential implications of 'Shifting the Balance of Care'
- Update on Community Hospital assumptions

It is imperative that overall affordability is kept under continuous review to ensure that all elements of the strategy are deliverable and financial risks are mitigated.

15.2 Funding

15.2.1 The NHS Board approved the Financial Plan 2006/07 - 2010/11 in March 2006.

15.2.2 This includes confirmed funding available for 2006/07 and estimated funding available for 2007/08 onwards. The allocation for 2007/08 has not yet been received but will for the basis for the updated plan scheduled for March 2007.

15.2.3 No further information is available in respect of the Spending Review but all indications are that it will be a 'tough' settlement for health.

15.2.4 The existing Falkirk and Stirling sites are subject to accelerated depreciation. It is assumed that the impact of this will be funded by SEHD.

15.2.5 It is essential that we ensure that costs remain as close to estimates as possible and that we continue to review our efficiency and cost effectiveness

15.2.6 The policy of retaining our 'Arbuthnot gain on a recurrent basis to resource the implications of the Healthcare Strategy continues. The Review of the National Funding Formula is ongoing and increases beyond 2007/08 remain a risk until the outcomes are known

15.3 Affordability Framework

15.3.1 The table below sets out the approved affordability framework for the scheme, at 2006/07 price base.

	£'m	
Unitary Charge (under final review)	32.8	
Critical Care	0.7	
Satellite Pharmacy / PITU etc	1.0	
Ambulance Service	0.6	
Total additional cost	35.1	
Existing budget	£'m	
(including capital charges and facilities)	15.0	
Original O.B.C. Savings	2.1	(£1.0m already achieved)
Residual Value	4.6	Charge to Capital
Financial Plan Total	12.4	2006/07 Plan
Savings/Financial Plan/Contingency	1.0	Split under review
Total Funding	**35.1**	

Table 15-1: Affordability Framework

15.3.2 The affordability framework is at 2006/07 price levels and assumes future inflation is provided in line with NHS funding levels, reflecting pay, non-pay and capital charges indexation, as appropriate.

15.3.3 With any significant service move, transitional funding is required to help cover a range of issues. In the Outline Business Case, these costs were expected to be funded from Capital to Revenue transfers. Since approval of the OBC, the SEHD have confirmed that such transfers are no longer allowed. As a consequence non-recurrent funding of £8.055m has been incorporated into the Financial Plan over a four year period. Whilst this is a significant resource, this may require to be further augmented by up to £3.445m – initial proposals to use the balance of profit from the Bellsdyke hospital sale is under discussion with SEHD.

15.4 Accounting Requirements

15.4.1 This section assesses the overall impact to revenue of the proposed PFI solution and brings together a number of key aspects peculiar to the accounting requirements for PFI schemes.

15.4.2 On a project this size, Balance Sheet treatment is a significant issue. In arriving at the affordability assessment in section 17, it is assumed that the

new Hospital is 'Off Balance Sheet'. If it was deemed 'On Balance Sheet' this could bring an additional cost of up to £14.725m which would be extremely challenging to manage without having a significant impact on clinical services.

15.5 New Buildings - Reversionary Interest

15.5.1 The Project Agreement provides that buildings constructed as part of the PFI scheme, will be handed to the Board at the end of the primary concession. These buildings are likely to have a remaining useful economic life at reversion, which will constitute an asset, which the Board has paid for during the concession period, via the Unitary Payment.

15.5.2 During the concession period an increasing proportion of the Unitary Payment is charged to capital (not revenue) to gradually introduce the Board's interest in these buildings onto the Board's balance sheet as "fixed assets". The amount charged to capital each year counts against the Board's Capital Resource Limit (CRL).

15.6 Risks

15.6.1 With change of the scale outlined in the Healthcare Strategy there are inevitably a significant range of risks and challenges faced. Whilst a more detailed financial risk assessment is available, a number of the strategic financial risks as they affect the acute project are summarised as follows:-

- Review of Arbuthnot formula results in NHS Forth Valley moving to parity (approximately £2.6m per annum)
- New Acute Hospital deemed to be 'On Balance Sheet' (approximately £14.725m per annum)
- Potential shortfall on 'bridging costs' to move to new hospital (one off £3.345m)
- Potential actuarial requirement for pensions (approximately £0.400m one off)
- Delivery of savings programme
- Energy Efficiency

15.7 Summary

15.7.1 The priority for NHS Forth Valley resources over the next five years is the implementation of the Healthcare Strategy. This means that difficult decisions are required in terms of not taking forward other specific service developments. It is vital that this is clear to all staff in Forth Valley and to partner Boards and other agencies.

16 Contract Framework and Payment Mechanism

16.1 Introduction

16.1.1 This Section sets out a summary of the key contractual relationships, which will be put in place between the Board, Project Co, Project Co's sub-contractors and the funders of the scheme.

16.1.2 This Section will examine:

- The general provisions of the contract structure
- The way in which payment will be made to Project Co based on the payment regime agreed
- Details of the payment mechanism which has been agreed to incentivise Project Co to provide the level and quality of service required by the Board
- How prices will be adjusted during the concession period to ensure continuing value for money for the public purse
- Discussions of other issues, which will relate to termination, direct agreements with the funders etc

This section describes the basis of the legal or contractual framework, which will underpin the Project.

16.2 Contract Framework

16.2.1 The Project will include a number of types of contractual agreements.

16.2.2 The Board will be contracting directly with JLSI via a Special Purpose Company (SPC) established by John Laing Social Infrastructure Limited and Commonwealth Bank of Australia, for the provision of all services related to the PFI Project. The Project Agreement will run for a period of 30 years, excluding the construction phase. The period will run from the date of the Project Agreement, and is subject to rights of early determination, including in the event of poor service performance by Project Co.

16.2.3 The Project Agreement is in the standard form for NHS Project Agreements as issued by the Scottish Executive Health Department. The version that has been used for this Project is the version that was issued in September 2003 – Standard Form 3 (SF3) together with subsequent changes to SF3 recently issued. Derogations from Standard Form have been agreed with SEHD and a schedule will be appended to this business case prior to Financial Close see Appendix 3.

16.3 Land Interests

16.3.1 Project Co. will not have a land interest in the hospital, subject to various exceptions that are set out below. Project Co. will be given an exclusive licence to carry out the construction works (the Works), including works to the existing estate as it is to be retained (the Retained Estate), in those areas where the construction works will take place. The Board (acting on the authority of the Scottish Ministers) will also grant to Project Co. a non-

exclusive licence to perform and manage the FM services in respect of those areas where the services are to be provided. The FM services are to be provided, in part, in advance of the completion of the construction of the new buildings for an interim period and the non-exclusive licence will operate for the relevant areas at the commencement of the provision of the FM services.

16.4 Sub-Contracts

16.4.1 Project Co. will sub-contract its obligations to design and construct the Works to Laing O'Rourke Scotland Limited and its responsibilities for the provision of FM services to the whole of the site to Serco Limited.

16.4.2 Serco Limited will in turn be entitled to further sub-contract service provision responsibility to specialist sub-contractors. The facilities management services that are to be provided across the hospital site are detailed in Section 8.2.1 .

16.4.3 The provision of these services will be supported by detailed service level specifications (SLS) drawn up by the Board and agreed to by Project Co. These SLSs are included in Part 14 of the Schedule to the Project Agreement.

16.4.4 The parent company of the building sub-contractor and the FM Services sub-contractor will be providing performance guarantees to Project Co.

16.5 Direct Agreement

16.5.1 The Board will enter into a Financier Direct Agreement with Project Co and its funders, the principal purpose of which is to give the funders step-in rights prior to a proposed termination of the Project Agreement by the Board. The draft follows the form set out in Part 6 of the Schedule to the SEHD standard form Project Agreement, and any proposed derogations from that form will be reported in an update prior to financial close.

Funding Agreements

16.5.2 Project Co. will be funded through a combination of equity, subordinated debt and senior debt. Equity and subordinated debt will be provided by John Laing and the Commonwealth Bank of Australia. Senior debt will be provided on a 50 : 50 basis by Halifax Bank of Scotland and the European Investment Bank. Further details of the funding solution are provided in Appendix 5.

16.6 Performance of Services

16.6.1 Project Co. will have the primary responsibility for monitoring the performance of the services. The Board will have an ability to monitor performance of services and if the service deteriorates the Board will be entitled to increase its monitoring. Continued poor performance will allow the Board to step into a specific service and ultimately to require Project Co. to replace a particular service provider. In the case of extreme poor performance it would be possible for the Board to terminate the Project Agreement entirely, although not individual services.

16.7 Project Specific Issues in respect of the Project Agreement

16.7.1 The following project specific issues are reflected in the Project Agreement.

- Phasing - The construction aspects of the project will comprise three phases for the Works. Phase 1 of the works will be completed on the actual completion of a sufficient area of the building to accommodate most of the services at FDRI the Rehabilitation, Pathology and Mortuary building (the Phase 1 Actual Completion Date). Phase 2 of the works will be completed on the actual completion of the Mental Health Unit (the Phase 2 Actual Completion Date). Phase 3 of the works will be completed on the actual completion of the entire hospital building. All three phases are intended to run in parallel.
- The payment by the Board to Project Co of the Service Payment will commence after the Phase 1 Actual Completion Date at approximately 60% of the total Service Payment, with 100% becoming payable after the Phase 3 Actual Completion Date.
- The pertinent Longstop Date for the purposes of terminating the Project for contractor default will be 18 months after the planned date for completion of all three Phases.

16.8 Equipment

16.8.1 The Board has agreed that with the exception of medical equipment, Project Co will be responsible for the maintenance of all FM Services Equipment. The allocation of the responsibility for each item of equipment including responsibility for supplying, installing replacing and disposing of it is set out in an Equipment Responsibility Matrix.

16.8.2 Further details of equipment responsibility is provided in section 10

16.9 Third Party income generation

16.9.1 Project Co. has underwritten a level of income from third parties (mainly through Non-Patient Catering Services and retail activity) in calculating their proposed Service Payment. Project Co will have an exclusive right to carry out those activities.

16.9.2 The Board has set out in the Project Agreement an exhaustive list of "Permitted Project Co. Operations", i.e. activities that Project Co. is entitled but not obliged to carry out. If Project Co wished to carry out an activity not on that list, it would need to request a Variation.

16.10 Payment Mechanism

16.10.1 The payment mechanism has been developed in close consultation with SEHD and is being rolled as a national standard across Scotland. It follows the consultation draft issued by Department of Health (E & W) for PFI Projects. Derogation from Standard Form in relation to payment mechanism has been agreed with SEHD and will be included in the update at Financial Close.

16.10.2 The Board issued to its short listed bidders a payment mechanism principles paper clarifying the Board's position on the payment mechanism. The position agreed with John Laing Social Infrastructure on the payment

mechanism is subject to final negotiation and will be reported as part of the update at financial close.

16.11 Payment Arrangements

16.11.1 Payment of the Service Payment will commence as and when Phases of the Facilities are fully commissioned, in accordance with the Standard Form Contract, i.e. construction/final site works have been completed, equipment installed, facilities provided by Project Co. are available and fully operational.

16.11.2 The Board will pay Project Co. for services rendered to it on a monthly basis. Charges levied by Project Co will be calculated in accordance with the payment mechanism included within the Project Agreement. There will be a single Service Payment. All payments will be indexed annually in line with annual movements in the retail prices (all items) index.

16.11.3 If services are not provided to an acceptable standard or the service level specifications are not met in any other way, appropriate deductions will be made from the Service Payment in accordance with formulae set out in the payment mechanism relating to Performance Failures and Unavailability Events. Performance Failures and Unavailability Events also attract a number of Service Failure Points. The level of deductions from the Service Payment and the number of Service Failure Points is dependent on the seriousness of the default and the importance to the Board of the area of the hospital that is affected by poor performance.

16.11.4 Project Co will have an obligation to ensure that the services that it provides, other than the maintenance of the facilities, remain competitive throughout the period of the Project Agreement. The method to be employed in order to achieve this will be periodic benchmarking and if appropriate market testing exercises, which will take place regularly, at seven yearly intervals.

16.12 Volume Adjustments

16.12.1 The payment mechanism contains an element of volume adjustment, which is calculated for a contract month and added to the Service Payment for that month. Volume adjustments will apply to the following services:

- Catering
- Non-Clinical Waste

16.12.2 Energy

Project Co will be responsible for the delivery of energy efficient facilities over the term of the concession period. The facilities have been designed and will be constructed in order that they meet appropriate standards, which will be based upon a 20- year degree day average for all space heating loads. This will be subject to independent review on commissioning and throughout the Project Term for the purposes of determining appropriate volume limits. The variations in volumes, which are linked to the deterioration in the energy efficiency of building, will be the responsibility of Project Co. The risk in relation to changes to utility tariffs throughout the concession period will be borne by the Board.

The Board will pay Project Co for the electricity, gas and water consumed at the facilities each month, through the Service Payment, subject to agreed volume limits in any 12 month rolling period. The Board and John Laing Social Infrastructure will seek to mitigate and minimise their use of energy at all times and will follow an agreed Energy Protocol.

17 Accounting Treatment of the PFI Scheme

17.1 Introduction

17.1.1 PricewaterhouseCoopers (PwC) are acting as financial advisors to the Project. In particular they are advising on the likely balance sheet treatment of the scheme, I.e. whether the assets delivered through the PFI contract will be "on balance sheet" or "off balance sheet" for the Board. In undertaking this assessment, they have considered the scheme on the basis of Application Note F to FRS 5 – 'Reporting the Substance of Transactions: Private Finance Initiative and Similar Contracts' as interpreted by the Treasury Technical Note 1 (revised) – 'How to Account for PFI Transactions'.

17.1.2 The balance sheet treatment can only be absolutely finalised after the contract has been signed. However, at this stage PwC offer a provisional judgment on their opinion of the likely treatment. This is then considered by the Boards external auditors (Scott Moncreiff), on whose opinion the Board relies.

17.2 Accounting for Land and Buildings

17.2.1 The accounting treatment assumed within the financial and economic analyses for the land and buildings follows the guidance in Land and Buildings in PFI Deals (Version 2) issued in January 2003 and updated June 2003.

17.2.2 The land on which the hospital is built will remain on the balance sheet of the public sector. Its ownership does not pass to Project Co; they receive a licence to occupy the site for the purposes of the PFI contract.

17.2.3 This Business Case only considers the accounting treatment of the buildings constructed as part of the PFI contract. The accounting treatment of other NHS owned buildings, including buildings to be vacated and or demolished as the PFI project comes into operation are considered separately by the Board.

17.3 Equipment

17.3.1 The PFI scheme excludes major medical equipment and other items of equipment not fixed to the building. The Board intends to equip the buildings themselves through an alternative procurement route. Board procured equipment will remain on the Board's balance sheet and does not form a part of this accounting treatment analysis.

17.4 Other Accounting Matters – Residual Interests

17.4.1 At the end of the concession period all buildings included within the PFI scheme will pass to the Board for nil consideration. These buildings will have a remaining useful economic life. This residual useful economic life constitutes an asset, which the Board has paid for during the concession period. In accordance with the guidance set out in *Land and Buildings in PFI Deals (Version 2)* and *Treasury Technical Note 1* the residual value

(RV) is built up over the concession period on an annuity basis in order to ensure a proper allocation of payments made between the costs of services under the contract. The projected RV at the end of the concession period is necessarily an assumption at this stage, and the Board will continue to monitor the likely value of the buildings through the concession period to ensure that a realistic RV is accounted for. The Board has used a standard spreadsheet methodology developed by HM Treasury to evaluate the split of unitary charge between capital (to build up RV) and revenue funding in its budget projections.

17.5 Accounting Treatment

17.5.1 The following reports are included as appendices to this FBC:

- Appendix 7 Provisional Judgement letter from PwC dated 16th January 2007
- Appendix 8 Quantitative indicator report from PwC dated 16th January 2007

17.5.2 After due consideration of the advice from PwC in these reports, the Director of Finance has concluded that the hospital does not constitute a capital asset during the concession period. The majority of the risks and rewards of property ownership, including lifecycle responsibilities have been transferred to Project Co meaning that the buildings can be treated as "off balance sheet".

17.5.3 The Board's external auditors have considered the opinion of the Director of Finance and they concur with the proposed treatment.

17.5.4 A letter from Scott Moncrieff to this effect is included at Appendix 4.

18 Project Management Arrangements

18.1 Introduction

18.1.1 As is demonstrated by this Full Business Case the project has been managed effectively and in a timely way.

18.1.2 The Board intends to maintain this level of performance and commitment to delivering the project throughout the next key stage of the process

18.1.3 This Section will set out how the Board intends to manage the project through implementation through to successful opening and post-project evaluation.

This Section will examine:

- Project implementation structure, including membership and terms of reference of all implementation groups
- How the interface with John Laing will be managed throughout this period
- Liaison with external stakeholders
- How good practice from elsewhere has been included in the Board's thinking

18.2 Roles and Responsibilities

18.2.1 The following key project roles will be maintained throughout the construction and operation phases of the project:

- The NHSFV Board will maintain the overview of the project, receiving regular reports on progress and retaining accountability for the delivery of all aspects of the project.
- The Chief Operating Officer of Acute Services, as Accountable Officer, will retain personal accountability for project delivery. The Chief Operating Officer has a high degree of commitment to the success of the project. The Project Owner receives, and will continue to receive, update reports from the Project Director on key issues and progress;
- The Project Director is the key point within the Board for providing leadership and direction to the scheme for internal and external stakeholders.

18.3 Project Director

18.3.1 The role will include:

- Providing overall leadership of the project through implementation and into operational use;
- Working with the all other NHS Forth Valley Board Directors, Clinical & Non-Clinical Services to deliver and realise the project benefits
- Providing a focal point for external interest in the project

- Managing the relationship between the Board, John Laing and its service providers
- Managing within the project including change control

18.4 Project Implementation Structure

18.4.1 These key roles will be supported by an appropriate project organisation structure.

18.4.2 The Project Director will be supported by an extensive internal organisation to deliver the key outputs of the project in a timely way. The precise structure is still to be finalised; however some of the roles and responsibilities will be as set out below.

18.4.3 There is an ongoing requirement to maintain governance structures for the remaining project post Final Business Case.

18.4.4 The exact structure and their respective roles and responsibilities will be developed over the next few months but will include a Project Board and several sub-groups including, but not limited to:

- Commissioning Group
- Equipment Group
- Clinical Advisory Group
- Benefits Realisation & Evaluation Group

18.4.5 It is important that the project continues to harness the experience gained throughout the procurement process.

18.4.6 The period post FBC also provides an opportunity to develop individual skills and corporate learning.

18.5 Project Team & Project Manager

18.5.1 During implementation, this role will be more focussed on the project management aspects of the implementation process.

18.5.2 The key functions of the Project Manager's role during implementation will be to:

- Draw up a master delivery programme, working with the Commissioning and Change Teams to ensure an effective framework is in place to deliver the project
- To monitor progress against plan and to report variances with action plans
- Work across all groups to ensure that their work plans are continually congruent with the overall project plan
- Liaise with John Laing to ensure that Board decision-making on issues during construction are delivered in a timely way
- Lead the commissioning process for the new development

- Have senior responsibility to the Project Director for the commissioning master plan
- Manage the work of the Commissioning Managers and Commissioning Groups process within agreed budgetary limits

18.6 Other Project Team Members

- Clinical Lead
- Communication Lead
- Finance & Commercial Lead
- Facilities and Estates Lead
- Equipment Lead
- Commissioning Lead

18.7 External Advisers

18.7.1 A team of external advisers, as set out below, supports the Board's in-house project team.

Role Firm	Company
Financial Adviser	PricewaterhouseCooper LLP
Legal Adviser	Eversheds
Engineering Services and Lead Technical Advisers	Mott MacDonald
Facilities Management Services Adviser	Mott MacDonald
Architectural Design Adviser (for the CPAM)	Mott MacDonald
Quantity Surveyor	Mott MacDonald
Equipment Adviser	Scottish Healthcare Supplies
Healthcare Planning Adviser	Mott MacDonald / Tribal
Insurance Adviser	Willis
Planning Adviser	Ryden

Table 18-1: External Advisers

18.8 Interface with PFI Consortium

18.8.1 It is key to the success of the project that the Board and Project Co. work closely in partnership throughout the implementation of the project through to the operational phase and throughout the lifetime of the contract.

It will be important to the culture of delivery within the project that a partnership approach is developed rather than an adversarial culture.

The key interface will be via the Board's Project Board and through the day to day contact between the respective Project Directors and their staff.

The Project Sponsors Meeting will be key to the delivery of the project and will ensure that issues arising from both partners in the project are fully explored and resolved.

The terms of reference of the Project Sponsors Group will be:

- To monitor the implementation of the project
- To identify areas of variance from plan and agree actions to rectify
- To share and resolve key issues raised by other groups
- To monitor performance of key aspects of the project

18.9 Implementation Structures

18.9.1 Although this Full Business Case relates primarily to Board action necessary to deliver the benefits of implementation of this project. However, Project Co. plays as important a part in delivering, through partnership, these benefits to the public sector.

18.9.2 The role of this group would be to disseminate progress on the project and any key issues arising, which would benefit from discussion in a more strategic forum. It would also provide the opportunity to review any lessons learnt from elsewhere which might have a bearing on the project.

18.10 Publication of FBC

18.10.1 The Board is aware of its responsibilities under the Scottish Executive's Code of Openness for PFI schemes. Within one month of approval of the FBC by SEHD the Board will ensure that copies of all relevant project documents including the FBC are made publicly available as follows:

- In an accessible place for members of the public at Board Offices at Carseview, Stirling
- With the local Acute Services Partnership Forum
- In the local libraries. This, plus the copy in Board HQ, will be notified to the public by advertisements in local newspapers
- At the Headquarters of NHS Forth Valley Acute Services, Falkirk
- Copies will also be sent to the Scottish Executive
- On the NHS Forth Valley Board's website

18.10.2 The documents will be as complete as possible and only areas of genuine commercial sensitivity will be omitted following discussion with Project Co.

18.11 Learning from other Projects

18.11.1 Throughout the development of the project, the Board team has sought to learn lessons from elsewhere and to adopt good practice. During implementation, the team has undertaken visits to other hospital projects which have been, or are close to completion, to ensure the recent lessons are learnt and the potential to avoid any pitfalls is maximised.

18.11.2 The Project team has also taken the opportunity to review the available good practice have and will continue to apply the principles therein to the development of the project.

18.12 Project Timetable

18.12.1 The table below sets out the timetable for the project, from the selection of the Preferred Bidder, which has been agreed with John Laing Social Infrastructure.

Detailed Planning Consent	February 2007
Financial Close	March 2007
New Hospital Phase 1 Practical Completion	November 2009
Hospital Complete	October 2010

Table 18-2: Project Timetable

19 Benefits Realisation Plan and Post Project Evaluation Plan

19.1 Benefits Realisation Plan

19.1.1 The objectives and benefits of the project are set out in Sections 4.3 and 4.3.2 respectively. A benefits realisation plan was developed for the OBC and has been reviewed and updated to reflect changes in scheme requirements since 2003.

19.1.2 The plan when fully developed will identify against each benefit:

- Who will have lead responsibility for ensuring the delivery of the benefit
- Action to be taken to ensure the benefit us realised
- The projected timescale for realisation of the benefit
- How the realisation of the benefit will be monitored and measured

19.1.3 Overall responsibility for ensuring that the benefits of the project are achieved lies with the Board, through the Project Board, or its successor.

19.1.4 Where relevant, the performance measures identified within the benefits realisation plan will be reviewed as part of the post project evaluation plan.

19.2 Post Project Evaluation Plan

19.2.1 The purpose of undertaking a post project evaluation is to assess how well the scheme has met its objectives and whether they have been achieved to time, cost and quality. Performance measures already contained in the benefits realisation plan will not be replicated in the post project evaluation plan.

19.2.2 The evaluation will be led by the Project team supplemented by representatives of the CAG, from departments within Acute Services, and other key stakeholders. The Project Board, or its successor, will receive evaluation reports on each element.

19.2.3 In accordance with current guidance and good practice the project will be evaluated in stages. The key stages of the evaluation are described below.

19.3 Stage 1 - Procurement Process evaluation

19.3.1 An evaluation of the procurement process will be undertaken following contract signature, to assess the effectiveness of the procurement process in meeting the project objectives and identify any issues and lessons to be learned. This stage will also enable the project team to review its performance and aid in future development of skills.

19.4 Stage 2 - Monitoring the progress of the project and review the project outputs on completion of the construction phase

19.4.1 During the construction period progress will be monitored to ensure delivery of the project to time, cost and quality, and to identify issues and actions arising.

19.4.2 On completion of the construction phase the actual project outputs achieved will be reviewed and assessed against requirements, to ensure these match the project's intended outputs, and deliver its objectives.

19.5 Stage 3 – Initial post project evaluation of the service outcomes

19.5.1 This will be undertaken 6 to 12 months after the new facilities have been commissioned. The objective is to determine the success of the commissioning phase and the transfer of services into the new facilities, and what lessons may be learnt from the process.

19.6 Stage 4 – Follow up post project evaluation

19.6.1 This will be undertaken two years into the operational phase, by an evaluation to assess the longer term service outcomes, and ensure that the project's objectives continue to be delivered.

In each stage the following issues will be considered.

- To what extent relevant project objectives have been achieved
- To what extent the project went as planned
- Where the plan was not followed, why this happened
- How plans for the next phase of the project should be adjusted, if appropriate

20 Conclusion

20.1 Summary

20.1.1 This FBC presents a strong and coherent rationale for the development of the new hospital at Larbert.

20.1.2 The project will enable the rationalisation of acute services from existing sites at Stirling and Falkirk on to the Larbert site through a PFI contract with John Laing Social Infrastructure consortium.

20.1.3 Project Co will be responsible for the design, build finance and operation of the facilities over a 33.8 year period. The contract arrangements will be as set out in the Standard Form of Contract for PFI schemes, adjusted to reflect agreement reached on project specific issues that are not covered in the standard form. Any derogations standard form has been agreed by SEHD.

20.1.4 The scheme has been demonstrated to be affordable, within the affordability framework agreed by the local health community.

20.1.5 The scheme continues to provide robust value for money.

20.1.6 Project Co will assume significant risk transferred from the Board and the asset will not be accounted for on the Board's balance sheet.

20.2 Project Management Arrangements

20.2.1 The Board has in place strong project management arrangements to ensure the project is delivered successfully, in partnership with John Laing Social Infrastructure through all stages.

20.3 Next Steps

20.3.1 The table below summarises the timetable from approval of the FBC to completion of the construction period and the commencement of the operational phase. The dates will only be confirmed when financial close is reached.

Detailed Planning Consent	February 2007
Financial Close	March 2007
New Hospital Phase 1 Practical Completion	November 2009
Hospital Complete	October 2010

Table 20-1: Project Timetable

Appendix

1 NHS Forth Valley 2010 / 11 Financial Plan

Appendix

2 OJEU Notice

Appendix

3 Proposed Derogations from Standard Form Project Agreement

Appendix

4 Scott Moncrieff's Letter Supporting Accounting Treatment

Appendix

5 PwC Report on Value for Money

Appendix

6 Scottish Executive VfM Check List

Appendix

7 Provisional Judgement Letter from PwC Dated 16th January 2007

Appendix

8 Quantitative Indicator Report from PwC Dated 16th January 2007

Appendix

9 Letter of Support from Consultants

Appendix

10 Glossary of Terms & Abbreviations